THE

CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA.

THIRD EDITION.

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THE

CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA,

Commercial, Industrial, and Scientific;

PRODUCTS OF THE MINERAL, VEGETABLE, AND ANIMAL KINGDOMS, USEFUL ARTS AND MANUFACTURES.

31289

BY

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IN THREE VOLUMES.

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PREFATORY NOTICE.

THE first edition of this Cyclopædia was published in 1858 in India, the second, also in India, in 1873, and the years 1877 to 1884 inclusive have been occupied in revising it for publication in England. During this process, every likely source of further information has been examined, and many references made. I am under obligations to many learned men, to the Secretariat Officers of the Indian Governments, and to the Record and Library Officers of the India Office, Colonial Office, and British Museum, for their ready response to my applications for aid.

This edition contains 35,000 articles, and 16,000 index headings, relating to an area of 30,360,571 square kilometers (11,722,708 square miles), peopled by 704,401,171 souls. In dealing with subjects in quantities of such magnitude, oversights and points needing correction cannot but have occurred; but it is believed that errata are not many, and will be of a kind that can be readily remedied.

It is inevitable that difficulties in transliteration should be experienced, owing to the variously accented forms which some words assume even among tribes of the same race, also to the different values accepted in many languages for the same letters, and especially to the want of correspondence in the letters of the several Eastern alphabets; but in this work traditional and historical spelling has not been deviated from, and the copious Indices will guide to words of less settled orthography.

Men of the same race, habits, and customs, plants and animals of the same natural families, genera, and even species, are so widely distributed throughout the South and East of Asia, that local histories of them are fragmentary and incomplete. India in its ethnology, its flora and fauna, can therefore only be fairly dealt with by embracing a wider area. This is the reason why the Cyclopædia and my work on the Timber Trees include all Eastern and Southern Asia, the regions, the areas and populations of which may be thus indicated:—

INDIA, EASTERN AND SOUTHERN ASIA.	Square Kilometers.	Population.
Caucasus, Russian,	472,666	5,546,554
Trans-Caspian, do.	327,068	203,000
Central Asia, do.	3,017,700	5,036,000
Independent Turkoman Region,	206,500	450,000
Khiva,	57,800	700,000
Bokhara, Thignan, Karategin, etc.,	239,000	2,130,000
Arabia,	3,156,600	5,000,000
Persia,	1,647,070	7,653,000
Afghanistan and Provinces,	721,664	4,000,000
Kafiristan,	51,687	500,000
China Proper,	4,024,690	350,000,000
China Provinces,	7,531,074	21,180,000
	11,555,764	371,200,000
Corea,	236,784	8,500,000?
Japan and Provinces,	382,447	36,357,212
British India and Feudatories,	3,774,193	252,541,210
Nepal, Bhutan,	234,000	3,300,000
French India,	508	276,649
Portuguese India,	3,355	444,987
Ceylon,	24,702	2,606,930
Further India—		
British Burma,	229,351	3,707,646
Manipur,	19,675	126,000
Tribes south of Assam,	65,500	200,000
Burma, Independent,	457,000	4,000,000
Siam,	726,850	5,750,000
Annam,	140,500	21,000,000
French Cochin-China,	59,456	1,597,013
Cambodia,	83,861	890,000
Malacca, Independent,	81,500	300,000
Straits Settlements,	3,742	390,000
Islands—		
Andamans,	6,497	14,500
Nicobars,	1,772	5,500
Sunda Islands, Moluccas,	1,693,757	28,867,000
Philippines, Spanish Indies.	296,182	6,300,000
Netherland India,	677,038	27,154,054
New Guinea and Papuan Islands,	785,362	807,956
British Northern Borneo,	57,000	150,000
Australia,	...	2,193,200
Tasmania,	...	115,705
New Zealand,	...	489,933
Total, excluding Australia, Tasmania, and New Zealand,	30,360,571 sq.kil. 11,722,708 sq. m.	704,401,171

I am under obligations to Messrs. Morrison & Gibb for their careful press-work. All that their art could do has been done to aid me in keeping the work in a compact form.

EDWARD BALFOUR.

2 Oxford Square, Hyde Park,
London, 24*th May* 1885.

THE

CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA.

—o—

A

A, ă.—In the English language, the ordinary sounds, long or short, are as a in many; a in all, and as ā in municipal. It has representative letters and sounds in all the languages of the south and east of Asia. In Arabic, Persian, and Urdoo or Hindustani, the letter alif and the vowel mark zabr have almost similar sounds to the long and short a of the English, as in that part of the āzān or Mahomedan call to prayers, Allāhō Akbăr, Allāhō Akbăr, retaining the long sound invariably when in the middle or end of a word. In Tamil, the English A and ă, long and short, are represented by two initial letters equal to ā and ă; and all the consonants have the inherent sound of short a, thus kă, nă. In Telugu, the short ă is represented by the letter ă initial, and by a mark placed on the top of a consonant. The long a initial has the same sound as ā in anger.

AACH, Aal, or Atche. TAM. Morinda citrifolia; M. multiflora. See Dyes.

AADAL. ARAB. Sacks for carrying provisions, on camels.

AAKAL. ARAB. The fillet of the Arabs; a rope or woollen band, or of other material, which the Arab twists round his head covering.

AALIN NAR. MALEAL. Fibre of the Ficus Indica, the banyan tree.

AAT-ALARI. TAM. Polygonum barbatum.

AB. PERS., HIND. Water. Hence Abi, watery. Also Ab-kari, the distillation of alcoholic fluids, the strong waters of Europeans; and in use as a revenue term in British India for the excise branch which superintends the licence to sell all kinds of intoxicating substances, as arrack, toddy, opium, etc. Do-ab, literally two waters, the territory or mesopotamia between two rivers. Panjab, five waters or five rivers; that territory in the north-west of British India through which several rivers flow.

ABA or Abba, ARAB., in Egypt called Abayeh, is a cloak woven of camel or goat's hair, worn by all classes of the Arab races, known to Europeans in the Persian Gulf as a cameline. It is made in the Bedouin tents. It is of every degree as to quality and ornamentation, and varying in price from one or two dollars to a hundred dollars, —the last a marvel of softness and beauty, considering the material used. To the common working Arab the aba is often the sole article of clothing.

ABACA BRAVA, the wild or mountain abaca of the Philippines, a variety of the Manilla hemp plant, Musa textilis, the fibres of which serve for making ropes, called agotag and amoquid in the Bicol language.—*Royle's Fib. Plants.*

ABAD. PERS. A postfix to districts of country and towns, as Arungabad, Dowlatabad, Allahabad, Farrakhabad, Hyderabad, and used by almost all the races of British India to indicate towns in which Mahomedans have ruled. Abadi is an inhabited or peopled place. Abadi-raqba, the area under tillage.

ABAK. ARAB. Mercury.

AB-AMBAR, in Persia, large underground reservoirs lined with brick, filled by kanats, or by collecting the rain of a wide area. They are covered in by vaulted roofs of masonry, and a flight of steps leads down to the water.

ABAR-MURDAH. PERS. Sponge.

ABA SIN. PUSHT. The river Indus; lit. father of rivers.

ABASSA, sister of the khalif Harun ur Rashid, by whom she was married to Jafar, his vizir, under a condition which was not adhered to. There are extant some Arabic verses by her on the subject of her love for Jafar.

ABBAS, a dynasty of khalifs, who reigned at Baghdad, from A.D. 749–50 to 1258–9 (A.H. 132 to 656), when Baghdad was besieged and taken by Hulaku, grandson of Chengiz Khan, and the khalif Mustasem put to death. They are known to Europeans as the Abbassides. See Al Abbas; Khalifah.

ABBASSI. PERS. A curved broad-bladed scimitar.

ABBAYE. BENG. The head man of a village.

ABBOTTABAD, in lat. 34° 9′ N., and long. 73° 9′ E., a small military and civil station, N.N.E. of

Chámba, at a height above the sea of 4120 feet. It is the headquarters of the Hazara district of the Panjab. The district is inhabited by the Kharal, Dhund, Boi, Jadun, and other Mussulman mountaineers.—*MacGregor; Rob. Schl.*

ABBOTT, JAMES, C.B., an officer of the Bengal army, who was assistant political agent at Herat under Major D'Arcy Todd. He went on a mission to Khiva, and was the bearer of terms from its khan to the emperor of Russia, as recorded in a narrative of his travels. He was afterwards employed in the Hazara district of the Panjab, where he baffled the Sikh general, and marched upon and occupied, with 1500 matchlock men, the Marquella pass, which 16,000 Sikh troops and 2000 Afghan horse were preparing to thread. For this he received the thanks of both Houses of Parliament.

ABD. ARAB. A slave, a servant, often in combination applied to God's service, as Abdullah, a servant of God; Ab'd ur-Razzaq, slave of the food-giver; Abudiat, worship; Zain-ul-Abidin, the ornament of servants. It corresponds with the Arabic Ghulam, and the Hindi Dasa or Das, all of them ordinary names in India.

ABDALI, a powerful Afghan tribe, residing in every part of Afghanistan, but principally in Herat and Kandahar. They have been termed Dourani since 1747, when Ahmad Shah, Saddozai, the first Afghan king, on ascending the throne, gave them that name. The Abdali and Ghilzai, but particularly the former, arrogate to themselves a superiority over other Afghan tribes, and from their great numerical strength have exercised a greater power. The Abdali are also called Sulimani. The Abdali take their name from their great ancestor, Malik Abdal. Early in the 16th century, Shahr-i-Saffa was the chief town of the Abdali. Early in the 17th century it was Herat which they held, until ousted by Nadir Shah. See Afghan; Ahmad Shah; Barakzai; Paniput.

ABDALI, an Arab tribe in the immediate vicinity of Aden, capital Lahej. The tribe is the most civilised but the least warlike in the S.W. of Arabia.

ABDALLAH was the name of the father of Mahomed; Abd-ul-Mattalib was Mahomed's grandfather. Abdallah was a term applied by Mahomedan Arabs to apostate Christians who embraced the Mahomedan religion. It is now a name of many Mahomedans.—*Sale's Koran.*

ABDALLAH ibn ABBAS was one of the most learned of the companions of his cousin Mahomed, and one of the most celebrated of the relaters of his sayings and actions. He has received the titles of Interpreter of the Koran and Sultan of Commentators. He died A.H. 68. His father Abbas, son of Abd ul Mattalib, was paternal uncle of Mahomed, and ancestor of the Abbassi khalifahs.

ABDALLAH ibn ul MOKAFFAH, a Persian who lived in the 8th century. After the fall of the Omeyyades he became a convert to Mahomedanism, and rose to high office at the court of the khalifs. During the reign of the khalif Mansur, he wrote the Kalila o Damina, a famous collection of fables, which he says were translations from the Pehlavi of Barzuyeh, who again translated them from the Panchatantra. Being in possession of important secrets of state, he became dangerous in the eyes of Mansur, and was foully murdered A.D. 760.—*Chips*, iv. p. 158–9.

ABDAR. PERS. Glancing, as a gem or polished sword; in India, a water cooler, who cools water by freezing mixtures. Abdar-Bashi, at the Persian court, the chief of the kitchen. Abdar-Khana, the place where water is kept for drinking.

ABDHUT, a Hindu religious mendicant,—in the north of India, of the Vaishnava, and in the south, of the Saiva, sect.—*Wilson.*

ABDUL KADAR of Badayun, a learned Mahomedan employed by Akbar to make translations from Sanskrit. He was very bigoted, and quarrelled with Abul Fazl and Faizi on some point of religion. He wrote a historical work, the Mantakhab-ut-Tawarikh, and filled his book with invectives against their irreligion and that of Akbar. He also disclosed many grievances complained of by the people at the time. Even although it is almost a hostile narrative, it leaves a more favourable impression of Akbar than that derived from Abul Fazl's Akbar Namah. Akbar employed him to make a catalogue of the library of Faizi, which contained 4060 books, carefully corrected and well bound, on poetry and literature, moral and physical science, and theology. —*Elph.* p. 469. See Mubarak; Faizi.

ABDUL-KADAR, surnamed Ghous-ul-Azam, the great contemplative, born at Jal, near Baghdad, A.H. 471 (A.D. 1078-79). He was endowed with great virtues and alleged gift of miracles, had many disciples, and is still much revered. He is called Shaikh, but was a Syud, *i.e.* of the race of Husain, and died in A.H. 571 (A.D. 1175), aged ninety-seven years. Where he died or was buried does not appear. He was the founder of the sect of the Kadria fakirs.

ABDUL-KADAR, Ghilani, the Pir Piran or Pir i Dastagir, a native of Ghilan, who taught Safi doctrines at Baghdad, where his tomb is still reverenced. Sadi studied under him. His anniversary is held on the 11th Rabi-us-Sani. He is invoked in time of trouble, or during cholera or other plague or epidemic, on which occasion a large green flag is carried in his name. His sister's son was Syud Ahmad, Kabir.

ABDULLAH, son of the khalif Omar, in A.D. 650 defeated Yesdejird. Yesdejird was then on his return from Khorasan, and for the last time put himself at the head of his subjects. See Istakhr.

ABD-UR-RAZZAQ, Jamal ud-Din Abd-ur Razzaq, bin Jalal ud-Din Ishaq-us Samarkandi, was born at Herat in A.H. 816 (A.D. 1413), where his father was Kazi in the time of Shah Rukh, grandson of Timur. Shah Rukh, in 1441, sent him on a mission to India to the king of Vizianagar; subsequently on an embassy to Ghilan; and he, again, was ordered to proceed as ambassador to Egypt. In January 1442, Abd-ur-Razzaq set out from Herat, and, proceeding by way of the Kohistan and Kirman to Ormuz, thence sailed for India, arriving at Calicut after a long detention, wind-bound, at Muscat. He then proceeded via Mangalore and Belur to Vijianagar. Re-embarking from Calicut, he arrived in March 1444 at Kalahat, in Arabia.—*India in the Fifteenth Century.*

ABD-US-SHAMS, also called Dawar-us-Shams, the sun-flower. See Ansariah.

ABD-US-SHAMS, or Saba, founder of Mariaba. Amongst his sons were Himyar, Amru, Kahtan, and Ashaar. See Saba.

ABELIA TRIFLORA. *Stewart.*

Chota Buta, . . HIND. | Adai Pushtawar, PUSHT.

A plant of Kaghan. Mr. Fortune introduced into England the Abelia rupestris from China.

ABELMOSCHUS ESCULENTUS. *W. and A.*

Hibiscus longifolius, *R.* | H. esculentus, *L.*

Dhenrus, . . .	BENG.	Ram Turai, . .	HIND.
Ba lu wa, . . .	BURM.	Bhendi, ...	,,
Yung ma dæ, . .	,,	Venda, . .	MALEAL.
Okro, ...	ENG.	Bendakai, . . .	TAM.
Bamia, ...	EGYPT.	Benda, ...	TEL.
Lalo, . .	FR. of Maur.	Gambeau, . .	W. IND.

A herbaceous annual, a native of tropical America, largely cultivated all over the East Indies, its capsules being held in much esteem as a vegetable. It is easily raised from seed, and produces abundance of fruit, which is the only part of the plant that is eaten. The whole plant is mucilaginous, but the fruits or pods are highly so. The fruits are boiled whole, and served up as a vegetable; or the seeds are added like barley to soup. The young pods are pickled like capers; its ripe seeds, when allowed to dry, and parched, can with difficulty be distinguished from coffee. Its mucilage has been recommended as a demulcent, in coughs, in the form of lozenges, but they are not easily digested. The deep purple juice of the stigmas can be communicated to paper. Dr. Riddell strongly recommends this plant as capable of furnishing an excellent fibre for the manufacture of paper, and the fibres are said to be exported to a small extent from India, as one of the hemps of commerce; by Dr. Roxburgh's experiments, a bundle of them bore a weight of 79 lbs. when dry, and 95 lbs. when wet. They retain their gloss even when very brown and rotten.—*O'Sh.; Roxb.; Royle, Fib. Plants; Useful Plants; Mason; Riddell.*

ABELMOSCHUS FICULNEUS. *W. and A.*

Hibiscus prostratus, *Roxb.* | H. ficulneus, *Linn.*

Dula, ...	HIND.	Nella Benda, . .	TAM.
Parupu Benda, .	TAM.		

It grows abundantly on the black cotton soils of India. Flowers white; the bark contains a large proportion of white reticulated fibre similar to that obtained from the mulberry, and useful for gunny bags and paper; this fibre is of great length, but not very strong.—*Madras Exhibition Juries' Reports; Robert Brown.*

ABELMOSCHUS MOSCHATUS. *Mœnch.*

Hibiscus abelmoschus, *R.*

Hub-ul-Mushk, .	ARAB.	Kapu Kinaissa, .	SINGH.
Ba-lu-wa-ki, . .	BURM.	Kastura venda, .	TAM.
Kala-kasturi, . .	DUK.	Vittulei-kasturi, .	,,
Musk-Mallow, .	ENG.	Karpura benda, .	TEL.
Mushk-dana, . .	HIND.	Kasturi benda, .	,,
Katta-kasturi,	MALEAL.		

A gaudy flowering annual, with blood-coloured eyes on its large yellow blossoms, a native of various parts of India, flowering in the rainy and cold seasons. Its brown seeds are the Hub-ul-Mushk of the Arabs, so called because of their smell and taste resembling a mixture of musk and amber, and, on burning, a similar odour is evolved. They are kidney-shaped, and of the size of hemp-seed, and are used to perfume powders and pomatums. They are found in all the bazaars; and amongst the people of India are reputed to be useful in snake-bites, when bruised and applied externally and internally, or bruised and steeped in rum or arrack. In Dr. Roxburgh's experiments, the fibre broke with a weight of 107 lbs. The plant, like A. esculentus, abounds in mucilage, and is said to be used in Northern India to clarify sugar. — *Roxburgh; O'Shaughnessy; Mason's Tenasserim; Juries' Reports Madras Exhibition; Useful Plants of India.*

ABELMOSCHUS TETRAPHYLLUS. *Wall.* At the Madras Exhibition of 1857, Mr. Jaffrey exhibited an excellent white and strong fibre obtained from this plant. Its flowers are large, yellow, with a dark centre; abundant in Girgaum woods, Bombay.

ABHAL. PERS. Juniper berries.

ABHIAGAT, a sect of Hindu devotees who subsist by begging. They dwell alone or in monasteries.—*Sherring's Hindu Tribes*, p. 264.

ABHIANGANA STH'NANAM, a Hindu ceremonial, on the wedding day, when the bride and bridegroom are anointed with oil. In the Hindu ceremonial, when oil is applied to the crown of the head, and reaches to all the limbs, it is called abhyanga. It is like the precious ointment upon the head, that ran down upon the beard, even Aaron's beard, that went down to the skirts of his garments.—*Psalm* cxxxiii. 2; *Ward's View of the Hindoos*, ii. p. 112. See Hindu.

ABHIDHANA. SANSK. Any Sanskrit dictionary or vocabulary. One of the oldest is the Abhidhana Ratnamala of Halayudha Bhatta, about the 7th century. Abhidhana Chintamani is a vocabulary of the Jaina doctrines, by Hema Chandra, a Jaina celebrity who lived in the 13th century.—*Garrett; Dowson.*

ABHIDHARMMA, the third division of the sacred writings of the Singhalese Buddhists, addressed to the Dewas and Brahmas. They are in the Pali language, and are called the Pittakattyan, or Three Baskets.—*Eastern Monachism.*

ABHIGNYAWA, amongst the Singhalese Buddhists, five great powers attached to the Rahatship.—*Hardy's Eastern Monachism.*

ABHIMANI, a name of the Hindu god Agni.

ABHIMANYA, a son of Arjuna and Subhadra, who fought in the great war, or Mahabharata, on the second day of the battle, and he slew a son of Duryodhana. On the thirteenth he himself was slain. He was on the side of the Pandhya, or Pandava. His son Parikshit succeeded to the kingdom of Hastinapur. — *Wheeler, History of India*, i. p. 152; *Garrett.*

ABHIRA, a pastoral race, who were settled about the beginning of the Christian era, on or near the lower course of the Indus, on a tract known to classical geographers as the Abiria of Ptolemy, lying between the Tapti and Devagarh, north of the Sahyadri range of mountains and of Syrastrene. The Abhir of Saurashtra are mentioned in the Mahabharata. From their pastoral habits, the name came to be generally applied to all the cowherds of Hindustan. In the spoken dialects of Upper India, the word is softened to Ahir. In Bengali and Mahratti it is unchanged, occurring as Abhir. Abhira, at the mouth of the Indus, has been supposed by some to have been Ophir.—*Wilson.*

ABHISHEGAM. SANSK. A Hindu religious ceremony, which consists in pouring milk on the lingam. This fluid is afterwards kept with great care, and some drops are given in the Pancha Shegam rite to dying people. Traces of this

Abhishegam ceremony are found in the earliest antiquity. Several primitive races had a kind of sacrifice called a libation, which was performed by pouring some fluid, but especially oil, in honour of the divinity. The Hindus of India have preserved this custom, not only in respect to the lingam, but also in honour of their other deities. They usually offer them libations, wash them with cocoa-nut oil, melted butter, or water of the Ganges. They often rub them with oil or butter when they address prayers or present offerings to them, so that all their idols are black, smoked, plastered, and dirtied with a fetid grease. The Talopoins of Pegu and Ava, and the priests of Siam, also wash their idols with milk, oil, and other liquids. The Jews had sacred stones, which they anointed with oil, and to which they give the name of Betyle.—*Sonnerat's Voyage*, pp. 159, 160. See Betyle; Eagle Stones; Ban-lang; Salagram; Stone Worship.

ABHIYADAYA, in Hinduism, offerings to the manes of an individual's progenitors.

ABĮ. HIND. Land cultivated by artificial irrigation from streams or tanks. Lallam, in Afghanistan, means cultivation dependent on natural rains.

ABID. ARAB. A devout person; constantly engaged in the worship of God.

AB-i-DHANG. PERS. This is a usual drink amongst the Ilyats in Northern Persia. It is butter milk weakened with water, and to which a little salt is added.

ABIES, the fir genus of trees of the coniferous tribe, known for their valuable timber. Species of several coniferous plants, abies, cedrus, cupressus, juniperus, picea, pinus, and taxus, grow in the Himalaya, in Japan, the Philippines, and China. A. Araragi, *Siebold*, is a Japan tree with a brown wood, used for various domestic purposes; and the A. Momi, *Sieb.*, also of Japan, is valued for the whiteness and fine grain of its wood. A. leptolepis, A. firma, 100 to 120 feet, A. bifida, 90 to 100 feet, and A. tsuga, 60 to 70 feet, grow on Mount Fusiyama. —*Hooker's Him. Journ.; Hodgson's Nagasaki; Panjab Report.* See Coniferæ.

ABIES BRUNONIANA. *Hooker.*

Pinus Brunoniana, *Wall.* | P. dumosa, *Lamb.*
Deciduous silver fir, ENG. | Semadoung, . . . TIB.

Grows in Nepal, Bhutan, and at Gossain Than. A beautiful species, which forms a stately pyramid growing to 70 or 80 feet, with a trunk 15 to 20 feet, and with branches spreading like the cedar, but not so stiff, and drooping gracefully on all sides. The wood is not durable; its bark is, however, very useful. Dr. Hooker found stacks of different sorts of pinewood stored for export to Tibet, all thatched with the bark of Abies Brunoniana. In the dense and gigantic forest of Abies Brunoniana and silver fir, he measured one of the larger trees, and found it 28 feet in girth. It grows occasionally in dense forests to a height of 70 to 80 feet, with a clear trunk of from 14 to 20 feet, and a spreading, very branching head. Abies Kaempferi, the Pinus Kaempferi, *Lamb*, a native of Japan, is found wild upon the mountains of Fako.—*Eng. Cyc.; Hooker's Him. Journ.*

ABIES SMITHIANA. *W.* Himalayan spruce.

Kachan . . of JHELUM. | Seh, ... LEP.

A handsome tree, common in many parts of the Panjab Himalaya, at from 3500 to 11,000 feet. Trees of 10 to 12 feet girth, and 130 to 140 feet high, are not unfrequent. Thomson notes one of 17, Madden mentions one of 20, and Dr. Stewart had seen one of 21, feet girth. The timber is soft and light, often with much sap-wood, and the fibres are frequently twisted. It is the least valued of all the conifers, by the natives, for construction. In some parts, however, especially on the Beas, it is largely used for shingles, which are said to last for two or three years, and under cover it will last twice that period.—*Hooker's Him. Journ.; Stewart's Panjab Plants; Cleghorn's Panjab Report; Royle.*

ABIES WEBBIANA. *Hooker.*

Pinus spectabilis, *Lamb.* | P. Webbiana, *Wall.*
Chilrow, of HIMALAYA. | Gobrea, Sallur, PANJ.
Tos of KULU and KANGRA. | Oonum, Dunshing, HIND.?

This fir tree grows at great elevations on the Himalaya, where it is one of the principal ornaments of the forests. It attains a height of 80 or 90 feet. At Choongtam this tree attains 35 feet in girth, with a trunk unbranched for 40 feet. According to Dr. Hooker, it splits well, is white, soft, and highly prized for durability, but Dr. Cleghorn says it is not much valued, and is used for shingles.—*Hooker's Him. Journ.; Royle's Ill. Him. Botany; Timber Trees; Panjab Report.*

AB-i-GUM. PERS. Literally 'lost water,' thirty-six miles from the east entrance of the Bolan pass. The stream in the pass sinks into the loose pebbly stratum, but, percolating through, it reappears at Bihi Nani some miles below.—*MacGregor's Beluchistan.*

AB-i-MA. PERS. Literally 'mother of the waters;' the Amu Daria, or Oxus river.

ABIR. ARAB. Crocus sativus, *Linn.*

ABIR. HIND. A perfumed cosmetic powder, which is rubbed on the face or body, or sprinkled on clothes to scent them. There are many receipts for it; one kind is composed of rice flour, or the powdered bark of the mango tree or deodar, camphor, and aniseed. A superior kind is prepared from powdered sandal wood or wood-aloes, Curcuma zerumbet (Kuchoor), or Curcuma zedoaria (ambi huldee), rose flowers, camphor, and civet cat perfume, pounded, sifted, and mixed. In every case it is a mixed cosmetic perfume, and other ingredients used are yellow sandal, violets, orange flowers, aloes wood, musk, true spikenard, and rose-water. It is a term applied in India to any perfumed powder, and is also often given to Curcuma zerumbet and saffron.—*Herklots.*

AB-i-SHEREEN. PERS. The Hindyan river.

AB-ISTADA, a lake 17 miles long, 65 miles S.S.W. of Ghazni.

ABJAD. ARAB. The name of an arithmetical verse, the letters of which have different powers, from one to a thousand. This was the ancient order of the alphabet as it is now used in the Hebrew alphabet. The system is much used in chronograms and in books of astronomical tables.

ABKARRY. HIND. Excise revenue derived in India from duties levied on the manufacture and sale of inebriating liquors, as toddy, pachwai, and arrack; also on intoxicating drugs, whether in substance, infusion, or extract, as opium, bhang, churrus; also on certain licensed distilleries, and on shops licensed to sell by retail.—*Wilson.*

ABKHORA. HIND. A drinking pot, with or without a spout (tuti); it has a handle and lid.

ABLUTION.

Wazu, ... AR.	Sth'nanam, . . SANSK.
Abluzione, ... IT.	Ablucion, ... SP.
Sir Nahana, . . HIND.	

Ablutions, amongst the Hebrews, Hindus, and Mahomedans, are included as part of their religious rituals. They are allotted to several periods of the day, and varied to meet particular forms of purification. The Hebrew ceremonial, as still practised by their Jewish successors, is laid down in the books of Moses, and is that generally followed by Mahomedans, both for men and women. Both Mahomedans and Hindus carefully act up to their ordinances, as to purification. The Hindu ritual is severe on this point, and along the banks of their sacred Ganges, crowds of men and women may be daily observed. Their Sth'nanam, however, as also their ritual purification before eating, may equally be performed in their own houses. The Buddhists of Asia are less strict. Although frequently enjoined in the Bible as parts of Hebrew ceremonials, they are even more stringently carried out by Hindus, but less so by Mahomedans. The Hebrews, in Gen. xxxv. 2, were ordered to 'put away the strange gods; be clean, and change your garments;' and a Hindu considers those clothes defiled in which he has been employed in business, and always changes them before eating or worship. Again, in Gen. xliii. 24, 'The man brought the men into Joseph's house, and gave them water, and they washed their feet.' And with Hindus, as soon as a guest enters, one of the first civilities is presenting water to wash his feet. So indispensable is this, that water to wash the feet makes a part of the offerings to an image. Solomon's Song, v. 3, says, 'I have washed my feet; how shall I defile them?' A Hindu wipes or washes his feet before he retires to rest. If called from his bed, he often excuses himself, as he shall daub his feet; and as he does not wear shoes in the house, and the floor is of clay, the excuse seems very natural. Lev. xiv. 8, 9, and 33, relate to personal uncleanness, and there are similar customs prevalent among the Hindus; but in the Mosaical institutions there is no law like that of the Hindus, which rules that a Brahman becomes unclean by the touch of a Sudra, or a dog, or the food of other castes. The Hindu food ritual is given in Mark vii. 3, where the Pharisees and all the Jews, except they wash their hands oft, eat not, for with Hindus bathing is an indispensable prerequisite to the first meal of the day, and washing the hands and feet is equally so before the evening meal. Mahomedans use water or sand before prayers, before meals, and after many ordinary occurrences. — *Ward's Hindoos; Herklots' Qanun-i-Islam.*

ABNOOS. ARAB. Ebony.

AB-o-HOWA. HIND. The climate of a country or locality, literally the water and air.

ABOO, ARAB., also written Abu, an affix to many banks, islands, reefs, mountains, headlands, and shoals in the Red Sea and Persian Gulf.

ABOR or Abar is a name applied very indefinitely by the Assamese to independent hill tribes on both sides of the valley, but it is more especially the appellation of the great section called Padam or Padgam. They have five settlements in the lower ranges bordering on Assam, in the vicinity of the Dibang river, viz. Membu, Silook, Pados, Pashee, and Bomjeer. The young women at Membu, until they become mothers, wear as an under-garment, suspended in front from the loins, a row of from five to a dozen round embossed plates of bell-metal, which rattle and chink when they move. Very young girls, except for warmth, wear nothing else, but the smallest of the sex is never seen without these appendages. In the end of 1861, the Meyong Abor attacked and plundered a village in the British territory, but the tribe expressed a desire to renew friendly relations, and begged that their offences might be overlooked. On the 5th November 1862, an agreement was made with them, binding them to respect British territory, and the same engagement was subscribed on the 16th January 1863 by the Kelong Abor. On the 8th November 1862, a similar engagement was concluded with the Abor of the Dihong - Dibang duar. The Abor are polyandrous, it being not uncommon for an Abor woman to have two husbands, brothers, living under one roof. They do not eat beef, but hunt and eat the flesh of the buffalo. Their bachelors live in the Morang, a large building in the centre of the village for the reception of strangers, and in this custom they resemble the Naga on the south of Assam, and some of the Archipelago races. Numbers of the Abar people are also found on the shores of the two great northern branches of the Brahmaputra river. When first known, they made periodical descents on the plains. Colonel Dalton thinks that the Abor, Aka, Dafla, and Miri are of a Tibetan stock. The Abor Miri language belongs to the old Assam alliance, but it has been greatly modified by Tibetan. It has a strong ideologic resemblance to the Dhimal, Bodo, Garo, and Naga, but with some specific Tibetan traits.— *Jour. Ind. Arch.* 1853; *Treaties, etc.*, vii. p. 343; *Indian Annals; Latham's Ethnology; Mr. Campbell*, p. 54; *Dalton's Ethn. of Bengal; Imp. Gaz.*

ABORIGINES. In British India, in the south-east of Asia, and in China, many of the races dwelling in political dependency are supposed to be the prior occupants, and on that account are distinguished by this term. Some of them are in large nationalities; others broken, dispersed, disconnected, even homeless. The census of 1871 showed that the aborigines of British India then numbered twelve millions, or one-twelfth of the population:—

Madras, ...		650,000
Central Provinces, . . .		1,995,663
South Bengal, ...		4,000,000
North-East Bengal, .	(say)	1,000,000
Karen, ...		402,117
Khyen and Yabang, . . .		51,562
Rest of India, . .	(say)	4,000,000

Dr. Hunter says 17,716,825, excluding Madras and feudatory states.

The dates of the first arrivals in British India are, however, wholly unknown. But the bulk of the immigrants seem to have come from beyond the Himalaya on the north, at intervals ranging between 3000 and 1000 years before the Christian era. Small bodies in the N.W. corner of the Peninsula appear to be of Western origin. There are also peoples in the southern parts of the peninsulas of India and Malacca with marked Negro features, and such recur as large or small nations in the Andamans, the Malay Peninsula,

and in the Archipelago islands, with traces also, in the valleys of Northern India, as if there had once been a great Negro wave setting to the east, or had been prior Negroid races occupying the southern parts of Asia.

A great bulk of the original settlers in India —labourers, farmers, foresters, shepherds, cowherds, artificers, and professional races—seem to have come down the valleys of the Indus, of the Ganges and Brahmaputra, and to have streamed through the gaps in the Himalayas; and, from the practice followed of living apart, as castes, who neither eat together nor intermarry, most of the immigrant tribes and races are now as distinctly marked as on the days of their first appearance. The Mahomedans even, who have less of such separatist habits, although they also to a considerable extent follow the ancient custom of marrying amongst their own people, are still readily distinguishable from one another,—tall, powerful, fair men of the Afghans; fair, robust Moghuls from Tartary; the fair, slender Nou-ait race from Southern Persia; the darker men of Arab origin; and the powerful, large-made trading race, known in the south as Labbay. All these—amongst the Hindus, Brahman, Kshatriya, Vaisya, and Sudra, and amongst the Mahomedans, Syuds, Shaikhs, Moghuls, and Pathans — are in great numbers. But, throughout all India—in hamlets, in forests, and on the plains, in towns, and in valleys, and on the mountains — are numerous smaller bodies or tribes, with physical forms and habits and pursuits quite distinct from each other. The native races readily distinguish each other, but this is a capability which most Europeans fail to acquire, in consequence of which ethnologists have formed very dissimilar opinions as to the origin of the nations in the south of India.

Mr. Hodgson includes all the people of India under two races, the Aryan and Tamulian. Dr. Caldwell, referring to the great variety of feature, colour, etc., and to the influence of caste restrictions and climate, finds no indication either of the Mongol or Negro tribes among the Dravidians; Mr. Hislop says he has never found an instance of Negro physiognomy among the barbarous people of Central India, but considers both their hair and features to be decidedly Mongolian. Sir Walter Elliot says that in the Carnatic, also from Tanjore west through the Western Dekhan, both above and below the Ghats,—in Gujerat, amongst the southern Rajputs, and as far north as Mount Abu, in Kutch and Kathiawar, — also in the Northern Circars, as far north as Orissa and the country of the Konds,—he had never, during forty years' sojourn, observed any indications of true Mongolian features, nor had he seen any signs of Negro blood, save in the instances of imported Africans. But, on the other hand, he has been struck with the remarkable diversity of form and feature observable in every class of the population. Amongst Brahmans, Tamil, Telugu, Canarese, and Deshasth Mahratta, some, he says, will be found of a clear, light-brown colour; others as black and dusky as any agricultural Pariah; some with fine, tall figures, and sharply cut, aquiline features; others with stout, ungainly figures, and thick, flat, coarse physiognomy. It would, he adds, puzzle a stranger to point out a group of Panchalar artisans, of Kanakapilli writers, of Buljawar, of Komati merchants, and an equal number of Brahmans; and the same diversity runs through all the castes. Many Pariahs, he continues, are very fair and tall, with good, prominent, sharp-cut features; others are black and squat, with the lowest and most debased cast of countenance. But all converge to a common type,—one *sui generis*,—which might almost entitle the Hindu to be recognised as a distinct family of mankind; and he concludes by observing that it is a mistake to attribute any marked influence on existing forms to Aryan blood, except in a few special cases. Aryan missionaries penetrated to the south of India, but they were too few to make any impression on the community. He considers the origin and affinities of the classes comprising the Indian population to be still involved in obscurity.

Professor Müller and Dr. Prichard arrived at the conclusion that when the Aryan Hindus crossed the Indus, they drove the aboriginal inhabitants across the Vindhya mountains and the Nerbudda into the Dekhan, where they still dwell, speaking their native languages, though mixed more or less with the Sanskrit of their Aryan conquerors. Their idioms—the Tamil, Telugu, and Karnatica—are sister dialects of one speech. Dr. Prichard concurs with Professor Rask in regarding the languages of the mountain tribes of India—the Bhil, the Gond, the Toda, and others—as likewise of the Tartar stock; and he mentions also that some curious analogies have been observed between the Tamulian and other dialects of the peninsula, and the languages of Australia. Mr. Hodgson, also, is of opinion that all the aborigines of India are northmen of the Scythic stem. Members of that stock are found from their original seats on the north of the Himalayas southwards to the seas; and between Gilgit and Chittagong there are a hundred passes over the Himalayas and their south-eastern continuation to the Bay of Bengal, through which they may have migrated ages upon ages before the dawn of legend and of chronicle. In every extensive jungly or hilly tract throughout the vast continent of India, there exist hundreds of thousands of human beings in a state not materially differing from that of the Germans as described by Tacitus. These primitive races are the ancient heritors of the whole soil, from all the rich and open parts of which they were expelled by the Hindus.

Sudra is now the common caste appellation of the mass of the Hindu inhabitants of southern India. It cannot, however, be doubted that by the Aryans the term was extended in course of time to all who occupied, or were reduced to, a dependent condition, whilst the name M'hlecha continued to be the appellation of the unsubdued un-Aryanized tribes. Lassen and Max Müller suppose that the whole of the Sudra or primitive servile classes of Northern India belonged to a race different from their Aryan conquerors; but Dr. Caldwell thinks it probable that a considerable portion of them consisted of the slaves, servants, dependants, or followers of the high caste Aryans, and, like the latter, belonged to the Aryan race. And the legend that the Brahman, Kshatriya, Vaisya, and Sudra all sprang from Brahma's body, though from different parts of it, is in favour of the idea that the Sudra differed from the twice-born Arya in rank only, not in blood.

Mr. Logan remarks that, physically, the popula-

tion of southern India is one of the most variable and mixed which any ethnic province displays. Some are exceedingly Iranian; some are Semitic, others Australian; some remind us of Egyptians, while others again have Malaya-Polynesian and even Simang and Papuan features. Yet when the eye takes in the whole group at once, they are seen to have all something in common. They are not Iranians, Polynesians, Papuans, etc., but South Indians. The Dravidian language, however, or one of its principal elements, was probably an extension of a Mid or Western Asiatic formation, and it may be inferred that the common element of the Dravidian, the Fin and Japanese languages, must be much more ancient than the occupation of Japan by the Japanese, India by the Dravidians, and Finland by the Fins. He says the main affinities of the Dravidian formation thus point two ways,—the linguistic chiefly to a Scythic, and the physical chiefly to an African origin or fraternity. The more important of these characters are a pointed and frequently hooked pyramidal nose, with conspicuous nares, more long and round; a marked sinking in of the orbital line, producing a strongly-defined orbital ridge; eyes brilliant, and varying from small to middle-sized; mouth large, lips thick and frequently turgid; lower jaw not heavy, its lateral expansion greater than in the Aryan and less than in the Turanian type; cheek bones broad and large rather than projecting, as in the Turanian type, giving to the middle part of the face a marked development and breadth, and to the general contour an obtuse oval shape, somewhat bulging at the sides; forehead well formed, but receding, inclining to flattish, and seldom high; occiput somewhat projecting; hair fine, beard considerable, and often strong; colour of skin very dark, frequently approaching to black. We may, he adds, conclude from the ethnic character and position of the ancient Indian population, that it belonged to the small Turano-African type. But successive modifications of race seem to have been going on in India from times long anterior to the Aryan or even Tartar eras, and imply linguistic changes also. The above is the higher and much-improved type. But, as in Africa, Ultra-India, and Asionesia, a smaller, more Turanian, and less Semiticized type is still preserved, although variously crossed. The peculiarities in the variable physical character of the Dravidian physical types, when compared with the Scythic, are African and Africo-Semitic. The very exaggerated occipital and maxillary protuberances are not characteristic of the typical African head, but of a debasement of it confined to certain localities. Several East and Mid African nations have the so-called African traits much softened, and differ little from the Dravidian. Even woolly or spiral hair is not a universal feature in Africa, some tribes having fine silky hair. The Dravidian pyramidal nose, the sharp depression at its root, the slight maxillary and occipital projection, the turgid lips, the oval contour, and the beard, are all African. Mr. Logan thinks there is reason to believe that the strong Africanism of some of the lower South Indian castes is really the remnant of an archaic formation of a more decided African character. The position of India between two great Negro provinces, that on the west being still mainly Negro, even in most of its improved races, and that on the east preserving the ancient Negro basis in points so near India as the Andamans and Kidah. It is therefore highly probable that the African element in the population of the peninsula of India has been transmitted from an archaic period, before the Semitic, Turanian, and Iranian races entered India, and when the Indian Ocean had Negro tribes along its northern as well as its eastern and western shores.

Many of the Non-Aryan races have long been very severely repressed. Manu, in the tenth chapter of his Institutes, says they must dwell outside of the town, their sole property dogs and asses, their clothes such as have been left by the dead, their ornaments rusty iron. They must roam from place to place; no respectable man must hold intercourse with them; they are to be the public executioners, and may retain the bedding, the clothes, and the ornaments of those they have executed. In the eighth chapter, he says the Chandala can never be released from bondage, though he be emancipated by a master.

Under Mahomedan and Christian rulers, the primitive races have been very largely freed from all open persecution; but, to the present hour, the Pariah, the Chakili, the Mhar, the Mang, the Holyar, the Pullar, the Chamar, and others, do not reside within the towns. Not only their touch, but even their near presence or look, entails ceremonial pollution. The workers in hides and leather—the Chamar, Madaga, Muchi, Chakili, Dhor, and Mang—are, everywhere throughout India, regarded by Hindus as unclean.

Colonel Dalton arranges the aboriginal races of Bengal, Chutia Nagpur, and Behar, as under:—

a. Kolarian, viz.:—

Santal, Mundah, and Kharriah of Chutia Nagpur.
Bhumij of Manbhum.
Ho of Singbhum.
Savage Korwa of Sirguja.
Kur or Kurku or Muasi of the Central Provinces.
Juang, Binhor, and others.

b. Dravidian, who, in Bengal, comprise four great divisions of the aborigines, viz.:—

Oraon, ...	600,000	Gond, in Bengal,	50,000
Male, Paharia, or Rajmahali hill-men, ...	400,000	Khond, ,, and others.	50,000

c. Broken Tribes, viz.:—

Cheru.	Kharwar.
Parheya.	Kisan or Nagesar.
Bhuiher.	Nagbansi.
Boyar.	Mar, and others.
Kaur or Kaurava.	

d. Hinduized Aborigines, viz.:—

Bhuiher.	Kharwar.
Boyar.	Kisan or Nagesar.
Cheru.	Nagbansi.
Kaur or Kaurava.	Parheya.

To the south-west of Bengal, in the Peninsula of India, are several great prior nations, engaged in all the avocations of civilised life, speaking the cultivated Canarese, Malealam, Tamil, and Telugu, with other races and tribes speaking uncultivated tongues, as Beder, Kurgi or Kodaga, the Todava, Baddaga, Kohtar, Irular, Kurumbar, Gond, Khond or Khand, Gadaba, Yerkala, Korawa, Pullar, Savara, Yenadi, and others who have remained in an unsettled state, many with no houses or villages. Among these may be mentioned—

The migratory Wadawar, or road-maker and

quarriers; the Uparawar, salt-makers and tank diggers; and the Medarawar, or basket-makers.

The homeless Lambari, Binjara, Yerkala, Korawa, Korchawar, Kammarawar, Nat, and Baora.

The athlete and juggler Jatti-gymnasts, Kollati (Khelati?), Dommar, Modewar, and Bommalatiwar; Kaikara, Ramusi, Warali.

The begging Jogi, Pitchigunta, Budu-budu, Kalawar, Satani, Dasari, Bairagi, and Viramusti.

The shepherd and cowherd Betla Kuruba, Genu Kuruba, Ahir, Gardarga, Garaiya, Dhangar, and Gaoli.

The hill races, Bhil, Badaga, Ho, Gond, Kol, Irular, Katar, Kurumbar, Malai Arasar, Todawar, Saora, Cheru, Pullar, Male, Munda, Bhumij, Sonthal, and on the north-east frontier, the Abor, Aka, Dafla Garo, Khassya, Mikir, Miri, Naga, and many others.

The forest Chenchwar, Villi or Yenadi, and Juanga.

The Non-Aryan Pariah, Mhar, Holyar, and Eskar, who are landless labourers, with the Koli, and Yerawar, the Chamar, the Dom, the Chandal, Koch'h, and others.

The fisher Boya, Parawar, and Besta.

The agricultural and farming Reddi, Vallalar, Kammawar, Patra Yakari, and Gujjulawar, Yerlam-wandlu, Kunbi, Kurmi, Ukali, and Mutarchawandlu, with the Kallar and Marawar of the south, who are settling down to agriculture.

The palm-wine drawing Shanar, Balaja, and Idagawar.

The Kurg mountaineer.

The Jut or Jat, of all the north-west of India, are an immigrant race, who have the two principalities of Bhurtpur and Dholpur. They are everywhere industrious and successful tillers of the soil, and are hardy yeomen, but equally ready to take up arms and to follow the plough. They form, perhaps, the finest rural population in India. On the Jumna, their general superiority is apparent; and on the Sutlej, where many adopted the Sikh faith, religious observances and political ascendency served to give spirit to their industry and activity, and purpose to their courage. The Jat of both sides of the lower Indus rear camels.

The Gujar race, living among the Jat, continue predatory, but they have given their name to Gujerat, and are settling down.

Throughout British India, the aboriginal races do most of the work as agricultural labourers, more rarely as handicraftsmen or artisans. Many of them are still predatory, but they are faithful, brave, and truthful, make good soldiers, and are capable of being readily advanced in civilisation. *Sir Walter Elliot and Dr. Campbell, in Jour. Ethn. So.* 1869; *Colonel Dalton, Eth. of Bengal; Chevalier Bunsen, Dr. Prichard, and Professor Max Müller, in Report British Association*, 1847; *Hodgson's Aborigines of India; Logan in J. Ind. Archip.; Imp. Gaz.*

AB-PASHI. PERS. Irrigation of fields.

ABRAH, surnamed Moochwal, or whiskered, one of the Bhuj family who came from Cutch in the time of Rinna Sowah, into whose family he intermarried. His son had offspring by a woman of impure caste, and they assumed the name of Waghair, with the distinctive appellation of manik or gem. The last four chieftains of this race were Mahap, Sadul, Samiah, and Mulu-manik, who, with all his kin and company of Waghairs, Badhails, Arabs, etc., after a desperate defence, was slain.—*Tod's Travels*, pp. 220, 440. See Kattyawar.

ABRAHAM or IBRAHIM, the patriarch of three religions, Jewish, Christian, and Mahomedan. He was a son of Terah, and brother of Nahor and Hanan, and is commonly called Khalil Ullah, the Friend of God. He was born at Ur in the Chaldees, B.C. 2927; and B.C. 2900 he withdrew with his father into the south-western part of Mesopotamia. B.C. 2877 he emigrated into Canaan. His grandson Jacob went to Egypt B.C. 2747 or 2746.—*Kennedy on the Origin of Languages*, p. 25; *Bunsen.*

ABRAK or Abraka. HIND. Mica.

AB-RAWAN. PERS. A delicate cotton manufacture of Dacca, meaning like running water.

ABROMA AUGUSTUM, *L.*, the Ulut kambal of Bengal, the perennial Indian hemp; a small tree or shrub, one of the Sterculiaceæ, with soft velvety branches and drooping flowers, a native of various parts of India, and as far east as the Philippines. It grows so rapidly as to yield annually two, three, or even four cuttings, fit for peeling. On this account, and on account of the beauty, strength, toughness, and fineness of its fibres, it is deserving of more than common attention. The produce is said to be three times greater and one-tenth stronger than that of Sunn (Crotalaria juncea). It can be cultivated as an annual. If maceration be employed, its continuance must be guided by the heat of the weather. To prepare the fibres, the bark is steeped in water for about a week, beyond which they require no further cleaning, and in this state, without any subsequent preparation, they are not liable to become weakened through exposure to wet. A cord made from these fibres bore a weight of 74 lbs., while that of Sunn only 68 lbs.—*Royle; Riddell; Roxb.; Voigt; Useful Plants.*

ABRU. HIND. The eyebrow; the Char-abru of Mahomedans are the eyebrows, the moustaches, the beard, and the hair of the armpits.

ABRUS PRECATORIUS. *L.*

Abrus minor, *Desv.*		Abrus pauciflorus, *Desv.*	
Ain-ul-dik,	AR.	Chashm-i-khoras,	PERS.
Sweta Kunch,	BENG.	Gunja,	SANSK.
Kalo Kunch,	,,	Maklam,	SIAM.
Khyen rwæ,	BURM.	Olinda,	SINGH.
Rwa-gnay,	,,	Gundamani,	TAM.
Gunch; Retti,	CASH.	Gulivenda,	TEL.
Siang-sz-tsze,	CHIN.	Guruginja,	,,
Hung-tau,	,,	Guruvenda,	,,
Bead seed tree,	ENG.	Yashti-madhukam,	,,
Liane a reglisse,	FR.	*The white variety, α.*	
Pater-noster erbze,	GER.	Leucospermos—	
Gumcha, Guncha,	HIND.	Tella Guruginja,	,,
Rutti,	,,	*The black variety, β.*	
Dan-sot-ga,	MALAY.	Melanospermos—	
Kuni-kuru,	MALEAL.	Nalla-guruginja,	,,
Khak-shi?	PERS.	Khoroo-gzuei,	TURK.

A native of all the south-east of Asia, but now introduced into Africa and America. There are three varieties of this tree, designated from the colour of the flowers and seeds,—erythrospermos, or red-seeded with a black eye; leucospermos, or white-seeded, also with a black eye; and melanospermos, or black-seeded with a white eye,—the colours of their flowers being respectively rose, dark and white. Those of a bright scarlet colour, with a jet black spot at the top, are used by the jewellers and druggists as

weights, also for beads and rosaries, whence the specific name. From their extreme hardness and pretty appearance, people prize them for necklaces and other ornaments. They are said to form an article of food in Egypt, though considered hard and indigestible. In fine powder, goldsmiths use them to increase adhesion in the more delicate parts of manufactured ornaments. The roots abound in sugar and mucilage, and are employed as a substitute for liquorice, for which they are perfectly suited. The leaves have a similar taste, and, mixed with honey, are applied externally in swellings of the body. It is a popular belief that the seeds almost uniformly weigh exactly one grain troy; but they vary from one to two grains. The Burmese use them within a fraction for two grain weights. 120, by one mode of reckoning, and 128 by another, make one tikal, which weighs, according to Captain Low, 253·75 grains troy. Its Chinese name means 'anxious desire,' and refers to the sorrows of a widow who wept under one of these trees, and died of her grief.—*Smith, Chin. Mat. Med.; Riddell, Useful Plants; Mason; O'Sh.; Ainslie; Roxb.; Voigt; Bombay Products.* See Liquorice Root.

ABSAN-UL-FIL. ARAB. Colocasia esculenta.

ABSHAR. HIND. A stripe pattern.

ABU or Aboo, the ancient Arbuda, is in Rajwara, in lat. 24° 35′ 37″ N. and long. 72° 45′ 16″ E. It is a large isolated mountain, in the territory of the Rao of Serohi; 45 miles N.E. from the military cantonment of Deesa, and to the S.W. of the Aravalli range. It is situated on the western border of the desert of Rajputana, and one of the philanthropic Lawrence Asylums has been located on it. It is a magnificent mass of mountain, with a fine lake, the Nakhi Talao, on the top of the hill. Its summit is covered with exquisite vegetation, in which white and yellow jasmin and wild roses predominate. Every glen and knoll has its tradition and romance; and the Jain temples of white marble offer examples of architectural decoration which probably are unequalled in the world for elaboration and costliness. Its fame is of great antiquity; and pilgrims appear to have been attracted to its sacred temples since A.D. 1034. Hindu temples are said to have existed here in remote ages, dedicated to Siva and Vishnu, but all traces of them have disappeared. On their traditional site at Delwara, the famous Jain temples now stand, built by Bimul Sah, a rich Jain merchant, and others; for, in Jain estimation, Abu is the holiest spot on earth. At Delwara are five Jain temples, the largest being dedicated to Rishabhanath, the first tirthankara, whose image there is quadruple. Another is dedicated to him, A.D. 1031, as Adisvara or Adinatha; and one to Neminath, the 22d tirthankara, built of white marble, and delicately and richly carved. The base of mount Abu is about 13 miles long, 11 broad, and 50 in circumference. It rises abruptly from the sandy plains, and the ascent is consequently steep and winding. The summit of the hill is very irregular, consisting of peaks, ridges, and valleys, sloping plateaux, and extensive basins. The highest point is called Guru Sikhar, and is 5653 feet above the level of the sea. The average height of the station is 4000 feet. Colonel Tod described the neighbourhood of mount Abu, as the site in which, from the most ancient times, ascetics known as Aghora, Mard-khor, or man-eaters, had resided. The aborigines of the hill appear to have been a tribe of Bhils. They seem at some time or other to have become mixed with marauding Rajputs from the plains, and with the workmen who were so long engaged in building the Delwara temples. This mixed race call themselves Lok, and are now in possession of almost all the land under cultivation. He says, taking a section of about sixty miles in the alpine Aravalli, from the ascent at the capital of Udaipur, passing through Oguna, Panurna, and Mirpur, to the western descent near Sirohi, the land is inhabited by communities of the aboriginal races, their leaders, with the title of Rawut, being hereditary. Thus the Rawut of the Oguna commune could assemble five thousand bows, and several others can on occasions muster considerable numbers. Their habitations are dispersed through the valleys in small rude hamlets, near their pastures or places of defence. The Bhils latterly have been settling to agricultural pursuits. Abu is subject to frequent shocks of earthquakes. The Rao of Sirohi, with some difficulty, was induced to approve of the sacred ground being used as a station for European residents and soldiers. Abu is one of the five mountains which the Jains of Western India consider sacred, the others being Girnar, Palitana, and Tallijah in Saurashtra, and Parasnath hill in Bengal, far to the east. Abu is the headquarters of the Rajputana Political Agency.—*Dr. Cook*, in *Bo. Medical Transactions*, 1860; *Buist's Catalogue; Cunningham's Bhilsa Topes; Tod's Travels*, p. 84; *Postan's W. India*, ii. p. 2; *Imp. Gaz.*

ABU. ARAB. Father; also meaning possessed of, or endowed with, and is numerously combined in Arabic.

ABU ABDULLAH MUHAMMAD ISMAIL, BOKHARI, born A.H. 194, died A.H. 256. He was one of the six principal collectors of the Hadis, or traditions of Mahomed.

ABU ALI ul-HUSAIN, ibn ABID ULLAH, ibn SINA, a learned physician and philosopher, A.D. 980–1037, known to Europe as Avicenna, but to his contemporaries by his titles us-Shaikh, the chief, and ur Rais-ul-Ataba, literally physician-general. He was born A.D. 980 at Kharmatain (also, as is said, at Assena), a village near Bokhara, and was educated at Bokhara, studying under Abu Abid Ullah un-Natheli. His name ruled in the realm of medical science for a longer time than that of any other writer except Aristotle and Galen. In his twenty-first year he wrote a book, which he called Al Kitab al Majma, a cyclopædia of twenty volumes; and he subsequently wrote a commentary of it, which also extended to twenty volumes. When the Samani dynasty fell, in the beginning of the 11th century, he quitted Bokhara, and for a short time was employed under the Dilemi ruler; but in 1012 he returned to Jorjan, where he began to write his most celebrated book on the principles of medicine, Kitab ul Qanun fi't Tibb. He subsequently lived for short periods at Rai, Kazwin, Hamadah, and Isfahan. He wrote about 100 other treatises, amongst them us Shafa, Shafa fi'l Hikmat, Najat, and Isharat. His Qanun was printed at Rome A.D. 1595; was translated into Latin, and printed at Venice 1608; and for many centuries was, even in Europe, the most celebrated authority in

medical science. It went through several editions. He died while on a journey at Hamadan A.D. 1037, at the comparatively early age of fifty-seven.

ABUBA. Tel. Capparis Roxburghii, *D.C.*

ABUBAKR, the father-in-law of Mahomed, and his successor, as khalifah. He received from Mahomed the title of Al Sadiq, the sincere friend.

ABU DULIF MISAR ibn MOHALHAL, an Arab traveller who was at the court of Nasri bin Ahmad bin Ismail of the Samanidæ at Bokhara, when ambassadors arrived from the king of China, Kalatin-bin-us-Shakhir, to negotiate a marriage between his own daughter, and Noah, the son of Nasri (who afterwards succeeded to the throne of Bokhara). Abu Dulif accompanied the ambassadors on their return, about the year 941. The whole narrative of this traveller is not extant, but much of it has been preserved in citations by Yakuti (A.H. 617, A.D. 1220) and Kazvini (A.H. 667, A.D. 1268–69); and a German editor collected these passages into a tolerably continuous narrative, and translated them into Latin.—*Yule, Cathay*, i. cxi.

ABU HANIFA, one of the learned doctors of the Mahomedan faith, born A.D. 699–70. He was a commentator of the Koran. See Imam; Hanifa; Koran.

ABU ISHAQ of Istakhr, or Persepolis, author of Kitab-ul-Akalim, or book of countries, which he wrote A.D. 951 (A.H. 340). He travelled through the Mahomedan principalities, from India to the Atlantic Ocean, and from the Persian Gulf to the Caspian Sea. He and Ibn Haukal met on the banks of the Indus, and compared notes together. Ibn Haukal made Abu Ishaq's writings the basis of his own work.

ABU KARIB, the most powerful of the Himyaritic monarchs. He was commonly called Tobba. In A.D. 206, he covered the Kaaba with a tapestry of leather, and supplied its door with a lock of gold. See Kaba.

ABU KUBAYS, a hill which bounds Mecca on the east. According to many Mahomedans, Adam, and his wife and his son Seth, lie buried in a cave here. Others place Adam's tomb at Muna; the majority at Najaf. The early Christians had a tradition that our first parents were interred under Mount Calvary; the Jews place their grave near Hebron. Habil (Abel) is supposed to be entombed at Damascus; and Kabil (Cain) is believed to be under Jabal Shamsan, the highest wall of the Aden crater, where he and his progeny, tempted by Iblis, erected the first fire-temple. This worship, however, was probably imported from India, where, according to the Vedas, Agni (the fire-god) was the object of man's early adoration.—*Burton's Mecca*, iii. 198–99.

ABUL-BAQA-ul-HUSAINI-ul-KAFAWI, the Hanafi, author of a cyclopædia of the sciences.

ABULCASIS or ALBUCASA, a Spanish physician of the 11th century, who wrote several medical and surgical treatises that are still extant.

ABULFADA, author of the geographical book Taqwim-ul-baladan, and other books, was the sovereign prince of Hama in Syria. His name and titles at length were, Sultan Almalic Almuayd Amad-ud-Din Abulfada Ismail, the son of Malic Alafdal Nur-ud-Din Ali, son of Jamal-ud-Din Mahmud, son of Umar, son of Shahinshah, son of Ayub, of the Ayubi family. Born A.D. 1278, died in the year 1331, A.H. 732. He mentions the abundance of pepper grown in Malabar, and the fine cotton manufactures of Coromandel. He divides Hindustan into al Sind, the country of the Indus, and al Hind, the country of the Ganges.—*History of Genghizcan*, p. 409.

ABUL FARAGH, styled Al-Mufrian; Mar Grigorius Abul Faragh bin ul Hakim Harun ul Malati, author of the book of dynasties, which he finished, in Arabic, in the reign of Arghun Khan, the last of Chenghiz Khan's grandsons. He was a Jacobite Christian of the city of Malatia in Cappadocia. It was arranged in ten chapters. 1. On the Saints since Adam. 2. The Judges of Israel. 3. The Kings of Israel. 4. The Chaldean Kings. 5. The Kings called the Magi. 6. The Ancient Greek Kings. 7. Latin Roman Kings. 8. Christian Greek Emperors. 9. Mahomedan Arabic Kings. 10. The Mogul Kings. He is the Abul Pharagius of history; Prideaux notices him.—*Chatfield's Hindustan*, p. 245.

ABUL FAZL, the minister and favourite of Akbar, emperor of India. He wrote Akbar's memoirs. He was a man of enlarged views and extraordinary talents, but he was a professed rhetorician, and is still the model of the unnatural style which is so much admired in India. He was an assiduous courtier, eager to extol the virtues, to gloss over the crimes, and to preserve the dignity of his master, and those in whom he was interested. His dates and his general statements of events are valuable; but he had a dishonest way of telling a story, and his narrative is florid, feeble, and indistinct. He wrote the greater part of the Akbar Namah, which was continued for the last three years by a person named Inayat Ullah or Muhammad Salia. Selim, the eldest son of Akbar, took a dislike to him, and to obtain peace, Akbar sent Abul Fazl to a command in the Dekhan; but when recalled from there in the 47th year of Akbar's reign, and while advancing with a small escort towards Gwalior, he fell into an ambuscade laid for him by Narsing Deo, raja of Orcha in Bundelkand, at the instigation of Prince Selim, and although he defended himself with great gallantry, he was cut off with most of his attendants (A.D. 1602, A.H. 1011), and his head sent to the prince. Akbar was deeply affected by the intelligence of this event; he shed abundance of tears, and passed two days and nights without food or sleep. He sent a force against Narsing Deo, with orders to seize his family, ravage his country, and exercise such severities as on other occasions he never permitted. He does not seem to have been aware of Selim's share in the crime. But Selim, in his memoirs, written after he was emperor, acknowledges the murder, and defends it on the ground that Abul Fazl had persuaded Akbar to renounce the Koran and deny the divine mission of Mahomed.—*Price's Jahangir*, p. 33; *Elph.* pp. 384, 462. See Mubarak; Faizi.

ABUL-HASAN-ABI, known by the patronymic surname Al Masudi, a native of Baghdad, and great traveller, acute observer and writer. He wandered to Morocco and Spain on the west, and eastwards to China, through all the Mahomedan and other countries, and he wrote his travels, which he styled Miraj-ul-Zahab, or Meadows of Gold.—*Elliot*, p. 19.

ABUL HASAN-RUDIKI, the oldest of the

Persian poets, still well known and popular in Central Asia. He is remarkable for the fertility of his pen, and the purity of his language. Hammer states that, according to the commentators of the Yamini, his history of Persian poetry, he is said to have written 1,300,000 distiches, collected in a hundred books. His magnificence was princely. He went about preceded by 200 slaves, and followed by 400 camels laden with valuables.—*P. Arminius Vambery, Bokhara*, p. 77.

ABUL WAHID MUHAMMAD-ibn AHMAD-ibn MUHAMMAD-ibn RASHID, is known to Western Europe as Averhoes. He was a philosopher and physician of great eminence. He was born at Cordova, of illustrious parentage, about A.D. 1149. He studied under Avanzoar and other distinguished Arabian scholars, and his education extended to all the branches both of literature and science, as then taught in the Saracenic colleges of Spain. He followed Aristotle as a philosopher, and Galen as a physician. His treatises, seventy-two in number, acquired the highest reputation, and for many centuries were standard works. He also wrote an epitome of Ptolemy's Almagest, and a treatise on astrology. His medical writings were gathered together as the Kulliat, or complete works, and were translated into Latin, and have been repeatedly printed along with the Tasir of Avanzoar, one of them reappearing at the commencement of the 17th century. He carried Aristotle's mode of reasoning by induction into the religious doctrines of Mahomedanism, and twice suffered persecution.

ABU RIHAN, AL BIRUNI, a native of Kharazm (born A.D. 970, died 1038), spent forty years in India, and composed his excellent work, the Tarikh-i-Hind, which gives a complete account of the literature and sciences of the Hindus at that time. Al Biruni had been appointed by the Sultan of Kharazm to accompany an embassy which he sent to Mahmud of Ghazni and Masaud of Lahore.—*Müller's Lectures*, p. 141.

ABU SAID SENAN, ibn SABIT, ibn KORRAH was a Sabian, physician, astronomer, and mathematician. He was born at Haran in Mesopotamia, and died at Baghdad A.D. 942. He was physician to Mukhtasar and Kahar, the 18th and 19th of the Abbasside Khalifs, who reigned from A.D. 908 to 934. Mukhtasar gave him the title of Rais ul Ataba, physician-general, and he was appointed public examiner A.D. 931, no one being allowed to practise until licensed by Senan. The number who were examined at Baghdad are stated at 830. Under pressure from Kahar, he became a Mahomedan; but as Kahar continued to treat him harshly, he fled to Khorasan, though he afterwards returned to Baghdad, where he died A.D. 942.

ABUSHAHR, generally abridged into Bushahr, or Bushire, a town in the Persian Gulf, which rose into notice during the 18th century, and is said to have been previously an inconsiderable village. In excavating to form reservoirs for rain water, architectural remains have been discovered, indicating that a succession of towns have stood there. The well water is brackish, and causes diarrhœa in new-comers.—*Ouseley's Travels*, vol. i. p. 192. See Bushire.

ABU SHAM, a familiar address in the Hejaz to Syrians. They are called 'abusers of the salt,' from their treachery, and 'offspring of Shimr' (the execrated murderer of the Imam Husain), because he was a native of that country. —*Burton's Mecca*, iii. p. 114.

ABUTILON INDICUM. *G. Don.*

Sida Indica, *Linn.*	Abut. Asiaticum, *W. and A.*
Sida populifolia, *Roxb.*	
Potari, ... BENG.	Payrun tuthi, . . TAM.
Tha ma khai ok, . BURM.	Tuttura-benda, . ,,
Kangni, Kanghi, . HIND.	Nugu or Botla-benda, . . . TEL.
Ati or Khirati pala, PANJ.	Pedda or Tutti benda, . . . ,,
Pataka, Simbal, . ,,	
Uram, Pettaka, MALEAL.	

This is a small plant, of two to three feet, common in most parts of India, and cultivated in Burma. It yields a rather strong fibre, fit for the manufacture of ropes. The leaves are used in India and Burma in the same manner as the marsh-mallow in Europe, in decoction as an emollient fomentation, and an infusion of the root is a cooling drink in fevers. To obtain the fibre, the plants are gathered and freed of their leaves and twigs, and are put out to dry in the sun for a couple of days. They are then taken up, tied into bundles, and placed under water for about ten days, after which they are taken out, and the fibres are well washed to remove the bark and other foreign matter that may be adhering to them, and then placed in the sun to dry.—*Voigt*, 114; *Roxburgh*, iii. 179; *Drs. Wight, Mason, Shortt, Stewart, and Mr. Powell.*

ABUTILON POLYANDRUM. *W. and A.*

Sida polyandra, . *Roxb.* | Sida Persica, . . BURM.

Grows at Kandalla, on the Neilgherries and Nundidroog; yields a long silky fibre resembling hemp, fit for making ropes.—*Roxb.; Jur. Rep. Mad. Ex.; Useful Plants.*

ABUTILON TOMENTOSUM. *W. and A.*

Sida tomentosa, . *Roxb.* | Too-thi, ... TAM.

Fibres from this were exhibited from two or three districts at the Madras Exhibition of 1855. — *Roxburgh; Madras Exhibition Juries' Reports.*

ABUVVA. TEL. Trichosanthes palmata, *R.*—Tr. bracteata.

ABU-ZAID-UL-HASAN, a native of Siraf, who wrote a continuation of the Arabic work by Suliman the merchant. He never travelled in India, but he made inquiries of travellers, and completed the account given by the merchant Suliman. Abu Zaid met Masudi at Basra in (A.H. 303) A.D. 916, and he obtained from Masudi much information. He begins by remarking the great change in the commerce of the East that had taken place in the interval since Suliman wrote. A rebellion had broken out in Khan-fu, which had utterly stopped the Arab trade with China, and carried ruin to many families in distant Siraf and Oman. He gives also an account of a visit which an acquaintance of his own had made to Khumdan (Chang-gan or Sin-gan-fu), the capital of China.

ABWAB. ARAB. Heads or subjects of taxation; miscellaneous cesses, imposts, and charges. —*Wilson.*

ABYSSINIA, a country in the N.E. of Africa, known to the people of Persia and India as Habash and Habashtàn, and its people as the Habūsh or Habshi, though in India this latter

term is applied to all the Negro races from Africa. It is one of the most ancient monarchies in the world. Its principal provinces are Tigrè, Amhara, and Shoa; at an early period they extended their power over Southern Arabia. But when the Arabs threw off the Abyssinian yoke, the remnants of the Abyssinians in remote parts of Arabia were reduced to servile avocations, and form the Khadim of Yemen. The people of Tigrè and Amhara are of Semitic origin, and profess Christianity. In 1864, Theodore, the king, imprisoned Captain Cameron, H.B.M. Consul at Massowah, and subsequently put several Christian missionaries and others in chains, and confined Mr. Rassam, and, in the year 1869, an army under Sir Robert Napier was sent from British India, which effected their relief, and Theodore destroyed himself as the army reached Magdala. General Napier was created Lord Napier of Magdala.

ACACIA, a genus of plants, numbering about three hundred species. Several are well known in the south and east of Asia, the foliage of some being attractive, while others furnish valuable timber, useful gums, and other important products.

The Rewa is a large tree common in Rajwara, sacred to the Matajee, around whose shrines groves of this tree are commonly found.

The Rheonj is a very common tree in particular parts of Rajwara, upon which travellers, at certain parts of the roads, suspend shreds of their clothes, as in other parts of India. To the extremities of the young branches are suspended innumerable masses of exuded sap of large size. Several quick-growing species, introduced from Australia, are reared for fuel on the Neilgherry Hills; and other Australian species still might be brought to India, viz. A. armata, *R. Br.*, the kangaroo thorn, a valuable sand-binding plant; A. floribunda is the Willow Acacia; A. longifolia, *Willde*, var. A. sophora of *R. Br.*, a bushy tree, renders most important services in subduing loose coast sand; bark used for sheep skins. Wattle trees yield also an abundance of gum arabic. A. decurrens is the Black Wattle. Its bark sells in Great Britain from £8 to £11 per ton, and it yields 30 to 54 per cent. of tannin. A. falcata, *Willde*, the Koa tree of the Sandwich Islands, yields a very durable wood. A. melanoxylon, *R. Br.*, is the valuable South Australian black wood tree. A. mirobotrya, *Benth.*, yields about 50 lbs. of gum annually. A. glaucescens, A. homalophylla, and A. pendula, *Bennet*, are the valuable Myal woods of Australia.—*Genl. Med. Top.* p. 197; *von Mueller; Eng. Cyc.; G. Bennet.*

ACACIA AMARA. *Willde.* Babul tree.
Mimosa amara, *Roxb.*

Bel kambi,	CAN.	Wunjah maram,	TAM.
Lallye,	MAHR.	Nalla-regu,	TEL.

This tree grows above the ghats of Canara and Sunda, not inland, and not north of the Gungawalli river. It is a tolerably large tree in Coimbatore, but of rather low stature. Its flower is very beautiful. In Coimbatore the wood is dark-coloured and hard. In the Bombay Presidency, the wood is always very crooked, otherwise, when ripe, it is strong and tough, and might be applicable to domestic purposes. From its black colour, the natives of Canara and Sunda deem it (wrongly) a species of ebony.—*Roxb.* ii. 548; *Voigt*, 261; *Dr. Wight; Dr. Gibson.*

ACACIA ARABICA. *Willde.* Babul tree.
Mimosa Arabica, *Lamarck.*

Amghautan,	AR.	Nalla tumma,	TEL.
Akakia,	,,	Tumma chettu,	,,
Babla,	BENG.	Barbaramu,	,,
Nan-lung-kyen,	BURM.		
Babul,	HIND.	Its gum:	
Mughilan,	PERS.	Babul Gond,	HIND.
Andere,	SINGH.	Vallam pisin; Karuvelam pisin,	TAM.
Karru-vaylam,	TAM.		

This yellow flowering and rather ornamental tree is met with in varying abundance throughout India, Sind, and Ceylon. It is of rapid growth, and requires no water, flourishing on dry arid plains, and especially in black cotton soil, where other trees are rarely met with. It can never be had of large size, and is generally crooked, but it is a very hard, tough wood, and is extensively employed for tent pegs, ploughshares, sugarcane rollers; for the spokes, naves, and felloes of wheels; for the knees and ribs of country ships; and generally for all purposes to which a hard bent wood is applicable; it is not attacked by white ants. Amongst its other useful products, may be named its gum, bark, and seeds; the latter being extensively used in the Dekhan for feeding sheep. The bark is very largely employed in the centre of the peninsula as a tanning material, and, when properly managed, makes a good leather, with a reddish tinge, though in native hands the leather is often porous, brittle, and ill-coloured. Dr. Buchanan mentions that, in Mysore, the bark was employed in the process of distilling rum. The ground bark mixed with the expressed seeds of the Sesamum orientale has been used as food in times of scarcity. A decoction of the bark makes a good substitute for soap, and is used in dyeing various shades of brown. It yields an abundance of transparent gum, which flows out from incisions or fissures in the bark, and hardens in lumps of various sizes and figures, and is used in India as a substitute for the true gum arabic, which is the product of A. vera. In the medical practice of the people, the bark is used internally as a tonic and astringent; in decoction, as a wash for ulcers; and, finely powdered and mixed with gingelly oil, externally in cancerous affections. Dr. Gibson for years advocated extensive planting of this useful tree in the Bombay side of India, and several forests of it at Khangaum, Kasoordee, and other places have been preserved. The pods have long been employed in tanning on account of their astringency. In Sind, logs of 24 inches square and 14 feet long are obtainable. In the Panjab it has a girth of 9 to 16 feet.—*Drs. Cleghorn; Gibson; Riddell; Mr. Rohde; Useful Plants; Captain Macdonald; Roxb.* ii. 548; *Voigt*, 262; *Beddome, Fl. Sylv.*

ACACIA CÆSIA. *W. and A.*

Mimosa cæsia, *Linn.*		Acacia arrar, *Buch.*	
Acacia alliacea, *Buch.*		,, intsioides, *D. C.*	
Tella Korinda,	TEL.	Konda Korinda,	TEL.

This climbing shrub grows in Coromandel, Alipur, Monghir, and Saharunpur.—*Voigt*, 263.

ACACIA CATECHU. *Willde.*

A. polyacantha, *Willde.*		Mimosa catechu, *Linn.*	
A. Wallichiana, *D. C.*		,, catechoides, *Wall.*	
Khaira gach,	BENG.	Khadiramu,	SANS., TEL.
Sha-bin,	BURM.	Kihiri, Rot kihiri,	SING.
Khair; Kat'h-khair,	HIND.	Wodalay,	TAM.
Kat'ha kikar,	DUK.	Podala manu,	TEL.
Kwarech,	PANJ.		

This tree is common all over the plains and

hills of British India; is in great quantities in the forests of the Prome and Tharawaddy districts; and immense numbers are annually cut down and made use of for the extraction of catechu. There are several varieties, differing in shade, specific weight, and yield of catechu. In a full-grown tree on good soil the average length of the trunk to the first branch is 20 feet; and average girth, measured at 6 feet from the ground, is 6 feet. It attains its full height in fifty years. The wood possesses great strength, and is considered more durable than teak. It resists the attacks of insects, and is employed for posts and uprights of houses, for spear and sword handles, bows, etc. The timber is dark-coloured, hard, and heavy; unseasoned, it weighs 85 to 90 lbs. the cubic foot, and nearly 80 lbs. when seasoned, and has a specific gravity of 1·232; it is close-grained and durable, works smoothly, and stands a good polish, and though somewhat brittle, is much valued where strength is required; it is used for ploughs, pestles, etc., cotton machines, sugar mills, and in house building and the construction of carts. It flowers in July, and the seeds ripen in the cold weather. In Ceylon, an infusion of the wood is much esteemed by the natives as a purifier of the blood, and drinking cups are made of it. Catechu, or terra japonica, is extracted from the wood. Chips of the heartwood are boiled in earthen pots, the clear liquor is strained off, and when of sufficient consistence it is poured into clay moulds; the extract is used in dyeing, and also medicinally as an astringent, and also externally as an ointment for itch, syphilis, and burns. Very good catechu is obtained from Burma, a considerable quantity is made in South Canara, and it is largely exported from Bengal. One pound of catechu has been found to be equal to seven or eight pounds of oak bark for tanning purposes.—*Drs. Roxb.* ii. 562, *Voigt*, 259, 260, *M'Clelland*, *Gibson*, *Brandis*; *Hooker*, *Him. Journ.* i. p. 52; *Stewart's Panjab Plants; Cleghorn's Panjab Report; Beddome's Flora Sylvatica.*

ACACIA CINEREA. *Spr.*

Dichrostachys cinerea, *W. and A.*

Werdil, ...	HIND.	Vellatooroo, . . .	TEL.
Vedatil, ...	TAM.	Nela Jami, . . .	,,
Chinna Jami, . .	TEL.		

This tree is said to grow in the Circars.

ACACIA DEALBATA. *Link.*—A handsome tree, from 15 to 30 feet high, abundant in Port Philip and Twofold Bay, forming luxuriant groves on the banks of streams, between lat. 34° and 30°. Its bark contains a greater percentage of tannin than any other, and pays to ship to England. It was introduced from Australia, and grows on the Neilgherries.—*Simmonds*, *Cat. Paris Ex.* 1879.

ACACIA ELATA. *Linn.*

Mimosa elata, *Roxb.*

Seet, Thaeet seet,	BURM.	Dun-siris, . . .	HIND.
Thaeet-tha, . .	,,	Safed-siris, . . .	PANJ.
Chukul mara, . .	CAN.	Tella sopara, . .	TEL.

This large, tall, stately, and excellent timber tree is pretty common in Canara and Sunda, both above and below the ghats; it occurs in the Godavery forests, Panjab; in Dehra Doon, Assam; is plentiful in the Pegu, Tounghoo, and Prome districts, and very abundant all along the sea-shore from Amherst to Mergui. Its maximum length is 40 feet, and 8 in girth. It grows readily from cuttings. When seasoned, it floats in water. Its timber is straight, lengthy, and of large girth, red-coloured, hard, and strong, and very durable. It is much valued and useful for house-building. It is used for posts for buildings. It is adapted for cabinet-making, and of sufficient girth to be advantageously employed in Government buildings, and for packing-cases.—*Voigt*, p. 261; *J. L. Stewart; Roxb.* ii. 546; *Captain Beddome; Drs. Gibson and M'Clelland; Captain Dance; Royle, Him. Bot.* p. 181; *Mr. Thompson, Report on Kamaon; Cleghorn, Panjab Report, Kulla and Kangra*, p. 82.

ACACIA FARNESIANA. *Willde.*

Acacia Indica, *Desv.*
Vachellia Farnesiana, *W.*
Mimosa Farnesiana, *Roxb.*
,, Indica, *Poir.*

Guya babula, .	BENG.	Baver, ...	SIND.
Jalli, ...	CAN.	Vaday vulli maram,	TAM.
Iri babul, . . .	MAHR.	Kasturi petuma chettu,	TEL.
Vel velam, . .	MALEAL.		
Walayati kikar,	PANJ.	Kampa tumma, . .	,,
Hanja, ...	PUSHT.	Nugu tumma, . . .	,,

A native of every part of India, the Panjab, Sind, Silhet, Assam, Bengal, both peninsulas; and grows up to 5000 feet. It is also a tree of Africa and Australia. In waste places in the Western Dekhan, where it occurs also in garden hedges, it is only a scrubby shrub, and Dr. Gibson says its wood is only applicable for tent pegs and firewood; but Voigt mentions that the wood is hard and tough, and used for ship knees; and Beddome also says for ship knees. A delicious perfume is distilled from the sweet-scented yellow flowers, and the tree exudes a considerable quantity of useful gum.—*Dr. Gibson; Major Drury; Roxb.* ii. 557; *Timber Trees; Voigt; Beddome; Dr. Stewart.*

ACACIA FERRUGINEA. *D. C.*

Mimosa ferruginea, *Roxb.*

Seet net, . . .	BURM.	Woni, Anasundra,	TEL.
Simai vel velam, .	TAM.		

This tree much resembles A. catechu and A. sundra, and differs chiefly in the smaller number of pinnæ; it is common in the jungles, grows in the Madras Presidency, on the Coromandel coast and Northern Circars, and is found at Courtallum, in the Bombay Presidency. It attains a height of from 20 to 25 feet. It flowers in April and May, the bark is very astringent, and is used by the natives in the distillation of arrack from jaggery in the same way as the bark of A. leucophlæa. The wood is of a reddish brown, streaked with a darker hue, heavy and durable, and does not warp or crack, the grain rather coarse and even, works well, and gives a smooth surface; it is used in building and in the construction of carts, ploughs, etc.; it weighs 60 lbs. per cubic foot when seasoned, and 65 to 70 lbs. unseasoned, and has a specific gravity of ·960.—*Voigt*, 260; *Drury; Roxb.* ii. 561; *Ainslie; Beddome, Fl. Sylv.* part v. p. 51.

ACACIA JACQUEMONTI. *Bentham.*

Babul, . .	HIND., PANJ.	Gargusa, . . .	PANJ.
Baburi, . .	,, ,,	Kandiari, . . .	,,
Hanza, ...	SUTLEJ.	Reru, ...	,,
Kakohi, ...	PANJ.	Kikkari, ...	,,

A small shrub of the Panjab and Trans-Indus, with immense white spines; it grows in clumps, and from 6 or 7 up to 10 feet high. It is common on sandy knolls and ridges in many parts of the arid tract from Dehli, westward by Harriana, Sirsa, Montgomerie, etc., to Trans-Indus, to about

2000 feet. The bark of the root is used in the distillation of native spirits.—*J. L. Stewart, M.D.*

ACACIA LATRONUM. *D. C.* Buffalo-thorn.

Mimosa latronum, *Koen.* | M. coringera, *Linn.*

Common in the barren tracts of the Dekhan, and found on the Madras side of India.—*Voigt.*

ACACIA LEUCOPHLÆA. *Willde.*

Acacia alba, *Willde.*	Mimosa alba, *Roxb.*
Reru, ... BEAS.	Gargusa, . SALT RANGE.
Safed Kikar, . . HIND.	Katu andara, . SINGH.
Karin, ... JHELUM.	Vel velam, Vellai tumma, TAM.
Hewar, ... MAHR.	
Rauni, Raunj, . PANJ.	Tella tumma, . . TEL.
Nimbar, Jand, . ,,	

Its specific name, and its Hindi, Tamil, and Telugu synonyms, are given from the whitish or pale yellow colour of its bark, which, in S. India, is one of the ingredients used in distilling arrack from jagari. It extends from about Lahore along the arid tract to Dehli, and to Ceylon. In Coimbatore the tree attains a medium size, with a round head, but in the Dekhan it is never of a size fit for anything beyond posts to small houses. The wood it furnishes, however, is strong, good, and dark-coloured, though generally small. It is easily distinguished by its panicled globular inflorescence and stipulary thorns. A tough and strong fibre, in use for large fishing nets and coarse kinds of cordage, is prepared from the bark by maceration. Major Beddome says the timber is hard and strong, much like Babul, but closer grained and of a deeper colour; it is used for the same purposes. A cubic foot unseasoned weighs 62 lbs., and 55 lbs. when seasoned; its specific gravity is ·880. It makes excellent fuel for locomotive purposes. Mr. Jacob says its wood decays more rapidly, and is more speedily attacked by the Goon insect, than any timber of which he had knowledge. He says it occasionally reaches tolerable dimensions; but even were it possible to preserve it, it would not be worth doing so, from its brittleness and the coarseness of its grain.—*Drs. Cleghorn and Wight in M. E. J. R.; Dr. Gibson in Bomb. Geo. Soc. Journal; Voigt; Roxb.; Beddome, Fl. Sylv.* p. 48; *Dr. J. L. Stewart.*

ACACIA MICROPHYLLA. *Roxb.*

Mimosa microphylla, *Roxb.*

Tetulia of Silhet. A tree growing in Silhet to about twelve feet in height, and the people use its bark in distilling an intoxicating liquor.—*Roxb.* ii. 549.

ACACIA MODESTA. *Wallich.*

Phala, Phullah, . HIND. | Palosa, Pulasa, . PUSHT.

A tree of slow growth, a native of the Panjab, Cis and Trans Indus, and in the Doabs. The wood of an old tree is very dark brown, or nearly black, hard, strong, and heavy. Green it weighs 69½ lbs., and dry 53½ a cubic foot. It is very durable, and is a favourite for cart-wheels, sugar-mills, plough stocks and shares (? Bellew), Persian wheels, the mallets for cleaning cotton, etc. The tree yields sparingly a gum (Bhimbri gond) similar to gum arabic, which Bellew states the people of the Peshawar valley consider to be restorative.—*J. L. Stewart, M.D.*

ACACIA NEMU. *Smith.*

Mimosa arborea, *Loureiro.*

Ho-hwan, . . . CHIN. | Ye-hoh, ... CHIN.

This plant grows in China and Cochin-China, and is used for ornamental purposes. At Ningpo, bark used for tanning sails.—*Smith, Mat. Medica.*

ACACIA RAMKANTA. *Gibson.*—Under this name Drs. Gibson and Riddell describe an ornamental species of Acacia, or a variety of A. Arabica, common in the Dekhan, though less abundant than A. Arabica, from which it is distinguishable by its straight, tall, erect stem and general cypress-like appearance, or resembling a gigantic broom, and by the colour of its legumes. Its wood is quite equal to that of the A. Arabica, being hard, and used for cart-wheels, ploughs, etc.; but the natives attach some superstitious notions to the use of the tree.—*Drs. Gibson and Riddell.*

ACACIA ROBUSTA, introduced from the Cape, is growing freely on the Neilgherry Hills. At the Madras Exhibition of 1857, Mr. M'Ivor exhibited specimens of bast from this tree, strong, very tough and durable, also pliable when wetted, and constantly made use of for all the purposes to which Russian bast is put in gardens in Europe. This bast can be procured cheaply and in large quantities, as the trees when cut down throw up numerous young shoots, to the height of from six to twelve feet, in one year. The bark of the tree is also a powerful tanning material.—*Mr. M'Ivor, Madras Exhibition of* 1857.

ACACIA RUGATA. *Buch.* Soap Acacia.

Acacia concinna, *D. C.* Mimosa concinna, *Roxb., Willde.*	Mimosa rugata, *Lam.* ,, saponaria, *Roxb.* ,, abstergens, *Spr.*
Kochai, ... BENG.	Chinik, . . . MALEAL.
Ken-bwon, . . . BURM.	Go-go, ... TAG.
Fei tsau-kiah, . . CHIN.	Shikai, ... TAM.
Chi-kaya, . . . MAHR.	Sikaya, ... TEL.

This plant has a long flat pod or legume, containing separate, small, oval, dark-coloured seeds. It grows in the Peninsula of India, Bengal, Nepal, Silhet, Assam, Moulmein on the Ataran, and in the Archipelago. The legumes are used for washing the hair, and by Hindus for marking the forehead. The leaves are acid, and used in cookery instead of tamarind, and with turmeric they give a beautiful green. The pods or legumes are three or four inches long, and about one and a half inch broad, greasy, yellowish, or reddish brown. They abound in an acrid, detergent, fatty principle. In China they are roasted, pounded, and kneaded into small balls, and used to wash the person or clothes. Three or four of the black seeds are in one pod. They are roasted and eaten, and are used by artificial flower makers to wax their thread. Pods and bark are exported from Canara, the former as a washing material, the latter for dyeing and tanning fishing-nets.—*Smith, Chin. Mat. Med.; Elliot, F. A.; Drury, U. P.; Voigt; Roxb.* 565; *Drs. Gibson, Mason.*

ACACIA SPECIOSA. *Willde; W. and A.*

Acacia sirissa, . . *Buch.* Mimosa flexuosa, . *Rottl.* ,, sirissa, . *Roxb.* ,, speciosa, . *Jacq.*	Albizzia lebbek, . *Benth.* ,, mollis, var. Julibrissia, . . . ,,
Sirin, Shurungru, BEAS.	Buna, ... HIND.
Sirisha, . . BENG., URIA.	Sarin, . . . JUBBULPUR.
Seet, Tseek-tha, . BURM.	Kali-sirin, . . . RAVI.
Lasrin, lasrian, CHENAB.	Katu vage, Vel vangai, TAM.
Siriss, ... HIND.	Dirasana, Sinduva, TEL.

This large tree grows wild in the Himalayas up to 5000 feet, and it is cultivated in the plains of the Panjab. It occurs throughout the N.W. Provinces; it is plentiful in Pegu, particularly in the Tounghoo district, and is found on the Irawadi. In Ganjam and Gumsur it is very plentiful, attains

an extreme height of 30 feet, and circumference 4½ feet, the height from the ground to the intersection of the first branch being 22 feet; and it is used for sugar crushers, pestles, mortars, and ploughshares. It is common in the forests of the Bombay Presidency, grows in Travancore, on the Coromandel coast, and is a common tree in Coimbatore, where it is frequently seen growing by the road-sides on account of the shade that its large head affords. The timber is large, and in old trees dark-coloured, very hard, and close enough grained for furniture; and large masses of very pure gum are often found on it. It is common in the hills and gardens of Murree and Hazara. The heart-wood makes good charcoal; the leaves and twigs are gathered as fodder for camels and other animals. The bark is stated to be applied to hurts of the eye (Madden); and the seed is officinal, forming part of an anjan for ophthalmic disease. The specific name of Julibrissia, used by Bentham for the variety A. mollis, is a corruption of Gul-abresham.—*Capt. Macdonald; Drs. Mason, Stewart, M'Clelland, Cleghorn, Wight, Gibson; Voigt; Roxb.* ii. 544; *Cal. Cat.* 1862.

ACACIA STIPULATA. *D. C.*

Mimosa stipulata, *Roxb.*	Ac. Kangraensis, *Jameson.*
,, stipulacea, *Roxb.*	
Oi, Ohi, Durgari, BEAS.	Ban-drenkh, . CHENAB.
Amulki, ... BENG.	Valaiti Siris, . . HIND.
Seet, ... BURM.	Lasren, . . . JHELUM.
Surangra, Kasir, CHENAB.	Ola, ... RAVI.

This unarmed acacia has flowers of a pink colour. It is one of the largest trees of the genus, and is found in Dehra Doon, in the mountains north of Bengal, in Travancore, Courtallum, in most parts of the Peninsula, in Assam, in the forests from Rangoon to Tounghoo, and on the banks of the Ataran river. Dr. Stewart says that on the various rivers of the N.W. Himalaya, it grows at from 3000 occasionally to 6000 feet. It is handsome in appearance, resembling somewhat Poinciana regia, and is seen in great abundance and luxuriance in portions of the Kangra valley, where its girth reaches 7, and occasionally 9 feet. In Kumaon, logs are obtained 20 to 30 feet long, and 4 to 6 feet in girth. Its wood is coarse-grained and tough, but not easily worked. —*Stewart's Panjab Plants; Mr. Thompson's Report.*

ACACIA SUNDRA. *D. C.*

Acacia chundra, *Willde.*	Mimosa sundra, *Roxb.*
Lall kheir, HIND., MAHR.	Nalla chandra, . TEL.
Karangally, . . TAM.	Sundra, ... ,,

This tree grows throughout the Peninsula and the Sunderbuns, but varies in size in different localities. It is common in the jungles of Bombay, there always scrubby, small, and crooked; and though rather plentiful in the forests under the ghats, Dr. Gibson had not seen it of a size capable of affording planks. Mr. Rohde mentions that he had obtained, at Guntoor, planks 1 foot broad; that posts 5 feet long were procurable at twelve rupees per hundred, well suited for fencing and for rice pestles. The natives regard it as the most durable wood for posts in house-building, though, from its non-elastic nature, it is unfavourable to the holding of nails driven into it. The wood is of a dark colour, close-grained, very hard, heavy, and very strong, a one-inch bar sustaining a weight of 500 lbs. Sp. gr. 1·296. It is also used for ploughs, mortars, and pestles, and for railway sleepers. A resin similar to that which exudes from the A. catechu is procured from this tree. The two trees are nearly alike, the uncertainty of the prickles absent or present being a distinguishing characteristic of this one.—*Mr. Rohde; Dr. Wight; Voigt; Cleghorn's Report; Useful Plants; Beddome, Fl. Sylv.* p. 50.

ACACIA TOMENTOSA. *Willde.*

Mimosa tomentosa, *Roxb.*	Mimosa kleinii, . *Poir.*
Salsein babula, . BENG.	Jungle nail tree, . ENG.
Elephant thorn, . ENG.	Ani mulla, . . . TAM.

Grows on the Madras side of India, common near Sholapore, in the Kandesh jungles and the Bombay Dekhan, and is found in Bengal.—*Voigt.*

ACACIA VERA. *Bauh.* Gum arabic tree.

Acacia nilotica.	Mimosa nilotica, *Linn.*

The Acacia vera is a tree of the African desert, and, according to Wellsted, of Arabia, its leaves yield the camel the sole forage it can meet in those arid regions. Two products are obtained from it, one natural, the other artificial, namely, gum arabic and the dried acacia juice (Akakia of Dioscorides), a solid, dark-coloured, shining substance, soluble in water, which it colours red. It is obtained by pounding the unripe fruit, and the juice is thickened before the sun, and then placed in bladders, in which it gradually dries, weighing about 5 or 6 ounces each. It is sold in the bazaars of Bengal in thin, very black cakes about the size of a rupee. It was much lauded by Hippocrates and Dioscorides. Wellsted found the Sumr trees of great size, and the gum exuding in considerable quantities; but very little of it was collected by the Bedouins, who complained that the price it brings in Maskat did not repay them for their trouble.—*Wellsted*, i. pp. 73 and 106; *Baker's Albert Nyanza; O'Shaughnessy; Mendis.*

ACALEPHÆ, or sea nettles, include a great number of radiate animals of which the Medusæ are the type. They are common in all the seas.

ACALYPHA BETULINA. *Retz, Spreng.*

Acalypha spiciflorus, *Lamb.*	A. fruticosa, *Forsk.*
Chunni maram, . TAM.	Chinni, Tsinni, . TEL.

Wood to be obtained about 18 inches in diameter, hard and heavy, not of much value to carpenters. Leaves attenuant and alterative, and an agreeable stomachic in dyspepsia and other ailments.—*Wight; Hog.*

ACALYPHA INDICA. *Linn.*

Mukto-joori, . . BENG.	Harita manjari, . TEL.
Shwet busunda, . ,,	Kuppanti chettu, ,,
Morkantee, . . . ,,	Puppanti, Mirutkunda, ,,
Kooppie, . DUK., HIND.	Murupindi, . . ,,
Kupameni, MALEAL., TAM.	

A small annual, common everywhere in the Peninsula and Bengal, and easily distinguished by the singular cup-shaped involucre which surrounds the flowers. In decoction it is cathartic; the leaves, with garlic, are anthelmintic. Mixed with common salt, the leaves are applied externally in psora, and the juice rubbed up with oil externally in rheumatism. Wight also figures A. mappa. —*Hog; Useful Plants; Honigb.; O'Sh.; Voigt.*

ACANTHACEÆ. *R. Br.* The Justicia tribe; its type is the genus Acanthus. The species are herbaceous or shrubby. Many are mere weeds; others bear handsome flowers with gaudy colours, but seldom with any odour. A very small number have been occasionally employed medicinally as emollients or diuretics. In Ceylon, 'nelloo' is

applied to the species of this natural family generally. The Burmans say the roots of the blue flowering A. ilicifolius, *L.*, are a cure for snake-bites.—*Thw. Pl. Zeyl.* p. 223; *Mason.*

ACANTHOPTERYGII, fishes having bony skeletons with prickly spinous processes in the dorsal fins. See Fishes.

ACARUS FARINÆ, the meal mite; it is never present in flour unless when damaged, and in a state unfit for consumption. The domestic mite, A. domesticus, which does so much injury to stuffed insects and birds, can be somewhat guarded against with camphor and a solution of corrosive sublimate. The sugar mite, A. saccharinum, so common in cane sugar, is unknown in the palm sugars of India. A. Telarius, the scarlet mite, or red spider, envelopes the leaves of a plant in a delicate, closely-woven web, which so checks the respiration that the plant becomes dry and withered. See Insects.

ACASANAVI. SANSK. In Hinduism, an ethereal voice heard from the sky; an emanation of Brahm. When the sound proceeds from a meteor or a flame, it is called Agnipuri, or formed of fire. An Avatara is a descent of the deity in the shape of a mortal; and an Avantara, a word rarely used, is a similar incarnation of an inferior kind, intended to answer some purpose of less moment. Acasanavi, therefore, is a manifestation of a deity, in which he is heard but not seen. Akasa is a name for the sky or firmament. See Akasa.

ACATSJA VALLI. TAM. Cassyta filiformis.

ACAWERYA. SING. Ophioxylon serpentinum.

ACCIPITRINÆ, a sub-family of the family Falconidæ, comprising the sparrow-hawks, goshawks. The more prominent in S.E. Asia are—

Astur palumbarius, *L.*, goshawk.
,, trivirgatus, *Tem.*, crested do.
Micronesius badius, *Gm.*, the shikra.
Accipiter nisus, *L.*, sparrow-hawk.
,, virgatus, *Tem.*, the Besha do.

A. nisus, the sparrow-hawk of Europe, Asia, and N. Africa, is common in the hilly parts of India; rare in the plains, where abundantly replaced by Micronesius badius. Migrates partially in northern regions. There is a nearly affined race in the Malay countries, A. nisoides, distinguished by having a white throat with three distinct dark stripes, and no rufous on the under parts of the adult male. In other respects quite similar to A. nisus, and by no means to be confounded with A. virgatus, which likewise has the throat stripes. Accipiter trinotatus has elegant rows of large round white spots on the tail.

ACCOUNTANT.

Kanun-go,	ARABO-HIND.	Grama-karana,	SANSK.
Patwari,	HIND.	Kayastha,	,,
Kulkarni,	MAR.	Kanakapilli,	TAM.

In the village system of India, this is one of the municipality.

ACER, a genus of the Aceraceæ, or sycamore tribe of plants, comprising the genera Acer, Dobinæa, and Negundo. Dr. Royle mentions that immediately we commence ascending the Himalaya, either in Nepal, or Sirmoor, we meet with species of the Acer. A. oblongum descends to the lowest level, being found in Nepal and further north in the Dehra Doon, between 2000 and 3000 feet of elevation. A. cultratum is found at 6500 feet on the Mussooree range, and at similar heights in Sirmoor and Garhwal; while A. caudatum (Wall. Pl. As. Rar. t. 132) and A. acuminatum? (Don) sterculiaceum and villosum, are only seen with pines and birches on the loftiest mountains, which are for many months covered with snow. A. sterculiaceum (Wall. Pl. As. Rar. t. 105) is closely allied to A. villosum, which differs but little from a pseudo-platanus, or sycamore; and as this affords timber which, from being light and tough, is much used by turners, and for making saddle-trees, so it is probable that both the Himalayan species would answer equally well for the same purposes. The wood of A. cultratum is white, light, and fine-grained, and might be turned to the same uses as that of the maple, which is esteemed by turners, and also occasionally for making gun-stocks. A. caudatum is also found in Kunawar, and A. sterculiaceum extends to Kashmir. A. Dobinæa, discovered in Nepal by Dr. Hamilton, is only a shrub of six feet in height. A. fraxinifolium is a native of North America, from which sugar is said to be made. Many species grow in Japan and the Himalayas.

cæsium, *Wall.*, Deoban, N.W. P., and Hazara.
Campbellii, *Hook. f. et T.*, Darjiling hills.
villosum, *Wall.*, Simla.
pictum, *Thunb.*, Hazara.
palmatum, *Thunb.*, a beautiful maple.
niveum, *Blume*, India and the Archipelago, rising to 150 feet in height.

—*Von Mueller; Hodgson's Nagasaki; Royle's Ill. Him. Bot.*

ACER CAUDATUM, the Mandal maple tree of Kulu, Kangra, Deoban, and Simla. Wood not esteemed.—*Dr. Cleghorn.*

ACER CRETICUM. *Linn.*

Kitla, Kakrai,	CHENAB.	Kukandra,	JHELUM.
Kangla, Mandar,	,,	Seran, Til-pattar,	KANG.
Til khan; trikhana,		Ti-an,	SUTLEJ.
Trikadna,	JHELUM.		

A small tree, not uncommon at places near most of the great rivers of the Panjab, from the Ravi westward from 3500 up to 6000 feet. Of no special use.—*Dr. Stewart.*

ACER CULTRATUM. *Wall.*

Kaura,	BEAS.	Kanur,	KANGRA.
Hanzal, Kanzal,	CHENAB.	Trikudnah,	MURREE.
Kahra, Kangru,	,,	Trikannah,	,,
Trekam, Trekhan,	JHEL.	Manor, Mandar,	RAVI.
Tilpattar, Kilpattar,	,,	Chirindi, Jarimu,	,,
Killh,	,,	Laur, Kanjar,	SUTLEJ.
Ti-an,	KANAWAR.	Kalindra,	,,

A. cultratum and A. sterculiaceum much resemble each other, often grow together, and are frequently confused. They are found on all the rivers up to near the Indus, at from 4000 to 10,000 feet. They are handsome trees, and attain a considerable size. A. sterculiaceum attains to 12 feet girth, but the timber is not particularly valued. In Kangra it is used for ploughs, bedsteads, and jámpán poles. From Bissahir, etc., there is a considerable export to Tibet of drinking cups made of the knots of these maple-wood trees. They are much used there, and often set in silver. Gerard states that they are made of juniper, and Moorcroft says horse-chestnut (see Pavia); but J. D. Cuningham mentions the knots or excrescences of these two maples as giving the best kinds. A. cultratum is prized for shade. The juice of the leaves is, in Kanawar, said to be so acrid as to hurt the hands, but the leaves and twigs are in places much lopped for fodder.—*Dr. J. L. Stewart.*

ACER LÆVIGATUM, *Wall.*, the Karadlu, or Karandlu of Kotgurh, is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 9000 feet, also higher up in the Nepal mountains, and at Darjiling. The knots are hollowed out, and used as drinking cups. — *Voigt; Cleg. Panj. Rep.* p. 64.

ACER OBLONGUM, an evergreen tree, of rapid growth, native of Nepal and Kumaon, on the southern hill ranges, such as the Gagar, and is very abundant at Naini Tal.—*Voigt*, p. 92.

ACER STERCULIACEUM. *Wall.*

Kan-shin, . . . BHOT.	Til pattar, . . KASHMIR.
Tila-pattar, . . HIND.	Til patra, . . „
La'-ur, . . . KANAWAR.	Kamiah, . . KHAS.

A large tree of Nepal and the N.W. Himalaya, with a trunk often three feet in diameter. The Hindi names allude to its incised three-pointed leaves. From the knotty parts of this tree are made the coarser sorts of wooden cups used in Hun-des and the Cis-Alpine Himalaya, inhabited by Bhotia, and termed Lahauri Doba, and a better kind, termed Talua Doba, is made from the Acer oblongum. A. Hookeri, isolobum, pentapomicum, Sikkimense, and stachyophylum, are other species.—*Dr. J. L. Stewart.*

ACESINES or Akesines, the Greek name of the Chenab, a river of the Panjab; supposed to have had its origin in Abu Sin, a name of the Indus, the Sanskrit name being Chandra-Bhaga.

ACETIC ACID. Acetous acid, Vinegar.

Khall, ... ARAB.	Acidum Aceticum, LAT.
Poun-ya, . . . BURM.	Chuka, ... MALAY.
Nung-tsu, . . . CHIN.	Kadi, ... TAM.
Sirka, also Khall, HIND.	Pul'su, ... TEL.
Aceto, ... IT.	

The ordinary vinegar of the Indian bazaars is prepared from the Dolichos uniflorus. Dr. O'Shaughnessy discovered that much pyroligneous acid passes over along with other gases, in preparing the charcoal for the Eshapore powder works, and he recommended for India the practice followed in Germany, where a strong acetic acid is obtained by causing a mixture of one part of spirit, four of water, and about one-thousandth part of honey or yeast, to filter into a cask containing wood shavings, and provided with holes to secure a free circulation of air. A very large surface being thus exposed, the alcohol is rapidly converted into acetic acid. In India, teak shavings well boiled in water and subsequently steeped in good vinegar, should be employed.—*Beng. Phar.* p. 233.

ACH. HIND. Morinda citrifolia, M. tinctoria.

ACHÆMENIDÆ. During the time of this dynasty, the language in use was the Bactro-Medo-Persian. We know from their inscriptions several of the old Bactrian formations, which became historical and geographical designations at a later period.—*Bunsen's Egypt*, pp. 462–467.

ACHALABHRATA, one of the Ganadhara, or masters of the Jain schools.

ACHA MARAM, also Atti maram. TAM. Any ebony tree; Diospyros ebenaster; Hardwickia binata, Bauhinia racemosa.

ACHANDRARGAM. TAM. A perpetual tenure of village land, as long as the moon and sun endure.

ACHAR, a native race in Nepal, from whom the Mewar select their priests.

ACHAR. MALAY. Antiaris, *sp.*

ACHARA. SANSK. The observances of the Hindu religion; the personal and social customs of the Hindus; also a name applied to Siva or Vishnu, and also Brahma as the Supreme Being. It means free from further transmigration.

ACHARNI. HIND. A bier.

ACHARYA or Achari. SANSK. A religious teacher, a brahman who instructs in the Vedas the religious students of the Brahman, Kshatriya, and Vaisya castes. In modern use, it is applied to any religious instructor, or to any brahman and religious mendicant professing to be qualified to give religious instruction. In the south of India, it denotes the head of a religious society, the Mahant of Hindustan, or the Panda or head priest of a temple. Among the Mahrattas it was given to brahmans employed by respectable families as cooks. It is assumed by the Madhava Brahmans, and by the five castes of artisans — blacksmith, goldsmith, coppersmith, stone-cutter and carpenter—in the Tamil and Telugu provinces. At present, the brahman who reads a portion of the Vedas at the time of investiture with the poita, is called by this title, as well as the person who reads the formularies at a sacrifice.—*Ward's Hindoos; Wilson.* See Gayatri; Hindu; India.

ACHAVERAM or Atchaveram, a village with a celebrated pagoda five miles S.W. of Devicottah. It was taken in September 1749 by the Tanjore army, from the British under Captain Cope.

ACH-CHATA. See Akshata.

ACHCHHAN. MALEAL. A father; a respectful appellation of the men of the Nair royal family who have no office or official rank in the State.

ACHCHU. KARN. Achcha, MALEAL., TAM. A mould; a printing press.

ACHCHU-KAVALI. TEL. Fees in kind to poligars for protecting lands.

ACHE. Count d'Aché, a French admiral sent from France to support Lally as a naval colleague, but he was undecided and unfortunate, was defeated off Tranquebar, and again by Pocock, and he ultimately sailed for France, where he became an accuser of Lally.—*Malleson.*

ACHEEN, Athi of the Malays, is the capital of a kingdom of the same name, situated at the north-west extreme of Sumatra, near the entrance of the Straits of Malacca. Every vessel entering the straits was formerly obliged to call at Acheen to obtain a pass, but Europeans set at defiance the assumed authority of its kings. These still, however (1879), continue independent of the Dutch. Pop. 328,000. This monarchy arose from the usurpation of sultan Salah-ud-Din in A.D. 1521, previous to which time Acheen had been a province of Pedir, and governed by a viceroy from that kingdom. The Achinese differ much in their persons from the other Sumatrans, being in general rather shorter, and of a darker complexion. They are supposed to be a mixture of Battas and Malays with Chuliahs, as they term the natives of the west of India. They are an active and industrious people, and show much mechanical ingenuity. Their Padri, religious men, chiefly Malays of the Menangkabao states of the interior, for many years opposed the encroachments of the Dutch in the interior of Sumatra. The Achinese adopted Mahomedanism, A.D. 1206; the Malacca Malays, A.D. 1276; the Javanese, A.D. 1478. They are

strict Mahomedans, and great numbers resort in the Arab vessels to Mecca, with the view of becoming Hajis or pilgrims. The Spanish Pillar dollar is the standard coin. The natural productions of Acheen and its neighbourhood include gold dust, Baroos camphor, which is highly prized in China; sapan wood, beeswax, dammer, and rattans. Cattle are abundant, and also small horses of an excellent breed (the best, indeed, in the Archipelago, with the exception of those of Bimah in Sumbawa), which are exported in considerable numbers to the settlements in the Straits of Malacca. The better kind have fine crests and good strong shoulders, in which latter particular, as well as in height of wither, they differ very much from the horses of Java and the islands to the eastward, which are generally deficient in these points. The Achin and Malay languages are written in the Arabic character. See Archipelago.

ACHENIYA PATA. BENG. Pæderia ternata.

ACHERONTIA SATANAS, the death's-head moth of Ceylon, a richly-coloured nocturnal moth, which utters a sharp, stridulous cry when seized. —*Tennent.*

ACHETA, the cricket genus of insects. A. campestris and A. domestica, the Jhengur of Hindustan, attack the poppy plants from November to January, until the stem begins to shoot. A large species attacks the Casuarina trees. It lodges at the foot of the tree, and at nightfall ascends the tree, and cuts off the young top shoots. The crickets are very destructive to garden and field crops. See Insects.

ACH'HAR. HIND. Fruit of Buchanania latifolia; also pickles.

ACH'HAR TILAK. SANSK. The ceremony of putting a few grains of rice on the forehead of an image when addressed, or on that of a brahman when invited to an entertainment.

ACH'HIK, a tribe in Bengal.

ACHILLÆA MILLEFOLIUM. *L.* Milfoil; the Bui Madaran, Momadra, and Capendiga, of the Panjab.

ACHI MARAM. TAM. Calosanthes Indica.

ACHIMENES, very ornamental plants of various colours, flowering in the rains, of easy culture. The scaly tuberous roots, by which they are propagated, must be carefully preserved during the dry weather, by occasionally moistening the earth in which they are kept; and after the commencement of the rains, the imbricated buds, which they produce under ground, may be divided and planted out.—*Riddell.*

ACHOBA. PUSHT. Land irrigated by the natural rain.

ACHOODA. SANSK. Solanum trilobatum.

ACHOTIA DUMKI, of Nepal. Hystrix longicauda.—*Marsden.*

ACHRAS ELENGIOIDES. *D. C.*
Sapota elengioides, *D. C.*

Holay, . . . NEILGH. | Pala, ... TAM.

A large tree, very common on all the higher ranges on the west of the Madras Presidency, and is to be found in Ceylon. The fruit is like a small crab apple, and is made into pickles, and used in curries. The wood is of a dull red colour, short but straight in the grain, and very dense. It makes good beams for houses, but splits too much to be used for planks. If well seasoned it turns well, and it makes excellent carpenters' planes.—*Beddome, Fl. Sylv.* p. 235.

ACHRAS SAPOTA. *Willde.* Sapodilla.

Koweet? . of BOMBAY. | Ratami, ... SINGH.
Thwoot-ta-bat, . BURM. | Simi Elupei maram, TAM.
Bully tree, Sapota, ENG. | Sima Ippa chettu, TEL.

A native of China, cultivated in the E. and W. Indies and S. America; in India grown as a fruit tree; wood hard and close-grained. The seeds are aperient and diuretic; in overdoses they are dangerous. The bark is said to be a good substitute for cinchona. The Tamil name of this tree is liable to be confounded with Mimusops and Bassia.—*Jaffrey; Riddell; Roxb.; Voigt.*

ACHULIYAJA. BENG. Itea macrophylla.

ACHYRANTHES ASPERA. *Linn., Roxb.*

A. Indica, *Roth., Rheede.* | A. spicatus, *Burm.*
„ obtusifolia, *Lamb.*

Upanga, . . . BENG. | Kadelari? . . MALEAL.
Hurhuria, . . . „ | Gasr-kural-sabo, . SINGH.
Cheecheera, Chirchira, „ | Nai uruvi, . . . TAM.
Apang, ... BURM. | Utareni, . . . TEL.
Neagam, . . . EGYPT. | Antisa, ... „
Sutjira, Agareh, . HIND. | Apamargamu, . „
Lal-chirchiri, . . „ | Pratyuk pushpi, . „
Kat'h Alati, . MALEAL.

A herb growing all over India, in many places as a troublesome weed; its seeds, flowering spiked leaves and ashes, are used in native medicine, and as greens. An infusion of the root is given as a mild astringent in bowel complaints. The flowering spike made into pills with a little sugar is a popular preventive medicine in Behar for persons bitten by rabid dogs. The root is used by the natives as a tooth-brush; the whole plant when macerated yields a considerable quantity of potash. —*O'Sh.; Roxb.; Voigt; Jaffrey; Honigb.; Useful Plants.* See Vegetables.

ACID LIME. Citrus bergamia, *Risso.*

ACIDS, the tezab of the Persians. The most important are the sulphuric, nitric, hydrochloric, acetic, carbonic, tartaric, citric, oxalic, and arsenious. For making these, natives of India have peculiar formulæ; their lemons and limes give them citric, and the gram-plant, Cicer arietinum, the oxalic acid.

Acidum arseniosum, white oxide of arsenic.

Acidum benzoicum, benzoic acid, though named from benzoin, is found in other substances, as storax, and the balsams of Peru and Tolu. It is also produced by the action of re-agents on several vegetable substances.

Acid, Citric. Ning-mung-sha, CHIN., in India an article of commerce.

Acid, Muriatic. Hydrochloric acid.

Sen-kiang-sha, . CHIN. | Namak-ka tezab, HIND.
Spirit of salt, . . ENG. | Acidum muriaticum, LAT.

In India, an article of commerce.

Acid, Nitric. Aquafortis, nitric acid.

Tha-lau-ta-gar, . BURM. | Ayer Menganchur-
Yen-sian-k'iang-shui, CH. | mas, ... MALAY.
Acide nitrique, . FR. | Pottlu-uppu-drava-
Salpeter saure, . GER. | kam, . . TAM., TEL.
Shore ka tezab, . HIND.

In India, an article of commerce.

Acid, Nitro-Muriatic. Aqua-regia.

Eau regale, . . FR. | Acidum nitro-hydro-
Konigs-wasser, . GER. | chloricum, . . LAT.

In India, an article of commerce.

Acid, Prussic. *Smith.* Hang-jin-chih, CHIN., in India an article of commerce.

Acid, Sulphuric. Vitriol.

Ruch, ... ARAB. | Arq-i-gao-gard, . . PERS.
Kan-ia-bian, . . BURM. | Gandhaka drava-
Gandak-ka-tezab, . HIND. | kam, ... TAM.
Gandak-ka-atr, . HIND.

In India, an article of commerce, but largely manufactured in the several mints.—*Royle, Arts of India.*

ACONITUM. *Linn.* This genus of the Ranunculaceæ is almost entirely confined to Europe and Northern Asia, a few only being American. Throughout the temperate part of the Himalaya the species occur, but most frequently to the eastward in the moist parts of Nepal and Sikkim. Roots of A. ferox, luridum, napellus, and palmatum, are extensively used as the Bikh poison, and throughout the Himalaya are indiscriminately so called, nor can the dried roots be distinguished from each other. Aconitina or Bikya is prepared from Aconitum ferox. It is a formidable poison; one-tenth of a grain killed a goat in one of Dr. O'Shaughnessy's experiments in twelve minutes. The animal died in convulsions. It is used in an ointment, one grain being mixed with a drachm of lard, and is an invaluable local application in many forms of neuralgia, especially in tic-douloureux. It almost immediately occasions a tingling sensation in the part, then numbness, and relief of the pain. Several species of Aconite occur in China. Ts'au-wu-t'u is the name for the tubers. Maximo Micz met with nine in the Amur region,—four near Peking, and three in Mongolia. Ts'au means wild. An arrow poison called Tuh-peh-ts'au is said to be prepared in some country on the west of China from a species. A. palmatum *Don.*, is a plant of the Himalaya, up to 10,000 feet.—*Hooker and Thomson; Smith.*

ACONITUM FEROX. *Wall., Cat.*

Aconitum virosum, *Don.*

Batsnab Bish, Bish, BENG.	Wuchnak, . . . MAHR.
Mitha titia, . . ,,	Moura-bikh, . . PANJ.
Ati-singia-bish, . ,,	Ati-visha, . . . SANSK.
Vish, Bish, Bikh, HIND.	Visha-navi, . . TAM.
Mitha Zahr, Mahoor, ,,	Vasa-nabhi, . . ,,
Bishnak, Bachnag, ,,	Ati-vassa, . . . TEL.

This is a native of the Himalayan mountains, growing at 10,000 to 14,000 feet, and is one of the most celebrated articles in Indian medicine and toxicology. The root is equally fatal taken internally or applied to wounds; but the effects are witnessed in a concentrated state when the extract is introduced into a wound. A preparation of the root is much used in all the hilly districts in Northern India to poison arrows for the destruction of wild beasts; and tigers are destroyed by the poisoned arrows being shot from bows fixed near the tracks leading to their watering places. It has been used on several occasions to poison wells and tanks, and doubtless might be made a formidable means of defence against the invasion of the territories in which it abounds. The Gurkhas say that they could so infect all the waters with the dreadful root that no enemy could advance into their mountain fastnesses.—*O'Sh.; Bl. Disp.* 166; *Phar.* 265-286; *Useful Plants; Honigberger; Hooker f. et Th.; Cleghorn, Panjab Report.*

ACONITUM HETEROPHYLLUM. *Wall.*

Atvika, Vajjai turki, DUK. | Atis, Batis, Patis, HIND.

This plant occurs in abundance on the lofty mountains of Choor, Shalma, and Kedarnath in the Sutlej valley, between Rampur and Sungnam, at an elevation of 8000 to 13,000 feet, but varies greatly in the size and form of its leaves, from which circumstance it derives its specific name. It was first described and identified by Dr. Wallich in Plant. Asiat. Rariores, and has received additional notice from Professor Royle. The root is composed of two oblong tubera, of a light ash colour externally, white internally, and of pure bitter taste. These are met with in the market in small irregularly conical ash-coloured pieces, white internally, taste bitter, but not numbing. It acts as a bitter tonic and febrifuge, is used by Europeans and natives in the treatment of fever, debility, and diarrhœa, and it has been long employed in Indian medicine as a tonic and aphrodisiac. The roots are said to be eaten by the Kunawar hillmen as a pleasant tonic under the same name. Two Atees are, however, met with in the bazaars, and one of them is quite inert,—up to two drams (120 grs.) having been given by Surgeon-Major Walter without any effect.—*Cleghorn, Panjab Report*, p. 66; *Powell, Handbook*, i. p. 324; *Useful Plants; Honigberger; O'Sh.* p. 166-8; *Ind. Ann. Med. Sci. Ap.* 1856, p. 395; *Hooker f. et Th.; Beng. As. Soc. Proceed.*

ACONITUM LURIDUM, *H. f. et Th.*, grows at Tankra and Chola in Sikkim, at an elevation of 14,000 feet; the native names are supposed to be identical with those of A. ferox.—*H. f. et Th.*

ACONITUM LYCOCTONUM. *De C.*

Lang-tuh, . . . CHIN. | Wolfsbane, . . ENG.

A plant of the Himalaya, at 7000 to 10,000 feet; also of China. Its root very poisonous.—*Smith; H. f. et Th.*

ACONITUM NAPELLUS. Monkshood.

A. dissectum, *Don.*	A. delphinifolium, *Reich.*
A. ferox, *Wall.*	A. multifidum, *Royle.*
Wolfsbane, . . ENG.	Tilia kachang, . . PANJ.
Bish, Batsnab-bish, HIND.	Vasha-navi, . . TAM.
Mahoor, ... ,,	Vasa-nabhi, . . TEL.

It is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 10,000 to 15,000 feet. The roots are used for destroying wild animals. It is a plant of Europe and America. It has variable forms.—*H. f. et T.; Cleg., Panj. Rep.*

ACONITUM SINENSE. *Smith.*

Chuen wu-tu, W'u-t'u, CH. | Kwang-wu, . . . CHIN.

Its conical tuberous roots, from 1 to 1½ inches long, are highly poisonous and acrid.—*Smith.*

ACONITUM VARIEGATUM. *Smith.*

The plant—Heh-fu-tsze; Tien-hiung, . CHIN.
The tubers—Fu-p'ien; Tseh-tsze, . . . CHIN.

This is largely cultivated in China, in Changming-hien, Lung-ngan-fu, and Sech-u'en. Its tubers are used medicinally.—*Smith*, p. 3.

ACONTIADIDÆ. See Reptiles.

ACORNS.

Balut, ... ARAB.	Ghiande, ... IT.
Siang-shih, Siang-tau, CH.	Glandes, ... LAT.
Lih-kiu, ... ,,	Schedudii, . . . RUS.
Glands, ... FR.	Bellotas, ... SP.
Eicheln, Eckern, . GER.	

Acorns are common in the bazaars of India, being used in native medicine. Their taste is astringent and bitter. Several species of oak are indigenous in the Tenasserim Provinces, and on the hills of N. India.—*Mason; Smith, Chin. Mat. Med.*

ACORUS CALAMUS. *Linn.* Sweet-flag.

Acorus odoratus, *Lam.*

Ig'hir, Waj, Ikaroon, AR.	Vashambu, . . MALEAL.
Shwet-bach, . . BENG.	Wassumbu, . . ,,
Bach; Gora-bach, ,,	Vaj, Vuj, . . PERS.
Linhay; Len-hæ, BURM.	Ugir-turki, . . ,,
Shui-chang-pu, . CHIN.	Vacha, Golomi, SANSK.
Acorus odorant, FR.	Wadda-kaha, . SINGH.
Akoron, . GR. of DIOS.	Vassambu, . . TAM.
Safed Bach, . . HIND.	Vadaja, . . . TEL.
Vembu, . . . MALEAL.	Vassa, Vasa, Vudya, ,,

This genus of the Acoraceæ is a native of Europe, also of North America, but is cultivated in the moist, cool parts of the East Indies. The whole plant is aromatic, but the root alone preserves the flavour in drying. It is a favourite medicine among the Hindus as a stimulant in flatulency. It occurs in the shops in longitudinal pieces, wrinkled and marked with projecting points, and might be easily substituted for more expensive spices or aromatics. The root is useful in ague. In Constantinople, a sweetmeat is made out of its root. The leaves are also fragrant; a hair powder is made of the roots, the scent being supplied by the leaves. The Calamus aromaticus of the ancients is referred by Royle to the Andropogon Calamus aromaticus.—*O'Shaugh.* p. 626; *Stewart; Powell; Royle; Pereira; Roxburgh; Mason; Useful Plants.*

ACORUS GRAMINEUS. *Smith.* The Shih-chang-pu of the Chinese, grows wild in Sech-u'en, Shen-si, and Kwei-chan. Its rootlets are used internally, in powder, juice, and tincture; and the plant is largely cultivated for its sword-shaped leaves, which are hung up at the dragon boat festival on the fifth day of the fifth month of each year. It kills or drives away insects. It is largely eaten at Constantinople to prevent the pestilence.—*Smith.*

ACRE, the subdivisions of the acre have hitherto, in the Madras Presidency, been in 40ths (or Goontas) and 16ths of 40ths, or else in 16ths (annas) and 4ths of 16ths.

ACRE or Akka, a town in Palestine, originally called Accho, but, being in after times improved and enlarged by Ptolemy the First, it was called after him Ptolemais. Subsequently, falling into the possession of the Arabs, it recovered its Hebrew name. It was first taken by the Arabs in A.D. 636. The Christians became masters of it in 1104. Salah-ud-Din got possession of it in 1184, and held it till 11th July 1191, when it was retaken by the Crusaders. The latter held it for exactly one century, when the Arabs finally wrested it from them, and retained it until they, in their turn, were obliged to cede it to the Turks in 1517. From this time Acre remained neglected till about the middle of the 18th century, when the Arab shaikh, Daher, took it by surprise. Under his wise administration it recovered a part of its trade. He was succeeded by the tyrant Jazzar Pasha, who fortified and embellished the town. In 1799 (5th March) it rose into importance and consideration by its gallant and successful resistance to the arms of Bonaparte, directed by Sir Sydney Smith, a British officer, and in the middle of the 19th century the British again took it.—*Robinson's Travels*, i. pp. 198, 199.

ACROCARPUS FRAXINIFOLIUS. *Wight.*

Shingle tree, . .	ENG.	Mallai kone, . . .	TAM.
Pink cedar, red cedar, ,,		Kilingi, . . .	NEILGH.

This is one of the largest and loftiest trees in the Madras Presidency, and is also of the Darjiling Terai. It is of rapid growth, is generally of very straight growth, with large buttresses at the base. It is very general about the western forests, on the Tinnevelly and Travancore hills, on the Anamallays, Neilgherries, Wynad, and in Coorg and S. Canara. It ascends from the plains up to nearly 4000 feet. Colonel Beddome measured a tree 27 feet in girth above the buttresses. The flowers appear in December or January with the young leaves, or when the tree is quite destitute of foliage. The timber is flesh-coloured, and shrinks in seasoning; it is light, and much resembles that of the Cedrela toona, and has a cedrelaceous smell; it is much used by the planters at Coonoor and in the Wynad for building purposes, furniture, etc., and in Coorg it is largely used for shingles.—*Useful Plants; Beddome, Fl. Sylv.* p. 44.

ACROCHORDIDÆ, wart snakes. See Reptiles.

ACROCOMIA SCLEROCARPA, the Macaw Palm, widely diffused in Brazil and the West Indies. The hard-shelled nuts are worked up by the Negroes into sundry ornamental articles, and the kernel yields a thick golden oil. It might be introduced into India.

ACROGENS, in botany, one of the primary classes of the vegetable kingdom according to the natural system. The stems of Acrogens differ much in appearance from those of Exogens and Endogens. The wood is not secreted from layers of tissue, which have the power of reproducing regular zones of wood, as in Exogens, or a regular arrangement of vascular and cellular tissue, as in Endogens. There is generally but a single ring of vascular bundles even in the ferns.

ACROSTICHUM, a genus of ferns of the West and East Indies and Australia. The A. scandens, a climbing fern with pendulous fronds, clothes the betel palms on the Megna with the most elegant drapery. Dr. Hooker found parasitic orchids growing on the trees which were covered with this climbing fern.—*Hooker, Journ.* ii. p. 338, 351.

ACSHA. SANSK. An astronomical term of the Hindus. Acsha Ansa and Acsha Bhagas are degrees of terrestrial latitude; Acsha Carna, hypotenuse; but in its astronomical sense means what Europeans call the argument of the latitude, as well as Patana Chendra.—*Warren.*

ACTÆA, a genus of the Ranunculaceæ. A. spicata *Linn.*, the baneberry, is a native of the Caucasus and Siberia. Roots astringent; the whole plant acrid and poisonous. A. acuminata, *Wall.*, is found on the Choor and Acharanda mountains. A. astera is sometimes collected in China, as the scouring rush is, for cleaning pewter vessels, for which its hispid leaves well fit it.—*Williams' Middle King.* p. 286; *O'Sh.* p. 170.

ACTEPHILA NEILGHERRENSIS. *Wight.*

A. Javanica, *Miq.*	Anomospermum excelsum, *Dal.*
Savia actephila, *Hassk.*	

A small tree of the central and southern parts of Ceylon, up to an elevation of 2000 feet.—*Thwaites.*

ACTIAS. See Insects.

ACTINIA. Some of these zoophytes in the Eastern Archipelago are fully two feet in diameter. Little fishes dwell in their interior. Species of enormous size occur in the China seas, and on the coast of Borneo.—*Collingwood.* See Zoantharia.

ACTINODAPHNE. Several species of this genus of trees—A. elegans, glauca, Molochina, Moonii, speciosa, and stenophylla—grow in Ceylon. A. Hoskeri, *D. C.*, is a small or middling-sized tree, very common on the hills in the districts of North Arcot and Cuddapah, found in Bombay and the Konkan, and also in Sikkim. A. salicina, *D. C.*, a small or middling-sized tree, is rare on the Western Ghats, in South Tinnevelly, on the Neilgherries, and Ceylon; it is closely allied to the Ceylon A. elegans, A. Thwaitesii, and A. stenophylla, and they are all probably only varieties of one species. Timber may be of good quality.—

Beddome, Fl. Sylv. p. 295; *Thw. Cat. Paris Exhibition.*

ACTITIS, the Sandpiper genus of the Totaninæ A. glareola is the Wood Sandpiper of Europe, Asia, Africa; from Lapland to the Cape of Good Hope, Java, etc.; exceedingly common in India. A. hypoleucos, the Common Sandpiper of Europe, Asia; exceedingly common in India. A. ochropus, the Green Sandpiper of Europe, Asia, North Africa; very common in India.

ACWAL. MAHR. Ursus labiatus.

AD, in Mahrati, the Sanskrit privative a.

AD, an Arab tribe of the Hadramaut.

ADA. BENG. Zingiber officinale, *Roscoe;* in Telugu, Bauhinia racemosa; in Malealam, Terminalia catappa.

ADAB. ARAB. Respect. Ilm-i-Adāb, the science of ceremonial; etiquette. Adab-ul-Harm, domestic customs which Mahomedans follow. They differ in various countries, but generally involve separation during pregnancy and after cessation of menstruation. The Chinese largely follow these customs. Adab-ul-Kabr, the customs of the tomb, where, according to Mahomedanism, shortly after interment, Nakir and Mankir, the examiners of the dead, question the deceased as to his life in this world.

ADA BIRA. TEL. Anisomeles ovata, *R. Br.*

ADA-BIRNA. BENG. Herpestris monniera.

ADA BUKKUDU. TEL. Ehretia lævis, *R.*

ADADA. ARAB. Daphne mezereum.

ADADODE. TAM. Adhatoda vasica, *Nees.*

ADAI YOTTI. TAM. A sand-binding plant.

ADAKA or Cavughu. MALEAL. Areca catechu.

ADAKA MAJYEN. MALEAL. Sphæranthus hirtus, *Burm.*

ADAKI. SANSK. Cajanus Indicus.

ADA KODIEN. MALEAL. Holostemma Rheedianum, *Spr.*

ADALAT. PERS. Justice. Nizamat Adalat, the Supreme Court of Criminal Justice; the ruler's court. Diwani Adalat, the Civil Court of the Diwan. Foujdari Adalat, the Magistrates' or Police Criminal Court. Adalat-ul-Kazi, the town court.

ADALA VITALA. TEL. Lepidium sativum, *L.* Cress seed.

ADALI. TAM. Jatropha glandulifera, *Roxb.*

AD ALLI, a Semitic race on the west of the Red Sea. See Semitic Races.

ADAL SHAHI, a Mahomedan dynasty of Bijapur. The founder was

	A. D.	A. H.
Yusuf Adal Shah, a Turkish slave, . .	1489	895
Ismail Adal Shah, ...	1510	915
Mallu ,, ,, ...	1534	941
Ibrahim ,, ,, ...	1535	941
Ali ,, ,, ...	1557	965
Ibrahim ,, ,, II., ...	1579	987

Yusuf claimed to be a son of sultan Amurath, and brother to Muhammad II., the conqueror of Constantinople. He escaped the massacre of his brothers by the contrivance of his mother, who carried him to Persia, from which he fled at the age of 16, and was sold as a slave to the Bahmani court. Their capital was Bijapur, where, and at Gogi, their tombs are to be seen.—*Elphin.* p. 670.

ADAM. The Gnostics, in framing their theological system, ranked Adam as Jeu, 'the primal man,' next to the Noos and Logos, and therefore the third emanation from a deity. Mahomed styles Adam, Awal-ul-Ambia, the First of the Prophets, also Khalifa-ul-Akbar, the first of God's vicegerents; and in the tenth century his grave in Ceylon became the established resort of Mahomedan pilgrims. Adam's stature, according to Mahomedan legends, was about 36 feet. His burial-place is shown by the Arabs at the hill Abu Kubays, and according to their legends Adam and Eve dwelt at Mount Arafat, where Adam's place of prayer is shown. A usual Mahomedan tradition runs, that on the violent expulsion of our first parents and their tempter from Paradise, Adam fell on the mountain of Serendib, Eve at Jidda near Mecca, Eblis near Basrah, and the serpent at Ispahan. Adam, after long solitude and penitence, was led by Gabriel to Mecca, and thence to the mountain of Arafat (recognition), where he was reunited to Eve after a separation of 200 years. With the Hindus, Adam is supposed to be the same with Swayam-bhuva, who was made with seven handfuls of mould taken from the seven stages of the earth.—*Yule, Cathay,* 354; *Ch. Bunsen,* iv. pp. 373, 385, 998; *Burton's Mecca,* iii. p. 393; *Sir J. E. Tennent, Ceylon.*

ADAM. TAM. An oil measure of 20 padi.

ADAMANI, a section of the Kasrani Beluch settled at Jok-Budhu in the Dera Ghazi Khan district—*M'Gr. N. W. F.* part i. p. 4.

ADAMANT or Admantine Spar, the modern Corundum. Professor Tennant says the adamant described by Pliny was a sapphire. Adamant is the Shamir of the Hebrews, spoken of in Ezek. iii. 9.—*Curiosities of Science,* p. 103.

ADA MAYA. See Kama; Lakshmi; Maya.

ADAMBO. MALEAL. Lagerstræmia reginæ.

ADAMITE, a religious sect in Persia, whose followers, men and women, are said to meet in a cave by night with the lights extinguished, and to conduct their rites like those of Mylitta of the Assyrians, those of the Arab Alitta, and of the Persian Mitra. But this is the usual mode which Eastern sects adopt to vilify their opponents.—*Chesney, quoted by M'Gregor,* p. 9.

ADAM MARRI, a Beluch tribe. See Kelat.

ADA MORINIKA. TEL. Cadaba Indica, *L.*

ADAMS, an Englishman who visited Japan about the year 1599, and resided at the court of Jeddo for many years. By his influence, Captain Saris delivered a letter from James I. to the emperor, and a treaty was signed in September 1613, granting privileges to the E. I. Company.

ADAM'S BRIDGE, a narrow ridge of sand and rocks, mostly dry, forming the head of the Gulf of Manaar, and, with the island of Ramiseram near the mainland, and that of Manaar near Ceylon, almost connecting this island with the continent. It is about 30 miles in extent, and 1½ broad. In Mahomedan tradition, it was by this bridge that Adam, on his expulsion from Paradise, crossed to Ceylon. It connected Ceylon to India until the end of the 15th century (1480), when, during a storm, the sea made a breach through the rocks, which a subsequent storm enlarged, after which foot traffic ceased. The rocks of Adam's Bridge, in Hindu legends, are said to have been traversed by Rama in his invasion of Ceylon, and he afterwards erected a Saiva temple on Mount Kantamantha in Ramiseram, with two lingams. These have since continued to be largely visited by pilgrims from the most remote parts of India, who visit the sacred sites, and bathe at the junction of the two seas. The

guardian of the temple is a sudra Hindu, who remains unmarried. Inside its gate is a colonnade of magnificent proportions, which runs along the four sides of the quadrangle. It is the most remarkable structure of its kind in India. The colonnade was built by the raja of Ramnad at a great expense, the pillars, each 12 feet in height, having been brought from a distance of 40 miles. A channel, called the Paumben pass, was deepened to 13 feet by the Government of Madras.—*Sir J. E. Tennent's Ceylon.*

ADAM'S NEEDLE, Yucca gloriosa.

ADAM'S PEAK, the summit of a lofty mountain in Ceylon, 7350 feet above the sea. It is called by the Arabs, Er-Rahoon. A hollow in the lofty rock that crowns the summit was said by the Brahmans to be the footstep of Siva; by the Buddhists, of Buddha; by the Chinese, of Fo; by the Gnostics, of Jeu; by the Mahomedans, of Adam; and the Portuguese were divided between the conflicting claims of St. Thomas and the eunuch of Candace, queen of Ethiopia. Mr. Duncan, in a paper in the Asiatic Researches, containing 'Historical Remarks on the Coast of Malabar,' mentions a native chronicle, in which it is stated that a Pandyan, who was contemporary with Mahomed, was converted to mahomedanism by a party of dervishes on their pilgrimage to Adam's Peak. The peak is visible 60 leagues to seaward. The footmark is still an object of pilgrimage; it is on a flat stone near a pool of water. There are other models of feet in different parts of the island. The Kadam Rasul, or footprint of the Prophet, is another alleged footprint on a hill at Secunderabad.—*Yule, Cathay,* p. 359-368; *Tennent's Ceylon.* See Mahawelliganga.

ADANSONIA DIGITATA. *L.* Baobab.

Khatiyan, . . .	DUK.	Papara pulia maram,	TAM.
Monkey bread tree,	ENG.	Anai pulia maram,	,,
Ethiopian sour gourd,	,,	Gorak amli, . .	HIND.

This tree has been naturalized in India. Its trunk is very short, but in girth it attains the largest size of any known tree. Roxburgh mentions one 50 feet in circumference, at Mantotte in Ceylon. As a timber tree it is useless, the wood being spongy and soft, but fishermen use its fruit as floats for their nets. Its bark and leaves have been recommended as a febrifuge. The natives of Senegambia dry and carefully powder the leaves which appear with the fruit. This powder they call Lalo, and they believe it is useful in dysentery.—*Useful Plants; Drs. Riddell, Voigt, Roxb.* iii. 164; *Ainsl. Ind. Ann.* p. 372.

ADAPU KARRI. TAM. Charcoal.

ADAS. MALAY. Fennel; Nigella sativa. Adas-minak, the oil. Adas manis, Star anise. Adas-pedas, Henbane seed. Hyosciamus niger, *Linn.*

ADAS. ARAB. Ervum lens, *Linn.*; in Hindi, Cicer arietinum.

ADA SYAMALI. TEL. Helicteres isora, *L.*

ADATODEY. TAM. Adhatoda vasica.

ADAVI. TEL. Wild, not cultivated; hence—

Adavi amuda. Jatropha curcas.
Adavi avisa. Bauhinia racemosa, *L.* ?
Adavi bira. Luffa amara, *R.*
Adavi chama. Typhonium sylvaticum, *Schott*; also Canavalia virosa, *W. and A.*
Adavi cheruku. Saccharum procerum, *R.*
Adavi chikkudu kaya. Lablab vulgare, *Savi.*
Adavi godhumulu. Coix barbata? *R.*
Adavi goranta. Erythroxylon monogynum, *R., Cor.*
Adavi kodi. Gallus sonneratii, *Temm.*
Adavi jilakarra. Vernonia anthelmintica, *Willde.*
Adavi kakara. Momordica mixta? *R.*
Adavi kanda. Arum gyratum, *R.* Dracontium polyphyllum, *Linn.*
Adavi kikkasa gaddi. Amphidonax bifaria, *Lind.*
Adavi malle. Jasminum latifolium, *R., W., Ic. J.* auriculatum, *Vahl.*
Adavi mamidi. Spondias mangifera, *Pers.*
Adavi mamena. Boerhaavia erecta, *L.*
Adavi munaga. Moringa pterygosperma, *Gærtn.*
Adavi nabhi. Gloriosa superba, *L.*
Adavi nalla gadda. Neopus Malaiensis, *Reinwardt.*
Adavi nelli kura. Premna sp.?
Adavi nimma. Sclerostylis atalantoides, *W. and A.*
Adavi nitya malle. Hibiscus hirtus, *L.*
Adavi pala tige. Cryptolepis reticulata, *Willde.*
Adavi pippali. Chavica sylvatica, *Miq.*
Adavi ponna. Rhizophora mucronata, *Lam.*
Adavi polla. Trichosanthes cucumerina, *L.*
Adavi pratti. Hibiscus lampas, *Cav.* H. tetraloculares, *R.*
Adavi tella gaddalu. Scilla Indica, *Roxb.*
Adavi zilakara. Vernonia anthelmintica.

ADDA. TEL. Bauhinia Vahlii, *W. and A.*; B. racemosa, *Fl. Andh.* Adda chettoo, a creeper of Ganjam; it is soaked and pounded, and its fibres taken out.

ADDA or AL-ADDA. ARAB. Scincus officinalis. A small lizard celebrated by Arabian physicians as a restorative and as a remedy in elephantiasis, leprosy, and other cutaneous diseases.—*Eng. Cyc.*

ADDALEY. TAM. Jatropha glauca.

ADDAR JASAN, the ninth day of the ninth month of the Parsi year. On this day money is distributed to the priests, and offerings of sandalwood are made to the sacred flame in their fire temples, which are then much crowded.—*The Parsees.*

ADDASARAM. TEL. Adhatoda vasica, *Nees.*

ADDATINNA PALAY. TAM. Aristolochia bracteata.

ADDHA, Adhi, or Adh'. HIND. Half.

ADDIKA or ADDIGA. KARN. An overseer.

ADDINIGAUS, a Bactrian sovereign in Ariana, B.C. 26. See Greeks of Asia.

ADDUGHERRI, mountains in the south-western parts of the Nellore district; contain copper ore.

ADEGA. See Jewellery.

ADEI. HIND. Abelia triflora. Lonicera quinquelocularis.

ADELIA CASTANICARPA. *Roxb.* The Bulkokra of Bengal, a large timber tree of Silhet and Chittagong, wood very hard. A. nereifolia, *Roxb.*, is of the Coromandel coast, and A. cordifolia, *Roxb.*, of Moluccas.

ADELIA SERRATA. *Stewart.*

Chiranndra, drendu,	BEAS.	Choppra, . .	CHENAB.
Thakola, Kathogli,	,,	Chiundi, . .	,,

A small tree common in the Siwalik tract, rising to 4000 feet at times, up to the Chenab. Its wood is used for fuel and charcoal.—*J. L. Stewart, M.D.*

ADEN, a British settlement on a part of Yemen, almost the most southerly point on the Arabian coast. It is situated in lat. 12° 47′ N. and long. 45° 10′ E., and is a peninsula of about 15 miles in circumference, connected with the continent by a low, narrow neck of land 1350 yards in breadth, nearly covered by the sea at high spring tides. The population in 1872 numbered 19,829, and, besides the garrison, consisted

of Arabs, Africans, Somali, Parsi, Hindus, and Jews. The Romans named it Portus Romanicus; and it has risen into or fallen from importance according as the line of commerce has changed. It is mentioned by Marco Polo, and by Marino Sanudo, his contemporary, as the great entrepot of that part of the Indian commerce which came westward by Egypt. It has been identified as the Eden of Ezek. xxvii. 23. It is the Arabia Endaimon of the Periplus. It was fortified by the Turkish sultan, Solyman the Magnificent, but in after years was held by the Arab shaikhs of the surrounding districts, from one of whom, the sultan of Lahej, it was captured by the forces of the East India Company, 19th January 1839, Major T. Baillie commanding. Albuquerque failed in an attack on it in A.D. 1513, and the English and the Dutch temporarily had intercourse with its chiefs. It is merely a small volcanic promontory jutting out into the sea, and connected with the Arabian peninsula by a narrow neck of land, across which a low wall has been drawn from shore to shore of the two bays which nearly surround the promontory. The principal harbour, or Back Bay, is about three miles wide at the entrance, and affords an admirable shelter in all weathers for vessels which do not draw more than twenty feet of water. It is unsurpassed by any on the Arabian or adjacent African coasts, being capacious, easily made, and free from rocks and shoals. Water of a good quality, but in limited quantities, is found at the head of the valleys within the crater, and to the west of the town. As the wells approach the sea, they become more and more brackish. The Banian well, the best in Aden, is 185 feet deep, the bottom is 70 feet below the level of the sea, and before being drawn it contains about 4000 gallons. The wells within the town have an unlimited supply at from 30 to 40 feet, but the water is unfit for drinking. An inexhaustible supply of water is procurable on the northern coast of the harbour, but the difficulty of bringing it into Aden, and its liability to be cut off by hostile Arabs, render it almost unavailable. Many of the best wells have been excavated since the British conquest, and the oldest does not date further back than A.H. 906 (A.D. 1500). There are now many reservoirs. The crater is nearly circular in form; its diameter is about a mile and a half, and it is surrounded on the northern, western, and southern sides with precipices chiefly composed of lava, and rising from 1000 to 1776 feet in height, the latter elevation being that of the Jabal Shumsam, a lofty range of volcanic peaks, which form the crater's western side. The greater part of the volcanic rocks are more or less vesicular. Volcanic ashes were found about 500 feet above the sea, on the summit of the hill near Steamer Point. Aden pumice is mentioned by Dr. Carter as occurring in a small series of strata, consisting of pisolitic paperino, cemented together with glassy, crystallized gypsum, and he identifies it with the volcanic matter covering Pompeii. The mode of working the pumice beds in Aden is by running galleries horizontally, or nearly so, into the various strata. The interior of many of these mines presents a fantastic appearance, the galleries radiating from a common centre, and being connected one with another, and small pillars of pumice being left to support the roof of the mine. The pumice beds are extensive, but not exceeding four feet in thickness. 4000 lbs. were exported to India in 1876.

ADENANTHERA ACULEATA. *Roxb.*

Prosopis aculeata, *König.* | P. spicata, . . *Burm.*
,, spicigera, *Willde.* | Chani, ... TEL.

Grows to the size of a tree on the Coromandel side of India, on low lands far from the sea, also in some parts of Hindustan. Its pod is an inch in girth, and 6 to 12 inches long, and contains, besides the seeds, a large quantity of a sweetish agreeable mealy substance, which the people eat. —*Voigt*, 259; *Roxb.* ii. 371.

ADENANTHERA PAVONINA. *L.* Red-wood.

Rakto chandan, . BENG. | Mansiadi, . . . SINGH.
Y-wai-gyi, . . . BURM. | Madetiye, . . . ,,
Ranjana, Ranguna, HIND. | Manjadi, . . . TAM.
Ku-chandana, . ,, | Ani gandamani, . ,,
Thorla-goonj, . . MAHR. | Bandi gurivenda, . TEL.
Kambhoji, . . . SANSK. | Manseni kotta, . ,,

This is a large and handsome tree, growing at times 100 feet high, and found in most of the forests of India; well suited for planting in avenues. It is met with in the Rangoon, Pegu, and Tounghoo districts. It grows also in Silhet, Bengal, Assam, and the Moluccas. The inner wood of large old trees is deep red, hard, solid, and durable, suitable for cabinetmakers' purposes, from which, in Upper India, it gets its name of Rakto chandan, or red sandal wood; but the true red sandal or red sandars wood of commerce is the Pterocarpus santalinus. A cubic foot weighs 56 lbs. when seasoned; sp. gr. ·896. The wood is said to yield a red dye; ground to a paste with water, it is used by Hindus to make sectarian marks on their foreheads. The seeds are of a highly polished, scarlet colour, with a circular streak in their middle on each side, and are used as weights by jewellers, and as beads in bracelets, necklaces, etc. Books represent these as usually weighing four grains, and selected seeds are in use by the Burmese for that weight. Many, however, do not weigh more than two or three grains each. A cement is made by beating them up with borax and water. The powdered seeds are said to be used as a farina; the pulp of the seeds, mixed with honey, is applied externally to hasten suppuration in boils and abscesses.—*Hooker's Him. Journ.* ii. p. 327; *M'Clelland; Mason; Useful Plants; Jur. Rep. Mad. Ex.; Mendis; Cat. Bengal Ex.*, 1862; *Dance; Voigt*, 259; *Hog; Roxb.* ii. 370.

ADENEMA HYSSOPIFOLIA. *Don.*

Cicendia hyssopifolia, *Ad.* | Chota chirayita, HIND.

Common in various parts of South India; is very bitter, and much used by the natives as a stomachic, being also somewhat laxative.—*Ind. Ann. Medl. Scien.* p. 270; *Dr. Cleghorn.*

ADENOPHORA LILIFOLIA, *Ledeb.*, or Campanula lilifolia. The root of one species, called Sha-san, resembles ginseng, for which in China it is sometimes substituted, as also is the Campanula glauca of Japan.—*Smith.*

ADENOSMA ULIGINOSA. *R. Br.*

Ruellia uliginosa, *Linn.*

One of the Acanthaceæ. The juice of its leaves, mixed with salt, is used on the Malabar coast as a purifier. A. balsamea has a strong odour of turpentine.—*Roxb.* iii. 52; *Hog; Voigt*, 482.

ADEPS MYRISTICÆ, a concrete oil obtained

from nutmegs by expression, sometimes erroneously called oil of mace.—*Simmonds.* See Oils.

ADEVA RAJAS of Tuluva, Andhra, or Telingana, had a capital at Woragalli or Warangal. One of these, in authentic history, was Pratapa Rudra in A.D. 1162, prior to whom nineteen Adeva Rajas reigned 370 years (? 211), and are supposed to be the eighteen princes of Andhra descent; and Sri Ranga seems to have reigned in A.D. 800.—*Thomas' Prinsep's Antiquities*, p. 278.

ADHA BIRNI. HIND. Herpestris monniera.

ADHAK. HIND. A dry measure 18 in. deep, equal to 750 cubic in. In the Dekhan, 7 lbs. 11 oz.; in Mysore, 7 lbs.—*W.*

ADHAN. HIND. The richest land lying under the protection of the town walls. Mal or malaiti, is land not irrigated from wells.

ADHAR or AHARA. SANSK. Food.

ADHARA SAKTI. See Sakti.

ADHARMA. SANSK. Injustice, unrighteousness. An epithet of Siva, meaning wickedness; also the bride of Mritya. Adharmeswara, the same with Adra Malik.

ADHATODA VASICA. *Nees.*

Justicia adhatoda, *Linn., Roxb.*

Bashi, ... BEAS.	Bhekkar; Pekkar, PANJ.
Bakus, Basoka, . BENG.	Urus or Utarosha, SANSK.
Basuti, ...CHENAB.	Tora-bujja, . . . SUTLEJ.
Malabar Nut, . . ENG.	Adadode, . . . TAM.
Aris, Arus, Asganda, HIND.	Addasaram, . . ,,

This shrub grows in Ceylon, in both the Indian Peninsulas, in Bengal, Nepal, Silhet, N.W. Himalaya, Panjab, up to 4000 feet, and in Java. The wood is soft, and considered well suited for making charcoal for gunpowder. Its leaves are used in native medicine, and have a strong smell when bruised.—*Drs. Roxb., Ainslie, O'Sh.* p. 483, *Voigt*, 488, *J. L. Stewart.*

ADHELA. HIND., SANSK. Half a paisa. Adheli, half a rupee or ashraffi; half of any piece of money. Ad'hi, half; Adhela, a half anna; and other combinations. Adh-pao, literally half a quarter=one-eighth.

ADHIGACHHED YADI SWAYAM, a brahman girl's right to select her own husband. See Swayamvara.

ADHIKANAN, a poet of the Dekhan.

ADHIKMASA. SANSK. In Hindu division of time, an embolismal month, intercalated to bring the lunar months in correspondence with the seasons of the year.

ADHUMIAN or Ajumian, a section of the Safi of Persia; they take the name from sultan Adhum, who resigned his throne to become a mendicant. They are celibates, are continually moving their lips in devotion; they are wanderers.—*Malcolm; M'Gregor*, p. 159.

ADI or ADDI. TAM. A foot measure; a measure of length, 10·46 in. 57,600 sq. Adi=1 Kani.—*W.*

ADI, the elder daughter of Kasyapa, the mother of the Hindu gods.

ADI, the fourth month of the Tamil year, July—August.

ADI. SANSK. Original, chief; as Adi-pati, Gram-adi-pati, the headman of a village; in Java a title of nobility; Adi raja, a paramount prince.

ADI or Ai island, the Pulo Adi of the Malays, in lat. 4° 19′ S., long. 143° 47′ E. (East Point), Medera, is about 25 miles in length, lying to the N.N.E. of the great Keh, distant about 60 miles, and being the south-westernmost of a group of high islands. The inhabitants are Papuans. The sea is unfathomable at a short distance from the island, but there are several indifferent anchorages on the north side. The chief traffic was in slaves, which were distributed among the neighbouring islands of the Archipelago, and are sometimes carried as far as Bally and Celebes.—*J. Ind. Arch.*

ADIANTUM CAPILLUS VENERIS. *Linn.*

Shair ul jin, . . ARAB.	Mubarkha, . . . HIND.
Maiden Hair, . . ENG.	Dum Tali, . . . KASH.
Venus or Fairy's Hair, ,,	Parshra; Warshra, SALT R.
Hans-Raj, gal-marium, HIND.	Bisfaij, . . TR. INDUS.
	Kuwatrei, . . ,,

It is indigenous in the Himalaya, and, like the European plant, it is given as an expectorant. In Europe it is the basis of the celebrated syrup of capilaire.—*O'Sh.* p. 677; *Dr. Stewart.*

ADIANTUM CAUDATUM. *L., Wall.*

Pari-sosan, . . . PANJ.	Hansraj, . . . PANJ.

This, with A. venustum and other species of the Panjab, has been introduced into India.—*Voigt.*

ADIANTUM LUNULATUM. *Burm., Spr.*

Hansraj, Mobarkha, HIND.	Shuir-ul-jin, . . ARAB.

Occurs in many places in India and Burma. It is probably this regarding which Dr. Mason says that a small handsome fern is seen in the crevices of old ruins and walls everywhere, of the same genus and nearly resembling the English maidenhair, the prettiest of all the ferns.—*Mason; Voigt.*

ADI-BUDDHA. According to the Sanskrit authorities on buddhism, when, in the beginning, all was perfect void, Adi-Budh was revealed in his form of a flame of light. He is the self-existent great Budh. The Adi-Nath or Maheshwar, whose name is Apay, who became manifest in the Maha-Sangato (perfect void) as the letter A, who is the creator of Prajna and of the world. In China and Mongolia, according to MM. Huc and Gabet, theistic buddhists acknowledge an Adi-Buddha, or eternal Buddha, whom they consider to be God over all. In Ceylon and Indo-Chinese countries, there is no such belief.—*Yule*, i. 242.

ADI-DWAITA. SANSK. The Supreme Being, including two qualities, viz. Adi-atma, the spiritual essence, and Adi-buta, the material essence.

ADIGAR. SINGH. A chief, a village headman.

ADI-GRANT'HA. SANSK. From adi, first, and grant'ha, a book; a sacred book of the Sikhs, compiled in 1581 by Arjun Mul. See Sikhs.

ADIMA. TAM.—A predial slave attached to the land. A Nair feudal dependant.

ADIMODURAM. TAM. Root of Glycyrrhiza glabra, also of Abrus precatorius.

ADINA CORDIFOLIA. *H. f. et Bth.* One of the Rubiaceæ, a timber tree of Berar, Mandla, Garhwal, and Gorakhpur.

ADI-NATH, the celestial Buddha, also father of Matsyendranath, and grandfather of Gorakhnath.

ADINATHA or Reshabdeva, the first and greatest of the Jaina saints.

ADINATHA, the linga of Mahadeva, placed on the banks of the river Rajyu by king Naraca.

ADI-PURUSHA. SANSK. The presiding spirit of the universe.

ADI-RAJA. SANSK. Supreme of kings, a paramount sovereign, an emperor.

ADI-SAKTI, or the primeval energy, a name of Kali, represented as a four-handed woman of a dark colour, of terrific features, with a protrud-

ing tongue, besmeared with human gore, with a necklace of skulls, and holding a skull and a scimitar in her hands.

ADI SESHA. SANSK. Literally, old serpent. A term used in Hindu mythology.—*Taylor's Hind. Myth.* See Serpent.

ADITES, founded a Semitic kingdom in Yemen, the first in Southern Arabia. See Saba; Joktan.

ADITI, daughter of Daksha, and one of the two wives of Kasyapa. She was mother of the Devas (see Aditya, Agni, Kasyapa, Deva, Surya, Surya vansa, Vamana), hence called Deva-matri. She bore eight sons (according to others, twelve), seven of whom were the seven Aditya, the eighth was Marttanda, the sun. The word in Sanskrit means free, unbounded, infinity, the boundless heaven. The Yajur Veda describes her as the wife of Vishnu; but other Hindu books call her the mother of Vishnu. Her history is regarded by Professor Wilson as an allegorical personification of astronomical phenomena.

ADITYA, a name of Vikrama, supposed to be the same with the Vikramaditya, who was contemporary with Sapor, king of Persia.

ADITYA. SANSK. The sun. Adityavar, Aditwar, or Aitwar, Sunday, from Adit, the first, and war, day.—*W.* The twelve Aditya, in Hindu mythology, are said to be the offspring of Aditi and Casyapa, who is called the mother of the gods. They are emblems of the sun for each month of the year, and are themselves called suns; their names are Varuna, Surya, Vedanga, Bhanu, Indra, Ravi, Gabhasti, Yama, Swarnareta, Divakara, Mitra, and Vishnu (Gita, p. 144). Another list is Ansa, Aryaman, Bhaga, Daksha, Mitra, and Varuna, to which Dhatri, Indra, and Savitra are often added. Of these, Vishnu seems to be considered as the first, for Krishna, describing his own pre-eminence, says, 'Among the Aditya I am Vishnu.' The names of the twelve vary according to the several authorities. Later mythology counts twelve, all sun-gods, and representing that luminary in phases of the twelve months. Their name, Aditya, comes from the noun Aditi, which signifies literally 'unharmableness, indestructibility;' and it denotes them as 'of an eternal unapproachable nature.' To the Adityas Hindus ascribe unapproachability by anything that can harm or disturb; in them can be distinguished neither right hand nor left, form nor limit; they are elevated above all imperfections; they do not sleep nor wink; their character is all truth; they hate and punish guilt; to preserve mortals from sin is their highest office; they have a peculiar title to the epithet Asura, 'immaterial, spiritual,' for this is the proper and original meaning of this term; it is a derivative adjective from the noun Asu, 'life, existence.'—*Oriental Linguistic Studies*, p. 38; *Williams' Nala*, p. 122.

ADITYA BHAKTI. TEL. Helianthus annuus. See Ansaria.

ADIYAN or Adyar. MALEAL.—A slave. The Adiyan slave, serf, or vassal, of Malabar lives under the protection of a raja or religious establishment. This tribe visit Coorg from Malabar to work as labourers. They speak Malealam.

ADJAI or Ajye, a mountain stream in Birbhum. It is the Amystis of Megasthenes, and the Ajamati of Wilford. In its literal acceptation, the Ajye means the unconquerable; and many a Hindu mother, like Thetis, formerly dipped their children in its waters to make them invulnerable. Hence may be accounted the name of Birbhum, or the land of heroes. It was anciently called Malla Bhumi, or the land of the Mall (wrestlers and athletes).—*Tr. of Hind.*

ADJAT. MAHR. People of the mixed castes.

ADJUTANT BIRD, Leptoptilus argila.

ADNAN, one of the ancestors of the present Arabs. He was a direct descendant from Ishmael. His posterity is called Al Arab al Mustaaribah, *i.e.* the naturalized, or insititious, Arabs. —*Sale's Koran.* See Kahtan; Joktan.

ADNARA. HIND. Panther.

ADOLIA. The larvæ of this genus of insects are hairy, and sting with virulence.—*Tennent, Ceylon.*

ADO-MODIEN. TAM. Holostemma Rheedianum.

ADONDA. TEL. Capparis horrida, *L.*

ADONDA CHAKRAVARTI, a Chola leader who seems to have been the subduer of the Kurumbar or Shepherd tribes.

ADONI, in lat. 15° 38′ 9″ N., and long. 77° 20′ E. A town and revenue district in the centre of the Peninsula of India. These have formed parts of the dominions of the Vijianagar, the Adal Shahi, the Dehli Empire, Hyderabad, and Mysore, and now of the British. Adoni is 309 miles from Madras, and 43¼ miles from Bellary. It is south of the Tumbudra, and 1395 feet above the sea. The hill station near is 2103 feet. Its silk and cotton fabrics are famed and largely exported.

ADOPTION, a custom amongst Hindus of adopting male children, giving the child all the rights of legitimate offspring; and when the child binds round his head the turban of his adopted father, he is finally severed from the stock whence he had his birth. This right is restricted to choosing amongst the kindred. Hindu law recognised twelve kinds of adoption.—*Tod's Rajasth.* i. p. 31.

ADRAISTÆ of Arrian, the modern Takka. See Arashtra.

ADRAK, also Ada. HIND. Zingiber officinale, green ginger. Sont, dry ginger.

ADRA MALIK, the male power of the sun. Among the Samarians, children were burned as to Molech, supposed analogue, or to be identical with the Adharmeswara of the Hindus.

ADRASA, a town to which Alexander crossed the Hindu Kush from Alexandria apud Caucasum. He reached it in 15 days.

ADU. TAM. A sheep, a goat. Attu-Karan, a shepherd or goatherd.

ADULARIA, or Moonstone, is very abundant in the neighbourhood of Kandy, where it is occasionally the predominating ingredient of the rock.

ADWAITA. SANSK. A school of Hindu philosophy and theology, established by Vyasa, and carried out by Sankaracharya. The latter was the founder of the monastery of Sringeri, near the Tumbudra river. The system regards the Supreme Spirit and the human spirit as one, and the world as an illusion. The term is from a, privative, and dwaita, two,—non-duality. This system of philosophy is pantheistic, and is usually termed Vedanta. This view is held by the Smarta brahman and all Hindus following that sect, holding, viz., that the creature is not separate from the Creator, but partakes of his essence. The Dwaita or dual philosophy is that of the Madhava brahmans and their followers, viz. that the Creator and his creatures are separate. The

Vasishta adwaita is a third philosophy; it means non-duality with a difference, viz. that the creature, separate from the Creator during life, becomes absorbed into his essence after death. This is the doctrine of the Sri Vaishnava sect. These philosophies are known to all Hindus.

ADWAITANAND. See Chaitanya.

ADYAR, a small river which commences principally from the leakage of tanks about 30 miles west of Madras, and enters the Bay of Bengal in the south environs of Madras, being spanned by several bridges in its course.

ADYASTHANA, or First Shrine, is a name applied in the Bhavishya Purana to the original temple of the sun in Kashmir, which is said to have been built by Samba, the son of Krishna; but adya is perhaps only a corruption of Aditya, or the sun, which is usually shortened to adit, and even ait, as in aditwar and aitwar or itewar for Adityawara, or Sunday. Biladuri calls the idol a representation of the prophet Job, or Ayub, which is an easy misreading for Adit.—*Cunningham's Ancient Geog. of India*, p. 235.

ADZ. ARAB. Ervum lens, *Linn.*

ADZARA, the Tibetan name of Assam.

ÆCHMANTHERA WALLICHII. *Nees.*

Var. β. Gossypina.

Patrang, Joundela, of RAVI. | Ban-Marua, . of RAVI.

Bees are particularly fond of its flowers; a kind of cloth is made from the tomentum of the leaf.—*J. L. Stewart, M.D.*

ÆCIDIUM THOMSONIA infests the fir tree, Abies Smithiana. See Fungi; Insects.

AEEN. MAHR. Terminalia glabra, *W. and A.*, and T. coriacea, *Roxb.*

ÆGAGRUS, a wild species of Ibex, of Middle and North Asia, called Paseng by the Persians.—*Cat. As. Soc. Beng.* See Capreæ.

ÆGICERAS FRAGRANS. *Kön.*

Æ. majus, *Gært., Roxb.*	Æ. floridum, *Rom.*
Æ. obovatum, *Bl.*	Rhizophora corniculata, *L.*
Hulsi, ... BENG.	Bu-ta-yat, . . . BURM.

A large shrub in the Sunderbuns, the Tenasserim Provinces, both Peninsulas, Australia, Moluccas, and Java; when in bloom it is covered with small white flowers, which seem to have great attractions for the fire-flies. In moving up the streams near the seaboard on a dark night, these trees are often seen illumined with myriads of waving brightening wings, and making them look in the deep gloom like superb candelabra hung with living lamps. Bees give it the preference to all other shrubs in attaching their combs to it. It is a useful coast plant.—*Mason; Voigt*, 335; *Roxb.* iii. 130; *von Mueller.*

ÆGINETIA INDICA, *Willde*, the Tsjem cumulu of the Maleali, is a small, annual, singular-looking, rush-like plant, with a flower like the bowl of a tobacco pipe. It grows in the Circars, at Khandala, Salsette, and Konkans. Æ. pedunculata, *Wall.*, is a parasite growing on the roots of Andropogon muricatus.—*Roxb.* 130; *Voigt*, 496.

ÆGLE MARMELOS. *Corr.* Bel fruit tree.

Cratæva marmelos, *Linn.*	Feronia pellucida, *Roth.*
Sri phal, Bel, . . BENG.	Mahura, ... SANSK.
Oo-sheet, . . . BURM.	Vilva-maram, . . TAM.
Tanghai? Tangala, MALAY.	Maradu chettu, . TEL.
Kuvelam, . . MALEAL.	Bilvamu chettu, . ,,
Bala ghund, . . PUSHT.	Malu-ramu chettu, ,,

The Bel, Bengal quince, or larger wood apple, is a large thorny tree which flowers during the hot season, and its large spheroidal fruit ripens after the rains. The tree grows all over India and into the Himalaya, at Simla, Kamaon, Garhwal, and up to the Indus, and in all the sub-Alpine tracts, and it is found about towns and villages throughout the Prome district, and also about Tounghoo, more especially on the Shan side of the river. It attains an extreme height of 30 feet, and in girth 3 feet. The wood is light-coloured, variegated with veins, compact, very strong and hard, but is little used, partly perhaps from a religious feeling on the part of the Hindus, with whom the tree is sacred to Siva, and partly from the value of the tree from the great medicinal virtues of the fruit. But in the Godavery districts the native dhol or drum is often made of it; and it is used for naves of wheels and crushers for sugar in Garhwal. The wood is ground with water into a sort of oily paste, which is poured on the lingam in the temples dedicated to Siva. The leaves are offered to Siva and to the female divinities in the same way that the leaves of the tulsi are offered to Vishnu. The fruit is delicious to the taste, and very fragrant. It is smooth, resembling an orange, with a yellow, hard rind, which is astringent, and used in dyeing yellow. The pulp of the fruit has been long in use in diarrhœa; and its aperient and detersive qualities, and its efficacy in remedying habitual costiveness, have been proved by constant experience. It has lately been brought into repute when fresh and in conserve as a remedy in some forms of dysentery. When dried before it is ripe (Belgar, Belgiri), the fruit is used in decoction in diarrhœa and dysentery; and when ripe and mixed with juice of tamarinds, forms an agreeable drink. The beautifully clear mucus which surrounds the seeds is, for some purposes, a very good cement, which as a gum may some day be turned to use in the arts. The roots, bark, and leaves are reckoned refrigerant in Malabar. The bark of the root, especially, is given in decoction in intermittent fever, and the leaves are applied as a poultice in ophthalmia. They abound in a volatile fragrant perfume, which is distilled from the flowers, known as marmala water, and is much used by the natives as a perfume for sprinkling on visitors. The pulp is also mixed in lime cement. In Peshawar, large numbers of snuff-boxes for domestic use, and for export to Afghanistan, are made from the shell of the fruit, which is prettily carved over and fitted with a small bone plug for the opening in the end. Lest the resemblance of the wood apple to the fruit of the Nux vomica might give rise to accidents, it should be remembered that their strong aromatic smell, like that of all other fruits belonging to the orange family, will distinguish them easily from the Nux vomica, which is devoid of aroma.—*Drs. Roxb., M'Clelland, Wight, Gibson, Brandis, Stewart, O'Shaughnessy, Riddell, Waring, Cleghorn; Major Drury's Useful Plants; Mr. Elliot; Cal. Cat. Ex.* 1862; *Ind. An. Med. Sc.* 1854; *Beddome.*

ÆGLE SEPIARA is used in Japan for hedges, its thorny branches being useful. The fruit is never eaten raw, but is roasted on hot ashes. It has a glutinous pulp, which is laxative.—*Hog, Veg. King.*

ÆLIUS GALLUS, a Roman of the Equestrian order, sent, between B.C. 24 and A.D. 1, with a force to explore Ethiopia and Arabia. The force was

organized at Cleopatris, in the neighbourhood of the modern Suez, and consisted of 10,000 Romans, with 15,000 mercenaries, together with a fleet of 80 vessels of war and 130 transports. After two years' absence in Nejran, Ælius Gallus brought back with him but a small part of his army, hunger, fatigue, and sickness having destroyed the remainder, for only seven fell by the sword.—*Playfair's Aden.*

AENEZI, or Anezah, an Arab tribe in the vicinity of Syria, and if we add to them their brethren in Nejd, they may be reckoned one of the most considerable bodies of Bedouins in the Arabian deserts. They are nomades, migrating over 30,000 square miles. In spring they approach the fountains of Syria, and form a line of encampment extending from near Aleppo to eight days' journey to the south of Damascus. Their principal residence, however, during that time is the Hauran and its neighbourhood, when they encamp near and among the villages, while in the more northern country, towards Homs and Hamah, they mostly keep at a certain distance from the inhabited grounds. In these parts they spend the whole summer seeking pasture and water, purchase in autumn their winter provision of wheat and barley, and return after the first rains into the interior of the desert. They are the only true Bedouin nation of Syria, the other tribes in the neighbourhood of this country having more or less degenerated in manners, and several being reduced to subjection.—*Skinner; Burckhardt; Upton.*

ÆOLUS, the Vayu of the Hindu mythology. See Mythology; Saraswati.

AERATED WATER, Ho-lan-shin of the Chinese; Soda water.

AERIDES, or air plants, are numerous in all the humid parts of S.E. Asia. The Tenasserim Provinces abound in orchids, most of which grow on trees, and are epiphytes, not parasites. The flowers of some of the species are great favourites with the Burmese, and are sought after to adorn the hair. The Burman books say that the trees around king Wathandria's hermitage were covered with orchids, and that after being plucked they would retain their fragrance seven days. In the Andaman Islands, in the course of a few hours, a vast number can be collected. Ae. affine, *Wall.*, with large rose-coloured flowers, is of Assam, Nepal, and the Khassya hills. Ae. ampullaceum, *Roxb.*, grows on trees, and blossoms in May. Ae. cornutum, *Roxb.*, grows at Dacca and Eastern Bengal. Ae. guttatum—Perida Mara, TEL.; Saccolabium retusum—is a lofty parasitic species, growing on trees near Dacca. Ae. multiflorum, *Roxb.*, is a large and beautiful species of Silhet, with large purple and white flower. Ae. odoratum, *Lour.*, a sweetly fragrant plant, with large white flowers with a tinge of rose. It is met with at Dacca, the Khassya hills, Chittagong; in the Bombay Ghats, on the Mahabaleshwar hills, Tenasserim, Moulmein, China, and Cochin-China. The flowers hang in long racemes of a light flesh colour and spotted, from six inches to a foot long. They grow from the axils of the leaves, appearing in April and May. Ae. pallidum, *Roxb.*, grows on trees in Chittagong and Eastern Bengal. Ae. radiatum, *Roxb.*, on trees in the Gangetic delta. Ae. rostratum, *Roxb.*, blossoms in April and May in Silhet. Ae. suaveolens, *Roxb.*, found on trees in Chittagong, has very fragrant flowers all the year long. Ae. tesselatum, *Wight*, with large flowers of a greenish yellow, grows in the Circars.—*Roxb.; Wight; Voigt; Mason.*

AEROLITES, the deo-gola or devigola of the Hindus. These are not uncommon in the possession of the Hindus, who worship them. The guardian of a temple showed Baron de Bode a flat black stone, which appeared to be an aerolite, weighing several pounds, and let him into the secret of its wonderful properties, namely, that of being propitious to mothers who wish to be blessed with a numerous family, and who, on pressing it to the heart, must recite some prayers. This peculiarity bears some resemblance to what is told of the temple of Halgah-Baal, at Emessa, on the Orontes, in Phœnicia. Aerolites are possibly the bætylia of the Jews. The earliest of which we have any reliable account, is one that fell about the year in which Socrates was born, in Aegos Potamos, 2300 years ago. One of the khalifas is said to have had swords forged from the iron of fresh fallen meteoric stones; men have sometimes been killed by them in their fall. Every now and then, in some place or other of the earth, stones varying from the size of a musket ball to seven or eight feet in length, and many hundred seers in weight, fall down to the ground out of the sky. In many cases they have been seen to fall from, or result from, the explosion of luminous meteors or fire balls, not unfrequently with a force causing them to sink to a depth of from ten to fifteen feet into the earth, as in the case of those that fell at Barbotan in France, 24th July 1790, at Vienna, 16th June 1794, at Western in North America, 14th December 1807, etc. etc. In many cases a small and very dark cloud appears suddenly in a perfectly clear sky, and the stones are hurled from it with a noise resembling musketry or cannon; such a cloud moving over a whole province, has sometimes covered it with thousands of fragments. Sometimes, as in Germany (Kleinwenden, 16th September 1843), a large aerolite fell with a thundering noise from a perfectly clear sky. The largest with which we are as yet acquainted, are those of Bahia in Brazil, 7½ feet in length, and that of Otumpa, which also fell in South America, and which is now in the British Museum, London, and weighs 21½ maunds. Some have, by accurate observations, been proved to move no less than 30 miles in a second. The falling of the following meteors in Southern Asia has been established:—

B.C. 1451. Showers of stones destroyed the enemies of Joshua at Beth-horon, Josh. x. 11.
" 211. Stones fell in China.—*De Guignes.*
" 192. " " "
" 89. Two large stones fell at Yong in China; the sound was heard over forty leagues.—*De Guignes.*
" 38. Six stones fell at Leang in China.
" 38. Four stones fell at Po in China.
" 22. Eight stones fell in China.—*De Guignes.*
" 12. A stone fell in Ton-Kuang in China.—*De Guignes.*
" 9. Two stones fell in China.—*De Guignes.*
" 6. Sixteen stones fell in Ning Tcheon in China, and other two in the same year.—*De Guig.*
Date unknown. The black stone, or Hajar us Siah, at Mecca.
A.D. 500. In the sixth century, stones fell on Mount Lebanon, and near Emisa in Syria.
" 570. Fall of stones near Bender in Arabia.—Koran, vi. 16; cv. 3 and 4.
" 852. July—August. A stone fell at Tabaristan.—*De Sacy; Quatremère.*

A.D. 897? A stone fell at Ahmadabad. In 892 according to the Syrian chronicle.
,, 1009. A mass of iron fell at Jorjan.—*Avicenna.*
,, 1056. Red snow fell in Armenia.—*Matth. Eretz.*
,, 1110. A burning body fell in Lake Van in Armenia.—*Matth. Eretz.*
,, 1280. A stone fell at Alexandria in Egypt.—*De Sacy.*
,, 1718. Gelatinous matter fell with a globe of fire in the isle of Lethy in India.—*Barchewitz; Jameson's Ed. Journal*, 1819, i. p. 222–235.
,, 1794, June 16. Twelve stones fell at Sienna, one weighed 7⅞ oz.—*Phil. Trans.* 1794.
,, 1795, Apr. 13. Stones fell at Ceylon.—*Beck.*
,, 1798, Dec. 19. Stones fell in Bengal.—*Howard, Lord Valentia.*
,, 1798, Dec. 13. Krakhut, Benares, 3362 grains.
,, 1808. Moradabad, Bengal.
,, 1810, July. A great stone fell at Shahabad; it burned five villages, and killed several men and women.—*Phil. Mag.* No. xxxvii. p. 236.
,, 1814, Nov. 5. Stones fell in the Doab; nineteen were found.—*Phil. Mag.* Each stone was surrounded with a mass of dust.
,, 1815, Feb. 18. Duralla, territory of the Patyala Raja, 29 lbs.
,, 1822, Nov. 30. *a.* Futtehpur, Allahabad, 53,880 grains.
b. Bittur and Shahpur, 75 miles N.W. of Allahabad, 2112 grains.
,, 1827, Feb. 16. Mhow, Ghazipur, 2359 grains.
,, 1833-4. Ambala.
,, 1834, June 12. Charwallas, near Hissar.
,, 1838, Jan. 29. Kaee, Saudee taluq of Oud'h.
,, ,, April 18. Akbarpur, Saharunpur, 36,011 grains.
,, ,, June 6. Chandakapur, Berar, 11,040 grains.
,, 1843, July 26. Manegaon, Kandesh.
,, 1846. Assam, India, 1 lb. 901 grains (found).
,, 1850, Nov. 30. Shalka, West Bardwan, 63,529 grains.
,, 1852, Jan. 23. Nellore, Madras, 30 lbs.
,, 1853, March 6. Seggroowlee.
,, 1857, Feb. 28. Parnalee, Madras, 130 lbs.
,, ,, Dec. 27. Pegu (Quenggouk), 34,280 grains.
,, 1860, March 28. Khergur, Agra, S.E. of Bhurtpur.
,, ,, July 14. Darmsala, 28 lbs. 5250 grains.
,, 1861, May 12. *a.* Peprassee, 5 lbs.
b. Bullooah, 2400 grains.
c. Nimbhooah (40 miles from Gorakhpur).
,, 1865, Sept. 21. Muddoor, Mysore country.
,, 1866. Yedabetta, S. Canara.
,, 1869, Sept. 19. Tja-be in Java.
,, 1873, Sept. 23. Khairpur, 35 miles E. of Bhawulpur.

—*Capt. J. Abbott, in Bl. As. Trans.*, 1844, vol. xiii. p. 880; *Mad. Lit. Trans.*, vol. xiii. p. 161; *Dr. Buist's list, Bom. Geo. Trans.*, 1850, vol. ix.; *Prof. Powell's Rep. Brit. Ass.*, 1847 and 1852; *Dr. Buist's Cat.; Balfour in Madras Mus. Recs.; Mysore Mus. Recs.; Vienna Mus. List.*

ÆRUA LANATA. *Juss.*

Achyranthes lanata, *L.*	Illecebrum lanatum, *L.*
,, villosa, *Forsk.*	
Chaya, . . . BENG.	Sirru pulai, . . . TAM.
Khul, ... DUK.	Pindi konda, . . . TEL.
Sherubala, . . MALEAL.	Pindi donda, . . . ,,
Kampule kiray, TAM.	

This is a common weed growing everywhere in the plains of India; it has woolly, silvery-looking leaves, and oval heads of white flowers. Its leaves, mixed with others, are used as greens, and its roots as a demulcent in native medicine.—Wight also figures Æ. brachiata, floribunda, Javanica, Monsoniæ, and scandens.—*Ainslie; Jaffrey; Useful Plants; Voigt.* See Vegetables.

ÆSCHYNANTHUS GRANDIFLORUS. *Don.*

Incarvillea parasitica, *R.*	Trichosporum grandiflorum, *Don.*
Æ. parasiticus, *Wall.*	

A parasitic epiphytical plant with crimson yellow flowers, in shape and size like those of Digitalis purpurea. Stem succulent, smooth, with swelled joints, from which fibrous roots issue. Found on trees in S. Konkan, Khassya hills.

ÆSCHYNOMENE ASPERA. *Linn.* Shola.

Æschynomene paludosa, *R.*	Hedysarum lagenarium, *R.*
Phool-sola, . . . BENG.	Shola, also Sola, . HIND.
Kath-sola, . . . ,,	Attukudasa, . . MAL.
Pouk; Nya, . . . BURM.	Attoonettee, . . TAM.

The pith of this plant, known as shola, is used for light hats, bottle covers, and ornaments; many present the appearance at a little distance of ivory carvings. It is one of the Leguminosæ, and, under the Tamil name of Sudday-keeray, the leaflets are used as greens. It springs up spontaneously in the Burma rice-fields, especially in the Tharawaddy district, and affords an excellent hemp.—*Madras Exh. Jur. Reports of* 1855; *O'Sh.; Roxb.; M'Cl.*

ÆSCULACEÆ. *Lindl.*—The horse-chestnut tribe of plants, of the genera Pavia and Æsculus. Three species—Æsculus Chinensis, *Bunge*, Æ. turbinata, *Blume*, and Æ. dissimilis, *A. Gray*—occur in Japan.

ÆSCULAPIUS, a learned physician of Greece, deified by the Greeks and Romans. He is not known, under that name, to the Hindus or Arabs.

ÆSCULUS CHINENSIS. *Smith.*

Tien-sz-lih, . . . CHIN.	So-lo-tsze, . . . CHIN.

This soapwort grows in Hu-peh and Sech-u'en. The fruits resemble the horse-chestnut, and in Hankow sell at threepence each. They are used medicinally (*Smith*, p. 5). Æ. Indica, *Colebrooke*, is a tree of the Himalaya up to 9000 feet, height 150 feet. Æ. hippocastanum, *Linn.*, grows in Central Asia; Æ. Khassyana, in the Khassya hills.—*Mueller.*

ÆSOP'S FABLES. Their original source was the Jataka of the Buddhists. See Jataka.

AET. AR. A verse of the Koran.

ÆTILES, stones worshipped as sacred objects. See Aerolites; Bætyle; Salagrama; Stone.

ÆTNA, in Hindu mythology, a nymph; the same with Aitnidevi.

ÆTOBATIS NARI NARI. *Block.*

Therrundi . of MALABAR.	Eel tenki, . . . TEL.
Pari lung, . . MALAY.	

An edible fish of India and Malay estuaries.

AETOS, a name of the ancients for the Nile, from At or Ait, a rise of the river.

AFAR. ARAB. Galls.

AFGHANISTAN is known to the Afghans as Valayat, and they regard it as comprising (1) Kabal or Kabalistan, which includes all that mountainous region north of Ghazni and the Safed-Koh, as far as the Hindu Kush, limited towards the west by the Hazara country, and towards the east by the river Indus; and (2) Khorasan or Zabalistan, which includes all that extensive tract of country, alpine in its eastern limits, and table-land or desert in its western extent, that stretches south and west from about the latitude of Ghazni, and borders on the confines of Persia, from which, towards the south, it is separated by the desert of Seistan. Khorasan towards the north presents a very irregular outline, and is bounded in that direction by the mountains of Hazara and Ghor; towards the south it is separated from Beluchistan by the Washati range of mountains and the Beluch provinces of Sarawan and Kach Gandava; and its

AFGHANISTAN.

limit towards the east are the Suliman range, with its subordinate range and the Daman of the Derajat. The greatest length of Afghanistan within these limits is 750 miles, and breadth 550 miles; but the average length is 600, and its breadth 450 miles, lying between lat. 30° and 37° N., and long. 61° and 70° E. More than half of this, however, is independent, and much of it is hostile. The whole of the country of the Yusufzai clans, of Kafiristan, of Chitral, of the Afridi and Waziri, and much of the Hazarajat, pretend as little to owe allegiance as the Amir cares to claim it; and Badakshan, Kunduz, the Char Valayat, the countries of the Aimak, the Hazara, the Ghilzai, and Kakar, also Kuram, Khost, and Dawar, only yield obedience when the demand is backed by force.

The districts of Afghanistan included in the above are, Kabal, Jalalabad, Ghazni, Kandahar, Herat, and Balkh, or, as the last has been called, Afghan-Turkestan. The administration of the country of the Ghilzai and Hazara has sometimes formed separate commands. Afghanistan in its physical form consists of a star of valleys radiating round the stupendous peaks of the Koh-i-Baba, and everywhere bounded by mountains of a very rugged and difficult nature. Its natural divisions may be said to be six in number, viz. (1) the basin of the Kabal river, including its tributaries, the Logar, Panjsher, and Kunar rivers; (2) the table-land and valleys of the Ghilzai country from Ghazni to Kandahar, including the Arghandab, the Tarnak, and the Arghesan; (3) the tributary valleys of the Indus, viz. Kuram, Khost, Gomal, Ghobe, and Bori; (4) the basin of the Seistan lake; (5) the valleys of the Helmand, the Hari-Rud, and Murghab; and (6) the tributary valleys of the Oxus, viz. Maemana, Balkh, Khulm, Kunduz, and Kokcha rivers.

These regions are occupied by different races, thus:—(*a*) north of the Hindu Kush generally is the country of the Uzbak, which includes Maemana, Andkui, Akcheh, Saripul, Balkh, and Kunduz; (*b*) the country of the Aimak and Hazara, known as the Hazarajat, includes generally the upper portions of the valleys of the Murghab, Hari-Rud, Helmand, and Arghandab; (*c*) the country of the Daurani tribe, extending 30 miles north and south of a line drawn from Herat through Kandahar to Quetta (Kot-Shal or Shalkot); (*d*) south of this is the Seistani country, consisting of the lower portion of all the tributary rivers of the Seistan lake; (*e*) north and east of the Daurani are the homes of the great Ghilzai clan, who were for a brief space in the 18th century dominant, and are still feared; their country consisting of the upper portion of the Tamak and Logar rivers, including all the open plain region between their east and west watersheds; (*f*) in a triangle bounded roughly by the Panjsher river, the south range of the Kunar and the Hindu Kush, is the country of the Siah Posh and the kindred race of Chitral; (*g*) then, in all the valleys that carry off the drainage of the Laspisar range and its ramifications, are the Yusufzai; (*h*) to the south, fringing the eastern spurs of the Safed Koh, are the Momand, the Afridi, the Orakzai, the Shinwari, the Khattak, the Turi, and the Bangash; and (*i*) still further south are the Waziri, stretching across the debouchure of all the valleys from the Kuram to the Gomal, shutting off from the plains the smaller tribes of Jaji, Permuli, Khostwal, and Dawari; (*j*) the great Povindah clan occupy the triangle bounded by the Ghilzai, Waziri, and Kakar; (*k*) the Kakar extending N.E. from the Shal valley to the Takht-i-Suliman.

Afghanistan, throughout its whole extent, is mountainous, and its general aspect is that of a series of elevated, flat-bottomed valleys, with some cultivation in the vicinity of the streams, but bounded by spurs which are mostly exceedingly bare and bleak. Some of the defiles to the north of the Hindu Kush are of surpassing grandeur, while the soft, still loveliness of some of the sheltered glens on the southern slopes of that range is spoken of with rapture by every traveller. The general elevation is considerable. From the Koh-i-Baba the country slopes outwards, and contains in the table-land of Ghazni, and in the upper valleys of the Hari-Rud, the Helmand, and Kabal river, some of the highest country of a similar nature in the world. The country lowers towards its boundaries; its rivers become exhausted by absorption into the soil and by irrigation, and, except in its N.E. corner, the country is bounded everywhere by very barren, desert-like land. If we go round it from Badakhshan east to Haji Shah on the Oxus, by Andkhui and Maemana to Herat, thence to the west of Herat to the Seistan lake, and lastly round the southern border of the Garmsel (Garm seir) to Shal, the want of water everywhere arrests cultivation and habitation.

The only plain regions in Afghanistan are three, viz. the district between the foot of the northern slopes of the Hindu Kush and the Oxus, also that at the foot of their south-western slopes along the lower part of the courses of the Herat, the Farrah, and the Helmand rivers, and the desert region to the south of Kandahar. Some valleys have very considerable spaces of level within them, but they are so hemmed in by the mountains as to preclude their being named plains. Nevertheless there are numerous elevated flat-bottomed valleys, of an open, undulating surface, affording ample space for cultivation, the stretches of land, of considerable extent and evenness of surface, furnishing open spaces admirably adapted for the movements of an army. This physical feature of the country explains the fact of a nation of mountaineers carrying on most of their warfare on horseback, and priding themselves on the efficiency and elan of their cavalry branch.

There are many rivers in Afghanistan, but none of any magnitude, and, generally speaking, they are everywhere fordable throughout the greater part of the year. Even the largest partake of the character of torrents; and, though they often come down with great force after rain, they soon run off. Their volume is also greatly diminished by the irrigation canals and drains cut from them, by which a stream, which at its commencement promises to become of some magnitude, is almost entirely exhausted before it reaches any river. The names of the rivers, commencing from the north, are—Oxus, Kokcha, Farkhan, Kunduz, Khulm, Balkh, Andkhui, Murghab, Hari-Rud, Harut-Rud, Farrah-Rud, Khash-Rud, Helmand, Arghandab, Tarnak, Lora, Bori, Zhobe, Gomal, Tochi, Kuram, Kabal, Panjsher, Kunar, Panjkora, and Swat. The irrigation canals are very numerous, but are small for agricultural purposes,

and only extend a few miles from either bank of the river. There are several lakes; amongst them that of Seistan is the most extensive; in the Ghilzai country is the Ab-istada; the Daria Darrah is in the Hazara country; there is also a lake, or rather a marsh, north of Kabal, and the Chattibar lake at the head of the Chitral river.

The S.W. portion of the country is occupied by a great sandy desert, over which, during the summer season, a deadly hot wind blows. The climate is of the most varied character, the diversities being due entirely to the difference of elevation rather than of latitude. Ghazni, for instance, is 7730 feet above the sea, and for the greater part of the winter the inhabitants seldom quit their houses, and the thermometer sinks to 10° to 15° below zero. It is a prevalent belief that the entire population of Ghazni has several times been destroyed by snow-storms. The winter cold is intense wherever the elevation is above 5000 feet. The heat of the summer is almost everywhere great, except in the very elevated parts of the Hindu Kush and other lofty mountains.

The principal towns are—Kabal, Herat, Kandahar, Ghazni, Jalalabad, Girishk, Farah, Sabzwar, Maemana, Andkhui, Shibbargham, Siripul, Balkh, Khulm, and Kunduz; all of these have fortifications. The others are only villages, or at best collections of huts and tents.

Babar enumerates the tribes which inhabited Kabal in his day. In the plains were Turks, Aimak, and Arabs; in the towns and in some villages were Tajak, Pashani, and Parancheh; and in the hills were Hazara, Togderri, Afghans, and Kafirs. The languages spoken amongst them were Arabic, Persian, Turki, Moghulai, Hindi, Afghani, Pashani, Ghabri, Barraki, and Dehgani.

Ferrier tells us (History, p. 307) the wars that have reddened the soil of Afghanistan since the middle of the 18th century have been so continuous, that many of the old families have become extinct, and several tribes have remained without a head. Estimates of the population of parts of Afghanistan have been made by Dr. Lord, Lieut. Wood, Vambery, Elphinstone, Lumsden, Leech, Burnes, Bellew, Temple, Chamberlain, James Broadfoot, Aga Abbas, M'Gregor, and Edwardes, from which Lieut.-Col. M'Gregor's estimates of 4,901,500, as under, are framed—

Badakshan and Darwaz, etc.,		55,000
Kunduz, Khulm, Balkh,		350,000
Char Vilayat, viz. :—		
Maemana,	90,000	
Andkhui,	50,000	
Shibbargham,	25,500	
Siripul,	72,000	—237,500
Aimak, viz. :—		
Zaidnat,	120,000	
Firoz Kohi,	40,000	
Jamshidi,	40,000	
Taemuni,	50,000	—250,000
Hazara,		150,000
Daurani,—viz. the clans Popalzai, Alikuzai, Barakzai, Atchakzai, Nurzai, Ishakzai, Khugiani,		600,000
Seistani,		127,500
Tarin: *a.* clans of the Spin Tarin—Adwani, Lasran, Marpani, Shadizai; *b.* clans of the Tor Tarin—Abdur Rahmanzai, Alizai, Batezai, Habilzai, Haikalzai, Hamranzai, Kadazai, Kalazai, Karbela, Khamzai, Khanazai, Malizai, Musizai, Naezai, Nurzai, Sezai,		38,000
Kakarr,—viz. Jalazai, Musa Khel, Kadizai, Usman Khel, Abdullazai, Kabizai, Hamzazai, Shabozai, and Khidarzai,		72,000
Ghilzai,		276,000
Povindah,—viz. Lohani, Nasir, Nazai, Kharoti,		30,000
Hindki and Jat,		600,000
Tajak,		500,000
Kazzilbash,		150,000
Mixed population of towns,		65,000
Waziri,—viz. Mahsud, Utmanzai, and Ahmadzai,		127,500
Sheorani,		30,000
Turi,		21,000
Bangash,		21,000
Zaemukht,—viz. Mamuzai and Khwahdad Khel,		21,000
Orakzai,		106,000
Dawari,		34,000
Khostwal,		12,000
Afridi,—viz. Kuki Khel, Malik Din, Kambar, Kamr, Zakha Khel, Aka Khel, and Sipah,		85,000
Jaji,		7,000
Mangal,—viz. Miral Khel, Khajuri, Zab, Margae, and Kamal Khel,		3,000
Jadran,		3,000
Shinwari,		50,000
Khugiani,		50,000
Momand,—viz. Tarakzai, Alamzai, Baizai, Khwaizai, Utmanzai, and Dawezai,		80,000
Yusufzai,—viz. Baezai, Khwazozai, Malizai, Turkilani, Utmanzai, Hasnzai, Akazai, Mada Khel, Iliazai, Daolatzai, Chagarzai, Nurizai, and Utmak Khel,		400,000
Chitrali, Nimcha, Lughmani, etc.,		150,000
Kafar,		100,000
Kohistani,		100,000

It must, however, be remembered that the tribes with democratic governments enumerated from the Waziri to the end of the above list, lying between British India and the Kabal dominions, do not acknowledge any fealty to Kabal, and their number is 1,220,000. They fight amongst themselves; and the Sikhs formerly, and now British India, have made peace and war with them without any reference to Kabal. Also the Kazzilbash and Parsivan and others are not called Afghans. The former are descendants of Persians who entered the country with Nadir Shah; they follow military pursuits, and serve in the cavalry and artillery of the Kabal army. The Parsivan dwell for the most part in towns and cities, occupied as merchants, shopkeepers, and in the various trades; while those who reside in village communities are husbandmen and shepherds.

Afghan Turkestan is the name given to all the Afghan dominions north of the Hindu Kush and Koh-i-Baba. It comprises the districts of Maemana, Andkhui, Sar-i-Pul, Shibbargham, Balkh, Khulm, Kunduz, and Badakhshan.

Andkhui town is in lat. 36° 54′ N., long. 35° 23′ E. It is 100 miles W. of Balkh, 18 miles N.W. of Shibbargham, and 60 miles N.N.E. of Maemana. The town contains 2000 houses, and about 3000 tents in its environs, or scattered over the oasis in the desert. According to Vambery, they are principally Turkomans of the Alieli tribe, intermixed with Uzbaks and a few Tajaks. Burnes, however, agrees with Ferrier's statement that three-fourths of the population are of the Persian tribe of Afshar, whom Shah Abbas established there, the remaining fourth being Uzbaks. Andkhui is on the banks of a stream, which, flowing north from the mountains, passes Maemana, and is lost in the desert before reaching the Oxus. It was here Moorcroft died. The Andkhui army consists of 1800 horse and 600 foot, which could be trebled in a day.

Badakhshan is an extremely mountainous country, about 180 miles in greatest breadth, and 100 miles in length, bounded on the north by the crest of the spur of the Hindu Kush, which divides the drainage of the Oxus from that of the Kokcha from its end at Jan Kala to the Oxus opposite to the ruby mines, and on the south by the crest of the Hindu Kush. The Badakhshi seem to be of the same race as the inhabitants of Kafiristan, Chitral, Vakhan, Shagnan, and Roshan, and the differences between them and the surrounding states and tribes of Tartar origin are the more marked according as they have intermarried less with their Uzbak conquerors, or in direct proportion of the inaccessibility of their villages. The Uzbak forcibly converted the Badakhshi of the plains to the Sunni persuasion; those who took refuge in the mountains are Shiahs, and always go armed. The climate is very severe in winter. The country yields salt, sulphur, lapis lazuli; and its ruby mines are on the right bank of the Oxus. Morad Bey of Kunduz overran Badakhshan, and on leaving the country drove before him 20,000 families, who were never permitted to return. It is governed by a Mir, who acknowledges the Amir of Kabal.

Balkh is 357 miles N.W. of Kabal, 120 miles W. of Kunduz, 370 miles N.E. of Herat, 500 miles E. of Mashad, 600 miles S.E. of Khiva, 50 miles W. of Khulm, 260 miles S.E. of Bokhara, 200 miles S.S.E. of Samarcand, and 67 miles from the left bank of the Oxus. It is situated on a plain surrounded by canals from the Balkh or Delias river. Its circumference may be about 4 or 5 miles, but its ruins have a circuit of about 20 miles. The population consists of 10,000 Afghans, 5000 Uzbaks of the Kapchak and Sabu tribes, and 1000 families of Jews in the old town. The people of Central Asia have a great veneration for Balkh, and call it Am-ul-Balad, mother of cities. Moorcroft and Guthrie are buried side by side outside the city. It was captured in 1850 by Muhammad Akram Khan, Barakzai, and has since then been under Afghan rule.

Khulm, or Tashkurgan town, is 307 miles N.N.W. of Kabal, 310 miles S.E. of Bokhara, 50 miles from Balkh, 70 miles from Kunduz, 420 miles N.E. of Herat, and 497 miles N.W. of Peshawar by Kabal. It is situated on a plain immediately north of the gorge by which the Khulm river escapes from the hills. It consists of four or five villages, with a population, in 1845, of 15,000 souls. Since the 9th May 1855 it has been in the hands of the Afghans.

Kunduz district, about 1838, contained 60,000 houses with 270,000 souls; the Talikhan district, 25,000 houses and 112,500 souls; and Hazrat Imam, 20,000 houses and 90,000 souls,—in all, 472,000 souls.

Maemana is situated on a plain in the midst of hills. It is 172 miles N.E. of Herat, 105 miles S.W. of Balkh, 380 miles E. of Mashad, 280 miles S. of Bokhara, 350 miles W.N.W. of Kabal, 665 miles N.N.W. of Kandahar by Kabal, 572 miles from Kandahar by Herat, and 230 miles S.E. of Merv. The inhabitants are Uzbaks, with some Tajaks, Herati, about 50 families of Jews, a few Hindus and Afghans, in all about 15,000 or 18,000 souls. The district is 20 miles long by 18 broad. In 1857, the Mir of Maemana tendered submission to Persia. Early in 1858, being threatened by Persia, he applied to Muhammad Afzal for assistance; in 1859, he headed a rebellion against the Afghans, but was defeated. In 1861, he tendered his submission to Herat, and in the end of the year transferred it to Kabal. In the beginning of 1868, Maemana stood a siege by Abdur Rahman, and the inhabitants gallantly repelled three assaults, but at last submitted to terms.

Sar-i-Pul is 100 miles S.W. of Balkh and 300 miles N.E. of Herat, a confused collection of houses and tents, with 18,000 souls, two-thirds of them Uzbaks, the rest Hazara. The chief is an Uzbak.

Shibbargham town is 250 miles N.E. of Herat and 60 miles W. of Balkh. It contains 12,000 souls, Uzbak and Parsivan. The people are brave.

Kafiristan is beyond the limits of, but borders on, Afghanistan. It is bounded on the west by the Belut Tagh, on the east it touches Chinese Turkistan and Little Tibet, to the south lies Afghanistan, and to the north Kokun or Fergh-ana, where the population is Chaghtai Turk. The Kafir have idols of stone and wood, male and female, also a stone, Imrtan, representing deity. They are independent, have defied all attempts at reduction, and their enmity to Mahomedans is unceasing.

Pukhtun is the national appellation of the Afghans proper; but Afghans and Pathans also designate themselves Ban-i-Israel, and some claim direct descent from Saul, king of Israel. Pukhtun is the individual, and Pukhtana the collective name of the Afghans. This word is described as of Hebrew (Ibrani) origin, though some of them say it has a Syrian (Suriani) source, and signifies delivered, set free. The term Afghan is also said to have the same signification. One tradition is that the mother of Afghan or Afghana, on his being born exclaimed, 'Afghana,' 'I am free,' and gave him this name; another tradition is that in the pangs of labour she exclaimed. 'Afghan, Afghan,' or 'Fighan, Fighan,' words which in the Persian mean woe! grief! alas! Afghan is claimed as the designation only of the descendants of Kais.

The term Pathan is said to be from Pihtan, a titular appellation alleged to have been bestowed by Mahomed on an Afghan called Kais.

Their origin is involved in obscurity. But several writers consider them to be descendants of one of the ten tribes of Israel; and this is an opinion of some Afghans themselves. A few authors consider that this nation is not of Jewish origin, but that those who introduced the Mahomedan religion amongst them were converted Jews. They are in tribes, several of which have recently occupied their present lands.

The Abdali, besides having the name of Daurani, which they received from Ahmad Shah, are still called Sulimani, from the mountains whence they came; the district they then inhabited bears the appellation of Tobeh-Mahruf.

Afghans call the Tajak Dehgan; the Uzbak call them Sart; and those of them in Turkestan are called by travellers Owkhar. The Tajak, though of a different race, resemble the Parsivan in occupations as well as language, but they chiefly lead an agricultural life, settle in villages, and cultivate the soil. The Karani, Ashtarani, Mash-

ani, and Wardak call themselves Pathans, but they are of a different origin from the Afghans. The Karani division contains the Orakzai, Afridi, Mangal, Khattak, and Khugiani tribes, and the Waziri are sometimes included in these.

The Hindki are much more numerous than the Tajak; they are all of Indian descent, and retain the well-known appearance, ways, and manners of their original country, together with a mixture of those which have been attributed to the eastern Afghans. They are worse treated than the Tajak, and by no means bear so respectable a character.

Hindus are to be found over the whole of Afghanistan. In towns they are in considerable numbers, as brokers, merchants, bankers, goldsmiths, sellers of grain, etc. There is scarce a village in the country without a family or two, who exercise the above trades, and act as accountants, money-changers, etc. They spread into the north of Persia. They are encouraged in Bokhara, and other towns in Tartary.

The character of the Afghans is unfavourably noticed by all writers. They are very superstitious. To carry a Koran in procession, or to place it under their heads when they go to sleep, or to repeat one thousand times the name of God or of Mahomed, are deemed to be infallible as means of curing ailments. They have a great dread of the evil eye, and cover themselves and their domestic animals with amulets. To obtain a knowledge of future events, like the Sortes Virgilianæ, they open a book at random, and apply the first verse that meets the eye to the subject of the inquiry. The best book for the purpose is the Koran, and the trial ought to be preceded by fasting and prayer, which indeed are necessary in all attempts at divination.

A love of gain is their ruling passion. Mr. Elphinstone, who has written the most favourably of them, says (p. 250) most of the Daurani chiefs prefer hoarding up their great but useless treasures, to the power, reputation, and esteem which the circumstances of the times would enable them to command by a moderate liberality.

The people of Europe may experience difficulty in giving credence to the unfavourable opinions which eye-witness writers express regarding the Afghan race; but in a public document laid before the British Parliament in 1881, Abdul Rahman, Amir of Afghanistan, on the occasion of his replying to the demand of the Indian Viceroy for an Afghan envoy, says, 'A thoroughly confidential man does not (as your Excellency is well aware of the nature of the people of Afghanistan) exist in this country.' The democratic character of their tribal relations is not favourable to combination. Ever since the year 1836, the British have been endeavouring to have all Afghanistan under the sway of one ruler, the object in view being to form a barrier to the progress of Russia from the N.W. But, except for the very brief periods since the beginning of the 18th century, that the Ghilzai, the Abdali or Daurani, and their clan the Barakzai, have been dominant, there has not, so far as is known of these tribes, been anything like a settled monarchy. In India, a remark of an Afghan chief has gained currency; when speaking to a British officer, he remarked, 'Why, sir, if we had not you to fight with, we would fight amongst ourselves.'

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General Ferrier describes the Afghans generally as physically tall, robust, well-formed and active; their step is full of resolution, and their bearing proud, but rough. They are brave even to rashness, excited by the smallest trifle, enterprising without the least regard to prudence, energetic, and born for war. But their courage is impulsive, and displays itself most readily in the attack; if that fail, they are easily disheartened, and show no perseverance, for as they are soon elated, so are they as easily depressed. They are sober, abstemious, and of an apparently open disposition; great gossips, and curious to excess. Their anger is not betrayed by any sudden burst of passion; on the contrary, all that is brutal and savage in their nature is manifested with the most perfect calmness, but it is the volcano slumbering beneath the ashes. Courage is with them the first of virtues, and usurps the place of all others. They are cruel, perfidious, coarse, without pity, badly brought up, exceedingly inclined to theft and pillage. In the latter character they differ from their neighbours the Persians, who are, however, as great scoundrels as themselves, for they endeavour by every means in their power to conceal their knavery under the appearance of law or rhetoric, while the Afghans do the very reverse; they at once place the knife on your throat, and say, 'Give, or I take.' Force is their only argument, and it justifies everything. An injury is never forgotten, and vengeance is a passion which they love; even at the cost of their lives they will satisfy it should an opportunity present itself, and this in the most cruel manner. There is no nation in the world more turbulent or less under submission. The people are as gross and coarse as savages; the chiefs and upper classes are more civilised, but their politeness is always tinctured by a rudeness of manner very offensive to Europeans. Country and honour are to them as empty sounds, and they sell them to the highest bidder without scruple. The Afghans, he says, are as incapable of a continued course of action as of ideas; they do everything on the spur of the moment, for a love of disorder or for no reason at all. It matters little to them who gives them laws; they obey the first comer directly they find it to their advantage to do so, and allow him to play the tyrant and govern them if he pays them well and does not interfere with their passion for rapine and devastation. Pillage, fighting, and disturbance are at times necessary to their very existence, and are followed by long days of repose and idleness, during which they live on the fruits of their depredations. Their cupidity and avarice are extreme; there is no tie they would not break, no duty they would not desert, to gratify their avidity for wealth. This surpasses all that can be imagined; it is insatiable, and to satisfy it they are capable of committing the greatest crimes. For it they will sacrifice all their innate and native pride, even prostitute the honour of their wives and daughters, whom they frequently put to death after they have received the price of their dishonour. He says (p. 309) that during the 1839-41 British occupation the husband sold the honour of his wife, the father that of his daughter, and the brother that of his sister. Gold in Afghanistan is, he adds, more than anywhere else the god of the human race; it stifles the still small cry of every man's conscience, if, indeed, it can be

admitted that an Afghan has a conscience at all. It is impossible to rely on their promises, their friendship, or their fidelity. They enter into engagements, and bind themselves by the most solemn oaths to respect them, and in order to give them a sacred character, transcribe them on a Koran, to which they affix their seal, nevertheless perjure themselves with an impudence perfectly inconceivable. Excitement, the clash of arms, and the tumult of the combat, are to him life; repose is for an Afghan only a transitory state of being; the sweets of domestic life have no charms for him. He is only really a man when he is fighting and plundering. Then his eye is full of fire, his hand grasps convulsively the hilt of his sabre, and he presses his sinewy legs against his horse's side until the animal can scarcely draw his breath. Man and horse are one; each understands the ardour of the other, and it is difficult to distinguish which of the two is the most vicious.

Colonel M'Gregor says (Khorasan, i. 213), 'I knew them to be liars, treacherous beyond all the races of the earth, vain-boasters, and utterly untrustworthy in every way.' He also says he has heard many men talk of the courage, generosity, and frankness of the Afghans in terms of the highest praise, but all who know them agree very nearly with Ferrier, and it is impossible to form a more favourable estimate than his.

Major Edwardes, an intelligent observer and experienced authority on Afghan character, expressed his regret to be obliged to take exception to Mr. Elphinstone's very high estimate of the Afghan character, and in this he thought he would be supported by every political officer on the N.W. frontier, and almost every military officer who served in Afghanistan. He says, 'Nothing that I have met is finer than their physique, or worse than their morale.'

Major Reynell Taylor says (ii. p. 131) the Afghans are a race in the first place very hostile to us, and further, have less of that good and honourable principle of allegiance and good faith towards those whose salt they have eaten, and whose service they have adopted, than any other natives that we have hitherto come in contact with. And an Afghan, be he Amir or villager, can fight as long as he likes, and run away when the aspect of affairs does not satisfy him, without the slightest loss of credit among his fellows; he can sigh like a martyr over the irresistible pressure of circumstances, which has on some occasions obliged him to break through the most solemn oaths and engagements; he can wade through murder to an inheritance, and be admired in his own country as a stirring, decided character, fit to cope with the world's difficulties; or serve a master for a time, rob him, and return to his village with no further shadow on his respectability than might hang over the position of a successful adventurer from the diggings.

Dr. Bellew says (ii. p. 132) the pride of the Afghans is a marked feature of their national character. They eternally boast of their descent, their prowess in arms, and their independence, and cap all by, 'Am I not a Pukhtun?' They despise all other races; towards strangers of rank they are manly and plain-spoken, but towards the weak and low they are abusive and tyrannical. They enjoy a character for lavish or atl east liberal hospitality. In out-of-the-way and unfrequented localities there is a show of greater hospitality and welcome, but it is not genuine; and as often as not, if the guest be worth it, he is robbed or murdered by his late host as soon as beyond the protecting limits of the village boundary, if not conveyed by a convoy (badraqa) of superior strength. They glory in being robbers, admit that they are avaricious, and cannot deny the character they have acquired for faithlessness. According to their neighbours, the Afghans are said to be naturally very avaricious and grasping, selfish and merciless, strangers to affection, and without gratitude. They have, he says, all these faults, but the condemnation is too sweeping and severe. Though not always sincere, in their manners the Afghans observe many outward forms of courtesy towards each other and strangers, that one would not expect in a people living the disturbed and violent life they do.

A Persian quartet runs, 'If ever a scarcity of men occur, take a few of the following races, viz.: first, the Afghan; second, the Kamboh; and third, the low Kashmiri. From the Afghan you will meet with treachery, from the Kamboh fraud, and from the Kashmiri grief and sorrow.'

Lieut.-Colonel M'Gregor says (iii. pp. 59, 60), 'It cannot be stated that there is, as we understand it in Europe, any national spirit amongst the Afghans; they fight much more for their own interests than for their independence.' The chiefs are ready to pass from the ranks of the Amir of Kabal into the service of the Wazir of Herat, the chief of Kandahar, the British, the Persians, Sikhs, Tartars, or Beluch, and *vice versa*, without the slightest scruple. It is indifferent to them whether their friend of to-day be their enemy to-morrow, or whether they have even to take arms against their relations or not; the love of money enables them to overlook all these considerations. As a general rule, he says, (p. 64), if an Afghan is obliged to work one month in twelve, he considers himself most unfortunate. The repression of crime and levying a tax he considers as zulm, tyranny. To live in perfect licence, and never to be asked for anything, is what he would call the proofs of a paternal government.

General Ferrier says the Afghan army might, in case of necessity, consist of the whole male population, for every man is born a soldier, and attaches himself to some chief as soon as he can hold a musket. . . . At the first news of war the chiefs hasten to bring their several contingents. In the field, the Afghans never think of what is going on in their front. On the line of march they form neither advanced nor rear guards, but move straight on without the least uneasiness until they meet the enemy. The love of war is felt much more amongst Afghans than all other eastern nations. . . . War to them is a trade, for it would be impossible to give the name of science to the thousand absurd proceedings which they employ, and which prove that their chiefs are completely ignorant of the first elements of the art. The reason of their success against the other Asiatic hordes up to this day has been their elan in the attack, their courage, but not any clever dispositions, or a knowledge of military operations. . . . It cannot be denied that they are excellent

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skirmishers and experienced foragers, for they possess the necessary qualifications in a much greater degree than Europeans. Against cannon the Afghans feel that they cannot trust to the prowess which they value so highly. Their valour is incontestable, but their presumption is greater. Though they are entirely ignorant of the art of attack and defence of towns and fortresses, the Afghans are remarkable for the obstinacy of their resistance and the correctness of their aim when they are behind walls. The inaptitude of this nation for discipline and military organization arises from their spirit of impatience under the slightest degree of restraint.

The enrolled, or daftari, forces vary; they are in three divisions,—Kabal, 31,000; Kandahar, 18,000; and Herat, 22,000. Of these, 35,000 were Afghan cavalry, 6000 Parsivan or Kazzilbash horse, 4000 Hazara horse, and 26,000 infantry of mountaineers, Afghan, Parsivan, Hazara, Uzbak, and Beluch.—*Lieut.-Col. M'Gregor*, ii. pp. 67, 68.

Elphinstone describes (245-6) the Afghan men as all of a robust make, and as generally lean, though long and muscular. They have high noses, high cheek-bones, and long faces. Their hair and beards are generally black, sometimes brown, and rarely red. Their hair is always coarse and strong; they shave the hair off the middle part of the head. The tribes near towns wear the hair short, but the rest have long and large locks hanging down on each side of the head. They wear long and thick beards. Their countenance has an expression of manliness and deliberation, united to an air of simplicity, not unallied to weakness. The eastern Afghans have the national features most strongly marked, though they have least of the expression above alluded to. The lineaments of the western tribes are less distinct, and exhibit a much greater variety of countenance, some of them having blunt features, entirely different from those above described; their high cheek-bones, however, never leave them. The western Afghans are larger and stouter than those of the east; and some Daurani and Ghilzai are of surprising strength and stature; but, generally speaking, the Afghans are not so tall as the British. The eastern Afghans have generally dark complexions, approaching to that of the Hindustani race, while those of the west are olive, with a healthy colour and appearance; but among them, as among the eastern Afghans, men as swarthy as Indians and others as fair as Europeans are to be met with in the same neighbourhood; the fair are by much the most common in the west, and the dark in the east. He tells us (pp. 182-185) that many of the Afghan songs and tales relate to love, and most of them speak of that passion in the most glowing and romantic language. Besides the numerous elopements, the dangers of which are encountered for love, it was common for a man to plight his faith to a particular girl, and then set off to a remote town, or even to India, to acquire the wealth that is necessary to obtain her from her friends. Among the Yusufzai, no man sees his wife till the marriage ceremonies are completed; and with all the Bardurani there is great reserve between the time when the parties are betrothed and the marriage. Some of them live with their future father-in-law, and earn their bread by their services, as Jacob did Rachel, without ever seeing the object of their wishes. But the Aimak, the Hazara, the inhabitants of Persian Khorasan, Tajak, and many of the Hindus in those countries, permit a secret intercourse between the bride and bridegroom, which is called nāmzad-bāzi, or the sports of the betrothed. With them, as soon as the parties are affianced, the lover steals by night to the house of his mistress, the mother, or some other of the female relations, favouring his design. The freest intercourse, the most unreserved conversation, and even kisses and all other innocent freedoms, are allowed, but further than these the strongest cautions and prohibitions are used by the mother to both parties separately. The custom prevails even among men of rank, and the Amir himself sometimes exposes his person alone in the midnight adventures of nāmzad-bāzi. Among the Afghans, as among the Jews, it is thought incumbent on the brother of the deceased to marry his widow, and it is a mortal affront to the brother for any other person to marry her without his consent. The widow, however, is not compelled to take a husband against her will, and if she have children, it is thought most becoming to remain single (p. 179).

The bulk of the Mahomedan population are of the sunni sect, the shiah sectarians being the Badakhshi, Vakhi, Seistani, Tajak, Kazzilbash, Hazara, Turi, Bangash, some of the Orakzai, the Dawari, Khostwal, Jaji, Chitrali, and some of the Kohistani.

There are five classes of cultivators, viz. proprietors cultivating their own lands; tenants who rent it for a payment in money or produce; Buzgur, who are the same as the metayer of France; hired labourers and slaves. In towns the common daily pay of a labourer is 100 dinar (about 4½d.); in Kandahar it amounts to three shahi and 12 dinar (about 6½d. or 7d.); and at Kabal a shahi will buy 5 lbs. of wheat flour. There are two harvests; the most important has its seed-time in autumn, and its crops are reaped in summer. It consists of wheat, barley, lentils, Ervum lens, Cicer arietinum, peas and beans. The other is sown in the end of spring, and reaped in autumn, and consists of rice, the millets, Panicum Italicum, and P. miliaceum, Sorghum vulgare, Penicillaria spicata, Zea mays and Phaseolus mungo. A third harvest, called Palez, comprises all the melons and cucumbers, pumpkins and gourds. Wheat and barley are grown even up to 10,000 feet elevation. Rice is cultivated in great quantity at Jalalabad 2000 feet, at Kabal 6400 feet, and to a considerable extent at Ghazni, 7730 feet. Poplars, willows, and date-palm trees are extensively planted, as well as mulberry, walnut, apricot, apple, pear, and peach trees, and the Elæagnus orientalis, which bears an eatable fruit. Wheat is the general food of the people. It is made into unleavened bread, as also are the millets. Indian corn heads are roasted and eaten as a luxury; and Cicer arietinum (Chana) is occasionally used. Penicillaria spicata is grown in great quantities in Daman, and in the countries of the Bangash and Khattak; Sorghum vulgare is the chief grain of Bokhara. Barley is grown for horses. Artificial irrigation (abi) is carried on by channels, canals, and the karez or subterranean aqueducts. Lallam means cultivation by the natural rains. A great

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variety of mushrooms grow in most parts of the country, and constitute a considerable portion of the food of some classes of the peasantry, and especially of the Hindu population of towns.

During the autumn months, large quantities of sheep, oxen, and camels are killed, and cut into convenient sizes, which are salted and dried in the sun, and stored for winter use. The meat thus prepared is called lande. Old horses are similarly utilized. The cow, and in some places the buffalo, are kept for the milk they yield. Milk, especially with the peasantry and nomades, is largely used as food. After making butter or ghi, the buttermilk is used fresh, or made into curds by standing, or hastened by the addition of a few drops of the juice of the fig-tree, or into cheese by the dried fruit of a solanaceous plant. The curds are also freed from water by pressure in a cloth; to this a little salt is added, and the handfuls are made into small cakes, which are dried hard as a stone in the sun, and keep for any length of time. They are called Krut; and when soft are reduced to a paste in a wooden bowl (krut mal), and eaten with bread, meat, or vegetables, a quantity of boiling ghi being first poured over the mess. It is the national dish of the Afghans, and is eaten with great relish, though very sour, astringent, and greasy. Krut is pure casein. The more refined Persians dislike this food, and ridicule the Afghans, parodying the Arabic anathema into the words, Lā houla wa lā illāh Kruta Khuri.

The sheep are two kinds of the fat-tailed breed, one with a white fleece, which is manufactured into various home-made stuffs, and is also exported; the other with a russet brown or black wool. These are called Postin sheep, their skins being made into postins, and their wool of the shearing season made into felts, or woven, and exported to Bombay and Karachi and Persia. Sheep constitute the main wealth of the nomade population, who use their milk, as also that of the goat and camel, in a similar manner to that of the cow and buffalo.

Of wild animals, the squirrel, the otter (sagulah), the jerboa rat (mūsh-i-dopa), the ferret, and the badger, are trapped for their furs and skins. The leopard is found all over the country; occasionally the tiger and the lynx, antelopes, bears, and the wild ass occur; also the ibex, wild goat, barasingha; porcupines and hedgehogs are common, as also, in the Kohistan-i-Kabal, the doragra, a hybrid between a male wolf and the female of the wild dog.

Horses form a staple export from the country. The Yaboo is the horse of the country,—stout, active, and hardy, about fourteen hands high, used mainly as a beast of burden, though also for riding; and a considerable portion of the irregular cavalry and artillery are supplied with them. The horses known in India as the Kabali are chiefly from Maemana and Mashad, but there is a mixed breed by Persian horses out of country mares. Dost Muhammad Khan made efforts to improve the breed, and had several extensive breeding establishments. The Turkoman horse is said to have a large share of Arab blood, introduced by the Arabs when they first overran the country in the 8th century. Traffic is carried on by the yaboo, camels, and mules, carts being unknown.

Silk, felts, rosary beads from chrysolite, postins valued from one to upwards of fifty rupees, the choga, the khosai felt cloaks of Kandahar, and wine, are the chief articles manufactured.

Malachite and peacock copper ore occur in the Koh-i-Asmai, a few miles west of Kabal, also in the neighbourhood of Bajawar, north of Peshawar. This, with iron and lead, are met with in several parts; also sulphur and alkaline earths. Coal, called kira, is found in Zurmat and Surkhab, and near Ghazni on the surface of the ground, but is not utilized. Iron occurs in large quantities in the Permuli district; quicksilver is said to be found, also asbestos, which is called sang-i-pamba. Native sulphate of copper is said to occur in the Gul Koh, about 40 miles W. by N. of Ghazni. Lead ore is said to be abundant in the Hazara country; and veins of it occur at Kala Mula, Hazrut, Koh-i-Patao, and Argandab, about 32 miles N.W. of Kalat-i-Ghilzai. Chrysolite and soap-stone occur at Shah-maksud, a hill about 30 miles N. of Kandahar. Sulphur is found in small quantity in Herat; also in the Hazara country and at Pir-kisri, on the eastern confines of Seistan. At Pir-kisri there is said to be an active volcano, called Chah-i-Dudi, or smoking-well, from which smoke and ashes are said to escape. Antimony is said to occur in several places, but it is often mistaken for galena. Gold and lapis lazuli are found at Huladat, near Bamian, and at Istalif, north of Kabal, also in the Kabal river, and auriferous rocks occur near Kandahar. Zinc, in the form of its silicate, termed zak, is met with in the district of Zoba, in the country of the Kakarr clan. It is dug out from the soil in earthy nodular fragments of a reddish-yellow colour, and easily cut by a knife. It is chiefly used by sword-makers for polishing new blades. Nitre is abundant all over the country.

On the mountains, from 10,000 to 6000 feet, are the Cedrus deodara, Abies excelsa, Pinus longifolia, larch, the hazel, the yew, Thuja orientalis, juniper, walnut, lemon, wild vine, wild peach, almond, the rose, honeysuckle, currant, gooseberry, hawthorn, rhododendron, etc. Below these, at 6000 to 3000 feet above the sea, are acacias, bayberry, Chamærops humilis, bignonia, Salvadora Persica, verbena, and others. The lemon and wild vine are also met with here.

The walnut and several oaks descend to the secondary heights, where they become mixed with the ash, the alder, the Pistacia, Arbor vitæ, juniper, and species of astragalus.

The lowest or terminal ridges present a bare aspect; trees are rarely or never met with, and shrubs only occasionally; and the plants met with comprise most of those that form the undergrowth or herbal vegetation in the higher ranges.

Afghanistan and British India are not conterminous. They are separated from each other by a number of tribes, who are wholly, or in parts of their clans, independent. They are the Akazai and Hassanzai, adjoining Hazara; the Bunerwal, Jadun, Momund, Swati, and Utmankhel, beyond Peshawar; the Afridi, beyond Peshawar and Kohat; the Orakzai, Turi, Waziri, and Zaimukht, near Kohat, Bunnu and Dera Ismail Khan; the Kusrani, Sheorani, and Ustrana, near Dera Ismail Khan; the Bozdar, Khetran, Khosa, and Laghari, beyond Dera Ghazi Khan; and further south the Bugti, Gurchani, Marri, and Mazari. These will be found noticed separately and under the heading North-West Frontier Tribes.

The two great passes from India into Afghanistan are the Bolan, from Shikarpur to Kandahar, and the Khaibar, from Peshawar to Kabal; the Afridi hold the Khaibar and Kohat passes. The numerous sections of the Afridi, each headed by its chief, have been usually split up into factions, and united only to oppose the rulers of the Panjab and of Kabal, and to levy 'black mail' from travellers and merchants. All the great invaders and the supreme potentates of Northern India have successively had these Afridi in their pay,—Chengiz, Timur, Babar, Nadir Shah, Ahmed Shah, the Barakzai, the Sikhs, and lastly the British. To all, these unmanageable mountaineers have been treacherous. They are brave and hardy, good soldiers and better marksmen. The best shots in the Guide Corps are Afridi, and perhaps 200 of them may be found scattered among the Panjab regiments.—*Rec. Govt. of India*, No. 11; *Bellew; East India Papers, Cabool and Afghanistan; Ferrier's History of the Afghans; Masson's Journeys; M'Gregor's Central Asia and Afghanistan; Malcolm's Central India; Elphinstone's Kingdom of Caubul; Griffiths; Cleghorn's Panjab Report; Tod's Rajasthan.*

AFIM. HIND. Opium.

AFLATUN. AR. B'dellium; Commiphora Madagascarensis.

AFRASIAB, a king of Turan, who invaded and took Persia.

AFRICA is 4600 miles long from the Mediterranean to the Cape of Good Hope, and has 4100 miles at greatest breadth, from Cape Verde to Cape Gardafui. Its greater part lies within the tropic zone; in the less elevated parts the heat is great, and it has a great desert on its north, called the Sahara. Its principal rivers are the Nile in the north, the Niger, the Zaire, Senegal, Gambia, Congo in the west, and Zambesi in the east. The Atlas mountain, in N.W. Africa, rises 10,000 and 13,000 feet in height above the sea; Lamalmon, in Abyssinia, is 11,200, and Compass mountain, Cape of Good Hope, 10,000. Africa is joined to Asia by the Isthmus of Suez, which is 125 miles across, and through which, in the 19th century, a canal was drawn, connecting the Red Sea with the Mediterranean. Africa was known to the ancient Hindus as Sancha-Dwipa. Until the middle of the 19th century, however, little authentic was known to the people of Europe as to the races of Central Africa, or the countries they occupy; but great efforts have since been made by Europeans to obtain a knowledge of the country. Mungo Park, Denman, Bruce, Livingstone, Baker, Gordon, Burton, Speke, Cameron, of Great Britain; Stanley and Dr. Nassau of the United States; a German party under Dr. Linz, Mr. Mohr, and Dr. Pogge, with a French party under Count de Brazza, have all added to our knowledge of it. From unknown times, African races, chiefly the Negro family, have been seized and sold as slaves by each other and by the Arab and other more civilised races, amongst whom all the Christian races of Europe, of the West Indies, and N. and S. America, long took a part. The first to endeavour to stop this traffic was Great Britain, and their import into British India has been prohibited. In the south of Asia they were styled Sidi, also Habash or Habshi by Mahomedans,—Habash being their term for Abyssinia. These Habash were the principal household slaves and the eunuchs of the palaces. Their numbers along the maritime states of Arabia, Persia, Beluchistan, and Sind have been great, and have left a marked impression on the physical features of those of the prior races who profess Mahomedanism. Many of the Mahomedans of the Peninsula of India, even of good family, have exaggerated Negro features. The Hindus of the N.W. parts of the Peninsula of India have been the principal slave-dealers on the east coast of Africa.

The latest estimate of the population is 186 millions, which for an area of 11½ million square miles gives an average of 16 inhabitants per square mile. One of the latest authorities divides the population of Africa as follows among the great families into which ethnologists have classed the peoples:—Negroes, 130,000,000; Hamites, 20,000,000; Bantus, 13,000,000; Fulahs, 8,000,000; Nubians, 1,500,000; Hottentots, 50,000. This would give a total population of 172,550,000. These figures are, of course, only approximate, and the Bantus, according to F. M. Muller, form even one quarter of the population of Africa. In the regions of the great lakes, there are countries quite as thickly peopled as many of the states of Europe. Mr. Stanley tells us of countries of relatively small extent, and which yet possess millions of inhabitants. According to Behna, the Negro regions are by far the most populous parts of the continent. If the populations are sparse in the desert parts, they are very dense in other regions. Thus in the Soudan the population is estimated at 80 millions, or about 53 per square mile; the town of Bida, on the Niger, has a population of 80,000 inhabitants. The population of East Africa is estimated at about 30 millions, and that of Equatorial Africa at 40 millions. Ethnologists, however, are not unanimous as to the races occupying Africa. An ordinary division of African races is into—(1) the Northern and blackest tribes; (2) the Pul and Nuba tribes, scattered among the former; (3) the Kafir or Bantu tribes, south of the equator; (4) the Hottentots and Bushmen (these two being treated as totally distinct by certain ethnologists). Professor Lepsius admits of three varieties only in one and the same original Negro type, viz., (1) the Northern Negroes; (2) the Southern or Bantu Negroes; (3) the Cape Negroes. He then groups all African languages also into three zones,—(1) the Southern, south of the equator, the Bantu dialects, explored chiefly on the west and east coasts, but probably stretching across the whole continent, comprising the Herero, Pongue, Fernando Po, Kafir ('Osa and Zulu), Tshuana (Soto and Rolon), Suahili, etc.; (2) the Northern zone, between the equator and Sahara, and east as far as the Nile, comprising Efik, Ibo, Yoruba, Ewe, Akra or Ga, Otyi, Kru, Vei (Mande), Temne, Bullom, Wolof, Fula, Sonrhai, Kanuri, Teda (Tibu), Logone, Wandala, Bagirmi, Maba, Konjara, Umale, Dinka, Shilluk, Bongo, Bari, Oigob, Nuba, and Barea; (3) the Hamitic zone, including the extinct Egyptian and Coptic, the Libyan dialects, such as Tuareg (Kabyli and Amasheg), Hausa, the Kushitic or Ethiopian languages, including the Beja dialects, the Soho, Falasha, Agau, Galla, Dankali, and Somali. The Hottentot and Bushman languages are referred to the same zone.

The Hamitic languages comprised in the third zone—the Egyptian, Libyan, and Kushitic—are alien to Africa. They are all intruders from the east, though reaching Africa at different times and by different roads. The true aboriginal nucleus of African speech is contained in the first zone, and represented by that class of languages which, on account of their strongly marked grammatical character, has been called the Bantu family. The Bantu and Hamitic families of speech differ from each other in many of the most essential points of grammatical articulation. To mention only a few,—the Bantu languages are prefixing, the Hamitic suffixing. Bantu grammar admits of no gender, to denote sex; Hamitic grammar does. In and about Kordofan, where the dialects lie about piecemeal, the inhabitants of one mountain peak do not understand those of another, but learn to understand with great facility estranged or really strange tribes that have settled among them for a short time only. This receptivity of language, and more particularly of the language of savage and nomadic tribes, for foreign influences is illustrated again and again in the course of Professor Lepsius's arguments. The power of mimicry is far greater among lower than among higher tribes, and it extends in the case of language even to purely grammatical turns. Of all the races whom the Editor has seen, the Mincopi Negroes of the Andamans possessed this power of mimicry to the greatest degree, and they are in the lowest known scale of humanity. There are limits, however, even to this, and in one case — that of the Hausa language — Professor Lepsius admits that it cannot be classed as a Bantu or prefixing dialect modified by Hamitic neighbours, but that it is really a Hamitic, more especially a Libyan language, surrounded and modified by Bantu speech. By a similar process of reasoning he excludes the Hottentot language also from the African family properly so called, and brings these people in the south in connection with the Kushites in the north, from whom they were separated by the pressure of Bantu tribes, recovering the eastern territory that had for a time been wrested from them by Kushite invaders. On maps Nubia generally extends south from the first cataract over the whole breadth between the Nile and the Red Sea as far as Habesh, south-east beyond Chartum, south and south-west along the White Nile to the Bahr-el-Gazal. But Lepsius, though admitting the presence of scattered Nubian tribes in the south, more particularly about Kordofan and the neighbouring hills, fixes on the Nile as the natural frontier between the true Nubian, sometimes, though wrongly, called Berber, in the west, and Kushitic tribes coming from the east, these being represented by the modern Bejas as their most advanced post. What gives an additional interest to these Nubian tribes, is that they alone among African races have something like a history, to be read on the monuments of their neighbours the Egyptians. The Egyptians distinguish from the earliest times between the red or brown southern race and the Negroes, who are called Nahasi. Among these the Uaua occupy a prominent place so far back as the third millennium before our era, and they are identified by Lepsius with the Nubians. Whether the so-called Nubian inscriptions which are found scattered over the country occupied by Nubian tribes, and beyond so far as the confluence of the White and the Blue Nile, are of Nubian or Kushite origin, has never been determined. These inscriptions have their own alphabet, running from right to left; and considering that the words are divided, as they are in the cuneiform inscriptions of Persia, there is no reason why we should despair of seeing them deciphered before long. Professor Lepsius thinks that they are not Nubian,—that is to say, not Negro, but Kushitic,—and that the key to be applied to their interpretation should be looked for in the Beja, and not in the Nubian language.

The ocean has afforded great facilities for the interchange of commodities with the Asiatic continent; for the Arabian Sea, that part of the Indo-African Ocean on the south of Arabia, including the Red Sea, has 6000 miles of seaboard, and the races occupying it have, from prehistoric times, traded eastwards; and there are Negro and Negrito races to the extreme east of the Archipelago. In the Andamans are the diminutive Mincopi, in the Malay Peninsula are the Semang, in the Philippines and New Guinea and its neighbouring islands are the Papuan.—*M. A. Rabaud, in the Bulletin of the Marseilles Geographical Society; Times, 28th October* 1879.

AFRIDI, the most important, if not the most powerful, of all the tribes to the west and south-west of Peshawar. The Afridi country extends from the right bank of the Kabal river for about 50 miles nearly due south, marching with the British border all this distance. A tongue of their land projects into British territory between the two principal frontier stations of Peshawar and Kohat. The Kohat pass is 15 miles long and three or four in breadth. Mr. Elphinstone says the Afridi are the greatest robbers amongst the Afghans, have no sense of honour, and he had never heard of any one hiring an escort of Khaibari to secure his passage through their country. Major Matheson described them as avaricious, desperately fond of money, their fidelity measured by the length of purse of the seducer; they are immoral in their care of their women, they marry the widows of deceased brothers. Colonel M'Gregor adds that ruthless, cowardly robbery, cold-blooded, treacherous murder, are to an Afridi the salt of life; as he has lived,—a shameless, cruel savage,—so he dies. Yet the Afridi is, on the whole, the finest of the Pathan races on the British border. If there were no chance of robbing or murdering a traveller before his reaching the door of an Afridi, he would be offered such food as was available. The men do nothing; the women perform all the duties of daily life and all field labour. They hold the Khaibar and Kohat passes, through which in succession the invaders of India in former times have come, and the Afridi have received tribute from them all. Chengiz, Timur, Babar, Nadir Shah, the Barakzai, the Sikh, and lastly the British, have all paid money to the Afridi for permission to enter their passes, or for their aid, or for their passiveness, in time of war, and to all, from the first to the last, they have been treacherous. They are fierce and cruel, faithless and altogether untrustworthy; they are ready to betray one another, and live in perpetual feud. Their hills above and about the Khaibar pass are difficult for military operations. The high lands

of Tirah, which stretch far back into the interior, and in which the Afridi, together with the Orakzai and others, take up their summer abode, are accessible from Kohat, and possess a climate congenial to Europeans. The Khaibari are lean but muscular men, with long, gaunt faces, high noses and cheek-bones, and black complexion. They wear dark blue turbans, and long dark blue tunics, sitting close to the body, but reaching to the middle of the leg. The Adam Khel and the Aka Khel can bring into the field more than five thousand fighting men. The Adam Khel Afridi consists of four clans, namely, the Gullee Khel, with 980 fighting men; the Asher Khel, with 760; the Jowaki, with 1040; and the Hussun Khel, with 880; making in all 3660. The Aka Khel have five clans, — Bussee Khel, Sungul Khel, Asher Khel, Sultan Khel, and Mudar Khel, — with a force of fighting men amounting to nearly 1500.—*MacGregor*, N.W.F.

AFSANTIN. AR. Artemisia Indica.

AFSHAN. PERS. Shining, glistening. Afshani Kaghaz, paper sprinkled or studded with gold-leaf, used in India when writing to persons of distinction.

AFSHAR, a Turki tribe who supported Shah Ismail. See Kajar; Kazzilbash; Khorasan.

AFTAB. PERS. The sun. The aftab-gir is a round, flat, vertical parasol, carried to shade persons of rank, by special permission of the sovereign, and usually emblazoned with a family device. The sunshade is an emblem of rank in eastern countries; it is held by a servant to protect his master from the rays of the sun. It is also used as a flag or ālam at the ceremonies of the Muharram.

AFTABAH. PERS. A brass ewer, used for washing hands by pouring water from it on the hands, the water falling into a basin called Silchi. These are the Ibreek and Tisht of the Arabs. The European mode of washing hands or feet in a basin is deemed wholly unclean.

AFTIMUN. PANJ. Cuscuta reflexa.

AFZAL KHAN, a general of Muhammad Adal Shah of Bijapur, whom Sivaji induced to appear at a conference, and took the opportunity of assassinating, October 1659.

AFZELIA BIJUGA. *A. Gray.* A timber tree of the Andamans and of the islands in the Pacific. Whilst every other kind of vegetable and meat is eaten with the fingers, cannibal food is touched only with forks, generally made of the wood of the Nokonoko (Casuarina equisetifolia, *Forsk.*) or the Vesi (Afzelia bijuga, *A. Gray*), bearing curious, often obscene names, and having three or four long prongs. The reason given for this deviation from the general mode of eating, is a widely spread belief that fingers which have touched bokola are apt to generate cutaneous diseases when coming in contact with the tender skin of children. — *Galton's Vacation Tourists*, p. 268.

AGA, written A'gha and Aka in Turkish— means a noble, a commander, but is assumed by persons in civil life. It is also applied to all eunuchs.

AGA-KARA. TEL. Mimordica dioeca, *Roxburgh.*

AGA KHAN, a Persian noble long residing in Bombay; the hereditary Pir or religious head of the Khojah sect. He died in the year 1880 or 1881, and was succeeded by his son. The family are descendants of former rulers of Persia.

AGALLOCHA WOOD, Eagle-wood.

Ud, . . . AR., HIND.	Kalambak, . JAV., MAL.
Ak-Yau, . . . BURM.	Kayu gahru, ,, ,,
Aloes, Aloe wood, ENG.	Karambak, ,, ,,
Eagle-wood, Lign-aloes, ,,	Agila, ... ,,
Aquila of commerce, ,,	Lignum aloes, . . LAT.
Bois d'Aigle, . . FR.	Ud-i-Kimari, . . PERS.
Garo de Malacca, . ,,	Ud-i-Hindi, . . ,,
Agallochee, . . GR.	Agarha, Agar, . SANSK.
Agallochum, . . HEB.	Aglay maram, . . TAM.

This is the wood of the Aquilaria agallocha, *Roxb.* It is much prized throughout the East as a perfume. The best specimens appear to be a mass of resin in decayed wood, and melt away under heat, giving forth a very fragrant odour. The tree is said to be void of it when in a healthy state, and only to exude this resinous substance when in decay, or even after it has died. There appears to be at least three kinds of Agallocha or wood-aloes, the trees producing which are not fully identified. Dr. Roxburgh, followed by Dr. Royle, admits doubtfully the existence of two, viz. the Aquilaria agallocha of Roxburgh, and Aquilaria ovata, *Cor.*, the Garo de Malacca of Lamarck; and an inferior sort is said to be derived from Excœcaria agallocha, which need not be taken into account. But Loureiro maintains that the best lign-aloes or Calambac, which appears to be the Ud-i-kamari of the Indian bazaars, is derived from a tree which he calls Aloexylon agallochum. Drs. Roxburgh and Royle consider the Malayan Agila, the Aquila and eagle-wood of commerce, and the Ud-i-Hindi of the bazaars, to be the produce of Aquilaria agallocha, which grows plentifully to the north-east of Bengal, and that is probably identical with A. ovata of Royle. The Aloexylon agallochum of Loureiro yields a scented wood used by the Chinese in medicine and perfumery, and is said to bring £30 the cwt. in Sumatra. The lign-aloes brought to Burma is the produce of a tree that grows on the Mergui Islands, and imported into Mergui by the Selung race. Specimens of Amboyna wood, of the odoriferous sandal-wood from Timor, clove wood, and other choice woods from the Moluccas and Prince of Wales Island, were sent to the Great Exhibition of 1851. The Hakims of India administer Agallocha wood in their electuaries in combination with spices, ambergris, etc.—*Drs. Honigberger; Mason; O'Shaughnessy; Elliot's Flor. Andhrica; Simmonds; Exhibition of* 1851.

AGALMATOLITE.

Sami stone, ANGLO-HIND.	Figure stone, . . ENG.
Hwah-shih, . . CHIN.	

Phillips called it Pagodalite, from its being imported from China in figures, pagodas, etc.; also Swamy stone, *i.e.* deity stone. It is found in quantities in Mysore, near Chutia Nagpur; also in China, in N'gan-hwui and Kiang-si, and is there cut into ornamental figures. — *Smith; Col. Ouseley in Bl. As. Trans.*, 1843; *Reports quoted by Dr. Buist.* See Sami Stone.

AGAMA SASTRA, a name of one of the Tantras, a sacred saiva book. Agama Vageesha, from Agama, one of the Tantras; vak, a word, and eesha, lord, the god of speech; a name of Vrihaspati.

AGAMIDÆ, a family of reptiles. See Reptiles.

AGANHOTRI or Agnihotri. HIND. A brahman who maintains a perpetual fire in his house.

AGAO. HIND.

Advance money, .	ENG.	Achagaram, . .	TAM.
Peshgi, ...	PERS.	Agavu, ...	TEL.
Achawaram, . .	TAM.		

An advance of money for any undertaking. The system of advances, as well as earnest money, is common in all the east.

AGAR. HIND. A salt pit. Agari, a salt-maker.

AGARA. SANSK. Aquilaria agallocha, *R.*

AGAR-AGAR. MALAY.

Kyouk puen, . .	BURM.	Edible sea-weed, .	ENG.
Hai-tsai, Hai-tsau,	CHIN.		

Agar-agar is the Malay name for the tenacious jelly or glue made from the sea-weeds, Eucheuma spinosum, *Ag.;* Gracillaria lichenoides, *Grey;* G. confervoides, *Grey;* Gigartina tenax and Plocaria candida. The Chinese name Hai-tsai means sea vegetable, and it is one of the Kyouk puen of the Burmese. It is imported into China from the Eastern Archipelago, though the Chinese likewise manufacture it for themselves, and apply it as size to many useful purposes, and use it as food. The bamboo lattice work of lanterns is covered with paper saturated with this glue, which when dried is semi-transparent. It is also used in paper and silk manufactures. It is incomparable as a paste, and is not liable to be eaten by insects. When boiled with sugar, it forms a sweet glutinous jelly, called in Canton, Wong-leung-fan, which is used as a sweetmeat, and sold on stalls in the streets. When cooked with sugar, it resembles calf's-foot jelly. It is brought from New Holland and New Guinea and other adjacent islands. Between 400 and 500 pikuls are imported annually by the Chinese, at a prime cost of from 1 to 2 dollars per pikul. Its cheapness and admirable qualities as a paste render it worthy the attention of other countries. Three kinds of Agar-agar were sent to the Exhibition of 1862 from Malacca. The first quality was from a sort of Tripe de Roche, an edible sea-weed which grows on the rocks that are covered by the tide. This is much used for making a kind of jelly, which is highly esteemed both by Europeans and natives for the delicacy of its flavour, and is exported to China at 19s. per 133⅓ lbs. The Agar-agar of the second quality, from Macassar and the Celebes, is an edible sea-weed collected on the submerged banks in the neighbourhood of Macassar by the Baju Laut or sea gipsies, for exportation to China, price 12s. 6d. per 133⅓ lbs. The Agar-agar of Singapore is collected on the reefs and rocky submerged ledges in the neighbourhood of Singapore, and constitutes the bulk of the cargoes of the Chinese junks on their return voyages. The quantity shipped from Singapore is about 10,000 peculs annually. Though deserving of being better known, it does not appear to be an article of Indian import, or, if so, it is brought in under some other name. The whole thallus of the Ceylon moss, Plocaria candida, is sometimes imported from Ceylon, and used in Britain for dressing silk goods.—*Hon. A. Morrison; Exh. Jur. Reports and Catalogue; Simmonds; Tomlinson; Williams' Middle Kingdom.*

AGARAH. DUK. Achyranthes aspera.

AGAREAH, a small but very thriving tribe of Hindu cultivators in the Tributary Mahals, called Agareah, it is said, from having come from Agra. They are tall, well-made, with high Aryan features and tawny complexions. They allow widows to re-marry, and they bury the dead; but afterwards, when the bones are dry, the principal joints and part of the skull are taken up and conveyed by the representative of the deceased to the Ganges. This service is often neglected. The bones taken are called Ashta or Ashtang, as representing the eight parts of man. Some of their women are very pretty, bright-looking creatures, of reddish light-brown complexion; fine glossy, long black hair; very bright eyes, remarkable for the clearness of the white of the eye; slight, flexible, graceful figures; teeth white and regular; faces not disfigured by paint, and no godna or marks of tattooing except on hands and legs. The hair is very neatly and elaborately dressed, secured by a large silver ornament. Among them many have grey eyes, and long eyelashes are a prevailing feature. In Gangpur, where there are some three or four thousand Agareahs, all Agareah females are regarded as witches. There is among all classes in Gangpur a widespread and deep-rooted belief in witchcraft. It is equally dreaded by the wildest and by the most civilised of the people, and Agareah women have often been badly treated, to drive the spirit out of them, or make them give up the black art. In Gangpur there are old women, professors of witchcraft, who stealthily instruct the young girls. The latter are all eager to be taught, and are not considered proficient till a fine forest tree, selected to be experimented on, is destroyed by the potency of their mantras or spells, so that the wife whom a man takes to his bosom has probably done her tree, and is confident in the belief that she can, if she please, dispose of her husband in the same manner if he make himself disagreeable.—*Dalton, Eth. of Bengal,* 323.

AGAR'H. BENG. The great rice or dhan crop of the year, sown in Asarh, June—July, and cut in the latter half of Aghan, December.

AGARI ? A servile caste in Cuttack, bullock-drivers or slaves.

AGARICACEÆ of *Lindley*, the mushroom tribe of plants, comprising the genera Agaricus and Lycoperdon. Mushrooms grow in India during the rains, but are little used by Europeans, from the difficulty experienced in distinguishing the poisonous from the edible kinds. Some are found in all the bazaars of India, and are employed in native medicine. Agaricus igneus, gharikun, HIND., is a mushroom of the Panjab. Agaricus subocreatus, *Cooke*, of China, referred also to the sub-genus Pleurotus, is allied to the British Agaricus ulmarius. It is a dendrophytal, drying readily, and is used in the Straits Settlements for food. Agaricus flammeus is a large excellent edible mushroom of Kashmir. A species used in the Panjab is there called shirian and batbakri; and A. fossulatus, *Cooke*, occurs in the Kabal hills.—*Von Mueller; Mason; Faulkner; Honigberger; Voigt; Fries; Cooke.*

AGARICUS CAMPESTRIS, *L.*, Mushroom.

Moksha, . .	CHENAB.	Mans khel, .	KASHMIR.
Khumbah, . .	,,	Samarogh, . .	PUSHT.
Chattri, ...	HIND.		

This is the common mushroom; it is largely eaten in most places where it grows. It is also extensively dried for future consumption, and is said to preserve its flavour tolerably well. The same species also appears to grow commonly in Kashmir and Kullu, sparingly in Lahore, and abundantly in

Afghanistan, where Bellew states that the poor use it largely as food. In Kashmir, the people say that the edible mushroom is always white, and the poisonous kinds, called herar, always dark-coloured, and that they have no other test of the quality. Dried mushrooms (generally small) are officinal in the Panjab.—*Dr. J. L. Stewart, Panjab Plants*, 267.

AGARIYA, descendants of the original Thugs, who, after being expelled from Dehli, settled for a time at Agra.

AGARWAL, an important branch of the Marwari mercantile race, comprising many of the wealthiest traders and bankers in Hindustan. According to Sir Henry Elliot, they derive their name from Agroha in Hariana, whence they originally migrated to other provinces after the capture of that place by Shahab-ud-Din Gori in 1194. Common tradition refers their name and origin to Agra. The Agarwal is one of the 84 Gach'ha or families of the Jains, and most of its members profess the Jain religion.—*W.* See Agroha.

AGASALA of Mysore, a goldsmith.

AGASA-TAMARE. TAM. Pistia stratiotes.

AGASI. TAM. Agati grandiflora, *Desv.*

AGASTWAR, a small clan of Rajputs in the Benares district.

AGASTYA, a name famed throughout all the Tamil parts of the south of the Peninsula of India as that of a sage, a native of Tibet, who introduced literature and the sciences among the Tamil race. The name occurs in the Rig Veda and the Puranas, but the tales about him related by the Tamil people are derived from the Ramayana and Mahabharata. The writings attributed to him are in verse, in the Tamil language, and contain in all 19,647 stanzas on ancient history, religion, theology, magic, exorcism, purification, medicine, diseases, leprosy, botany, materia medica, pharmacy, prescriptions, chemistry, sin and crime; but these have evidently been composed by different authors, who have assumed this literary name, and some of them are of so recent a date as after the arrival of Europeans in the country. The traditions amongst the Tamil people connected with this name are so intermixed with fable, that it is impossible to separate the truth. He is celebrated in northern India as a mahamuni, or holy rishi, and is traditionally said to be the leader into the south of the first and most influential colony of brahmans, B.C. 500. The Vindhya mountains are fabled to have, at his command, prostrated themselves before him, by which is understood that he penetrated through their defiles, and he is said to have advanced southwards to Cape Comorin, but also to have settled in Kolapur. He is called by way of eminence Tamir Muni, the Tamil sage, and is said to have acquired great influence at the court of Kulasekhara, the first Pandyan king, for whose instruction he composed numerous elementary treatises, amongst which the most celebrated is his arrangement of the grammatical principles of the Tamil language. He is mythologically represented as identical with Canopus, the brightest star in the extreme southern sky in India; and he is said to have been the son of Mithra, the sun, and Varuna, conjointly, and to have been born in a water jar; and he is worshipped near Cape Comorin as Agasteswara, the lord Agastya. Orthodox Tamil Hindus believe he is still alive, though invisible to ordinary eyes, and that he resides somewhere on the fine conical mountain, commonly called Agastiya Malai, or Agastiya's hill, from which the Porunei or Tamraparni, the sacred river of Tinnevelly, takes its rise.—*Dr. Caldwell's Comp. Grammar; Calcutta Christian Intelligencer* for 1861, p. 6; *Wilson's Hind. Theat.* i. p. 313; *Rev. W. Taylor; As. Soc. Trans.* vol. iii. p. 213. See Hindu.

AGASTYA. SANSK. The star Canopus.

AGATE. A quartzose mineral, which occurs in great abundance in several parts of the great volcanic outburst in the Dekhan, and are there very abundantly swept into the beds of Godavery and Kistna rivers; also in great variety in other parts of India. Some of the agates and other silicious minerals in the amygdaloid rocks on the banks of the Seena river, between Sholapur and Ahmadnaggur, are of great size and in profusion; but the most beautiful are brought from Cambay, hence called Cambay stones and Godavery pebbles. The burnishers of the bookbinder and other mechanics are made of agates. Agates are valued for ornament, and are manufactured into cups, rings, seals, handles for knives and forks, sword-hilts, beads, smelling-bottles, snuff-boxes, etc. The name is derived from Achates, a river in Sicily.

AGATHARCHIDES, a writer of the 2d century B.C., who gave an account of the commercial intercourse between Egypt and Arabia and India. His writings are preserved in Diodorus and Photius. He mentions cinnamon and cassia as among the articles imported, and states that ships came from India to the ports of Sabæa, the modern Yemen.—*Vincent's Com.; Elph.* 167.

AGATHIS AUSTRALIS. *Hort.* The Kawrie, or New Zealand pine, the Dammara Australis, *Lambert*, one of the Coniferæ, in its native forests attains a considerable height, with a straight, clean stem, which, from its lightness and toughness, has been found well calculated for the masts of ships. It is easily worked, and takes a high polish. It yields a hard, brittle resin like mastic, which is chewed by the natives. Its soot is used in tattooing.—*Dr. Riddell; Eng. Cyc.; Hog*, p. 711.

AGATHIS LORANTHIFOLIA. *Salisb.*

Dammara loranthifolia, *L.* | Pinus dammara, *L.*
Theet men, . . BURM. | Dammar Pine, . . ENG.

A large tree, found on the very summits of the mountains of Amboyna, Ternate, and in many of the Molucca Islands. Griffith mentions a tree under that name as a member of the Tenasserim flora, and which the Burmese call Theett-men or tree governor. The leaf is precisely that of the dammar pine, but the Tenasserim tree is not known to yield any dammar. The timber of the Archipelago tree is represented to be light and of inferior quality, wholly unfit for any situation exposed to wet, but answering tolerably well for in-door purposes. The wood of the Tenasserim tree, on the contrary, is white, rather light, and bears a considerable resemblance to some kinds of pine. It is used by Burmese carpenters for various purposes, and the Burmese have a superstition that the beams of balances of their scales ought to be formed of this wood.—*Drs. Griffith, Mason, and Riddell; Eng. Cyc.*

AGATHOCLES, one of the Greek successors of Alexander, who reigned in Bactria B.C. 247.

AGATHOTES CHERAYTA. *G. Don.*

Ophelia chirayta, *Gries.*	Swertia cheyrata, *Buch.*
Gentiana cheyrata, *Rox.*	,, racemosa, *Wall.*
Chirayit Gentian, ENG.	Chiratáka, . . SANSK.
Chiraita, . . . HIND.	Shayrait, . . . TAM.
Kiriat, ... ,,	Silassattu, . . . TEL.
Kiriyatha, . MALEAL.	

This plant has smallish bright yellow flowers. It grows in Nepal, the north of India, and the Morung hills. It is one of the most esteemed of Indian medicinal plants. It is gathered when the flowers begin to decay, and is dried for use. Its bitter properties are in high estimation with European practitioners in India, who use it instead of gentian, for which it is a perfect substitute. The root is the bitterest part of the plant, and this bitter principle is easily imparted to water or alcohol. According to Mr. Battley, 'it contains a free acid, a bitter resinous extractive, with much gum, and chlorates, with sulphates of potass and lime.' It is best in preparation as a cold infusion or watery extract, or a tincture, but not in decoction; even an infusion made with warm water is apt to produce headache. To form a cold infusion, a pint of water should not stand more than twenty minutes on half an ounce of the bruised plant. It tends to produce a regular action of the alimentary canal. During its use the bile becomes more abundant and healthy in character. The tendency to excess of acidity in the stomach, with disengagement of flatus, is much restrained by its use. These qualities fit it in a most peculiar degree for the kind of indigestion which occurs in gouty persons. It may, when necessary, be associated with alkaline preparations or with acids; the latter are generally preferable. The same remark applies to its employment in the treatment of scrofula. As a remedy against the languor and debility which affect many persons in summer and autumn, nothing is equal to the cold infusion of this plant. It may be taken twice or even more, frequently daily, for a considerable time; then discontinued, and afterwards resumed. Children take it more readily than most other bitters. It is found to be a very efficacious remedy in India against intermittents, particularly when associated with Guilandina bonduc or Caranga nuts. Its efficacy in worm cases has procured for it the name of worm-seed plant. The extract is given with great benefit in some forms of diarrhœa and dysentery, particularly if combined with ipecacuan, the emetic tendency of which it very markedly controls. The parts of the plant that are chiefly used in medicine are the dried stalks with pieces of root adhering to them; tincture is formed of it with orange-peel and cardamoms.—*Roxb.; Useful Plants, quoting Don in Lon. and Edin. Phil. Mag.; Wallich, Plantæ As. Rarior., etc.* See Chiretta.

AGATI GRANDIFLORA. *Desv.*

A. grandiflorum, *Desv.*	Æschy. grandiflora, *L.*
,, var. albiflorum, ,,	Coronilla, ,, *Willde.*
,, ,, coccineum, ,,	Sesbania, ,, *Pers.*
Æschynomene coccinea, *R.*	
Pauk-Ban, . . BURM.	Bakapushpam, SANSK.
Baka, Buko, Augasta, BENG.	Avitta, ... TAM.
Red var. Lal Basna, HIND.	Agasi, also Avisi, also Bakepus, . ,,
White ,, Safed ,, ,,	Red var. Erra Agisi TEL.
Turi, ... MALAY.	White ,, Tella ,, ,,
Agati, . . . MALEAL.	Avisi, ... ,,

A small, delicate tree from 20 to 30 feet high, of only a few years' duration. It is generally found in gardens in the vicinity of villages, where the natives encourage its growth, for the sake of the leaves and tender pods, which they use in their curries. It is in flower and fruit most part of the year. The legumes grow to 12 or 18 inches long, and the tender leaves and young legumes are much used in food by all classes of the natives. The tree is employed for training the betel plant (Piper betle). It admits the sun's beams and the wind better than any other of its height, being thin of branches and leaves, particularly after it is more than one year old, and it is of a very quick growth. The wood is only fit for fuel. Cattle eat the leaves and tender parts. It has large showy flowers. An infusion of its leaves is given, on the Malabar coast, in cases of catarrh. Dr. Shortt of Madras has strongly recommended its extended cultivation, to provide green food for cattle and sheep. He says 5000 trees can be grown on a cawny of land (6400 square yards), which in six weeks would furnish a ton of leaves. —*Roxburgh; Graham in Thomson's Records of General Science*, iv. p. 115.

AGAVE AMERICANA. *L.* American aloe.

A. cantula, *Roxb.*	Aloe Americana, *Rumph.*
Bilate ananas, . . BENG.	Kala kantala, . . SANSK.
Bakkul, ... ,,	Kalabantha, . . TAM.
Lu-Sung Ma, . . CHIN.	Pita kalabantha, . ,,
Rakus, Hali Singar, HIND.	Panam katalay, . ,,
Jangli ananas, J. Kanwar, . . . ,,	Anai kattaley, . . ,,
Wilayati kantali, PANJ.	Sagi Matta, . . . TEL.
	Yenuga Kala manda, ,,

The agave genus of plants belongs to the natural order Amaryllaceæ. The species are known by the name of American aloes, and produce clusters of long stiff fleshy leaves, collected in a circle at the top of a very short stem, and bearing flowers in a long terminal woody scape. A. Americana is a native of America within the tropics, from the plains to elevations of 10,000 feet, but is now common in every part of India, and is naturalized in the south of Europe. It is much valued as a hedge plant; but its chief importance arises from the excellent fibres which it yields, familiarly known as Pita thread. The usual mode of preparation is to cut the leaves, and throw them into ponds for three or more days, when they are taken out, macerated, and scraped with a bluntish instrument; but the best thread is obtained by crushing the leaves, when fresh, and scraping them. The leaf fibres are liable to rot, owing to a milky viscid juice contained in them. This is, however, considerably obviated by very hard crushing or pressure between heavy cylinders, which, by getting rid of all the moisture, renders them more pliable for weaving and other purposes. They are much used for lashing bales of calico. As log-lines for ships, they are found to be very durable, and far superior to ropes of coir, country hemp, or jute. A bundle of the Agave fibre bore 270 lbs., that of Russian hemp only 160 lbs. Dr. Wight found some cord of it bore 362 lbs. In Tinnevelly it sells from 20 to 40 rupees the candy of 500 lbs., and at Madras 7 rupees a maund. In 1853-54 were exported from the Western coast 3650 cwt., valued at 21,506 rupees. Aloe fibres are admirably suited for cordage, mats, ropes, etc., and might be advantageously used in the manufacture of paper. In Mexico, they prepare a fermented liquor from the stem;

the dried flowering stems are used as an impenetrable thatch. An extract of the leaves is used to make a lather, like soap; and the leaves, split longitudinally, are employed to sharpen razors on, serving the purpose of a strop, owing to the particles of silica they contain. The roots are diuretic and antisyphilitic, and are brought to Europe mixed with sarsaparilla. The Mexicans make a paper of the fibres of Agave leaves laid in layers.—*Smith; Drs. Wight, Stewart, Panjab Plants; Royle's Fibrous Plants; Roxb.* ii. 167; *Simmonds' Veg. Prod.; Mad. Ex. Jur. Reports; Useful Plants.*

AGAVE CHINENSIS, the T'u-ch'in-hiang of the Chinese, a plant of Formosa, yielding fibre, and used medicinally.

AGAVE PERFOLIATA.—*Willde.*

Ghrita kumari,	BENG.	Kadenaku,	MALEAL.
Ghi-kumar,	HIND.	Catevala,	„

Common in gardens throughout India.—*Roxb.*

AGAVE VIVIPERA. *Linn.*

Bans Keora,	BENG.	Kantala,	MALEAL.
Bastard Aloe,	ENG.	Pitha, Kathalai,	TAM.

Its Fibre.

Silk grass,	ENG.	Pitha Kalabantha,	TAM.

This is common throughout India; planted in hedges, it grows luxuriantly without any further cultivation, and is capable of being extended in any soil. In the Lucknow jail, rope and sack-cloth have been made of it. A good fibre, long in the staple, is procured from the leaves, which are allowed to rot in water for twenty days, are then beaten on a plank and again thoroughly washed. A strong and useful cordage is made from them, as well as mats, ropes, etc. In South Arcot, these fibres sell at 30 rupees the candy. In the Madras Exhibition of 1855, a good specimen of fibre from this plant was contributed by Dr. Kirkpatrick. It was long in the staple, clean, and strong, and had been prepared without rotting, by the simple process of beating, scraping, and washing. The name of 'silk-grass' also is applied to the A. yuccæfolia. The fibres of the A. vivipera are said to equal in strength the best hemp.—*Useful Plants, Royle*, p. 43, *Juries' Rep.*

AGAVE YUCCÆFOLIA, a plant naturalized in India, capable of yielding fibres.—*Royle*, p. 43.

AGELLA? A wood of this name was exhibited at the Madras Exhibition of 1857. It was light-coloured, with a fine even grain, and it appeared admirably adapted for furniture and many domestic purposes. It was said to be abundant in Malabar, and had been used for a variety of purposes by the railway engineers; sp. gr. 0·74.—*M. E. of* 1857.

AGGANA SUTTAN, a discourse of Buddha. See Wijao.

AGHANI. AR. The title of several Eastern airs, particularly the Kabir-ul-Aghani, compiled in the 10th century by Abul Faraj Ali, for which he got 2000 dinar from the Sultan of Syria and his vizir Ibn Ebad; copies of it were sold in Baghdad for 4000 drachms of silver.

AGHAT, in Ahmadabad, a stone inscribed with the terms of sale, erected in a field. It is a stone-deed of sale. They usually bear on the top a representation of the sun and moon. Aghatiya, land held rent-free.

AGHOR, a river in Mekran (?). In its bed are several mud volcanoes, in the form of jets of liquid mud, known as Ram Chandar ki kup, the wells of Ram Chandar. See Oritæ; Ram Chandar.

AGHORA, a name of Siva in his terrible form.

AGHORA, a depraved sect of Hindu devotees, who practise the most disgusting, filthy, and impure rites, their food being ordure and carrion, and, it is said, human flesh; where not insane, much of this is imposture, the object being to excite the wonder of the beholders, and make them believe in the utter indifference of the Aghora to worldly enjoyments. They are ogres; indeed, the similitude of the word to Aghori is noticeable. They go about nude, with a fresh human skull in their hands, of which they had previously eaten the putrid flesh, and afterwards scraped out the brain and eyes with their fingers, into which is poured whatsoever is given them to drink, and to this they pretend to be indifferent whether it be ardent spirits or milk or foul water. The Aghora is an object of terror and disgust. Hindus, however, look on these wretches with veneration, and none dare to drive them from their doors. They were among the worst of the many turbulent and troublesome inhabitants of Benares, and there is scarcely a crime or enormity which has not, on apparently good grounds, been laid to their charge. There are said to have been Aghora ascetics in the neighbourhood of Abu from the most ancient times, and formerly to have been cannibals, hence their other name, Mard-khor. One of the ancient Hindu dramatists, Bhava Bhutta, who flourished in the 8th century, in his drama of Malati and Madhava, has made powerful use of the Aghora in a scene in the temple of Chamunda, where the heroine of the play is decoyed in order to be sacrificed to the dread goddess Chamunda or Kali. The disciple of Aghora Ghanta, the high priest who is to perform the horrible rite, by name 'Kalapa Kundala,' is interrupted in his invocation to Chamunda by the hero Madhava, who thus describes the scene (Act V., scene 1, H. H. Wilson's Translation):—

'Now wake the terrors of the place, beset
With crowding and malignant fiends. The flames
From funeral pyres scarce lend their sullen light,
Clogged with their fleshly prey, to dissipate
The fearful gloom that hems them round.
Well, be it so. I seek, and must address them.
* * * * *
How the noise, ...
High, shrill, and indistinct, of chattering sprites,
Communicative, fills the charnel ground.
Strange forms, like foxes, flit across the sky;
From the red hair of their lank bodies darts
The meteor blaze, or from their mouths that stretch
From ear to ear, thickset with numerous fangs,
On eyes, on beards, on brows, the radiance streams.
And now I see the goblin host: each stalks
On legs like palm-trees, a gaunt skeleton,
Whose fleshless bones are bound by starting sinews,
And scantly cased in black and shrivelled skin,
Like tall and withered trees by lightning scathed,
They move, and as amidst their sapless trunks
The mighty serpent curls, so in each mouth,
Wide yawning, lolls the vast blood-dripping tongue.
They mark my coming, and the half-chewed morsel
Falls to the howling wolf;—and now they fly.'

D'Anville speaks of them as 'une espèce de monstre,' whose existence he doubted, though he quotes from Thévenot, who remarks, 'Les habitans de ce bourg (Debea) estoient autrefois de ceux qu'on nommoit Merdi-coura, ou Androphages, mangeurs d'hommes; et il n'y a pas

grand nombre d'annees qu'on y vendoit encore de la chair humaine dans le marche.' (*Voyages de M. de Thévenot;* Paris 1684.) D'Anville adds, that this 'espèce de bête,' this Merdi-cour, had been noticed by Pliny, Aristotle, and Ctesias, under nearly the same name, Martichora.

Colonel Tod adds that he passed the gopha or cave of the most celebrated of these monsters of the present age, who was long the object of terror and loathing to Abu and its neighbourhood. One of the Deora chiefs told him that, a very short time previously, when conveying the body of his brother to be burned, one of these monsters crossed the path of the funeral procession, and begged to have the corpse, saying that it 'would make excellent chatni,' or condiment. The headquarters of the caste were at Burputra (Baroda); and in Colonel Tod's time there still existed on the old site a temple dedicated to the patroness of the order, Aghoreswar-Mata, represented as 'lean famine,' devouring all. Her votaries are brought into the compendious class of ascetics, of whom they are the most degraded, beyond all controversy.

Marco Polo (Marsden, Marco Polo, p. 252) speaks of a class of magicians who are akin to the Indian Aghora. 'The astrologers who practise the diabolical art of magic, are natives of Kashmir and Tibet. They exhibit themselves in a filthy and indecent character; they suffer their faces to remain uncleaned by washing, their hair uncombed, being in a squalid style. Moreover, they are addicted to this horrible and beastly practice: when any culprit is condemned to death, they carry off the body, dress it with fire, and devour it.'

The Aghora wand and waterpot were a staff set with bones and the upper half of a skull.

Wilson says the sect had died out by the beginning of the 19th century, only a few disgusting wretches, universally feared and detested, being then met with, whose odious habits and practices rendered them objects of aversion. They are now very rarely heard of. Cases, however, do occur from time to time in different parts of India, to show that such horrid rites continue to be practised; and the report for 1856 of the Madras Faujdary Adawlat gave the details of a horrible tragedy at Trichinopoly.—*Tod's Rajasthan*, i. 575; *Trav.* p. 84; *The People of India, by J. Forbes Watson and John William Kaye*, i. and ii.; *Friend of India*, 1868; *Leyden Asiatic Researches*, ix. 202; *Sherring's Tribes*, p. 270; *Wilson's Hindus.*

AGHORA-GHANTA, a priest of the goddess Chamunda. Aghora panthi, one who follows the practice of the Aghora.—*W.*

AGHZAI. Panj. Fagonia cretica. Spal-aghzai is Astragalus multiceps and also Ballota limbata.

AGIA. Hind. A small plant with a purple flower, which grows in poor exhausted lands in the N.W. Provinces, and destroys other grasses; it kills the millet Paspalum scrobiculatum, as also the Sorghum vulgare and sugar-cane, but not the Cajanus Indicus.

AGIAH or Augiah, a grass described by Hamilton (vol. i. p. 2) as growing about the thickness of the wrist and to a height of thirty feet, in the belt of low land running along the whole northern frontier.

AGILA-GAHRU. Malay. Eagle-wood.

AGIN. Hind. A witch; a Hindu goddess.

AGLAIA ODORATA, *Lour.*

Camunium Sinense, *Rumph.* | San-yeh-San, . . Chin.

This grows in Cochin-China and China. It is a flowering shrub with ternate and pinnate leaves, and very small yellow flowers in axillary racemes with a very agreeable perfume. The leaves are eaten as a vegetable; the roots and leaves are supposed to be worth trial as tonics. There is a fine-leaved variety. Both the Aglaia odorata and Murraya exotica are very sweet-scented, and much cultivated by the Chinese; they are used to scent teas. A. Midnaporensis, *Carey*, grows in the forest of Midnapur.—*Fortune's Tea Districts*, p. 7; *Riddell; Hog*, 171; *Smith*, p. 6.

AGLAIA ROXBURGHIANA. *W. and A.*

Milnea apiocarpa, *Thw. En. Pl. Zey.* p. 60.

This large tree is very common throughout the Western Ghat forests, up to 4000 feet, also in the Tinnevelly hills, and in parts of Mysore, etc., and Ceylon, flowering in March and April. It is very variable in shape of the leaves and fruit and amount of pubescence; the timber is strong, and useful for building.—*Beddome, Fl. Sylv.*

AGLAIA SPECTABILIS. *M'Clelland.*

Kayan Kayo, . . Burm.

A large tree met with in Tenasserim and along the banks of rivers in the Pegu and Tounghoo districts. It affords a light, serviceable timber, somewhat stronger than the American pine, and capable of being wrought with little labour. Wood, red-coloured, strong, and adapted for house-building.—*M'Clelland; Mason.*

AGLE-MARAM. Tam. Chickrassia tabularis.

AGNI, the Hindu god of fire, the Ignis of the Romans. He is variously represented in Hindu legend, and has many epithets. About a fifth of all the hymns in the Rig Veda refer to this god exclusively; and most of the ten books open with hymns addressed to him. In Vedic mythology, Agni is the personification of fire, and the regent of the south-east division of the earth. He is very variously described,—sometimes with two faces, three legs, and seven arms, of a red or flame colour, and riding on a ram, his vahan or vehicle. Before him is a swallow-tailed banner, on which is also painted a ram. He is by others represented as a corpulent man of a red complexion, with eyes, eyebrows, head, and hair of a tawny colour, riding on a goat. From his body issue seven streams of glory, and in his right hand he holds a spear. Agni is the son of Kasyapa and Aditi, but his origin, his attributes, and epithets are very variably represented. His consort, or sacti, is Swaha, a daughter of Kasyapa. She bore three sons, Pavaka, Pavamana, and Suchi. Swaha resembles the younger Vesta, or goddess of fire, of the Romans, who had no images in their temples to represent her. Thus Ovid has said—

> 'No image Vesta's semblance can express:
> Fire is too subtle to admit of dress.'

Neither do we meet with an image of Swaha. Those of Agni are usually seen in pictures. Agni continues to be worshipped by the modern Hindus as the personification of fire. He was worshipped as the destroyer of forests, and as useful in the sacrifice and in the household. 'When generated from the rubbing of sticks, the radiant Agni bursts forth from the wood like a fleet courser.' 'When excited by the wind, he rushes amongst the trees like a bull, and consumes the forest as a

rajah destroys his enemies.' 'Such as thou art, Agni, men preserve thee constantly kindled in their dwellings, and offer upon thee abundant food.'—*Rig Veda*, i. 73; *Cole; Myth. Hind.* pp. 115, 117; *Dowson.*

AGNI, a fire ordeal. The accused touches fire or heated metal, and if burned he is deemed guilty. See Divination.

AGNI or Agni-Mata. BENG. Plumbago Zeylanica. Agni-jwala is Grislea tomentosa; Agni-vendrapaku is Ammannia vesicatoria; and Agni-sikha is Gloriosa superba; also Carthamus tinctorius.

AGNIASTRA, in Hindu mythology, the fire-shaft invented by Visvakarma in the war between the gods and the Daitya or Titans. See Viswakarma.

AGNI-BRAHMANA, a brahman who officiates as priest at the burning of dead bodies.—*W.*

AGNICULA, a general term for four Rajput tribes, supposed of Parthian descent,—the Chohan, the Purihar, the Solanki, and Pramara,—who are said to have been produced by a convocation of the gods on Mount Abu. It is supposed that they were recognised by the Aryan brahmans, in order to obtain their martial aid. Tod says they were regarded as of the Tusta or Takshak race, who invaded India about two centuries B.C., which was about the time that Parswa, the 23d Jaina Tirthankara, appeared in India. Their aid was required to overawe the Daitya or Titans in the vicinity of Mount Abu. The Agnicoonda, or fire-place, is still shown on the summit of Abu, where the four Agnicula tribes were created by the brahmans to fight the battles of Achil-es and polytheism against the Buddhists, represented as the serpents or Takshaks. — *Tod*, ii. p. 451; *Prinsep's Antiquities, by Thomas*, p. 247. See Khatri; Rajput; Chohan.

AGNI-DAGDHA, a Hindu who has died without issue, and is burned at once, without the previous ceremony of having fire put into the mouth.—*W.*

AGNI HOMA, or simply Homa. Oblations to fire; a Hindu rite.—*W.*

AGNIHOTRA. SANSK. Performance of a daily or an occasional worship, with fire lighted from a perpetual fire preserved in the dwellings of Agnihotra brahmans, the remnant of the worshippers of Agni, who still preserve the family fire, but in other respects conform to some mode of popular Hindu devotion. A Brahman who keeps the sacrificial fire is obliged by law to know the particular gotra of the 491 to which his own family belongs. When the fire is to be consecrated, Agni Havyavahana, the god who carries the libations to heaven, must be invoked. This invocation or invitation of Agni is called pravara. Agni himself, or the fire, is called Arsheya, the offspring of the Rishi, because the Rishi first lighted him (it) at their sacrifices. He is the hotri as well as the adhvaryu among the gods. Like the hotri and advaryu priests, he is supposed to invite the gods to the sacrifice, and himself to carry the oblation to the seat of the immortals. When, therefore, a brahman has his own fire consecrated, he wishes to declare that he is as worthy as his ancestors to offer sacrifices, and he invites Agni to carry his oblation to the gods as he did for his ancestors. According to prescribed rule, where a perpetual flame is maintained, it is used to light the fire round which the bride and bridegroom step at the marriage ceremony, and the funeral pile of either; but the household fire is preserved only by this particular sect, the Agnihotra, and the great body of the people have nothing of the kind. They distinguish between the sources whence they obtain the kindling flame according to the purposes of its application, and the fire of the marriage rite, for instance, is taken from the hearth of a respectable person, or from a fire lighted on some auspicious occasion, whilst for the funeral pile any unpolluted fire may be used. It is only necessary to avoid taking it from another pile, or from the abode of an outcast, of a man belonging to the tribe of executioners, of a woman who has lately borne a child, or of any person who is unclean. Notwithstanding these exceptions, it is at present the common practice of the Hindus of ordinary rank in the Western Provinces to procure fire from an outcast to light the funeral pile. The Agnihotri, from agni, fire, and hotra, a sacrificial priest, is always of the brahmanical order.—*Wilson's Hindu Theatre; The Toy Cart; Colebrooke on the Religious Ceremonies of the Hindus; Asiatic Res.* xxi. 241.

AGNIMUNDA and Agnipuri, formed of fire; an ethereal voice heard from the sky, proceeding from a meteor or flame.

AGNI-PARIKSHA. SANSK. A fire ordeal, by the accused walking through a fire, or dipping the hand into boiling oil.—*W.*

AGNI PURANA, a Hindu sacred book in praise of Siva, supposed of comparatively recent origin. —*Dowson.*

AGNI-SANSKARA. SANSK. The sacrament of fire; the worship of fire as the completion of any essential rite; the burning of the dead body of a Hindu.—*W.*

AGNI-SAVARNI, in Hindu mythology, one of the fourteen patriarchs who preside successively over the fourteen Manwantara of the Calpa.

AGNI-SHIMA, or Agni-Shimaiya-yoga. SANSK. Oblations of milk offered at new moon, through fire, to Indra.—*W.*

AGNI-SUTRA. SANSK. In Mysore, a girdle of sacrificial grass placed round the waist of a brahman lad when he is invested with the sacred string of his caste.—*W.*

AGNI-VESA, an early Hindu writer on medicine, said to be son of Agni.—*Dowson.*

AGNIYA, a servant of the Cuvera or Guhya.

AGOR. MAHR. A watchman or guardian of the village lands and crops. Agor-batai, a division of a crop between the cultivator and the landlord, after customs, threshing, and storing.

AGOTAG. BICOL. Musa textilis.

AGRA, in lat. 27° 10′ 6″ N., long. 78° 5′4″ E., is a large city on the right bank of the Jumna. It was the seat of government from the time of Akbar. Its name has been derived from Agur, a salt pit, owing to the prevalence of a saline soil; also from Aghari, in advance, from an answer made to sultan Secunder Lodi by the steersman of his boat, when asked which site should be built over. It gives the name to a revenue division of the N.W. Provinces of India, comprising the districts of Muttra, Agra, Furruckabad, Mynpur, Etawa, and Etah. Agra city is 842 miles by rail from Calcutta, and 650 feet above the sea. Its population in 1872 was 149,008 souls. Near Agra is the tomb known to Europeans as the Taj Mahal, built of

white marble and red sandstone by Shah Jahan, over his wife, Arjamand Banu Begum. She died in 1629, and this building was completed 1648. It is on the river bank. Five miles out, on the Dehli road, is the tomb of the emperor Akbar at Sikandra; also the College, the Metcalfe Testimonial. The Ram Bagh garden merits attention; and the magnificent tomb of Itimad-ud-Dowlah, the vizir of the emperor Jahangir, and father of the famous empress Nur Jahan, who built the tomb. The fort of Agra was built by the emperor Akbar, and is one of the grandest in India. It is built of red sandstone. It is 1½ miles in circuit, and its walls 70 feet high. In front of the main entrance is the Tripolia, now used as a market-place. Facing the gateway, and outside the enclosure of the fort, is the Jama Masjid. It is 130 feet long and 100 feet broad. It was constructed by Shah Jahan in 1644, after five years' labour, and was built in the name of his daughter, Jahan Ara, who afterwards shared her father's captivity when he was deposed by Aurangzeb. Within the fort are the public halls, the Diwan-i-Am, built in 1685 by Aurangzeb, and the Diwan-i-Khas; also the Machi Bhawan, on the river side of which are two thrones, one of white marble and one of black slate. Besides these, there are the Shish-Mahal, the Jahangir Mahal, and the exquisite Moti Masjid, built by Shah Jahan A.D. 1654, with its three domes of white marble, reared upon a lofty sandstone platform. The battle of Agra was fought on the 17th October 1803, General Lord Lake commanding.—*Bishop Heber*, i. p. 587; *Elliot, Sup. Gloss.; Mundy's Sketches in India*, i. p. 53; *Thurlow's Company and the Crown; Dehli Gazette; Robert Schlagentweit; Imp. Gaz.*

AGRA-BHOJANA. SANSK. Literally first served with food at a feast, implying a brahman who has read the yajur, sama, and atharva vedas. —*Hindu Theatre*, iii. 184.

AGRADANA or Agriharika, in Bengal, a brahman of an inferior order, who conducts funeral obsequies or sraddhas for hire, called ironically Mahapatra and Mahabrahmana.—*Wilson.*

AGRAHARAM. KARN., MAHR., TAM., TEL. A village occupied by brahmans. Agrahara or Agram is from two Sanskrit words, Agra, first; hara, what receives. It is written variously. These villages are held at a favourable quit-rent or free from assessment; it may be free from all tax (sarv agraharam) or at a stipulated rent (b'ilmukt agraharam) or at a rent which fluctuates with the produce (kattubadi agraharam).

AGRAHAYANA, a Hindu month falling in November and December.

AGRAHRI, a section of the Banya of Benares, who claim to be of the Vaisya caste.

AGRAI, a cultivating race in the Konkan.

AGRICULTURE is the only industrial enterprise which is conducted on a large scale in British India. In China it is a great and highly-honoured employment, and it affords a livelihood to the large majority of their respective populations. 34,844,000 adult males, or 56·2 per cent. of the entire population of British India, are agricultural, living exclusively by the soil, or eking out the earnings of other employments by the produce of the land they till, or as agricultural labourers. There are also large numbers of women and children similarly employed, and the field labourers are 7½ millions in number. The owners of the lands of British India are mostly all of the Hindu religion, or of the various original or modified cults which the non-Aryan races profess. Brahmans and Rajputs are large proprietors, and some Mahomedans are owners, but few of these three races labour with their own hands. In the extreme south of the Peninsula, the great body of the cultivator landlords speaking the Tamil, Canarese, Malealam, and Telugu languages, are the Valalar, Idayan, Kavadi of Coorg, Okaliga, Nair, Reddi, Balja, Kandh, Kapa, Kamma, and Gond. In the south of India, these are broken up into many sections, who have assumed the form of castes, whom the Census report of 1872 enumerates as—

Tamil, viz. Brahman, Vaisya, Valalan, Kavari; Pulley, Kukalavun; Idayan, Kanakan, Chaneyn, Vaneyn, Ochhen, Panechavun, Ambutten, Kuvayen, Sanan, Parayan; Vettyan, Kummalen, Chakili, Tulukun, and Reddi.

Telugu, viz. Brahman, Kapa or Kamma, Kolla, Balja, Sanay, Mangala, Mathuraju, Sakala, Kammara, Yanathi, Vetti, Mutham, Tuluka, Tuthekala, Kondla, Komsala, Odla, Gandra, and Nambe.

The people speaking Canarese, almost all of the lingaet sect, are largely agricultural.

In the Bombay Presidency, and extending into Berar and Malwa, the Kunbi, a Mahratta race, is so exclusively agricultural, that their tribal name is ordinarily used to indicate a cultivator.

Farther north are the Kurmi, a numerous race, whom some ethnologists consider identical with the Kunbi, also the Lodha. In Bengal are the Chasa and Kisan; farther to the north-west are the Gujar, Rajput, and Jat, the last being spread throughout the Panjab southwards to the Arabian Sea. The finer garden work is carried on everywhere by the Tota-Kara, the Mali, the Kach'hi, Lodha, and others.

The labourers consist of the broken tribes, whose position, even yet, is almost a predial slavery. The great body of labourers in the Tamil country are not Hinduized, as, for instance, the Pariah (parayan) and Chakili; in the Telugu country, the Madhera, Malla, and Madiga; in Coorg and the Canarese districts, are the Holiya and their branches, Badaga, Balagei, Kembutti, Kulika, Madiga, Mara, and Marangi. Amongst the countries formerly ruled by the Peshwa are the Mhar and Mang, and Dher, and Koli, and Bhil; and farther to the north are the Southal, Dom, and Chamar, with many other non-Aryan tribes.

The soils of British India are of varied fertility, but the poorest soils can be made to produce something if only watered naturally or artificially; and the cultivators and their rulers, by constructing weirs across rivers, excavating canals, forming tanks, and digging wells, have never ceased to plan and strive how to provide a supply of that essential element. In most districts the annual rainfall would be ample if it were but distributed throughout the agricultural season. It is a common experience for a tract of country to suffer from drought and flood in the same month. There might be drought for twenty-nine days, and a flood on the thirtieth. This necessitates the employment of storage tanks; but a large part of the country is still without them, and many have fallen into disrepair; and in the Madras Presidency, many rivers that formerly flowed for

five months now flow for only three or four. Fully 80 per cent. of the occupied land was still, in 1880, unprotected by irrigation; and as an increasing population has to depend largely on the land for their food, its prices increase and the people suffer. The quantity that runs to waste is something enormous. For instance, one foot of rainfall on a square mile gives 1,032,532 cubic yards, or 174,239,775 gallons. But, in India, the rain falls in heavy downpours, and the proportion absorbed by the soil is comparatively small. The monsoon of 1862, for instance, was under the average in the Karnatic, yet the quantity of water that ran to waste into the sea from the Pennair (a second-class river), after a sufficient supply had been drawn off for all the cultivation as then existing under it, amounted to no less than 4,093,812,356 cubic yards, or 691,831,835,075 gallons, sufficient to have irrigated nearly 1000 square miles. This discharge was calculated from the register kept at the anicut at Nellore, and is rather under than over the mark.

In average seasons, the fields of British India yield more than the population consume. There are 166½ millions of acres under food crops, and 27½ under non-food crops, and the total food out-turn is estimated at 54 millions of tons, and the annual surplus of food at about 5 million tons, part of which is sent to other countries. The usual export of grain is between 1 and 1½ million of tons, rice being about 1 million, and wheat ranging between 50,000 and 325,000 tons. Besides the cereal grains, millets, pulses, vetches, and vegetables, there is other food available for the people, from land and sea, and from horned cattle, sheep, and goats, milk, poultry, eggs, fish, and straw for fodder for their cattle. Former rulers, both Hindu and Mahomedan, have tried to improve the breeds of horses, horned cattle, and sheep, and introduced many exotic plants. Continuing such efforts, the British have established an Agricultural Department of the State, agricultural schools, model farms, horse and cattle fairs. Railroads and a great commercial navy are equalizing the supply, and they have secured for traders the peace essential for their success, and to carry to other marts the surplus produce of caoutchoucs, cardamoms, cinchona, coffee, cotton, dyes, hemps of kinds, indigo, jute, lac, millets, oil-seeds, opium, pepper, pulses, rice, tea, timber, and wheat. But scientific and practical men entertain the belief that the cultivators of British India could improve on their present efforts. The average out-turn of food grains is estimated in the Panjab, Mysore, and Madras, over the cultivated area, at 11 bushels per acre, which, assuming 57 lbs. to the bushel, may be taken at 627 lbs. The average produce per acre on a series of observations extending over ten years, in several districts of the Bombay Presidency, was found to be—Wheat, 9 bushels, or 585 lbs.; Juari, 10 bushels, or 650 lbs.; Bajra, 6 bushels, or 390 lbs.

In the N.W. Provinces and in Bengal, the average out-turn of food grains is estimated to be 13 bushels per acre; in the Central Provinces, 8 bushels; in Bombay, 7½ bushels; in Berar, 6 bushels. The average yield per acre of some of the usual dry crops was found to be as under:—

Black rice, dependent on rain alone, 700 lbs.
Chana or Bengal gram, . . 450 ,,
Cooltie or Madras gram, . . 600 lbs.
Dhal, ... 500 ,,
Cotton, unirrigated, . . . 200 ,,
Indigo, unirrigated, of dry indigo, 30 to 50 ,,
Wheat, partially, . . 20 to 30 bushels.
Hemp, ... 460 lbs.

As the result of a great number of experiments in different parts of Southern India, the average yield of rice cultivation, first crop, was found to be as follows per acre:—

Best white rice, fully irrigated, . . 2400 lbs.
Maximum shown by the experiments, 3650 ,,
Red rice, fully irrigated, averaged . 1800 ,,
Black rice, partially irrigated, do., . 1200 ,,
Black rice, depending on rain only, do., 700 ,,

But in the Dehra Doon, wheat cultivation averages 1260 lbs. per acre, or say 22 bushels; and Bajra, at the Sind experimental farm, 1420 lbs. per acre, or say 25 bushels. Also, it has been known that Mr. Lawes of Rothamsted, for many years in succession, by free manuring, raised an average of 34·14 bushels of wheat, or say 1945·98 lbs.; and in Jersey the average is 37 bushels per acre, or say 2109 lbs. On these data, Mr. Cunningham says (pp. 15 and 18) that if the standard of cultivation in England could be reached, the additional food available would be 2890 millions of bushels, or enough, at 7 bushels per head, for the annual consumption of an additional population of 410 millions.

The defects in the agricultural work of British India, to which all European investigators point as the causes of scant yield, are too slight ploughing, want of manure, heavy annual cropping, and reckless watering. In British India, only special crops are manured; but the benefit of manuring lands has been shown, as under, by Messrs. Lawes and Gilbert of Rothamsted:—

	Bushels per Acre. Yearly Average.				Weight of Bushels per lb. Yearly Average.			
	1852-62.	1863-72.	1873.	1874.	1852-62.	1863-72.	1873.	1874.
Unmanured land, .	15·3	13·3	11·8	11·5	55·9	59·3	57·0	—
Land receiving yearly 14 tons of farm-yard manure per acre, .	34·5	36·0	26·8	30·25	59·0	61·0	57·1	60·25

So that, whilst wheat on properly cultivated but unmanured land in England produced a yield on the average of 12·97 bushels or 744·29 lbs. per acre, fully manured lands yielded 34·14 bushels or about 2030 lbs. per acre. The Indian cultivator is, however, well acquainted with the importance of manuring his lands. He may be less thrifty with it, and may make insufficient exertion to obtain due supplies of it, but more than all he can possibly gather could be applied to the spade husbandry of his gardens, where sugar-cane, betel-leaf, and the finer and higher-priced fruits and vegetables are grown. Many of them, also, are no doubt wasteful, even destructive with their water supply, and on these points the Indian cultivator might take a lesson from the Chinese, who are of the very highest class of gardeners and farmers, though their agricultural implements are scarcely any better than those of the Hindus. Their secret is that they are exceedingly industrious, and waste nothing. There is not an inch of a Chinaman's field left uncultivated, or a clod that has not received its due portion of manure; the sewage

of towns and villages is not wasted, or worse than wasted, as in India, but is returned to the land; whence the surprising productiveness of Chinese agriculture. The Chinese also thoroughly understand irrigation. They do not waste their water or their land in the process, but cause drainage and irrigation to go on together. Mr. Elliot says the native farmer thoroughly understands his business as regards fertilizing the soil, and that if he does manure very little, he at least manures as much as he can; leaves are used to add to the manure heaps; nitrous earth is also used in some parts of India; fish are applied to land on the coast; town sweepings are carefully used, and so also are the refuse of oil mills and indigo vats; crops to be ploughed in green are in some instances grown; salt earth is applied to cocoa-nut trees in Mysore; in the Madura collectorate, even bats' dung is collected from old and ruined buildings; where flocks of sheep are to be met with, the owners receive regular payment for every night they are folded on a farmer's field; and in some parts of the country, where the means of enclosing them exist, cattle are also folded on the land. The cattle are, however, not stalled, and even what can be collected of their dung is dried and used for fuel. This is a loss to the Indian lands. In England, every 1000 lbs. of the dung of grass-fed cattle contains 11 lbs. of valuable manurial matter,—4 lbs. of nitrogen, 3 lbs. of phosphoric acid, and 4 lbs. of lime. In India, every morsel of dung that falls on roads and lanes and the barren plain is carefully gathered, and used as fuel. This is chiefly the consequence of the great dearth of wood over all the cultivated tracts; and the necessity of planting is now recognised by the governments of India. There is a custom, in the Nellore district, of planting a certain proportion of the lands bordering on streams, or intersected with watercourses, with the Acacia arabica and A. leucophlœa. These shelter the grass in hot weather, and their pods are used as food for cattle and sheep. The wood is also valuable; and when about ten years old it is cut down for timber, after which the land is put under crop, and another section is laid down under this admirably combined system of fodder and timber growing. Manures containing organic matter increase the condensing powers of the soil. But, as a general rule, the Indian farming exhausts the organic matter in the soil, and thus renders it less able to take up moisture from the air. Their cropping of the land is very exhausting, not so much from the crops grown being those that make great demands on the soil, but because nearly the whole are removed and not consumed by the stock of the farm; and the native practice of allowing the land to lie fallow for several seasons, is a proof of their consciousness that they have been exhausting it. Also, according to existing rules, a cultivator pays rent or revenue only on the fields he cultivates. The ryot has not a fixed holding, but changes it at pleasure, and as a consequence the land is becoming exhausted, and permanent improvements are not made. The ryots of a village may not pay for more than 200 acres, and yet in the course of years may temporarily exhaust many hundred acres. If each cultivator were obliged to keep to a given area, the exhausting character of the husbandry would render the soil unfit to yield the scanty produce obtained by the ryot. The existing practice is only a modification of the Kumari form of cultivation as followed by all the hill tribes of the East Indies, which consists in burning the forest or brushwood and sowing their grains in the ashes, taking only one crop off the cleared land, and proceeding to another place in the year following.

In the south of India, soils are classed roughly as Nanja and Panja, or wet and dry. Nanja soil is fitted for the cultivation of rice, admitting of artificial irrigation, and hence commonly termed wet cultivation, in contra-distinction to Panja, or dry cultivation, which comprises all such crops as are dependent solely or chiefly upon rainfall and dews. Amongst these dry crops may be named an inferior sort of rice, yielding a scanty and precarious crop; several oil-seeds, as linseed, castor, gingely or sesamum, (Sesamum Indicum), all dry grains, as wheat, barley, sorghum, bajra (Penicillaria spicata), maize, millet, ragi (Eleusine coracana), and the like; all vetches, dhal (Cajanus Indicus), Madras gram (Dolichos uniflorus), Bengal gram (Cicer arietinum); also indigo, cotton, with a few garden plants, as tobacco, chillies, turmeric, which require partial irrigation.

Undoubtedly, for the food of the community, more could be made of the land than at present, but the agricultural races have still much land available. The Panjab has 30,000 square miles of cultivable waste, Bengal 85,000 square miles out of an area of 144,000; Assam has 7500 square miles cultivated, and 18,000 of cultivable waste; Burma has a total area of 87,000 square miles, of which 5000 are cultivated and 37,000 believed to be cultivable. The lands still uncultivated in these two provinces cover an area of 55,000 square miles, five times as large as Belgium, in which a redundant population could be placed. In the Central Provinces, out of a total area of 114,000 square miles, 30,000 are cultivated and 40,000 believed to be cultivable. In Bombay, 30,000 square miles of the 38,000 square miles of cultivable land are actually under cultivation; and in Madras, which has, besides the zamindaries, a total area of 130,000 square miles, only 10,000 square miles of inferior soil remain uncultivated.

In Northern India, the harvests are ordinarily classed as rabi and kharif. The rabi crops, those sown at the fall of the year and reaped in the early spring, consist of the cotton, maize, sorghum, indigo, wheat, barley, oil-seeds, hemp, jute, vetches, peas, Bengal gram, and Madras gram, and the arhar or tūr dhal (Cajanus Indicus).

However largely the means of irrigating lands may be extended, the dry cultivation must ever form the backbone of Indian agriculture; it is for this that retentive soils have so high a value. The best of these is the regur, kali matti, or cotton soil, which overlies the great outburst of volcanic rocks that spread from the Belgaum district northwards to Malwa, and is to be seen in patches throughout the country. It is capable of absorbing and retaining more than one-third of its entire weight in water, and has, in a remarkable degree, the power of absorbing moisture from the air. The rabi crops being grown in the cold season of the year, and on the plateaux and table-lands, need all the heat obtainable. One conclusion

come to by Dr. Wight as the result of his cotton experiments in S. India, was that, from being sown there for a winter growth, it did not receive sufficient heat. And throughout the central plateaux of peninsular India, the cultivators regard hedges and trees as injurious to crops, which are annually enclosed by the branches of thorny trees, and are burned after the harvest; consequently, when the crops are off the ground, the whole region has a treeless aspect.

To secure the utmost benefit from the available water supply, the beds of paddy fields are in terraces, so as to admit of the water being led from the higher to the lower beds, and in all the mountainous countries terracing is to be seen carried out to a great extent. On the N.W. of British India, Elphinstone (Caubul, p. 353) described it as followed by the Othman Khel, and, at Srinuggur, he says, walls are made along the sides of the hills, and filled with soil from the lower part of the hill; the walls are from three to ten feet high, and the terraces about five yards broad. The walls are soon concealed by grass and other vegetation, and as they are never straight, but consult the bends in the surface of the hills, the effect is pleasing and picturesque. In Beluchistan, in the Mekran province, and in the valley beyond Baghwan, terracing by some prior race has been conducted in a manner so cyclopean as to excite the wonder of all who have seen the huge rocks which have been laid across the slopes of the mountains. The Malai Arasar, or hill kings of the Pulneys, in the extreme south of India, follow the terracing system. And in the Archipelago, the people of the Tengger mountains, described by Raffles, and the Serwatti and Letti, Baba and Timor Laut islanders, scarp the hill-sides into a succession of platforms and terraces.

Over-irrigating seems to have the effect of bringing the saline particles of the soil to the surface. Mr. Schrottky has informed us that in the saline soils of Kattywar, the quantities of chloride of sodium decreased from the surface downwards. The first six inches had 3 per cent.; at one foot below there was 0·48 per cent.; and in the subsoil at 2½ feet, only 0·44 per cent. His recommendation for its removal was subsoil draining. Mr. Robertson of the Madras school also recommends improved ploughs and deep ploughing, to bring fresh soil to the surface.

The agricultural implements of India are constructed with the same objects in view as those of Europe, and those employed in the Dharwar collectorate may be noticed for the whole. The large plough is used on ground being brought into cultivation for the first time. It is broken up with this lengthways and crossways. If the land is heavy, eight, even sixteen, bullocks are used; if light, four are sufficient. It is used in cotton and also in grain cultivation. A smaller plough is used in black soil at intervals from six to ten years, and worked with two or four bullocks, according to the depth of ploughing and stiffness of the soil. In cotton and also in grain cultivation, and in red soils, it is used every year. The kulu is used with two bullocks after ploughing, for further breaking up the soil, and also used without previous ploughing in the years when the black cotton soil is not ploughed. After the seed—whether cotton or grain—is sown with the drill, the iron and wooden supports are removed from this instrument, and the soil smoothed over the seed with the upper wood alone, drawn by two bullocks, and kept down by the foot of the driver. The tephun drill is used for sowing cotton. It is drawn by two bullocks; the two seed tubes are fed by a woman each. The kuri drill is used in sowing grain. It is worked with two bullocks, which one man drives, and this man feeds the receptacle for the seed communicating to the four tubes, and a third man works the extra tubes at the side, with which another description of seed or oil-seed is very commonly sown in every fifth row. The kuri or drill used in rice cultivation is similar to that employed for other grains, except that there are six tubes, and no extra tube for other grain is used, rice being sown alone. It is worked by two bullocks. The kulpa, or kulpi, is drawn by two bullocks, and is for rooting up the weeds between the rows of grain. The row of grain is left untouched in the interval in the middle. The earth is also, by the same operation, loosened around the roots of the grain. Two of these are frequently worked together with one pair of bullocks and two men. The hulli bandi is not seen much of large size in the Dekhan, but is very common in the southern Mahratta country, drawn by eight bullocks. The tires are of heavy iron, commonly six inches deep. A pair of wheels costs up to 120 rupees; they last 50 or even 100 years, and are handed down as heirlooms in families.

The nagor, or plough employed for rice cultivation, is worked with two bullocks. Rice land is ploughed with this two or three times every year. The don, or clod-crusher, is drawn with two bullocks, and the driver stands on the implement when working it. The khora is a hoe. The korpi, or weeder, is used for clearing away any weeds which may have escaped the kulpa, drawn by bullocks. The akri or hook is used for collecting the grain in straw together. The phaura is a hoe. The dantala is a rake. The fewutti is a stool for standing on when winnowing. It is six or seven feet high. The bhirut or mill is used for removing the husk from rice.

In sugar-cane cultivation, the ghurda is used for raising water three or four feet; it is worked by men holding the ropes at the corners, and swinging it backwards and forwards.

In Mysore, the implements are the nagalu or plough, the halavay or harrow, the kurigay or sowing machine, the kuntey or weeding machine, the halaleey or levelling machine, and the heggun-tey rumte or harrow.—*Cunningham's India; Mr. R. H. Elliot on Measures and Suggestions for the Advancement of the Wet and Dry Cultivation in India; F. C. Danvers in Jo. Soc. of Arts, on Agriculture in India; Mr. W. Robertson, Supt. Govt. Farms, Madras, in Jo. Soc. of Arts; Mr. Schrottky, Farming in India; Elphinstone's Kingdom of Caubul*, p. 353; *Cunningham's British India; Mr. James Caird's Report on the Condition of India*, 1880; *Reports* i. *and* ii. *of the Indian Famine Commission*, 1880; *Balfour on the Influence of Trees on Climate.* See Soils.

AGRI-HORTICULTURAL SOCIETY of Calcutta was established in 1820 by Dr. Carey; that of Bombay in 1830, and resuscitated in 1859; that of Madras in 1835; that of Lahore in 1851.

AGRIOPHYLLUM GOBICUM, an annual salsolaceous plant of E. Asia, the 'soulkir' of the

Mongols, largely eaten by the Ala Shan nomades. —*Von Mueller.*

AGROHA, a small town on the borders of Hurriana, the original seat of the Agar tribe. It was taken by Shahab-ud-Din Gori, 1194, on which the Agarwal dispersed all over India. See Agarwal.

AGROSTIS, a genus of grasses of the natural order Graminaceæ of Lindley; several species are met with in pastures and barren land. See Cynodon dactylon.

AGULLAS BANK, begins at lat. 32½ S. and long. 29 E., and extends its breadth to the S.W. till it exceeds 125 miles.

AGUMUKI. BENG. Bryonia scabrella.

AGUNDA-PAKU. TEL. Ammannia vesicatoria.

AGWAR. HIND. The first portion taken from a heap of corn, the perquisite in kind of the ploughman.—*W.*

AGYA-GHAS. HIND. Andropogon schœnanthus.

AGYNEIA COCCINEA.

H'ta h'men, . . *Burm.* | H'soke gyee, . *Burm.*

The roots of this curious flowered plant are used medicinally by the Karen. Wight figures A. bacciformis, and Voigt names A. puber of the Moluccas.—*Mason.*

AHAK. ARAB. Quicklime.

AHALU, of Kaghan, Viscum album, *L.*

AHALYA, in Hindu mythology, was the first woman made by Brahma. She became the wife of the rishi Gautama, and was seduced by Indra assuming her husband's form; but she was purified and restored to her husband. Ahalya and Indra are allegorical for the sun and night.—*Garrett.*

AHALYA BAI, a Mahratta princess of the Holkar family, who ruled in the middle of the 18th century. She was born A.D. 1735; she was not a beauty, but in conversation her countenance lit up, and she had a slender frame. She had a quick and clear understanding, strong natural sense, a lofty mind, and noble virtues. She was married to Kundee Rao, the only son of Mulhar Rao Holkar; but before she was twenty years of age she was left a widow, with one son, Malli Rao, who became insane and died, and a daughter, Mutcha Bai. From her widowhood she adopted the white garments of Hindu widows, and ceased to use jewels. On the demise of her son she claimed to rule. Opposition was at first given, but by A.D. 1765, while not more than thirty years old, she succeeded to the administration of the Holkar government. She appointed Tukaji Holkar to the command of her armies, and his family succeeded to the sovereignty. She was munificent; she built the Viseswara temple at Benares, and the present Indore. She heard complaints in person; and after a peaceful reign, died A.D. 1795, at the age of sixty. See Holkar; Mahratta Governments.

AHAN-RUBA. PERS. Loadstone.

AHAR. HIND. An embankment, a small pond; also a salt pit.

AHARWARAH or Aharat, a territory on the north-east frontier of Malwa, which contains many districts. It is to the west of the Ramganga, and extends into a portion of Rohilkhand and Muradabad. The Ahar tribe are spread through Rohilkhand and other districts in the N.W. Provinces, following pastoral pursuits. They claim to be descended from the Yadu race or Yadubansa, and the Ahir make the same claim; but Mr. Sherring says the Ahir assert that they are the descendants of Krishna himself, and that the Ahar are only the children of Krishna's cowherds.—*Sherring's Tribes*, p. 337; *Malcolm, Cent. Ind.* i. p. 325.

AHDI. ARABO-HIND. In the armies of the emperor Akbar, a cavalry soldier who served with his own horse and accoutrements; the Sillahdar of the present day.

AHETA or Negrito, a small Negroid race, the second name, meaning little Negro, being given to them by the Spaniards; but that of Ita or Ahet, written Ajeta, is their usual appellation among the planters and villagers of the plains. The woolly-haired tribes are more numerous in the Philippines than in any other group of the Indian Archipelago; they were estimated by M. Mallat, in 1842, to amount to 25,000. The islands Samar, Leyte, and Zebu have not any of them; but they are found in Negros, Mindanao, Mindoro, and Luzon. In the early accounts of them by the Spaniards, they are described as being smaller, more slightly built, and less dark in colour, than the Negroes of Africa, and as having features less marked by the Negro characteristics, but as having woolly instead of lank hair; and their social condition could not then have been much better than now, since they are described as living on roots and the produce of the chase, and as sleeping in the branches of the trees, or among the ashes of the fires at which they had cooked their food. They are all well formed and sprightly, but rarely exceed four feet and a half in height. It is impossible to surmount their tendency to idleness. They prefer a savage life to all the charms of civilisation. They take no pains in clearing their hair, and do not know how to arrange it; it forms a sort of crown round the head, which gives them an exceedingly fantastic aspect, and when seen from a distance, makes the head appear as if surrounded with a sort of aureole.—*Earl's Papuans*, pp. 121 to 131. See Alfoeren; Papuan.

AHI. SANSK. A serpent; also a name of Vritra, or the rain cloud; also a mythical chief of the races warring against the ancient Aryans.

AHI-CHHATRA or Ahi-Kshetra, a town mentioned in the Mahabharata as the capital of N. Panchala. It is the Adi Sadra of Ptolemy; and it has been identified with Adikot, or Ahi-Chhatra, near Ramnagar in Rohilkhand. Its fort was restored, about the middle of the 17th century, by Ali Muhammad Khan. Its history reaches back to B.C. 1430, at which time it was the capital of Northern Panchala. The name is written Ahi-Kshetra, as well as Ahi-Chhatra; but the local legend of Adi Raja and the Naga which formed a canopy over his head when asleep, shows that the latter is the correct form.—*Cunningham, Ancient Geog. of India*, p. 359.

AHILLA. SINGH. Cathartocarpus fistula.

AHINSA, in Buddhism, the non-injury of animal life.

AHIR. In Central and Northern India, and in the N.W. part of the Peninsula, Ahir is a general term for a pastoral race, who are known in Bengal as the Abhir, a contraction from the Sanskrit Abhira, a cowherd race noticed by Ptolemy as occupying above Patalene. They

are most numerous in the N.W. Provinces, spread through the Central Doab, in the Upper Doab, on the west of the Jumna, and in the Lower Doab and province of Benares. They are distinguished as three tribes who acknowledge no other connection than the name of Ahir. These are the Nandbansa, Jadu or Yadubansa, Goala or Goalabansa. The first are more numerous in the Central Doab; the second in the Upper Doab, and on the west of the Jumna; and the last in the Lower Doab and the province of Benares. The two first are numerously subdivided, bearing distinctive appellations, taken usually from the place were they reside. Some of the Jadbansa have been converted to Mahomedanism, and are known as Rangar, in common with some other tribes. Tribes of Ahir are numerous also in Rajputana and the Panjab. In the Dehli territory, the Ahir eat, drink, and smoke with Jats and Gujars, and in some cases with Rajputs. The several subdivisions intermarry, avoiding only the four families nearest in affinity; and where they are much intermixed, as in the Dehli Doab, with Gujars and Jats, they conform to their usage of the marriage of the widow of an elder brother by the next in seniority. They have two forms of marriage, the bhanwar, or first class, and the darejha, or second class. Ahir hold lands along the borders of the rivers Jumna, Ganges, and the Hindun, where the uncultivated grass lands afford them means of grazing their herds. In Oudh they are now generally agriculturists, as well as engaged in rearing cattle; but they have no rights in the soil. In 1871 they numbered in Oudh 1,170,000 souls. In the N.W. Provinces they were two and a half millions. Immense numbers of the Ahir seek the high grazing grounds of Central India and Western Bengal, where they form encampments in houses made of large bamboo mats, residing, with their wives, families, and herds, until the grass in the neighbourhood is exhausted, subsisting entirely on the proceeds from their cows and buffaloes of their milk and butter and ghi. Their mat houses can be taken to pieces and removed like tents. They are a sober, quiet, and contented people. They have not any chiefs or head men. They have not, since many centuries, been of any political importance. But in the Ramayana and Mahabharata the Abhir of the west of India are mentioned; the geography of the Puranas describes the western parts of India, from the Tapti to Devaghur, as called Abhira; and in the 8th century, when the Kathi arrived in Gujerat, they found the greater part of the country possessed by the Ahir. At the present day, in Northern India, they do not keep sheep, and in this they are imitated by the small bodies of the cowherd race in the Dekhan. The Palli herdsmen dynasty, who reigned in Bengal from the 9th up to the latter part of the 11th century, are supposed by Sir Henry Elliot to have been Ahir, and they seem to have spread in ancient times into all the lands where their herds could find pasture. Gwalior in Central India, Gawilghur in Berar, and Golconda in the Dekhan, are supposed to have been their halting sites. But the countries in the south of the Peninsula were long held by the shepherd Kurumbar (Kuru in Canarese, a sheep); and Asa Ahir, whose stronghold Asirghar was taken, is said to have had 5000 buffaloes, 5000 cows, and 20,000 sheep. There are several Kuru Kot in the south; and Yemmi-Guda, the hill of the buffaloes, and Yennai-Guda, the hill of butter, indicate pastoral stations. Asir-ghur is said to have been so called from that Asa-Ahir. Ahir Koli of Kandesh reside along the banks of the Girna and Tapti rivers, and are employed as watchmen.—*Wilson; Sir W. Elliot in the Jo. Eth. Soc.; Sir H. Elliot.*

AHIRI, a forest in the chiefship of the same name, in the southern portion of the Chanda district, on the left bank of the Pranhita river. It has much teak trees. The inhabitants are almost wholly Gonds, and the languages spoken are Gondi and Telugu.

AHKAM. ARAB. Orders; plural of hukm.

AHL. PERS. People. Ahl-i-kar, servants. Ahl-i-kitab, the people of the book; a term applied by Mahomedans to Jews, Christians, and Mahomedans.

AHLADA MARA. CAN. Ficus Indica.

AHLI-NE-NGAI. BURM. A tree of Moulmein, used for ordinary house-building purposes. Its leaves are eaten as greens.—*Cal. Cat. Ex.* '62.

AHMAD, son of Yahya, styled Al Biladuri, author of Fattah-ul-Baldan. See Biladuri.

AHMADABAD, a town in India, in long. 72° 38′ 30″ E., and lat. 23° 1′ 45″ N., built on the left bank of the Sabarmatty river. It was the capital of Gujerat during the Mahomedan occupancy, in 1413–1442. When Ahmad, grandson of Jaka, styled Wajeh-ul-Mulk, resolved to found Ahmadabad, he chose a site occupied by a community of the Bhil race, whose predatory habits were the terror of the neighbourhood. He resolved to create his new capital by means of the city of Chandraoti, the materials of which he used, and compelled all its people to follow the spoils of their temples and dwellings to the uninteresting, unhealthy, low flat on the banks of the Sabarmatty. It has been held by the Mahomedans of Dehli, by the Gaekwar, and by the Mahrattas. General Goddard took it by storm 10th Feb. 1780, but did not retain it. In 1818, on the overthrow of the Peshwa's power, it reverted to the British. Population in 1872, 105,195. The district has 829,637 souls, Srawak or Jains, Hindus, Mahomedans, with a few Parsees, Christians, and Jews. The agriculturists are Kunbi, Rajputs, and Koli. Many of the Kunbi are skilled weavers. The Kunbi clans are the Lewa, Kadwa or Kadava, and Anjana. The Kadwa Kunbi, when a suitable husband cannot be found, marry the girl to a bunch of flowers, which is afterwards thrown into a well. The girl is then a widow, and can now be married by the natra, or second and cheap form of marriage. Or they marry the girl to a man already wedded, obtaining previously his promise to divorce her as soon as the ceremony is over; and the girl is afterwards given in natra to any one who may wish to wed her. Some of the Rajputs are grassya, others cultivators. The Srawak Jain merchants are more wealthy than the Meshri Hindu merchants.

The races on the border tract between Gujerat proper and the Kathiawar district are the Chudasama, descended from the Hindu dynasty of Junagarh; the Waghela, a remnant of the Solanki race, who escaped from Anhilwara when destroyed by Ala-ud-Din, 1297. The Waghela were first known as Makwara; the Gohil, immigrants from Marwar. The Thakara are the descendants of

Solanki and Mukwana families who intermarried with the Koli of Mahi Kanta. The Mol-salam are Pramara Rajputs, converts to Mahomedanism. These and other city residents are designated Kasbati.

Ahmadabad is famed for its cloths of gold and silver, silks, cotton fabrics, manufactures of gold, silver, steel, enamel, mother-of-pearl, lacquered ware, and fine woodwork, gold and silver thread, pottery, and paper, many of the industries being under the contract of guilds. Its architectural structures are mosques, tombs, mausoleums, and wells. Ahmad Shah and his queen are buried there.—*Tod's Travels*, p. 134; *Imp. Gaz.*

AHMAD bin HANBAL, the fourth and last of the learned doctors of the Mahomedan faith, born A.D. 780. See Imam.

AHMADNAGGUR, a city and fortress in the province of Aurungabad, is the principal artillery station of the Bombay army. It is on the left bank of the Seena river. Its fortress, in the centre of a great plain, consists of a curtain with bastions and ditch, and the Pettah also is surrounded by a curtain and bastions. The population in 1828 was 21,208; in 1835, 23,774; and in 1872, 32,841. It is in lat. 19° 5′ N., and long. 74° 55′ E. It was the capital of the territories of the Nizam Shah Bhairi dynasty; and their many extensive palaces, the Farrahbagh and Rashk-i-Irm, etc., are now in ruins. A pretty little mosque, the Damri Masjid, is to the south of the fort. The dynasty and its officers formed several valuable Karez. The city is 1760 feet above the sea in the Seena therri or valley, and the rock is greenstone and greenstone amygdaloid. Ahmadnaggur fell to the Moghul Empire in 1599, at the close of the reign of Akbar. It subsequently fell to the Mahrattas, but underwent great vicissitudes till ceded to the British in 1803. Aurangzeb (Alamgir I.) long resided, died, and was temporarily interred here. The Pettah was taken by storm by General Sir Arthur Wellesley on the 8th August 1803, and on the 12th the fortress surrendered. The people of the district are Mahrattas of the Kunbi, Mali, and artisan sections, with the Mhar, Mhang, Dher, Chamar, and Ramusi, and migratory tribes of Khelati, Kaikara, and Wadara. The hill tribes are Bhīl, Koli, Thakur, and Warali. The Mahomedans are poor. The village municipal servants are the patel, kulkurni, josi or bhat, kumhar, nahvi, sutar, lohar, chamar, parit, bhangi, rakhwaldar, mulla, and gurao. The Bora Mahomedans and the Marwari of the Jain sect are the chief merchants.—*Pers. Obs.; Imp. Gaz.*

AHMAD SAID RAFFAI, founder of the Rafai fakirs, known as the Howling Darvesh. See Darvesh; Fakir.

AHMAD SHAH was the son of Zaman Khan, the hereditary chief of the Abdali. He was descended of the Saddozai clan, which was looked upon with a sort of religious veneration by their tribe. The person of a Saddozai was inviolable; and no officer, of whatever rank, could put an Abdali to death without the authority of a Saddozai. Ahmad was a prisoner with the Ghilzai when Kandahar was taken by Nadir Shah, 1738 A.D. That conqueror received him with favour, assigned him an honourable maintenance, and sent him to reside in Mazandaran. Abdul Karim mentions in his memoirs (p. 176) that Nadir Shah always kept a watchful eye over him, but that the officers of all ranks treated him in private with great respect. He was with the army of Nadir Shah at the time of that king's assassination, June 1747, and on the morning following that event, unaware of its occurrence, and in the hope of rescuing the king, Ahmad led 4000 Afghans and Uzbaks against the Persians. Père Bazin, a Jesuit, witnessed the unequal contest 'au milieu des balles et des sabres,' and describes the valour and the good order with which they retreated to their native country. Ahmad was then twenty-three years of age, and he hastened to confirm himself in the command of his own tribe, and extend his influence over the neighbouring tribes and countries. In October (1747) he was crowned king at Kandahar; a Mulvi poured a measure of wheat over his head, and he changed the name of his tribe from Abdali to Daurani, by which it has since been known. He modelled his court on that of Nadir Shah, but exercised his authority with moderation. He was absolute in the plains and cities, as well as in Balkh, Sind, Kashmir, and other conquered provinces. He left the Afghan tribes to their internal government, retaining only sufficient authority to secure the supply of their contingents of troops or money, and to preserve tranquillity. Beluchistan, Seistan, and some other places remained under their native chiefs, and were bound to render allegiance and military service. He took possession of most of Khorasan, and he protected Shah Rukh, the son of Nadir Shah, in Meshhed, while his own immediate dependencies were confined to the east of that city. After ascending the throne, he began, in 1748, his march towards India, and soon brought all the country up to the Indus under his authority. He took possession of Lahore and other towns in his route, and advanced to the banks of the Sutlej. He found the fords occupied by the Moghul army, under Prince Ahmad, the heir-apparent, and the Vizir Kamr-ud-Din Khan, who had been sent from Dehli to oppose the invasion. Ahmad Shah's army did not exceed 12,000 or 15,000 men, mostly cavalry. He crossed the river at a place where there was no ford, left the Indians in his rear, and took Sirhind, where the baggage and stores of the Indian army had been deposited. The Moghul army entrenched their camp, and for ten days repulsed all the attacks of the Daurani. On the tenth day, after a general and desperate attack on the entrenchments, during which a party of the Daurani made its way into the midst of the Indian camp, the assailants were totally repulsed (March, A.D. 1748—26 Rabi-ul-Awal, 1161), and compelled to retreat homewards during the ensuing night. Before it reached the Indus, Prince Ahmad, hearing of the illness of his father, the emperor Muhammad Shah, quitted the Panjab, to which he nominated a viceroy. On this Ahmad Shah turned back, and did not quit the Panjab until its viceroy had engaged to pay a permanent tribute. The emperor Muhammad Shah expired in April 1748 (A.H. 26 Rabi-us-Sani, 1161), within a month of the battle of Sirhind, and his son Prince Ahmad succeeded him. From the Panjab, Ahmad Shah sent an ambassador to demand the formal cession of that province,—a demand with which the recollection of Nadir Shah's invasion induced the Dehli government at once to comply. After

a succession of assassinations, Ghazi-ud-Din, grandson of Asof Jah, deposed the emperor, A.D. July 1754, and put out his eyes, as also those of his mother, and raised a prince of the blood to the throne, under the title of Alamgir II. Ghazi-ud-Din took the office of vizir on himself. He marched towards Lahore A.D. 1756. He had been affianced to the daughter of the viceroy, Mir Manu, and advanced as if to celebrate the marriage; and when he had completely lulled all suspicion, he surprised the town, and took the widow of Mir Manu a prisoner in her bed. Her late husband had been retained by Ahmad Shah as viceroy, and his widow was governing the province for her infant son, and when being conveyed to Ghazi-ud-Din's camp, she prophesied the vengeance of Ahmad and the ruin of India. Ahmad Shah no sooner heard of the outrage, than he marched from Kandahar, and advanced through the Panjab, and arrived within twenty miles of Dehli, on which Ghazi-ud-Din repaired to the Daurani camp and was pardoned, but Ahmad Shah marched on Dehli to insist on pecuniary compensation. Nearly all the horrors of Nadir Shah's invasion were now repeated, for though not personally cruel, Ahmad Shah had much less control over his troops, and the city again became a scene of rapine, violence, and murder. He sent a detachment with Ghazi-ud-Din to levy a contribution from Shuja-ud-Dowla, and himself marched with a similar intention against the Jats. He took Balamghar fortress, and put the garrison to the sword. Muttra, a holy city of the Hindus, was surprised by a light detachment during a religious festival, and the unoffending votaries were ruthlessly slain. He laid siege to Agra and to one of the Jat forts, but sickness broke out in his army, and about June 1757 he set out for his own country. Before leaving, he married a princess of the house of Dehli, and contracted another to his son, afterwards Timur Shah, and appointed Najib-ud-Dowla, a Rohilla chief, to the command of Dehli, but Ghazi-ud-Din immediately displaced him in favour of Ahmad Khan Bangash. Subsequently the Mahrattas, under Ragoba, brother of the peshwa Balaji, took Dehli, and in May 1758 Ragoba marched and took possession of Lahore, and occupied all the Panjab, the Daurani forces retiring across the Indus without attempting to oppose the Mahrattas. Ahmad Shah was at this time occupied in the north-west part of his dominions, and when about to move on India, he was detained by the revolt of Nasir Khan, the Beluch ruler. On settling that matter, he marched by the southern road of Shikarpur to the Indus, and up that river to Peshawar; he crossed it in the month of September 1759, and advanced into the Panjab. It was his fourth invasion of India. The Mahrattas offered no opposition, and, keeping near the hills, he crossed the Jumna opposite Saharunpur. The Mahrattas had 30,000 men in the field, but, being in two separate bodies, Ahmad Shah came suddenly on the force under Dataji Sindia, and that chief and two-thirds of the force were cut to pieces. The other division, under Malhar Rao Holkar, fled towards the country south of the Chambal, but was overtaken and almost destroyed by a Daurani detachment, which made a prodigious march for the purpose.

Sada Siva Rao Bhao (Sadashi Rao), who had replaced Ragoba, marched to meet Ahmad. His army was composed of Mahrattas and Rajput cavalry, the whole numbering about 270,000. Suraj Mull advised Sada Siva Rao Bhao to harass Ahmad. This advice was not followed, and the Jat and Rajput armies consequently withdrew. The Bhao occupied Dehli, and came in contact at Paniput with Ahmad's army of 38,000 foot, 49,000 cavalry, besides the Rohilla and Oudh auxiliaries. Several indecisive encounters ensued, but on the 7th January 1761 an obstinate battle was fought. The result continued doubtful until the Bhao fled from the field, leaving his troops in disorder, and Ahmad's victory was complete, and about 200,000 of the Mahratta army fell. Wiswas Rao, the son of the Peshwa, was slain, and after the battle, Junkaji Sindhia and Ibrahim Khan Gardi were put to death. This completely broke the Mahratta imperial power, and was the destruction of the Mahratta empire. The confederacy of the Mahomedan princes dissolved on the cessation of their common danger: Ahmad Shah returned to his own possessions without attempting to profit by his victory, and never afterwards took any share in the affairs of India. In November 1762, however, he again appeared on the Indus, irritated against the Sikh sect for the trouble they had given him, not less than from bigoted zeal against all non-religionists. He signalized his march through Amritsar by the demolition of the Sikh temple of Harmandur and of the sacred tank. The first was blown up with gunpowder, and the reservoir, besides being defaced and filled up as far as materials and time permitted, was polluted with the blood and entrails of cows and bullocks, —a sacrilege even greater in the eyes of the schismatic disciple of Guru Govind than of the orthodox brahmanical Hindu. Pyramids were erected of the heads of slaughtered Sikhs; and Forster (Travels, i. p. 279) relates that Ahmad Shah caused the walls of those mosques which had been polluted by the Sikhs to be washed with their blood, to remove the contamination and expiate the insult. He died in 1773. At his death (Ferrier, Hist. of the Afghans, p. 96) his frontier on the north was the Oxus, and the mountains of Kafiristan; on the south the sea of Oman; to the east the mountains of Tibet, the Sutlej and the Indus; and to the west Persia, Khorasan, and Kerman. From that time until 1820, his sons and grandsons continued in strife for the dominion, till set aside by the Mahammadzai branch of the Barakzai tribe, whose strivings have been no less continuous all through the 19th century. — *Elphinstone's India; Ferrier's Hist. Afghans; M'Gregor's Central Asia; Malcolm's Persia; Cunningham's Hist. of the Panjab; Casi Rao's Narrative in As. Res.* iii. p. 97; *Grant Duff's Hist. of Marathas; Sair i Mutaakhirin; Burnes' Cabool; Burnes' Travels; Fraser's Life of Nadir; Nadir Namah; Jones' Histoire de Nadir Shah; Orme's History; Balfour's Memoirs of Hazin; Père Bazin in Lettres Edifiantes; Elliot's Life of Hafiz Rahmat.*

AH-NAN. Burm. A tree of Tenasserim, Tavoy, and Moulmein, supposed to be either Xylocarpus echinatus, or the Fagræa fragrans, *Roxb.* The wood is good for building purposes, and is used in shipbuilding.—*Cal. Cat. Exhib.*, 1862; *Cap. Dance.*

AHOM, a branch of the Tai family, who gave

their name to the people and province of Assam. The Ahom at a very early period conquered all the tribes in the valley of Assam, founded a kingdom there, and became proselytes to Hinduism. They intermarried with the people of the country, and their features have greatly improved.

AHRIMAN, also known as Ahrimanes and Ingromaniyus. The ancient Persians held, and modern Parsees hold, a dualistic belief in Ormuzd (Ahura mazda), the good, and Ahriman, the deadly, principle from whom all evils spring. See Aryans; India; Parsees.

AH-SEE-E-HA. BURM. A tree of Moulmein, wood hard, used for making musical instruments. —*Cal. Cat. Ex.*, 1862.

AHSHAM. ARAB. Pl. of Hashm, servants of humble position in the employ of Mahomedan rulers of India.

AHU. PERS. Cervulus Wallichii, *Cuv.*

AHURA-MAZDA. See Ahriman; Ormuzd.

AHVI. TAM. Atmospheric air. Ahvi Maram, or 'steam-wood,' so called from its emitting steam when the root is cut, is a Malabar tree, growing to about 10 inches in diameter and 15 feet long; at times it is used for inferior purposes in the frames of native vessels, in repairs, etc.—*Edye, Malabar and Canara.*

AI or AYI. MAHR. Mother; the great first parent; the earth goddess, largely worshipped by the races on the inland frontiers of the Mahratta countries, often in lonely situations.

AI, an island of the Moluccas, about 10 miles to the westward of Banda Lenthor. It is about 8 miles in circumference, and moderately elevated, its entire surface consisting of nutmeg plantations, this spice being its sole exportable product.—*Jour. Ind. Arch.*

AIDUMA, a small island on the S.W. coast of New Guinea, near the entrance of Triton's Bay or Warangari, in lat. 3° 53′ S., long. 134° 15′ E. The chief exportable products are wild nutmegs, several kinds of odoriferous bark, ebony, and kayu-buka, which, with tortoiseshell and small quantities of trepang, form the return cargoes of the Ceram, and sometimes Macassar, prahus that visit the port annually for purposes of trade.—*Jour. Ind. Arch.*

A-IGALU or Ayigalu. KARN. The casket in which the portable linga is carried round their necks by the sect of Lingaets.

AIGAREET MYIT. MALAY? A root which is said to deprive spirituous liquor of all its strength; and a decoction given to an intoxicated person is said to render him immediately sober.—*Cat. Ex.*, 1862.

AIGRETTE, or Kalghi, forms part of the insignia of rank amongst Hindu and Mahomedan chiefs, and of such of their nobles to whom the right to wear it in their turbans has been bestowed. The ceremony of seating on the throne, masnad, or gadhi, consists in placing the prince thereon, and placing the tika or unction of sovereignty on the forehead of the prince; and tying on the jewels, consisting of the aigrette, necklace, etc.

AIHLAN or Elau. PANJ. Andromeda ovalifolia, a plant of the Panjab; goats and sheep die from eating its leaves.

AIL. BENG. A ridge of earth thrown up at the edges of rice-fields, serving as a balk to hold in the water of irrigation, and dividing the plots of cultivated ground the one from the other.

AILAK. TURK. Summer quarters of the pastoral nomades.

AILANTUS EXCELSUS. *Willde.*

Maruk, . . . MAHR.	Peru maram, . . TAM.
Peru mara, . . MALEAL.	Pedda manu, . . TEL.
Arala, ... SANSK.	Peyyapa, . . . ,,

This tree resembles the ash in its general appearance, but attains a larger size; it flowers in January and February. It is common about old buildings, and in broken ground of the Dekhan and of Gujerat, about Baroach and Baroda; is common in the Northern Circars and in the Godavery forests, and is met with in Coimbatore. Dr. Wight says its wood had been described as hard, close-grained, and heavy, and fit for gun-stocks; but Dr. Cleghorn, in the Madras Exhibition Jury Reports, describes the wood as light and white, and he and Graham say it is used for making sword handles, etc., also employed to make sheaths for spears and catamarans, and is not durable. The bark is used in medicine by the natives as a bitter tonic and alterative, and the juice of the leaf as a remedy against indigestion and diarrhœa.—*Drs. Roxb., Wight, Cleghorn, Riddell, Gibson; Useful Plants; Mr. Elliot; Mr. Jaffrey; M. E. Juries' Reports; Captain Beddome.*

AILANTUS GLANDULOSUS. *Desf.*

Chau-Chu, Chau-Ch'un, Chun-Chu, CHIN.

A hardy deciduous ornamental tree of Japan, China, and the Moluccas; the food of the silk-producing insect, Bombyx cynthia. It has been introduced into South Europe and Algeria, France and England. It grows 60 feet high; wood valuable, and tree a useful sand-binding plant. —*Jam. Ed. Journ.* vii. p. 194; *Von Mueller; Smith.*

AILANTUS MALABARICUS. *D. C.*

Doop, Baga Doop, S. CAN.	Peru maram, TAM., TEL.
Mudda Doop, . . CAN.	*Its Balsam.*
Walbelin gas, . SINGH.	Mutti pal, . . . TAM.
Kumbalu, . . . ,,	

A very lofty tree, common up to 3000 feet in Ceylon, and in the dense moist forests of the Western Ghats of the Peninsula of India, from South Canara to Cape Comorin, also in the Animalay hills. The bark has a pleasant and slightly bitter taste, and is given in cases of dyspepsia, and is considered a tonic and febrifuge. It yields a fragrant resinous juice known as Mutti pal. This, reduced to powder mixed with milk and strained, is given in small doses in dysentery, and reputed to be an excellent remedy, owing chiefly to the balsamic properties of the resin. The fruit, triturated with mango and mixed with rice, is reckoned useful in cases of ophthalmia. The bark is rough and very thick, studded with bright garnet-looking grains apparently of a resinous nature. This resin, as commonly met with, is of a dark brown or grey colour, plastic, opaque, and with an agreeable odour. It contains 77 per cent. of resin, the rest impurity. Alcohol readily dissolves the resin, and evaporation leaves it as a very viscous, transparent, light-brown semi-liquid, which does not solidify by many days' exposure to a steam heat. When burnt it gives out a fragrance, and hence it is sometimes used for incense. Its perfume is, however, inferior to that produced by many other resins employed in the concoction

of the incense employed in Christian and heathen worship. The peculiar consistency of the resin would enable it to substitute Venice turpentine for many purposes.—*Ainslie, Wight, etc.; Useful Plants; Gibson; Fergusson; Beddome, Fl. Sylv.; Mr. Broughton.*

AILIA BENGALENSIS. *Gray.*

Bounce puttri, . URIA. | Puttuli, ... URIA.

An edible fresh-water fish of Orissa.

AILURUS FULGENS. *F. Cuv.*

A. ochraceus, *Hodgs.*

Wah; Wah donka, BHOT. | Suknam, Sunnam, . LEP.
Red cat bear, . . ENG. | Negalya ponya, . NEPAL.

This richly-coloured animal, one of the Ursidæ family, is a native of Nepal and Sikkim, dwelling among the rocks, and living on fruits, roots, bamboo sprouts, acorns; also on insects and larvæ. It is 9 inches high.

AIMAH. ARAB. Land granted by the Moghul governments, either rent free or at a reduced rent, to learned or devout men, or for some religious object.

AIMAK, a Mongolian, Manchu, and Turki word, meaning a tribe, but usually applied to four tribes called the Char Aimak, who dwell to the north of Herat and Kabal, in the range of the undulating country, which in some places assumes a mountainous, in others a hilly, character; and in some parts is well watered, in others bleak and rough, forming a watershed of two natural divisions, from the western of which flow the Murghab, the Tajend, and the Farrah-Rud, and from the eastern, the Helmand, the south-eastern feeders of the Oxus and the north-western feeders of the Kabal river. They are brave and relentless; and Afghans, when travelling from Balkh, Kabal, Kandahar, or Herat, never enter into the mountain districts of these intrepid nomadic tribes. One Aimak tribe is known as the Firoz Kohi, after the city of that name, about 63 miles from Teheran. Timur, exasperated at the depredations which they committed, transported the whole of them into the mountains lying between Persia and India. Elphinstone names four Aimak tribes, Hazara, Taimuni, Taimuri, and Zuri, and estimates their number at 400,000 to 450,000 souls. General Ferrier says the Hazara Zaidnat had 28,000 tents, the Firoz Kohi 9000 tents, which at 4½ for a tent would give 160,000 souls. Vambery names four, Jamshidi, Taimuri, Firoz Kohi, and Taimuni, and says the Jamshidi have 9000 tents, or 40,000 souls, and that the whole are of Iranian origin, and speak Persian. Ferrier says the three branches, under great emergency, could collect 6000 fighting men; but Leech says the Taimuni could collect 20,000 against a foreign enemy. Lieut.-Colonel M'Gregor, reviewing the statements, allows them to be able to show 12,000 fighting men, and estimates 250,000 souls as the Aimak population, viz. Zaidnat 120,000, Firoz Kohi and Jamshidi each 40,000, and Taimuni 50,000. The Taimuri dwell at Gorian and Kuh'sun, on the western boundary of Herat, and in the villages and towns situated east of Iran, from Tarbat Shaikh Jam as far as Khaf. About a thousand of these families dwell near Herat. The Taimuni dwell in the Jolgha-i-Herat, from Kerrukh to Sabzwar, the few who have extended to Farrah being styled by the Afghans, Parsivan. The Taimuni are of a wild, warlike nature, though agricultural. The Firoz Kohi near Kale No, and the Jamshidi have the shores of the Murghab. He says that in their reverence for fire, their respect to the east, to which their tent doors look, they retain many of the fire-worshipping views; eat horse-flesh, and mix the flour of a nut called khundzik (chestnut?) with that of their wheat. Sir John Malcolm informed Elphinstone that there was a large tribe called Aimak in Syria, which had established itself in Luristan, and produced the dynasty of Atabeks, so celebrated in Persian history. — *M'Gregor's Central Asia*, part ii.; *Ferrier's Journ.* p. 225; *Elphinstone's Caubul*, p. 481; *Latham's Descriptive Ethnology; Ferrier's Hist. of Afghans*, p. 3; *Vambery's Sketches of Central Asia.* See Afghanistan.

AIN, also Arjun. MAR. Pentaptera arjuna, P. tomentosa, and P. glabra.

A'IN. ARAB. A rule; ordinary revenue. Ain-ui-Mal, land revenue.

AINAH. HIND. The eye; a mirror. Ainah-saz, a looking-glass maker. Ainak, spectacles.

AIN CHUR. HIND. Dried slices of unripe mangoes.

AINDRA-JALIKA. HIND. Conjuring is so called, from Indra, 'the Hindu deity,' and Jala, a net, a deceit. Aindri, the Sacti of Indra.—*Hind. Theat.* ii. p. 306.

AING. BURM. Dipterocarpus alatus.

AIN-i-AKBARI, a compendium of Indian jurisprudence, prepared by the emperor Akbar's famous minister, Abul Fazl, aided by pandits. It was the first genuine communication of Hindu jurisprudence to persons of other religions. It gives the detailed account of the Mogul Empire at the end of the 16th century, and was translated into English by F. Gladwin, London, 1800.

AINI MARA. MALEAL. Artocarpus hirsuta.

AINKUDI KUMMALAR, the five artisan castes of Malabar. See Kummalar.

AIN MUSA, or Ayun Musa, the springs or wells of Moses, 7½ miles S.S.E. of Suez. They are in a small depression, about half a mile in circumference. The largest pool is 10 or 15 feet diameter, with two smaller ones near it, all slightly depressed below the surface of the surrounding desert. They are masonry structures. In the vicinity are isolated sand mounds.

AINO, the aboriginal races of Yezo. Their severe treatment by the Japanese has led them to other countries, and they also occupy the southern part of the island of Seghalin or Sakhalin, which is in possession of the Japanese. Aino, in their language at Sakhalin, signifies 'man.' In the historical records of the Japanese, they are referred to as eastern savages; and about B.C. 660 they still occupied the northern provinces of Nippon. Towards the close of the 9th century A.D., the Aino of Nippon became subject to the Japanese, and the Aino disappeared from that island as a separate race, emigrating to Yezo. In the 14th century the Japanese took Yezo, where a small number of Aino still remain; but in the early part of the 19th century the Aino crossed over to Sakhalin, by them called Oke or Northern Yezo, where they formed several settlements. They seem to be an offshoot of the hairy aboriginal race of Central China mentioned by Chinese historians. The main peculiarity attaching to them is the heavy growth of thick hair on the chest and limbs, and which very often covers also the whole body. Miss Bird mentions having seen

two boys whose backs were covered with fur as fine and soft as that of a cat. In form and features they are very unlike the Japanese. Their heads are well shaped, with high and prominent foreheads, and their faces are very striking. The eyes are large and very beautiful, the colour a rich liquid brown, the expression singularly soft, and the eyelashes long, silky, and abundant. The physique is very powerful; but they are very little removed from being savages. They have neither history nor letters, and claim descent from a dog. Their clothes are made from the bark of trees and the untanned skins of animals. They are grossly ignorant, very dirty, and their objects of worship consist of the bear, the sun, the moon, fire, water, but principally the Japanese conqueror Yoshitsune, because, as the tradition handed down for seven centuries tells them, he was kind to them. They are a subdued people, stupid, gentle, and good-natured. Of the Japanese government they live in abject terror. The men occupy themselves in hunting and fishing, and the women labour ceaselessly at their household duties. Aino-Japanesia was a name proposed by Mr. Logan to designate all the Japanese and Aino islands from Formosa to Kamtschatka.—*Hodgson's Nagasaki*, p. 52; *Ravenstein's Russians on the Amur*, p. 397; *Miss Bird's Japan.*

AINPARITI. MAL. Hibiscus rosa-sinensis.

AINSLIE, SIR WHITELAW, a Madras medical officer, who wrote Observations on Cholera Morbus; on Atmospherical Influence, in Lond., As. Trans., vol. i. p. 378; on the Climate of Seringapatam, As. Jl., 1835, vol. xix. pp. 25–34; Materia Medica of Hindustan; and Artisans' and Agriculturists' Nomenclature, in the English, Tamil, Dukhani, Hindustani, Telinga, Arabic, Persian, Sanskrit, and Latin Languages, 4to, Madras, 1813; and a second edition in 1828, in two volumes, published in London; also a Historical Sketch of Christianity in India, and other Eastern Countries, Edinb., 1835; Remarks on Climate and Diseases of Eastern Regions, Lond., As. Trans., ii. p. 13, iii. p. 55.—*Dr. Buist's Catalogue.*

AIN-ul-DIK. ARAB. Abrus precatorius.

AIOU or Yowl, a group of sixteen low circular islands on the west coast of New Guinea, and 30 miles N.E. from the island of Waygiou in the Gillolo passage. The largest lies in about lat. 0° 25′ N., long. 131° 0′ E. The group is surrounded by a coral reef, nearly a degree in circumference, the S.W. portion of which is separated from the main reef by a narrow but deep channel. The inhabitants are Papuans, few in number, and occupied almost exclusively in fishing and in catching turtle, with which the lagoons within the reef abound. Tortoiseshell of good quality is obtained here in large quantities, and trepang. Traders to Aiou bring red and white calicoes, thick brass wire, old clothes, glass beads, and all sorts of ornamental finery, in which the Negroes of New Guinea delight, as much as those of Africa. The natives are tolerably friendly to strangers, but are inclined to be treacherous and revengeful, which is the character indeed of all the Papuan tribes. —*Journal Ind. Arch.; Horsb.*

AIR.

Lay, ... BURM.	Aer, ... GR., LAT.
Air Atmospherique, FR.	Howa, AR., HIND., PERS.
Luft, ... GER.	

Amongst the Mahomedan races of India, the air and the water together, Ab-o-howa, are reckoned to constitute climate. Amongst Hindus, the water alone is regarded as the agent affecting the salubrity of the climate.

AIRAVAT, in Hindu mythology, a Naga king, father of Udipi.

AIRAVATA, one of the fourteen gems produced from the churning of the ocean. Airavati, in Hindu mythology, the white elephant, the vahan of Indra. The word means 'watery,' and is applied to the rivers Irawadi, Ravi, and Phanni.

AIR BLADDER.

Fish maws, Swim, ENG.	Isinglass, . . . ENG.
Fish sounds, . . ,,	Air-bag, ... ,,

A peculiar organ with which the great majority of fishes are provided, and by which they are enabled to adapt the specific gravity of their bodies to the various pressures of the superincumbent water at different depths. It is composed of a lengthened sac, sometimes simple, as in the common perch, sometimes divided into two or more compartments by a lateral or transverse ligature, as in the trout and salmon, and at other times furnished with appendices, more or less numerous, according to the particular species. In all cases it is composed of a thick internal coat of a fibrous texture, and of a very thin external coat, the whole being enveloped in the general covering of the intestines. Fishermen perforate this vessel with a fine needle, in cod and other species which require to be brought fresh to market, sometimes from a very great distance. By this operation the confined air is allowed to escape, and the fish constrained to remain quiet at the bottom of their well-boats, where they live for a very considerable period. The air bladder of certain fish is in much request as an article of diet, and in the arts. Russian isinglass is prepared from the sounds of the sturgeon, Accipenser sturio, found in the Caspian and Black Seas and their tributary rivers. In America, from the Labrus squeteague, the cod, Morrhua vulgaris; in Calcutta, from the sounds of the Polynemus sela, the Salea of Bengal; and the sounds of two Madras fish, the Korwa and Katali, are so employed, and largely exported to China. Iceland fishermen, as well as those of America, prepare isinglass of a very excellent quality from cod sounds.—*O'Sh.* p. 68; *Eng. Cycl.*

AIRI of Coorg are carpenters and blacksmiths who have emigrated from Malabar. They dress like the Coorg race, but do not intermarry.

AIRUN, a temple in Bhopal, built in the first year of the reign of raja Tarapain, by Dyanya Vishnu, the confidential minister and brother of raja Matri Vishnu. The inscription is the first in honour of the boar incarnation of Vishnu, and the boar coins probably belonged to this family of princes, who worshipped Vishnu as the boar. The inscription says that the minister Dyanya or Dhanya obtained his office by public election, and through the grace of God! Dhanya is called a rishi amongst the brahmans and the devoted worshippers of Bhagavan, but there is not any preposterous eulogy of brahmans. The language of the inscriptions is Sanskrit, but with words written corruptly, and probably about the 8th century of the Christian era. The character used in the inscriptions is that subsequent to Kanouj Nagari, or Allahabad, but before the Gaur or

Harsha character. Another inscription is on a pillar in front of the temple; the king mentioned is Buddha Gupta, who governed the country between the Jumna and the Narmada. The pillar was raised at the expense of Dhanya Vishnu, before the temple of the preceding inscription, by Vaidala Vishnu, who had been elected to the regency. The notice of a new Gupta, and a date of the dynasty (165), is of great interest, as Buddha Gupta necessarily followed those mentioned on the Allahabad and Bhitari columns; and up to Buddha Gupta's time, if he belonged to the Kanouj dynasty, its duration had been only 165 years. In the early part of the 5th century A.D., Fa-Hian found a buddhist king at Kanouj; and in the early part of the 7th century, Huian Thsang found a Hindu king reigning. The dynasties, therefore, had been changed between the 5th and 7th centuries, and the Gupta family had sprung up in the interval.—*Ben. As. Soc. Jour.* vii. p. 634.

AIT. SIND. A double Persian wheel.

AIT, an avatara of Mahadeva.

AITAREYA BRAHMANA, the name of an Aranyaka and a Upanishad of the Rig Veda, which contains the earliest speculations as to the Brahmanical ritual. It has been translated by Dr. Haug, and the Upanishad by Dr. Roer.

AITCHESON, Sir C. U., a Bengal civil servant, author of 'Engagements and Treaties.'

AIYAN or Ayar, written Iyar. TAM. A spiritual father; a respectful title of a head of a Hindu religious community. Aiyan, also Iyangar, in the south of the Peninsula of India, an honorary title given to Brahmans, especially those of the Sri Vaishnava or Ramanuja order, as Ramiah Aiyangar.—*W.*

AJAIB-ul-MAKHLUKAT, a book on natural history, written in the Persian tongue, by Kasvini; it means 'the wonders of creation.'

AJALA of Coorg. A class of the Pale or Tuluva Pariahs who personate demons.

AJAM. ARAB. Literally means 'foreign;' but in the southern part of Arabia, Al Ajam is applied to the opposite part of the coast of Africa. Ajam by the Turks means Turkish Arabia. Persia is Balad-ul-Ajam, and the north-eastern coast of Africa is Bar-el-Ajam. The Arabs divide the world into two great bodies,—first, themselves; and secondly, Ajami, *i.e.* all that are not Arabs. Similar bi-partitions are the Hindus and M'hlechas, the Jews and Gentiles, the Greeks and barbarians, etc. etc.—*Playfair's Aden; Burton's Mecca*, ii. p. 26; *Catafago.*

AJATA SATRA, a king of Magadha who collected the remains of Sakya Muni, and deposited them in one large stupa at Raja Griha. He reigned for thirty-two years, and died B.C. 526. His race were Bhattiya Brahmans. Sakya died in the reign of this king.

AJAURUKH. HIND. Acacia Jacquemontii.

AJAYA PALA, author of a Sanskrit vocabulary of repute.

AJGARA. SANSK. A python; a rock snake.

AJIGARTA, a rishi mentioned in the Aitareya Brahmana, who lived in the forests with his three sons, Suna Puccha, Suna Sepha, and Suno Langula. He sold Suna Sepha to be offered in sacrifice, and was even willing to do it with his own hands.

AJIPALA, one of the Chauhan dynasty. His name is celebrated in the Chauhan chronicles as the founder of the fortress of Ajmir (A.D. 124? A.D. 145?), one of the earliest establishments of Chauhan power.

AJITA. SANSK. A form of Vishnu, also of Siva, meaning unconquered, from a, privative, and jita, victory.

AJIT SINGH, a celebrated king of Kanouj, who was murdered A.D. 1680. See Rahtor.

AJMIR, the capital town of a district in Rajputana. Ajipala, of the Chauhan race, founded it in A.D. 145, and it was lost by Dola Rai in 685 to Mahomed Kasim, the Arab conqueror of Sind. In A.D. 1024, the people hung upon the army of Mahmud of Ghazni. The district has since seen many dynastic changes, and the city has been the scene of many interesting events. Syed Husain, who (A.D. 1210) was slain in a night attack by the Rahtor and Chauhan Rajputs, has a shrine at Taragarh, to which, in 1570, Akbar walked on the birth of his son Salim. Sir Thomas Roe, ambassador of James I., here presented his credentials to Jahangir. Thomas Coryat, the pedestrian traveller of the 17th century, who walked from Jerusalem to Ajmir, and spent only £2, 10s. on the road, dated his book from Ajmir. The Mahrattas held it from 1756 to 1787, but Daulat Rao Sindiah transferred it to the British, 25th June 1818. The population of this and the Mairwara district in 1872 was 316,590, and that of the town of Ajmir, 26,569, Rajputs, Jat, Gujar, Mhair. The town is in lat. 26° 27′ 10″ N., and long. 74° 43′ 58″ E.—*Rennell's Memoir*, xlvi. and xlvii.; *Tod; Imp. Gazetteer.*

AJMIRGARH, a hill in the Bilaspur district, Central Provinces, 3500 feet high. It has a tank from which the Sone flows to the north, the Mahanuddi to Cuttack, and the Nerbudda to the Indian Ocean. The place has always been sacred, and is surrounded by temples of great age. On the south and east of this hill is the table-land of Chatisghur.

AJMOD. SANSK. Apium involucratum, also A. graveolens and Petroselinum sativum, parsley.

AJODHYA, on the right bank of the Gogra river, near Fyzabad in Oudh, is in lat. 26° 48′ 20″ N., and long. 82° 14′ 40″ E. It has now a population of 7518 of Hindus and Mahomedans, but in ancient times it was the capital of the kingdom of Kosala, the modern Oudh, ruled over by the great king Dasaratha of the Solar line, and father of Rama Chandra. At one time it is said to have covered an area of 12 yojana, equal to 96 miles. During buddhist supremacy Ajodhya declined, but on the revival of brahmanism it was restored by king Vikramaditya (A.D. 57). There are many Jain temples, and three mosques on the site of three Hindu shrines,—the Jan-Masthan on the site where Rama was born, the Swarga-dwara (Mandir) where his remains were burned, and the Tareta ka Thakur, famed as the scene of one of his great sacrifices. A mausoleum is here of the Bahu Begum, and is the finest in Oudh.

AJUDHAN or Pak-Pattan, an ancient city in the Panjab. See Pak-Pattan.

AJUGA BRACTEOSA. *Wall.*

Karku,	. BEAS.	Nil-Kanthi,	. SUTLEJ.
Kauri Buti,	. JHELUM.	Khurbanei,	. TR. IND.
Jan-i-Adam,	. PERS.	Umkund Babri,	,,
Wadi Buti, SUTLEJ., RAVI.			

This and several other species resembling it occur in the Panjab Himalaya from 1500 to 8500 feet, and in the Salt Range; it is used to kill lice. The plant is considered depurative. Ajuga repens, *Roxb.*, of the hills of the Panjab and Kashmir, is also known there as Jan-i-Adam, the life of man, from its many virtues. It is nearly inodorous, bitter, and astringent, and with other species is used in fever as a substitute for cinchona.—*J. L. Stewart, M.D.; Honigberger; Powell*, i. p. 365.

AJUNTA, in the province of Aurungabad, in lat. 20° 32′ 30″ N., long. 75° 48′ E., celebrated for its buddhist chaityas and viharas, is in the northern face of a ravine, which has a westerly direction parallel to the face of the ghats, as they overlook Kandesh. There are many ravines or kora near; one commences at the town of Ajunta, and winds to the south and west for about three miles, opening there into Kandesh. Near its mouth is another ravine, taking a westerly direction for two miles, with several windings, at one of which, on the northern face of the rock, these caves have been excavated. This ravine nowhere exceeds 400 yards from brink to brink, nor above 500 yards at its bottom. Ajunta town is quite a small place, walled, with gates, and a bridge. The natives call the caves Yerrula, the same with those which Europeans call Ellora. They call them also Lena, and both terms mean drawings or paintings. There are 24 monasteries (Vihara) and 5 temples (Chaitya). The monasteries are usually square in form, supported by rows of pillars, with cells (Griha) in the walls in all three sides. The largest temple is 94½ feet by 41¼ feet. They furnish a continuous narrative of Buddhist art for 800 years, from about B.C. 200 to A.D. 600. The back or end of the Chaitya or temple cave is almost always circular; the roofs are lofty and vaulted. Within the circular end of the cave stands the Daghoba or relic-holder, consisting of a cylindrical case, supporting a cupola (Garbha), which is surmounted by a square capital or tee (Toran). The paintings on the walls depict Buddha and his disciples and devotees, with representations of streets, processions, battles, the interior of houses, domestic scenes, of love and marriage and death, huntsmen on horseback spearing the wild buffalo, and animals of every size. Women in groups performing religious austerities. They are the most complete series of Buddhist caves in India, without any mixture of Brahmanism. They escaped the observation of the Mahomedans when they invaded the Dekhan early in the 14th century, and destroyed similar paintings in the caves of Ellora. Some of the paintings refer to historical events. One large picture is supposed to represent the introduction into Ceylon of Buddhism, and all the figures of men and women in it have only short waist-cloths or kilts. Another large picture represents the coronation of Sinhala, a Buddhist king. He is seated on a stool, crowned with a tiara, with necklaces, armlets, and bracelets of gold, and girls are pouring corn over his shoulders. Naked to the waist, he wears a striped dhoti, covering from the waist to the knee, with one end passed across his chest and over his left shoulder; most of the men attendants are similarly clothed with dhotis reaching from the waist to the knee. The soldiers present, spearmen and foot and horse, and groups of soldiers with long oblong shields and curved swords, have short waist-cloths only. All the women are nude to the waist. There is a representation of Buddha teaching; his right arm is naked; and female figures stand, in different attitudes, around, all nude, but have necklaces, ear-rings, and bracelets, and one has a girdle of jewels round her loins. The caves were first described by Lieut. Alexander in the Royal Asiatic Society's Transactions. Captain Gresley of the Bombay army noticed them. Mr. James Fergusson and the Rev. Mr. Burgess have described them. Major R. Gill, of the Madras army, continued drawing and photographing these caves for nearly 30 years, sometimes residing in a cave for days, but his drawings were all destroyed in a fire at the Crystal Palace, near London. He built a house at Fardapur, now the travellers' bungalow, but latterly he resided at Ajunta. Copies of the fresco drawings were taken by Mr. Burgess in 1873.—*Ed. Rev.* June 1867, pp. 131–2; *Taylor's Mackenzie M. S. S. B. As. Soc. Journ.; Pers. Obs.; Imp. Gaz.*

AJWAIN SEED.

Amus,	Arab.	Azma,	Guj.
Juvani,	Beng.	Ajwain,	Hind.
Lovage,	Eng.	Ajma,	Mahr.
Bishopsweed seed,	,,	Nan-khoah,	Pers.

In Hindustan, ajwain is the seed of the Ptychotis ajowan, *D. C.* In the Dekhan it is the name of Anethum sowa, or Bishopsweed. Khurassani ajwain is wholly different, being the seeds of the henbane, and poisonous. P. sylvestris, *Royle*, is the Arab Ajwain, called by the Persians Nankhoah, largely used as a carminative and in flatulent colic, and, Honigberger states, in stoppage of urine. Ptychotis ajowan seeds are very small, stalked, conical, pointed, streaked with yellow stripes, and stalks of the seeds of a bright yellow. Henbane seed is grey, not ribbed or streaked, shape obscurely triangular, and flattened, surface rough and dotted. Bal ajwain is Pimpinella crinita and Ptychotis coptica. Other seeds, especially of umbelliferous plants, are sold under both these names. — *O'Shaughnessy; Fleming; Faulkner; Honigberger; Riddell.*

AK. Hind. Calotropis gigantea; C. procera.

AKA are tribes who occupy the western extremity of the hills which form the northern boundary of Assam. The Aka or Hrusso are the only occupants of the segment of the hill country lying north of the Darrang district, between the Daphla territory and Butan. They are known as two clans,—the Hazari-khawa and the Kapas-chor, or cotton thieves. The Aka only number about 230 families, but they were, nevertheless, for many years, the terror of the inhabitants of Chardwar, in the district of Darrang, and were notorious as the most daring marauders of the frontier. The Aka dialects appear to belong to the Abor group, 35 words in Mr. Brown's list of 60 being common to Aka and Abor, and prefixes occurring as in Abor.—*Jour. Ind. Arch.* 1853; *Dalton, Ethnol. of Bengal*, p. 37; *Imp. Gazet.*

AKABA, a gulf at the N.E. part of the Red Sea; also the town there.

AKAKIA. Hind. A red stone brought to Ajmir from Dehli, containing iron; used there as a tonic, in the dose of one tola.—*Med. Top.* p. 125.

AKAKIAH. Arab. Spoken of both by Hippocrates and Dioscorides as Akakalis; it is an extract from the fruit of the Acacia vera, or from

its leaves, which are pounded and the juice inspissated. The inspissated juice of the sloe, Prunus spinosa, is substituted for the ancient Akakia. The Akakia is not now used in medicine of Europe.

AKALI. These were armed Sikh devotees and fanatics, violent and ignorant. They were first established by the Guru Govind, the founder of the Sikh faith, and they zealously supported him against the innovations of the ascetic Byragi. Their Boonga or temple, on the side of the holy reservoir at Amritsar, is a fine building; but Akali are met with all over the Panjab, though chiefly in the Manja territory, between Lahore and the Gharra, where Tarantara is their chief town. A considerable number are settled at Nandair, on the banks of the Godavery, but are quiet and peaceable. In reality wealthy, they affect poverty and beg; but in the time of the Sikh rule their begging was an insolent demanding, and as they were a bold united body who made common cause, and did not scruple to expose their own lives or to make false accusations of crimes, these wild-looking men enforced their demands with an insolent independence, which those only could understand who have witnessed a band of drunken Akali, almost in a state of nudity, brandishing their naked swords, and bawling out abusive and obscene language; their power to enforce their demands, therefore, was very great. They particularly showered their angry words on Europeans; and until Ranjit Singh mastered them, even his life was several times in danger. Under the British rule, and with power to enforce toleration, they are never heard of. They would extort alms from chiefs and others, by interdicting them from the performance of religious rites; and a chief unpopular with the Akali, who made common cause with each other, risked his authority. Their name is derived from Akali-purusha, worshippers of the Eternal, the word Akal being a compound of kal, death, and the privative a, meaning never-dying, or immortal. It is one of the epithets of the Deity, and is given to this class from their frequently exclaiming 'Akal, Akal,' in their devotions. They wear blue chequered dresses, and bracelets of steel round their wrists, which all Sikhs do not wear; though it is indispensable for a Sikh to have steel about the person, and it is generally in the shape of a knife or dagger. They formerly initiated converts, and had almost the sole direction of the religious ceremonies at Amritsar. The Akali had a great interest in maintaining the religion and government of the Sikhs, as established by Guru Govind, upon which their influence depended. They often went profusely armed, with half a dozen swords; perhaps also a matchlock, and several steel discs on their turbans.—*Masson's Journeys; Mohun Lal's Journeys; History of the Panjab*, i. p. 130, 131; *Steinbach's Panjab*, p. 8–9; *Malcolm's Sikhs*, p. 116; *Ward's Hindoos*, ii. p. 273–4; *As. Res.* vol. xi.; *M'Gregor, History of the Sikhs*, i. pp. 81, 236, 237; *Pers. Obser.* See Amritsar; Banda; Boonga; Discs; Manja; Sikhs; Tarantara.

AKAL-NAFZAH. ARAB. Euphorbium.

AKA-PODWAL, a race in Malabar and Canara who follow the rule of Marumakatayam, or descent from mothers, the descensus ab utero of the Locrians, who drove the Sicilians out of a part of Italy. See Polyandry.

AKAR-CHIRIT-MURAI. MALEAL. A plant yielding an elastic gum.

AKAR-KANTA. HIND. Alangium decapetalum.

AKARKARA. HIND., PERS. The roots of Anacyclus pyrethrum and A. officinarum; also of Spilanthus oleracea, all applied in toothache, and probably derived from other plants in different places.

AKAR KOUF, a mound 10 miles north-west of Baghdad, on the west shore of a marsh 12 miles long and 5 broad, and 12 to 15 feet deep, fed by the waters of the Euphrates, through the Saklawiah canal. The ruined pile is called by the Arabs Tal Namrud, and by the Turks Namrud Tapassi. Both these terms mean the hill, not the tower, of Nimrod; and the term Akarkouf, or Agargouf, given by the Arabs, is intended to signify only the ground around it.—*Porter's Travels*, ii. p. 281; *Mignan's Travels*, p. 102; *M'Gregor*. See Namrud.

AKAR-PARSI. MAL. Asparagus racemosus.

AKAR-WANGI. MAL. Andropogon muricatus.

AKAS. ARAB. A hoop of a black colour, worn by the Hodelyah Arabs to retain the dark-coloured square of cloth on the head. The outer rim is inlaid with pieces of delicately engraved mother-of-pearl, rather larger than a shilling.—*Hamilton's Sinai*. See Aakal; Arab.

AKASA. SANSK. Ether, sky, space, ethereal space; the inane or vacant space of Lucretius; the fifth element of the Hindus; it is applied to designate several plants, etc.

Akasa Garuda gadda, Byronia epigœa, *Rottl.*; B. glabra, *R.* iii. 725.

Akasalinga, also Akasaliga, a form of the lingam.

Akasam. See Acasanavi; Hindu.

Akasananchyayatana, in buddhism, the lowest of the incorporeal Brahma-lokas.

Akasa Tamara, Pistia stratiotes, *L.*

Akas-Bel or Amar Bauria, Cuscuta reflexa; literally sky plant.

Akasa-Vulli, Cassyta filiformis.

Akas-Diya, a lamp suspended in the open air by the Hindus, in the month Kartik.

Akasia, in the Bombay Presidency, land which depends on the natural rains.

Akas-Mukhi, from akas, the sky, and mukha, the face, ascetic mendicants among the saiva Hindus, who hold up their faces to the sky till the muscles of the back of the neck become contracted and retain that position. See Urdha bahu.

Akas-Nim, Bignonia suberosa, *Roxb.*

AKBAH, the Arab conqueror who overran the States of Barbary.

AKBAR, Jalal-ud-Din Mahomed Akbar, reigned in India from A.D. 1556 to 1605. He was grandson of the emperor Babar, and seventh in descent from Timur. He was the eldest son of the emperor Humayun, and was born at Amirkot, in the valley of the Indus, on the 14th October 1542, while his father was a fugitive. Humayun regained the throne in 1555, and died by a fall from his library stairs a few months later. Akbar was handsome in person, courteous in manners, skilled in all manly exercises, and courageous to excess. He delighted to master unruly horses and elephants, and was devoted to tiger-hunting. While yet a lad, he was kept under by his prime

AKBAR.

minister, Bahram Khan, but he returned suddenly to his palace from one of his hunting expeditions, and issued a proclamation taking the government into his own hands. On this Bahram Khan raised an army, and attempted to seize the Panjab, but he was defeated, and pardoned by Akbar. By the time he attained the age of twenty-five years, Akbar had settled himself firmly on his throne; and in the course of his long reign he extended his sway over Rajputana, and from Afghanistan to Ahmadnaggur in the Dekhan, and from the Suliman mountains on the west, to Bengal and Assam in the east. He was an enlightened monarch; he introduced religious toleration, and equal justice; encouraged literature, arts and science; and the Ain-i-Akbari, or Institutes of Akbar, a legislative work, was compiled under his orders. Prior to this sovereign, of all the dynasties that had yet ruled in India, that of the house of Timur was the weakest and most insecure in its foundations. The houses of Ghazni and Ghor depended on their native kingdoms, which were contiguous to their Indian conquest; and the Slave dynasties were supported by the influx of their countrymen. But though Babar had been in some measure naturalized in Kabal, the separation of that country under Kamran had broken its connection with India, and the rival of an Afghan dynasty turned the most warlike part of its inhabitants, as well as of the Indian Mahomedans, into enemies. Colonel Tod remarks (Rajasthan, i. p. 522) that it affords an example of the Hindu doctrine of the metempsychosis, as well as of the regard which Akbar's toleration had obtained him, that they held his body to be animated by the soul of a celebrated Hindu gymnosophist; in support of which, they say Akbar went to his accustomed spot of penance (tapasya) at the confluence of the Yamuna and Ganges, and excavated the implements, viz. the tongs, gourd, and deer-skin, of his anchorite existence. Assuredly, says Elliot, a more extraordinary man never sat on the throne of India. Brought up as a Mahomedan, he was a rationalist and deist, and never believed anything, as he himself declared, that he could not understand. The so-called Ilahi religion, which he founded, was pure deism mixed up with the worship of the sun as the purest and highest emblem of the Deity. Though Akbar himself could neither read nor write, his court was the home of literary men of all persuasions. Whatever book, in any language, promised to throw light on the problems nearest to this emperor's heart, he ordered to be translated into Persian. Leedes, an adventurous English merchant, visited Akbar's court, and one of his four companions entered the emperor's service. Akbar abolished all arbitrary land taxes, and fixed the revenues according to the values of the different lands,—'fallow,' 'out of cultivation,' 'in rotation;' 'best,' 'middling,' and 'bad lands,' and 'over-flooded lands.' The Fasli or harvest era of Northern India has been traced to the year of Akbar's succession to the throne, the 2d of Rabbi-us-Sani, A. H. 963—A.D. 14th February 1656. It was in his reign that his physician, Budyn, introduced the rhinoplastic operation for restoring the nose; and he bestowed on Budyn a jaghir at Kangra. The first mention of Thugs occurs in his time, for 500 were executed at Etawa. In his invasion of Kashmir, he was opposed by the warrior pastoral race of Gulu-wan. Akbar's court was the most splendid that had ever been held in India, and he expended liberally. In marching, the enclosure of his own tents occupied an area of full five miles in circumference. His favourite residence was at Futtehpur Sikri, in the province of Agra. He instituted many public schools, abolished torture, did away with the capitation and pilgrim taxes, and reformed the laws. He arranged his empire into fifteen subahs or districts,—Kabal, Lahore, Multan, Dehli, Agra, Oudh, Allahabad, Ajmir, Gujerat, Malwa, Behar, Bengal, Kandesh, Berar, and Ahmadnaggur. Each was ruled by a Subahdar, with full military and civil powers, and a Dewan, nominated by the emperor; each district had a foujdar, entrusted with the military duties and civil courts. Akbar had early to subdue a revolt of his own army, which he effected by an army of Rajputs under Todar Mull. His Afghan soldiery serving in Bengal subsequently revolted, and against them he sent his near relation, Man Singh, who, after twelve pitched battles and seventeen years of conflict, completely established Akbar's authority there. Akbar's brother-in-law, the raja of Jeypore, afterwards conquered Kashmir. In Akbar's next efforts to curb the Yusufzai and Khaibari highlanders around Peshawar, his army of 40,000, under his foster brother raja Berbul, was completely destroyed and Berbul slain, and his subsequent efforts under Man Singh and Todar Mull only met with a partial success. Akbar next annexed Sind and reconquered Kandahar, and after 25 years of warfare, he was the undisputed possessor of the territories north of the Nerbudda. In A.D. 1573, he annexed Gujerat, Kashmir, and Sind, and parts of Afghanistan were subsequently added to the Moghul Empire. He married the daughter of the raja of Jeypore, a Rajput state. He early expressed a desire to become acquainted with Christianity. In 1578 he received the Portuguese envoy, Cabral, from Goa, and hearing that an excellent priest was then living in Bengal, he sent for him to hold a public disputation with the Mahomedan mullas. The accounts given by the Jesuits of an order issued by him in 1590 for the destruction of all mosques and minarets appears apocryphal; but it seems established beyond doubt that a party of Christian missionaries visited the country at his own express invitation.

Akbar died on the 13th October 1605. He is buried at Sikandra, five miles from Agra on the Dehli road. His is a small altar-tomb of white marble, in the centre of a square area of about forty English acres, planted with trees. It is enclosed by an embattled wall with octagonal towers at the angles, surmounted by open pavilions and four very noble gateways of red granite, the principal of which is inlaid with white marble, and has four high marble minarets. The central building is a sort of solid pyramid, surrounded externally with cloisters, galleries, and domes, diminishing gradually on ascending it till it ends in a square platform of white marble, surrounded by most elaborate lattice-work of the same material, in the centre of which is the small altar-tomb, carved with great delicacy and beauty. This is the tombstone. At the bottom of the building, in a small but very lofty vault, is the real

tomb of this great monarch, plain and unadorned, but also of white marble.—*Heber*, ii. p. 335–6; *Tod, Rajasthan*, i. p. 324; *Elliot, History of India*, p. 248; *Marshman; P. Arminius Vambery*, p. 393; *Elphinstone, Hist. of India.*

AKBAR NAMAH, a history of Akbar's reign, partly written by his minister, Abul Fazl.

AKCHEE. See Andkho.

AKEE, Blighia sapida, a tree of west tropical Africa, cultivated also in the West Indies. The arillus which supports the seed is eaten. It is very wholesome; and from its soft, rich flavour has the appellation of vegetable marrow. It should be introduced into India.—*Macfadyen.*

AKEEK. PERS. Cornelian; chalcedony.

AKEL. PORT. Arenga saccharifera, *Labill.*

AKHA. HIND. A pair of grain bags used as panniers.

AKHAL. HIND. A fifth of the heap after the corn is thrashed out.

AKHANDAM. TEL. Entire, not separated; a lamp which is kept continually burning in a Hindu shrine.

AKHAN JATRA, a Hindu cake festival.

AKHARWAI, a division of the Kurmi tribe.

A-KHASSA REGIO, a region described by Ptolemy, the snowy land of Ladak. See Khachangul.

AKHAT. HIND. In the N.W. Provinces of Bengal, a portion of the crop paid to the village artisans.

AKHBAR, from Khabar. AR. News. Akhbar-kaghaz, newspaper. Khalassat-al-Akhbar, the summary of news, a work by Khond Amir.

AKHI. PANJ. Rubus flavus; R. fruticosus. Akhra is R. rotundifolius, and Akhreri is R. biflorus.

AKHIARI. PANJ. Rosa macrophylla.

AKHIRI-CHAR SHAMBAH. HIND. A feast held amongst Mahomedans on the last Wednesday of their second month, Saffar. It took its rise from the circumstance of their Prophet having rallied from his illness. He took a bath on the 13th, and whilst drying his hair at the door of his house, he was accosted by an old woman thus: 'I am glad to see you well again; this is the Lord's doing, therefore he should be praised.' It is said that this remark prostrated Mahomed once more. On the last Wednesday of the month, he took another bath, and, plucking a mango leaf from a tree close by, he wrote on it the following seven short sentences from the Koran:—'Peace shall be the word spoken unto the righteous by a merciful Lord.' 'Peace be on Noah among all created beings.' 'Peace be on Abraham.' 'Peace be on Moses and Aaron.' 'Peace be on Elias.' 'Peace be on ye that have been good; therefore enter into Paradise, and remain therein for ever.' 'Peace be until the rising of the moon.' After meditating a short while on them, he washed the leaf, and drank the water thus used. Mahomedans differ as to what he used in writing the above. Some affirm that he wrote it with ink; others, again, say he used rose-water. Every Mahomedan on this festal day writes the seven sentences, selected by their Prophet from the Koran, on a mango leaf or on bread; if the former, the writing is washed off, and the water (called the 'water of peace') drunk, but if the latter, the bread is eaten, because they believe that by this means peace and quietness, health and plenty, will exist in their families throughout the ensuing year. After this has been done, the Mahomedan, according to his means, attires himself in the finest and most costly apparel, perfumes his whole body with attar, gets some meat, rice, dholl, and cakes, etc., prepared, and distributes them to the poor in the name of their Prophet. The rest of the day is passed very gaily; some of the richer classes have music and dancing, etc., while the poorer have a little richer repast than usual. For thirteen days after this festival no Mahomedan will leave his country or village to go to another, because ill-luck will attend him.

AKHLAQ-i-JALALI. This is one of the most celebrated Persian works on ethics. It was translated into English, among the publications of the Oriental Translation Society, by W. F. Thompson.

AKHOOND, the high priest of the Swat tribe; any religious teacher; a schoolmaster.

AKHOON-WOON. BURM. A revenue assistant.

AKHOR. HIND. Aralia Cachemirica.

AKHOZYE, an Afghan tribe in the valley of Kabal.

AKHRA, the dancing-place of the Kol tribes.

AKHROT. HIND. Aleurites triloba; Juglans regia.

AKI, the Lignum vitæ tree of New Zealand; it is the Metrosideros buxifolia; and is a rambling shrub, climbing by means of its lateral roots to the highest trees. It should be introduced into India.

AKIBAT. ARAB. The end. Akibat-ba-Khair-bad, may the end be prosperous.

AKINCHANYAYATANA, in Buddhism, the third of the incorporeal Brahma-loka.—*Hardy*, p. 433.

AKINDO, in Japan, a merchant. The Akindo were not permitted to ride on horseback.—*Hodgson's Nagasaki*, p. 12.

AKIT, a drink in use by the Arabs; but it has different names in all parts of Arabia. In the Hejaz it is known by the name of Mazir, as well as Iqt (a corruption of Akit). When very sour, it is called Saribah, and when dried, without boiling, Jamidah. The Arabs make it by evaporating the serous part of the milk; the remainder is then formed into cakes or lumps with the hand, and spread upon hair-cloth to dry. They eat it with clarified butter, and drink it dissolved in water. It is considered by the Arab a cooling and refreshing beverage, but boasts few attractions to the stranger. The Beluchi and wild Sindian tribes call this preparation of milk krut or kurut, and make it in the same way as the Bedouins. Krut is perhaps the source of the English word curd.—*Burton's Mecca*, i. p. 362.

AKKAD. An ancient race who occupied the mountainous country of Elam, from which they entered Babylonia. Before they left Elam, they had invented hieroglyphics; and the cuneiform characters of Babylonia and Assyria are a degenerated hieroglyphics, as are also the modern Chinese characters. Akkadian tribes established themselves to the E. of the S. parts of the Euphrates, between Koornah and the Karoon river, or even up to the Luristan range of mountains. The Akkad ruled near the shores of the Persian Gulf, and are the earliest mentioned in historic times who navigated the Persian Gulf and Indian Ocean. They are supposed to have formed part of the Kushite race, who had colonies along the

coasts from Bab-el-Mandeb to Malabar. The coast of the Persian Gulf was also the ancient home of their kinsmen the Canaanites, a part of whom became celebrated in after times under the name of the Phœnicians.

AKKAD, in Cairo, a weaver of silk cord.

AKKUSH. BENG. Rottlera laccifera.

AKKYE, or Ryot Laut, the subjects of the sea; a littoral race in Quedah, who dwell on the shores and islets of the Peninsula. See Kedah.

AKLBIR. HIND. Datisca Cannabina and Delphinium saniculæfolium.

AKLIL-ul-MALK. AR. Astragalus hamosus.

AKLIM. ARAB. A climate, a region.

AKLU of Kaghan. Viburnum stellionum, *Rich.*; also V. fœtens.

AKO-KHEL, a subdivision of the Razai section of the Yusufzai of the plains. They are in the Peshawar district.—*M'Gr., N.W. F.* i. p. 87.

AKOLA. HIND. Alangium decapetalum.

AKOLA, a town on both banks of the river Morna, in Berar, in lat. 20° 42′ 15″ N., and long. 77° 2′ E., with a population of 12,236. It gives its name to a district of 2654 square miles, with a population of 523,913. From the village of Patur on the west to near Nanda on the east, a distance of nearly fifty miles, and about ten in breadth on both sides of the Purna river, are salt wells. The best are near Dahihanda. The shafts are 3 or 4 feet in diameter, lined with basket-work. At 90 to 120 feet is a thick and strong band of gritstone, through which, when pierced, water rushes up 15 or 20 feet. The water is drawn up, and is exposed in salt-pans. The salt contains diliquescent salts, which give it a bitter taste, and spoil it for exportation. The district, since the 13th century, when it was overrun by Ala-ud-Din (1294), has been chiefly under Mahomedan rule. The last Hindu ruler, raja of Deogarh, in 1319 was flayed alive. Besides the Hindus and Mahomedans, depressed races, as the Pasi fowlers, and Mang and Jogi, are present. The Kunbi cultivators worship at Mahomedan shrines.—*Imp. Gaz.; P. Ob.*

AKOMANO, a name of Ahriman.

AKORA, a Hindu monastery. See Asthol; Math.

AKOR KHEL, a section of the Khatak.

AKRA or ANKRA. HIND. Vicia sativa.

AKRABI, a clan of the Abdali tribe on the sea-coast to the west of Aden. Bir Ahmid is their sole village. They have a high reputation for courage.

AKRI. HIND. Withania coagulans. Aksan is W. somnifera.

AK-ROBAT, a pass near Bamian; the town is about lat. 34° 42′ N., and long. 67° 41′ E.

AKRUR-ESWARA, the modern Aklesar, on the Nerbudda, opposite Bharoch; its name is from a, privative, and krura, cruel.

AKSHATA or Ach-Chuta. MAHR. Rice grains, coloured with saffron or vermilion, placed on the forehead of an idol; also on the foreheads of a Hindu bride and bridegroom at their marriage.—*W.*

AKSHAYA. SANSK. From a, privative, and kshi, to decay. Akshaya Lalita, the 7th of Bhadra (August—September), when a festival is celebrated by Hindu women in honour of Siva and Durga. Akshaya-patra, a beggar's platter. Akshaya Tritiya, the third lunation of the light half of Vaisakha, April—May, when offerings are made by Hindus to Krishna; also to Manes. It is the supposed anniversary of the creation.

AKSU, a district of Kashgaria at the base of the Alatagh. Aksu town contained 12,000 houses. It is situated at the confluence of the Aksu and Kokshal. Its curtain has four gates.

AK TAGH, a range of mountains forming the boundary between the khanate of Bokhara and Khokand, running E. and W. 500 miles.—*Tr.*

AKU JEMUDU or Aku Chemudu. Euphorbia nivulia, E. nereifolia, E. cattimandoo.

AKULMUHT. HIND. Cæsalpinia bonducella.

AKULU. TEL., SING. Aku, in Tamil, Elle. The leaves used by Hindus as platters. They are made of the plantain leaf, Wala-elle, TAM.; Ariti aku, TEL.; and leaves of the Banyan tree, Mari aku, TEL.; Ali-elle, TAM.; also of the Butea frondosa.

AKUND. BENG. Calotropis gigantea, *Brown*; and Calotropis liliacea.

AKU PATRIKAM. TEL. Leaves of Cinnamomum eucalyptoides, *Nees*. The leaves are used as a spice, and medicinally.

AKUSALA, in Buddhism, demerit; constituent of a, privative, and karma.—*Hardy's Eastern Monachism*, p. 433.

AKUT-CHUNI, small rubies or garnets, brought via Pali to Ajmir, and used as an aphrodisiac; one tola for two rupees.—*Genl. Med. Top.* p. 125.

AKYAB, the chief town in Arakan, in lat. 20° 6′ 45″ N., and long. 92° 56′ 30″ E., on the right bank of the Koladyn, a rapid river. It is the seat of a commissioner. The European part is beautifully laid out, and in 1872 it had 19,230 souls. The Akyab district lies between lat. 20° and 22° 19′ N., and long. 92° 14′ and 94° E., and has an area of 5337 square miles, and a population of 276,671. The district is bounded on the N. by Chittagong, W. by the Bay of Bengal, S. by Ramree island, and by the Youmadoung mountains. The name is said to be derived from a relic of Gautama, called Akyab-dau-kim, retained in a temple. Its forests have valuable timber trees,—Albizzia procera, Dipterocarpus alata, Lagerstræmia reginæ, Strychnos nux vomica, and Xylia dolabiformis. The population is largely Buddhist and Hindu. The Arakanese seclude their women, and have early marriages. There are several tribes in the Arakan hill tracts.—*Findlay; Imp. Gaz.; Pers. Obs.* See Arakan; Hill Tracts.

AK-YAU. BURM. Wood-aloes.

AL. ARAB. Pronounced and often written in the Roman letters el, and ūl, and ū. It is the definite article 'the,' as Al-Koran, the Koran.

AL, of Kanawar. Cucurbita maxima, *Duch.*

AL. HIND. Morinda citrifolia.

AL, in Kabal, a fabulous, preternatural being, resembling a woman of twenty years of age, the ghoul of Persia and Turkey. Persian women attribute the disasters of parturient women to her malevolence.—*Burton's Sindh*, p. 399.

ALABASTER.

Marmar abyad, .	ARAB.	Alabastro, . . .	IT.
Alabatre, . . .	FR.	Alabastrites, . .	LAT.
Alabastros, . .	GR., SP.	Alabastrum, . .	,,

A village called Alabastron, in Egypt, gave its name to this mineral. It is a hydrous sulphate of lime in a peculiar crystalline state, sometimes quite pure, sometimes containing small quantities of carbon or iron. When pure it is of spotless white, and in texture and colour is almost unrivalled amongst minerals. It is found to a

large extent in Lower Egypt, and perhaps this is alluded to in 2 Kings xxi. 13. It is said to occur in the Boogtee hills near Jacobabad, and in Afghanistan in the quarries of Maidan. It is not known to occur in British India, the images of the Burmese being from a carbonate or granular carbonate of lime, though commonly called alabaster, and known in Europe as oriental alabaster; it is a stalactitic or stalagmitic carbonate of lime, of the same hardness as marble, and used for similar purposes, and is found of all shades, from white to brown, and sometimes veined with coloured zones. The magnificent Belzoni sarcophagus, purchased by Sir John Soane for 1000 guineas, and exhibited at his museum, is of stalagmite. The finest alabasters are from near Volterra in Tuscany, between Cecina and Leghorn. An inferior kind occurs near Derby in England, at Montmartre near Paris, and in the Tyrolese, Swiss, and Italian Alps.—*Mason; Tomlinson.*

AL' ABBAS. This race, called the Abbassides, reigned as khalifs in Baghdad from A.D. 749-50 to A.D. 1258-59, when Baghdad was besieged and taken by Hulaku, the grandson of Chengiz Khan, and its reigning khalif, Mustasem, put to death. They derived their name and descent from Abbas-ibn-Abd-ul-Mutalib, a paternal uncle of Mahomed (566-652). Ibrahim, the fourth in descent from Abbas, supported by the province of Khorasan, obtained several successes over the Ummeid armies, but was taken prisoner and put to death by the khalif Merwan, A.D. 747. Ibrahim's brother, Abul Abbas, assumed the title of khalif, and a victory near the Zab river, A.D. 750, secured his position. He was named Us-Saffah. His brother and successor, Al-Mansur, born at Homaima in Syria, A.D. 713, succeeded the khalif Us-Saffah A.D. 753. He laid the foundation of the town of Baghdad; he established schools of medicine and law; he gave much of his time to the study and advancement of astronomy; translations were commenced of the works of the ancient Greek writers on metaphysics, mathematics, astronomy, and medicine; and the first known lunatic asylum is said to have been established by him. He died A.D. 776. His grandson was Harun-ur-Rashid, known throughout Europe for his valour, his love of justice, his zeal for literature and the arts, and his encouragement of commerce, though guilty of many cruel tyrannical acts. He ruled from A.D. 786 till A.D. 809. He placed all public schools under John Mesue, a Nestorian Christian; Manik and Saleh, two Hindu medical men, were his personal physicians; and Manik translated into Persian from the Sanskrit a treatise on poisons. Ul-Mamun, his son, after a brief contest, succeeded to the khalifat, and the twenty years of his reign, from A.D. 813 to 833, formed an important epoch in the history of science and literature. He founded colleges and libraries at Baghdad, Kufa, Basra, and Nesabur. He built observatories; Syrian physicians and Hindu mathematicians and astronomers lived at his court; and works on astronomy, mathematics, metaphysics, natural philosophy, and medicine were translated into Arabic from the Sanskrit and from the Greek. The brief period of forty-seven years of the reigns of Harun-ur-Rashid and his son Ul-Mamun, was a period of great prosperity; but that of Ul-Mamun was the Augustan age. During the khalifat of Makhtadar (A.H. 319—A.D. 931), in consequence of a patient having been killed by an ignorant practitioner, a law was passed that no one should be allowed to practise medicine until he had been licensed to do so by the chief physician. Their ruin was hastened by their body-guard, which the khalif Mustasem had formed (833-842), and succeeding khalifs became mere puppets in their hands. Mustasem, the reigning khalif, was slain by Hulugu, 20th February 1258.—*Thomas' Prinsep*, p. 304; *Balfour's Eminent Medical Men.* See Barmicides.

ALABELA? a variety of the chank shell.

ALABU, BENG.; Alabuvu, SANSK.; or Anapa Kaya, TEL. Lagenaria vulgaris, *Ser.*

ALACHA. PUSHT. A Kabali silk trouser piece, used to make paijamas.

ALACHANDALU, also Bobbarlu. TEL. Dolichos Sinensis, *L.*; and D. catjang.

ALACHATA, also Talantu tige. Ipomœa dentata, *Willde*; I. chrysoides, *W.*

ALADDIN, properly Ala-ud-Din, meaning Glory of the Religion. This is the hero of a Persian tale inserted in the English copy of the Arabian Nights. It is not in the Arabian version of the Alif Laila. The opening of this story partakes in the highest degree of imaginative sublimity. We are introduced to a magician, conscious of the existence of but one living being able to assist him in the acquisition of a wondrous lamp; and, to ascertain the whereabouts of this mortal, he applies his ear to the ground, and, among all the footsteps which at that moment are tormenting the surface of the earth, distinguishes those of one particular child, playing six thousand miles away in the streets of Baghdad.

ALADEL. SINGH. Artocarpus hirsuta.

ALAGILI-GHITSA. TEL. Crotalaria verrucosa.

ALAGIRI MALEI, a mountain twelve miles N. of Madura, in the S. of India, about 1000 feet high and 10 or 15 miles long. It is composed entirely of avanturine quartz or micaceous sandstone; some parts have ripple marks.

ALAIKA CHETTU. TEL. Memecylon ramiflorum.

ALAKA, on Mount Meru, the Himalayan residence and capital of Kuvera, the Hindu god of riches, unmatched for its lovely Gandharva girls, who deck themselves with

> 'The amaranth, bright glory of the spring,
> The lotus gathered from the summer flood,
> Acacias taught around their brows to cling;
> The jasmine's fragrant white their locks to stud;
> And bursting at thy rain the young Kadamba bud.'

ALAKH, the cry or call of the Gadara beggars. Alakhnami, a class of Saiva mendicants, worshippers of the Alakshya, the indefinable god, from a, privative, and nama, a name. See Gadara; Sanyasi.

ALAKNANDA is a mountain stream in the Garhwal district of the N.W. Provinces. It is formed by the junction of the Dhauli with the Saraswati, one of the streams deemed sacred by the Hindus. It rises in the snowy ranges of the Himalaya. It is one of the main upper waters of the Ganges. It receives in its course the Bhagirathi. Each of the points where it meets a confluent is considered holy, and forms a station in the pilgrimage which Hindus make to Himachal. Alakananda in Sanskrit is, alaka, light, and ananda, joy.

ALALI MARA. CAN. Terminalia chebula.

ALAM. ARAB. A state or condition, also a

region of the world. There are, in Mahomedan belief, many worlds. Mahomed, describing the creation, says, 'God said, I was a hidden treasure, and I desired to become known;' and by the instrumentality of the word Be, the universe came into being. It is recognised as the Alam-i-sufla and Alam-i-ala, the lower and upper worlds.

ALAM. ARAB. A flag, a flagstaff, a standard, a prop, a banner; the banner of Hasan and Husain, carried in procession in the Maharram festival. Alam-bardar, a standard-bearer.

ALAMAN. TURKI. A raiding party of Turkomans; a foray.

ALA MARAM. TAM. Ficus indica.

ALAMBAGH, at Lucknow; a palace in a beautiful park, belonging formerly to the royal family of Oudh. A victory was here gained by General Outram over the rebel soldiery, during the mutiny, on the 16th January 1858.

ALAMGIR, a title assumed by two emperors of Dehli. Aurangzeb took it on proclaiming himself emperor of India; and it is that by which he is known in Indian history, and in all regular documents; but some of his own countrymen and all Europeans call him Aurangzeb. He was the third son of the emperor Shah Jahan; he was born about the year 1619 (1614?), ascended the throne 20th August 1668, and died at Ahmadnaggur, in the Dekhan, on the 21st February 1707. See Aurangzeb. Alamgir II. was declared emperor in July 1754 (A.H. Shaban 1167). He was one of the princes of the blood, whom Ghazi-ud-Din, grandson of Asof Jah, raised to the throne, after he had deposed the emperor Ahmad Shah, and blinded him and his mother.

ALAMPRA, a Burmese monarch, who, in 1755, founded or re-built Rangoon.

ALAMUT, a bare, steep, solitary rock, 32 miles from Kasvin, and 63 miles N.W. from Teheran. It is celebrated as having been the fortress of Hasn-us-Sabah, commonly known as Shaikh-ul-Jabal, the redoubted chief of the Assassins—the Old Man of the Mountain of the crusaders. The ridge on which the castle is placed is about 300 yards in length from E. to W., and at the top not 20 yards broad. The height is about 200 feet, except in the west, where it falls to 100 feet. It is a place of great strength. The vicinity of the rock is a dreary solitude, but the view from the summit is very fine, embracing nearly the whole of the valley of Alamut and all the high mountains by which it is enclosed. It is sometimes called Al-mowut, also Allahamout, the latter word meaning eagle's nest in the language of the province.—*Van Hammer; Sheil; Malcolm, quoted by M'Gregor*, p. 18. See Hasan-us-Sabah.

ALANDADI ? a class of slaves in Tamil countries.

ALANG. BENG. An embankment.

ALANG-ALANG. MALAY. A grass growing in all the unwooded parts of the Archipelago; a species of Imperata.

ALANGIUM DECAPETALUM. *Lam.*

A. hexapetalum, *Roxb. Fl.* ii. p. 502; *Lam.*
A. tomentosum, *Lam., D. C.*

Bagh-ankra,	BENG.	Ankolamu,	SANSK.
Anisaruli mara,	CAN.	Ankola, Ankotha,	,,
Eopaata,	,,	Nieo-chaka,	,,
Akola, Akarkanta,	HIND.	Eepaatta,	SING.
Ankulo, Ankul,	MAHR.	Alangi,	TAM.
Angolam,	MALEAL.	Uduga, Udugu,	TEL.
Kara angolam,	,,		

This is a small tree or shrub. It is an excellent fuel plant for locomotives. It is found in rocky places in the hotter and dryer parts of Ceylon, throughout the Peninsula of India, in Gujerat on the Bombay side, in the Khassya hills, in Assam up to the base of the Himalaya, in Burma, the Malay Peninsula, and in Cochin-China. The wood is said by Dr. Roxburgh to be beautiful, and Dr. Wight found it to sustain a weight of 310 lbs., but it wants size. Captain Beddome describes it as furnishing an ornamental, beautiful wood, the tree attaining a fair size in the forests of the Godavery and Circars. The wood is said to be peculiarly sonorous; and in Ganjam the leading bullock has a bell of it, termed 'lodoke,' round its neck, the sound being heard to a great distance in the jungle. The astringent fruit is eaten by the natives; its roots are aromatic, and used in native medicine in snake-bites. Alangium glandulosum, *Thw.*, is a small tree of the Central Province of Ceylon, and grows at an elevation of 2000 to 4000 feet.—*Mr. Jaffrey; Drs. Roxb., Wight, Gibson, Voigt; Mr. Elliot; M. E. J. Rep.; Mr. Rohde; Useful Plants; Captain Beddome; Thwaites, En. Pl. Zeyl.* ii. p. 133.

ALAN KHAN, grandson of Chengiz Khan, and better known by the name of Hulaku.—He completed the conquest of Persia, and afterwards took Baghdad, putting to death the last of the once powerful khalifs in A.H. 656 (A.D. 1258–9). He also employed his forces in extirpating the Assassins, well known in the annals of the crusades. See Hasn-us-Saba; Luristan.—*Prinsep's Tibet*, p. 8.

ALAOS, a tributary of the Ganges, and the ancient Palabrotha was built at the junction. The Alaos was also called the Erranaboas or Eranoboas.

ALA PALA. TEL. Pergularia pallida, *W.*

ALARA, a brahman who attached himself to Buddha.

AL ARAB al ARABA, pure Arabs, the descendants of Kahtan or Joktan, the son of Heber.

AL-ARAF. ARAB. A boundary; the Mahomedan purgatory between paradise and hell.

ALARANJI. TEL. Convolvulus parviflorus.

ALARANTU. TEL. Rostellaria diffusa, *Nees.*

AL ARIM, a great tank or artificial lake which was formed in Arabia, but which burst in the 1st or 2d, or early in the 3d, century of the Christian era. Eight tribes then abandoned the locality. The bursting is noticed in the Koran as the Sail-ul-Arim.

ALASALE, or Koriti Chettu. TEL. Plecospermum spinosum.

ALASANDI. KAR. Dolichos catjang.

ALASE GANA MARA. CAN. Artocarpus integrifolia.

ALAT-CHANDUL. BENG. Methonica superba.

ALATHI, a titular designation applied to the Pshrodi caste of Travancore.

ALA-ud-DIN, of the Ghor dynasty, overthrew Bahram and destroyed Ghazni. He gave it up to three, some say seven, days of flame, slaughter, and devastation. All the superb monuments of the Ghaznavi kings were demolished, except the tombs of Mahmud, Masaud, and Ibrahim. He has been named by Mahomedans, Jahan-soz, 'burner of the world.' He died A.D. 1156 (A.H. 551), after an eventful reign of four years.

ALA-ud-DIN, emperor of Dehli, was the

nephew and successor of Jalal-ud-Din. Ala-ud-Din was the leader of the first Mahomedan invaders of the Dekhan, and took the road of the Vindhya mountains somewhere near Chikaldah. He took Deogiri, the modern Dowlatabad, about A.D. 1294, and returned to Dehli, where he procured the assassination of his uncle. In A.D. 1309 he annexed Gujerat, from which the Hindu ruler fled, and Ala-ud-Din carried off Kaula Devi, the raja's wife. Her daughter, Dewala Devi, who remained with the raja, had been long sought by the son of Ram Deo, raja of Deogiri, but the father had withheld consent to allow his daughter, a Rajputni, to ally with a Mahratta chief, and ultimately she was seized at Ellora by Ala-ud-Din's soldiers, and married to the king's eldest son. Ala-ud-Din's general was Malik Kafur. Ala-ud-Din died A.D. 1316 (Orme says A.D. 1317). In A.D. 1303, when he took Chetore, the females immolated themselves. Their funeral pyre was lighted in the great subterranean retreat. This horrible rite is termed the Johur. He was one of the most vigorous and warlike sovereigns who have occupied the throne of India. He took Anhulwara, Dhar, Avanti, Deogiri, the seats of the Solanki, the Pramara, the Purihara, and the Tak, and with these the entire Agnicula race was overturned for ever by him.—*Tod*, i. 265; *Marshman*.

ALA-ud-DIN ALI, bin ABUL HAZIM ul KORESHI ibn NAFIS, who died A.D. 1288, wrote in Arabic an epitome of the Qanun of Aristotle, which he styled Mujiz ul Qanun fi't Tibb, the Principles of Medicine.

ALA-ud-DIN MASAUD was king of Dehli in 1241–1246, when a Mongol invasion of Bengal occurred. Ferishta says it is supposed that they entered by the same route which was followed by Mahomed Bakhtiyar Khilji when he invaded Cathay and Tibet from Bengal, and when forced to retreat, he had not perhaps got beyond the Assam valley.—*Yule, Cathay*, lxxv.

ALAUSA TOLI, *Cuv.* and *Val.*, a fish of the seas of Penang, Malay Peninsula, Singapore, Borneo, Java, Sumatra, Pondicherry, Cauvery, Bombay. Total length, 1 ft. 6 in. Like A. ilisha in Bengal, the Trubu, A. toli, is denominated shad or sable-fish. Both are, however, somewhat oily, very rich, and bony. Alausa toli forms in the Indian Archipelago a distinct and important branch of fishery, principally for the sake of its roe. The fishery is probably quite inexhaustible, and might unquestionably be prodigiously improved by European skill and industry. The quantity of fish caught yearly amounts to between 14 and 15 millions. The Trubu, about a cubit long, is taken in three and four fathoms water on a mud bank. About 300 boats are engaged at all seasons in the fishery, with the exception of four days during dead neap tides. The roes are an article of trade seaways, and the dried fishes are sent into the interior of Sumatra. The raja of Siak draws a revenue from this fishery of 72,000 guilders yearly, receiving a certain duty upon the quantity taken. In the Malayan markets the roe is called Telur ikan, the fish roe *par excellence*. Like the preparation of fermented fish and shell-fish, Balachan, it is largely used by the Malays and Chinese to season and make their food palatable, and it is no less a favourite relish with Europeans. The fresh roe is thoroughly salted, and next partially dried, so as to retain a slight moisture, in which state it is by hundreds closely packed in casks, and thus exported. In the Malayan Settlements the price is from 3 to 4 Spanish dollars per hundred. The dealers there export considerable quantities to China, after having taken the precaution to repack the roes between layers of salt, and to sprinkle them with arrack. To dress them, they are soaked for about half an hour in water, and then fried. As the roe appears in commerce, it is of an elongated flat shape, measuring from 6 to 8 inches in length, about 2 in breadth, and three-quarters of an inch in depth, of a deep amber colour. The single eggs are larger than those of A. ilisha.—*W. T. Lewis, Esq.; Moor, Notices of the Indian Archipelago, etc.*, p. 29.

ALAVANTAR, a Bhatta Brahman, known by his poetical version in Tamil of the Sanskrit Gnana Vashistha, which is considered the standard work on Vedantism in South India.

ALAVI, any descendant of Ali, cousin and son-in-law of Mahomed, by other wives than Fatima, Mahomed's daughter. Fatima's children are termed Syud, or 'lord' (pl. Saadat, fem. Syudani); children by the other wives are designated Alavi Syud.

ALAWA. TEL. Aquila fulvescens, *Gray*.

ALAYA. SANSK. A dwelling, a place of abode; from a, privative, and alaya, to dissolve. Himalaya, the abode of snow. Dewal, a temple, is from deo, deity, and alaya, a house.

AL-AZHAR, the great collegiate mosque at Cairo.

ALBA ARBOR, the Cajaputi tree.

AL-BAIDAWI, a commentator of the Koran.

ALBANIA. The Albanians of Asia are supposed by M. Ruffin to have formed the basis of the present Afghans. He says that they were a warlike people, known as Aghvan or Avghan, but in consequence of their numerous revolts they were transferred from one extremity of Persia to another, and driven into Khorasan.—*Bunsen; Chesney; Burton's Mecca*, i. p. 199.

ALBANY ISLANDS are a few miles to the south-east of Cape York, the north-east extremity of Australia. The natives of the north-eastern parts of Australia are less friendly to strangers than the other tribes of this continent, which was confirmed by the massacre of Mr. Kennedy and the greater portion of his party, when exploring the country between Rockingham Bay and Cape York.—*Jour. Ind. Arch.*

ALBATEGNIUS, an Arab prince who stated the procession of the equinoxes to be 1° in sixty-six years. See Astronomy.

ALBATROSS. Several birds with this name are familiar to all voyagers in the southern seas, the common albatross, Diomedea exulans, being very numerous. D. fuliginosa, *Lath.*, and D. chlororynchus, *Lath.*, are also met with. Mariners distinguish them by familiar names. D. exulans is the wandering albatross; D. spadicea is the green-bill or Nelly of sailors; D. chlororynchus, their Mollymaux or yellow-bill; and D. fuliginosa, the sooty albatross.

ALBERT N'YANZA, a lake in Central Africa, 140 miles long and 50 miles broad. It was seen by Captain Speke in 1863, and in 1875–76 was circumnavigated by M. Gessi, a member of Colonel Gordon's staff.

ALBICORE, the Scomber thynnus, *Linn.*, an inhabitant of the southern seas. The back is

bright purple with a golden tint, belly silvery, with a play of iridescent colours, and with large and silvery eyes. It is in length from 3 to 6 feet. The albicore, bonito, and dolphin often follow a ship for a considerable time. Bennett (i. p. 42) mentions that an albicore, with a mark on its back, was first seen in lat. 3° N., and followed his ship to lat. 11° S., a distance of 840 miles.

AL BILADURI, author of Fatah-ul-Baldan. His name was Ahmad, son of Yahya, *q.v.*

ALBINDA. HIND. Citrullus fistulosus, *Stocks;* C. vulgaris, var. flexuosa.

ALBINO. This variation from natural colours is met with frequently in all Asiatic countries, and when occurring in man it is more noticed than amongst the fairer races of Europe, because of the contrast it offers with those around them, and because of the scant apparel in use. Albino men or women are not regarded with any peculiar feelings, being familiar to all; but in Asia, albino elephants, buffaloes, monkeys, and crows are also met with. White crows with pink eyes, also white deer, occur in Tipperah; albino crows are not uncommon in Malabar, and albino monkeys in Ceylon; but a kind of white monkey of Ceylon has been said not to be albino, though doubtless so; and one of the titles of the king of Burma is Lord of the White Elephant. The albino elephant of the king of Siam, seen in 1881 by Carl Boch, was of a pinkish-grey colour. When the British took possession of Kandy in 1803, they found five beautiful milk-white deer in the palace; and others have since been seen in Ceylon. An albino deer was caught in 1845 at Macassar, and a grey one at Antipi, near Batavia, in 1840. The ordinary domesticated buffalo frequently is an albino.

AL BIRUNI, the surname of Abu Rihan, author of the Asar-ul-Bakaya, or Vestiges of the Past, a Chronology of Ancient Nations, which he wrote A.D. 1000—A.H. 390-1. He was a native of Khiva, but wrote his book probably at Herat, after his country had passed under the rulers of that district. This central position gave him access to many nationalities, and enabled him to understand the systems of computing time in use among the Jews, Syrians, Greeks, the Nestorian and Melekite Christians, the Egyptians, Babylonians, Zoroastrians, Indians, the heathen and Mahomedan Arabs, the Bukhariots and the Khivans. Al Biruni appears to have busied himself particularly with the Jewish and the Zoroastrian traditions; but he was singularly impartial in his investigation. The main object of his book is 'to fix the duration of kings' reigns;' and to do this, lists of all the royal houses of ancient nations are brought together, and a strict investigation instituted into the chronological systems appropriate to each, for the purpose of reducing them all to some common basement upon which a universal history could be built.

Al Biruni wrote in Arabic, and the manuscript copies of his book are rare and exceedingly difficult to read. He supplies us with many curious notices of the Buddhists, Manichæans, Zoroastrians, the Veiled Prophet, the founder of the belief in the coming of Mahdi, the strange sect of Zakariyya, and other less known but highly interesting sects, both Muslim and Christian. Al Biruni was an excellent mathematician, with an exact and scientific mind, possessing a large share of critical acumen, free from prejudice and bigotry, a truth-loving, patient investigator, and an able linguist. The nature and origin of rivers, their flow, their tides, their annual rise and fall, are facts well known to and accurately explained by him. It is, indeed, truly astonishing to read his explanations of these phenomena, in almost the very words of modern science. He introduces one statement of the law of gravitation as though it were well known to the scholars of his time, asserting that his remarks about the flow of water, etc., will never be evident to the vulgar 'unless they study physical sciences, and learn that the water moves towards the centre of the earth, and to any place which is nearest to the centre.' This is Newton's law of gravitation in the very words in which it is generally found in modern school-books. Al Biruni very clearly sets forth the causes of constant and intermittent springs, and is not less precise in his explanation of the action of a syphon, and points out the effects produced by the pressure of the atmosphere on water. Al Biruni explains that the tides are caused by the moon revolving 'from one certain point of her cycle back to the same, or from the sun to that point. Thus the flow is the strongest in the first half of the lunar month, and weakest in the second half. Besides, also, the sun has an influence upon this.' He mentioned the disappearance from Ceylon of the pearl oyster, and their appearance at Sofala, in the country of the Zends. —*Tennent's Ceylon.* See Pearls.

ALBIZZIA, a genus of plants of the natural order Fabaceæ. It includes many plants formerly arranged under the genus Acacia. A. bigemina, *F. v. Mueller*, is a tree of Nepal, Sikkim, and Ceylon, up to 4000 feet. A. julibrissin, *Durazzini*, is a favourite ornamental tree from the Caucasus to Japan, grown for shade. A. lucida, *Benth.*, is a timber tree of Darjiling Terai, and A. mollis, *Cuv.*, is a plant of Kaghan.—*Von Mueller.*

ALBIZZIA AMARA. *Boivin.*

Mimosa amara, *Roxb.* ii. 548.	Acacia amara, *Willde.*
,, pulchella, ,,	,, Wightii, *Graham.*
Bel kambi, . . . CAN.	Shekram, . . . TAM.
Lallye, ... MAR.	Nalla renga, . . . TEL.
Narlingi, . . TAM., TEL.	,, regu, . . . ,,

This tolerably large tree grows in the north of Ceylon, and throughout the Peninsula of India. It has a maximum height of about 30 feet, seldom exceeding five or six feet of girth. The wood is dark brown, mottled, and very handsome, strong, fibrous, and stiff, close grained, hard, and durable, and superior to sal and teak in transverse strength and direct cohesive power. It is much used by the natives for building purposes, beams, etc., and in the construction of carts and ploughs, and makes excellent fuel, and was most extensively cut for the locomotives in the Salem district and along the Bangalore line. The natives use the leaves for washing their hair. The tree grows most rapidly as coppice.—*Drs. Roxb., Wight, and Gibson; Mr. Fergusson; Beddome, Fl. Sylv.* p. 61.

ALBIZZIA ELATA. *Graham.*

Acacia elata, *Graham.*	Mimosa elata, *Roxb., Wall.*
Seet; Thaeet-thæ, BURM.	Baro, ... PANJ.
Chickul mara, . . CAN.	Kareo, . of N.W. PROV.
Dhoon siris, . . PANJ.	Tella Sopara, . . TEL.
Safed ,, . . . ,,	

This very handsome large tree grows in Ceylon, is pretty common in Sunda and Canara, above and below the ghats; occurs in the Godavery forests, in Tavoy, Mergui, and Amherst, on the

banks of the Irawadi and Ataran; is plentiful in Pegu and Tounghoo; grows in Assam, the N.W. Provinces, Dehra Doon, Kamaon, and the Panjab. Dr. Brandis says this Burmese wood may, at a future time, become an important article of trade, the heart-wood being strong and durable, and less heavy than that of most trees of same family; but the proportion of sap-wood is large. It is used by the Burmans for bridges and house posts. Breaking weight, 250 lbs. A cubic foot weighs 42 to 55 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 40 feet, and average girth, measured at 6 feet from the ground, is 10 feet. It sells at 12 annas per cubic foot.—*Drs. Brandis, Cal. Ex. Cat. of* 1862, *Roxb.*, *M'Clelland, Gibson, Voigt, Stewart; Captains Dance, Beddome; Messrs. Thompson, Fergusson.*

ALBIZZIA LEBBEK. *Benth.* Sirissa tree.

Acacia Lebbek, *Willde.*	Mimosa serissa, *Roxb.*
,, speciosa, ,,	Albizzia latifolia, *Boivin.*
Siris, . BENG., HIND.	Kat Vaghe, . . . TAM.
Sit, ... BUR.	Dirasana, . . . TEL.
Vaghe, ... TAM.	Pedda duchirram, . ,,

This large tree is common in every part of India, Burma, and Ceylon, in all soils and situations, is easily raised from seed, and is of very rapid growth. A. speciosa was long supposed to be distinct as a species from A. Lebbek. It grows to about 50 feet high, with a trunk up to 8 and rarely 12 feet in girth. It flowers in the hot weather, and the seeds ripen in the rains. It is generally nearly destitute of leaves in the cold season, and it has an extensive but thin head. Its Sirissa name is from the whistling noise given out when the wind is blowing. The seasoned timber weighs 50 lbs. the cubic foot, and 0·800 sp. gr. It is hard and durable, of a light reddish brown colour, with darker veins, and it is not liable to warp or crack. It is used for naves of wheels, pestles and mortars, picture frames, furniture, parts of boats, etc., and the heart-wood makes good charcoal. A gum very similar to gum arabic exudes from the trunk; the leaves and twigs are good fodder; and the seed is officinal. It grows well from cuttings, poles stuck in the ground rooting readily. Its branches are brittle, and suffer in localities exposed to the wind.—*Drs. Roxb., Stewart, Mason, M'Clelland, Cleghorn, Gibson; Captain Macdonald; Beddome, Fl. Sylv.* part v. p. 53.

ALBIZZIA MOLUCCANA is a tree of large size, growing to 70 or 100 feet in height, and has a handsome foliage of bipinnate leaves. It is used in Java for shading coffee plants in preference to all others, because its leaves do not fall in the dry season; the leaves being small, cause a more equal distribution of rain; and the leaves close at night, thus giving the coffee plants more fully the benefit of the moonlight and dew.

ALBIZZIA ODORATISSIMA. *Benth.*

Acacia odorat., *Willde.*	Mimosa odorat., *Linn., R.*
,, lomatocarpa, *D. C.*	,, marginata, *Lam.*
Ran Sarras, DEKH., MAL.	Tandai, . C. of PANJAB.
Chechua, Sankæur, GOND.	Karmru, ... BEAS.
Sirsa, ... HIND.	Karha, ... ,,
Buna, . . . of KAGHAN.	Surri mara, . . SINGH.
Karintha karra, . MAL.	Karroo Vaga, . . TAM.
Ran Sarris, MAHR., DEKH.	Sela wunjah, . . ,,
Siri, Lasre, Polach, Drek, PANJ.	Sela maram, . . ,,
	Shinduga, Telsu, . TEL.

This large handsome tree grows abundantly over all the Peninsula of India, in any soil, on the coast or in the interior; is found also in Ceylon, Bengal, Assam, the eastern provinces of Burma, Pegu, and Tenasserim, and in the Panjab. In the Madras Presidency, about Coimbatore, it is of rapid growth and in considerable abundance, attaining the height of 30 to 40 feet. It often attains a good size in the Bombay Presidency, but in Nagpur it is only in gardens that its dimensions are great; the timber it yields in other localities being, as a general rule, of small scantling. It is even there, however, obtainable in beams from 15 to 18 feet long and 3 feet in girth, at 5 annas per cubic foot. In Coimbatore, beams 1 foot square are procurable. The heart-wood is dark-coloured, turning almost black with age; is hard, strong, and heavy, and takes a good polish; the grain being ornamental, though rather open. In Nagpur it is described as being distinguishable from the timber of the Pentaptera tomentosa only by its much straighter grain, and greater lightness. It has an outer ring of white wood of from 2 to 3 inches in Nagpur, but which Dr. Gibson says, is, in the Western Dekhan, always three-fourths of the whole. This part alone is assailable by white ants; but by being creosoted it could probably be made a useful railway timber. All accounts describe its heart-wood as strong, hard, and heavy; in Nagpur, of sufficient size to form rafters, and excellently suited for naves and felloes of wheels; but there is an uncertainty as to its powers to bear moisture. A beam 1½ inch square sustained a weight of 570 lbs. The oil manufacturers of Nagpur use it for their mills, and it is there generally employed to make carts. The wood is said to deserve to be better known for the general purposes of carpentry. In Kangra the wood is said to be soft, and used only for fuel; its leaves are used for fodder; a useful gum exudes from the trunk. — *Captains Beddome, Sankey; Drs. Mason, Wight, Cleghorn, Brandis, Stewart, Gibson, M'Clelland, Roxb.* ii. p. 546; *Voigt; Madras Exhibition Juries' Reports; Major Drury; Mr. Rohde.*

ALBIZZIA PROCERA. *Benth.*

Acacia procera, *Willde.*	Mimosa procera, *Roxb.*
Tella sopra, . . . TEL.	Pedda Patseru, . TEL.

This tree grows in the Andamans and British Burma, also in the Peninsula of India, in the Madura District, on the Neilgherries, on the Godavery, in the Northern Circars, in Darjiling Terai, Goalpara, Garhwal; and it is cultivated in Ceylon, but is not indigenous there. Its heart-wood is dark-coloured and strong.—*Roxb.; Major Beddome; Mr. Fergusson.*

ALBIZZIA STIPULATA. *Boivin.*

Acacia stipulata, *D. C.*	Mimosa stipulata, *Roxb.*
A. Kangraensis, *Jameson.*	,, stipulacea, ,,
Amluki, ... BENG.	Surangra, . . . PANJ.
Boo-mai-za, . . BURM.	Kubal mara, . . SINGH.
Kal-bage, . . . S. CAN.	Hulan mara, . . ,,
Oi, Ohi, . . . KANGRA.	Konda chiragu, . TEL.
Lasrin, ... PANJ.	Chindagu, . . . ,,
Ola, Kasir, Durgari, ,,	

This unarmed species is one of the largest trees of the genus, and its flowers are of a pink colour. It grows in the N.W. Himalaya, Kangra valley, the Panjab, the Dehra Doon, and Garhwal, rising to altitudes from 3000 to 6000 feet, and attaining a girth of 7 to 9 feet. It grows in Ceylon, and all the Peninsula of India, Bombay, Mysore, Madras, Travancore, Courtallum; also in Bengal, and in Burma from Rangoon to Tounghoo, and on the banks of the Ataran river, and in Tenasserim.

In South Canara its timber is much in use; it is strong, compact, stiff, coarse-grained, and fibrous, of a light reddish-brown colour, and is used for building purposes, naves of wheels, etc. Its specific gravity is ·880, and it weighs 55 lbs. the cubic foot when seasoned, and 63 to 65 unseasoned; it attains a very large size, and must be a very rapid grower, as Dr. Roxburgh mentions one that he planted which measured 48½ inches in circumference at 4 feet from the ground when 7 years old; and Dr. Stewart mentions one that measured 7 feet in girth when 17 years of age, in the Saharunpur garden.—*Drs. Brandis, Cal. Ex. Cat. of* 1862*; Roxb.* ii. 549; *Voigt, M'Clelland; J. L. Stewart; Major Beddome, Fl. Sylv.* part v. p. 55; *Drury, Useful Plants; Messrs. Thompson, Powell, and Fergusson.*

AL-BORDSH, the Haro-berezaiti of the ancients, is supposed to be on the western slope of Belur Tagh, on the high land of Pamir.

ALBUQUERQUE. Don Alphonzo de Albuquerque, an officer in the service of the king of Portugal, who was sent to the Indies in 1504 and 1508. This bold and enterprising commander succeeded Almeyda in the command of the Portuguese in India; he took Muscat and other important places on both sides of the Arabian Gulf. Goa was twice captured by Albuquerque, in the beginning of, and on the 25th Nov., 1510. He captured the Fort of Malacca (1511), also the island of Ormuz, in the Persian Gulf. On the 18th February 1513, he started from India on an expedition, consisting of 20 ships, manned by 1700 Portuguese and 800 Indians, and failed in an attempt to take Aden by escalade; he afterwards wintered at the island of Kamaran, and returned from the Red Sea. He landed on Perim island in 1513. His command lasted from 1507 to 1516, and he was superseded and died. De Barras, the historian, was his companion. He widely extended the Portuguese power.—*Playfair's Aden; Marshman.* See De Barras; Perim.

ALCEPHALUS BUBALIS? Wild ox.

Antilope bubalis, *Pallas.*

Bubale, ... ARAB. | Bakkar-ul-Wash, . ARAB.

It ranges through N. Africa and Arabia. It is about the size of the largest stag, and is particularly remarkable for the great length of its head, and its narrow, flat, and straight forehead and face. It is common in every part of Northern Africa, living in numerous herds on the confines of the Tell or cultivated parts, and the Sahara or Desert, and also, according to Captain Lyon, upon the mountains south of Tripoli. Barbary seems to be its chief habitat, but a few individuals find their way across the desert to the banks of the Nile. Its representation occurs among the hieroglyphics of the temples of Upper Egypt. The young calves frequently mix with domestic cattle, and soon attach themselves to the herd. They fight like the common bull, by lowering the head, and striking suddenly upwards with the horns, which are formidable weapons either for attack or defence.—*Engl. Cyc.* p. 263.

ALCHEMY.

Kimia, ... ARAB., | Alchemie, . . . GER.
Alchimie, . . . FR. | Alchimia, . . . IT.

Search for the philosopher's stone, to convert the baser metals into gold, and to cure all diseases. Most Asiatics, whether Mahomedans, Hindus, or Chinese, believe in the possibility of this art of transmuting metals, and are easily duped by impostors. In China it is now laid aside; but prior to the Christian era, the processes were largely studied, and everywhere in the search for gold many mercurial compounds were discovered.

ALCOHOL.

Samshu, . . ANGLO-CHIN. | Alcool, ... FR.
Araq, Ruh, . . . ARAB. | Esprit de vin, . . ,,
Shan-tsin, . . . CHIN. | Alkohol, Weingeist, GER.
Yuen-tsin, . . . ,, | Daru, ... HIND.
San-Shau, . . . ,, | Alcole, Aquardente, IT.
Spirits of wine, . ENG. | Spirito di veno, . ,,

Alcohol is the spirituous portion of fermented liquors. By carefully distilling fermented liquors, the alcohol, mixed with a portion of water, can be separated, forming a product, the properties of which differ according to the substances from which it is derived. Thus the fermented and distilled juice of the grape yields brandy; that of the sugar-cane, rum; the wort of barley, which is generally malted for the purpose, yields whisky and spirits of wine; and rice produces arrack. In the East Indies, the fermented juice of the various palms, jagari or raw sugar, and mahwa flowers are all largely used. The quantity of alcohol in wine, beer, etc., is very variable. Port and sherry and some other drying wines contain from 19 to 25 per cent. of alcohol; the lighter wines of France and Germany about 12 to 18 per cent. Strong ale contains about 10 per cent.; and ordinary spirits, as brandy, gin, and whisky, 40 to 50 per cent., or occasionally more. One or other of these products has from time immemorial been used by all races, as at present amongst most Asiatics, along with their food.—*Tomlinson; Faulkner.*

ALDROVANDA VESICULOSA. *Linn.*

A. verticillata, *Roxb.* | Malika jhanji, . . BENG.

A herbaceous plant of Europe and Bengal, with small white flowers.—*Voigt; Roxb.*

ALE or Beer is brewed at the Neilgherries, and in the stations on the Lower Himalayas, and this branch of industry is increasing, but the bulk of that used is imported from England. In the five years 1874–5 to 1879–80, from 1,065,347 to 1,481,698 gallons were annually imported, value up to Rs. 34,98,438. The bitter ales manufactured at Burton-upon-Trent are extensively imported into India. It is probable that their fame has been acquired by the use of the best materials, and employing great care in the process. The Burton ales speedily become bright and clear, never require finings to be employed, and are fit for use almost as soon as brewed. This is no doubt owing to the depurating power of lime, to the presence of which in the Burton water, and its precipitation during the boiling, the transparency and brightness of the beer are attributable. Beers of Messrs. Allsop and Sons and of Messrs. Bass and Co. contain only a moderate amount of alcohol, and an unusually large quantity of bitter extract, consisting of the extract of hops. From the pure and wholesome nature of the ingredients employed, the moderate proportion of alcohol present, and the very considerable quantity of aromatic anodyne bitter derived from hops, contained in these beers, they tend to preserve the tone and vigour of the stomach, and conduce to the restoration of the health of that organ when in a state of weakness or debility. These bitter

beers differ from all other preparations of malt, in containing a smaller amount of extractive matter, thus being less viscid and saccharine, and consequently more easy of digestion; they resemble, indeed, from their lightness, a wine of malt rather than any ordinary fermented infusion, and they are strongly recommended by the medical profession.—*Hassal*, 448; *Trade Statement; Balfour, Commercial Products.*

ALECTORIA JUBATA, Kek Kieo, Ramree. This lichen is gelatinous, and is eaten by the natives with rice.

ALELLU. HIND. Cuscuta reflexa.

ALEPI, a seaport town on the coast of Malabar, 27 miles from Cochin. It is situated in Travancore, and is a depôt for the timber from the territories of the raja. Its lighthouse is in lat. 9° 29′ 40″ N., and long. 76° 18′ 50″ E. Its native name is Alapalli.—*Horsburgh; Buist.*

ALEPPO, in Syria, the ancient Berrœa, is styled by the natives Haleb-us-Shabha. It is 76 miles inland from Iskanderoon, in lat. 36° 11′ 25″ N., and long. 37° 5′ 23″ E., and from Antioch by the road 90 miles. It probably first rose into importance on the destruction of Palmyra, to which it succeeded; and, like Palmyra, it was admirably situated for the purposes of trade, so long as the communication with the east by the desert was the only route known, and the productions of Persia and India were brought hither by caravans from Baghdad and Bassora. Aleppo stands in an open plain, encompassed at the distance of a few miles by low hills; and the city is about three miles and a half in circumference, surrounded by walls of hewn stone, about thirty feet high and twenty broad. The population is composed of Turks, Arabs, Christians of all denominations, and Jews. The warlike Rhind race in Beluchistan are said to have been brought from Aleppo.—*Taylor's Saracen*, p. 213; *Robinson's Travels*, ii. p. 253.

ALEPPO SENNA, Cassia obovata.

ALETHI. HIND. Trianthema crystallinum, *Vahl.*

ALEURITES CORDATA. *R. Br.* Grows from Nepal to Japan, also in Bourbon. Wood durable and beautiful. Oil of seeds, an excellent varnish.—*Von Mueller.*

ALEURITES TRILOBA. *Forst., Roxb.*

Camirium cordifolium, *Gært.*	Juglans camirium, *Lour.* Aleur. Moluccana, *Willde.*
Tui-Tui, ... AUST.	Akrot, ... HIND.
Alkola, J'aphal of BOMBAY.	Jangli Akrot, . . ,,
Shih-Li, ... CHIN.	Hijli Badam, . . ,,
Belgaum walnut, . ENG.	Kamari, Kamira, MALAY.
Country walnut, . ,,	Tiaily, ... TAHITI.
Candlenut tree, . ,,	Nattu Akrotu, . . TEL.
Lambang nut tree, ,,	Woodooga, . . . ,,
Molucca nut tree, . ,,	

This is a prolific, large-sized, ornamental tree, a native of the Society Islands, from which it was introduced into India; and a variety of it, the A. Moluccensis, known to the Javanese under the name of Kamira, is well known in Australia. A. triloba is now growing in several parts of India, China, the Moluccas, Java, the Malay Islands, Ceylon; plentiful near Hyderabad of the Dekhan, in the southern Mahratta country about Belgaum, in Bengal, and Assam. Almost all parts of it are covered with a farinaceous substance, and a gummy substance exudes from the seeds (as also, it is said, from the tree itself), which is chewed by the natives of Tahiti and Australia. The quality of its wood is indifferent. In Java it is grown as a shade to the nutmeg plantations, and the cultivated nut is eaten as a fruit; the flavour closely resembles that of the almond. The small globular rough fruit of the uncultivated variety produces a nut remarkable for the quantity of clear oil it contains, which is collected in large quantities by the inhabitants of the Moluccas, and is in general use for burning in lamps. In fact it there supersedes cocoa-nut oil, which is scarce. In Tahiti tissues are made from the bark; but its most valuable product is its fruit, which is roundish, two-celled, each containing a nut resembling in flavour the filbert or English walnut. In Polynesia, the nuts, strung on a thin slip of bamboo, are burned as a candle. They are considered aphrodisiac in the Moluccas; but this can only be from the oil they contain, and, like other similar fruits, are apt to purge and produce colic, unless roasted, or kept for a year. About 50 per cent., or, according to Simmonds, 31½ gallons, of the nut yield 10 gallons of a useful, fine, clear lamp oil. In the Sandwich Islands the oil is employed as a mordant for their vegetable dyes, and the root affords a brown dye for their native cloth.—*Roxb. Fl. Ind.; Hog; Voigt; Exhib. of* 1862; *Java Cat.; Madr. Ex. Jur. Reports; Jaffrey; Riddell; Useful Plants; Simmonds' Commercial Products; Agri. Hort. Soc. of India*, viii. p. 220.

ALEXANDER of Macedon, styled the Great, was the son of Philip II. of Macedon, and of Olympias, daughter of Neoptolemus. He was born at Pella B.C. 356. After settling affairs at home, he directed his arms to the east, and in the course of eleven years made such impression on the countries he overran or marched through, that to this day his name, cities that he founded, and dynasties to which he gave origin, continue. He succeeded his murdered father, Philip, B.C. 338; crossed the Hellespont in 334; fought the battle of Issus in 333; took Tyre 332; conquered Egypt in 331, and the same year defeated Darius at Gangamela;—the following year, 330, Darius was murdered by Bessus at Bactria. During 329 he was engaged in Bactria and the modern Afghanistan. Alexander crossed the Indus into India in 326, reached Susa in 325, and Babylon the same year, and in 323 he died at the age of 33, after a reign of 13 years. The lasting impression of his successes has doubtless sprung from various causes. His mode of settling the Egyptian government is mentioned by Sharpe as the earliest instance that history has recorded of a conqueror governing a province according to its own laws, and allowing the religion of the conquered to remain as the established religion of the state; and the length of time that the Græco-Egyptian monarchy lasted, and the splendour with which it shone, prove the wisdom and humanity of the founder. This example has been copied, with equal success, in Dutch and British colonial, and Indian governments; but we do not know whether Alexander had any precedent to guide his views. Except Alexander, all the great conquerors of Hindustan have sprung from provinces towards Tartary and the northern parts of Persia, and they have generally penetrated into India by the way of Kabal, Kandahar, Ghazni, and the Panjab, until the British came.

Major Rennell apprehends that Alexander never greatly deviated from the direct line of march,

ALEXANDER THE GREAT.

from the foot of Caucasus, or the range of mountains called Hindu Koh, to the Indus near Puckholi, or Peucelaotis. That his route from the S.E. coast of the Caspian Sea lay through Aria, Zaranga, etc., to Arachosia, or the modern Herat, Zarang, and Arokhage, to the S. of Kandahar; thence he marched towards Kabal and Ghazni, crossing mountains covered with snow; and in order to chastise Bessus, who had fled into Bactria, he passed the mountains between Ghorbund and Bamian, at whose foot geographers have placed the Paropamisan Alexandria, the first station in his future march towards the Cophenes.

The city that Alexander built in his route eastwards towards the Indus he gave his own name to, but its name and its particular site have been lost. It was called Alexandria, and was near the Caucasus, and Rennell points to Bamian as the quarter in which he would place it. General Ferrier mentions that the fortified town of Herat is supposed to have been founded by Alexander the Great, but he does not quote his authority. This portion of India was then partitioned amongst a great number of petty princes, independent of, and often in hostility with, each other. At this critical period, two of the most powerful of these rulers, named Taxiles and Porus, were at war, and the former, in order to crush his adversary, joined the invader. The territory of Taxiles appears to have been the Doab between the Indus and the Hydaspes (Jhelum), that of Porus, who had subdued most of his neighbours, extended as far as the Hyphasis (Beas). Alexander had an army of 135,000 men, 15,000 being cavalry, with a great number of elephants. This force included a large body of hardy mercenaries from the hills west of the Indus and north of the Panjab, under a chief named Ambisares. At the head of this force he marched to the Hydaspes, which he reached in the month of August. On the other (left) side of the river, Porus was posted with 30,000 infantry, 4000 cavalry, 200 elephants, and 300 war chariots. Alexander, finding the river much swollen by the rains, sent for boats from the Indus, which were brought overland, in the meanwhile amusing Porus by marching and counter-marching his troops along the banks of the river, as if searching for a ford. On the arrival of the boats, he passed the river at Jalalapur, 114 miles from Attock, where it is, in the rainy season, upwards of a mile broad, and never fordable. In the battle which ensued, 326 B.C., Porus was defeated and taken prisoner. It was at this part of the Hydaspes, on its right or western bank, that the conqueror, in commemoration of this event, built the cities of Nicæa and Bucephalia. He built a third city on the Acesines. After the defeat of Porus, Alexander marched across the doab between the Hydaspes and the Acesines (Chenab), described as a flat and rich country, through the territories of Porus, passed the latter river, and advanced to the Hydraotes (Ravi), where he captured Sangala, represented to be a strong city of the Cathæi (the modern Cathi), the most valiant and skilful in war of all the Indians. A body of the Cathæi was encamped before the city, which Alexander, having defeated them in a pitched battle, took and razed. Sangala is supposed to have been situated to the south-east of Lahore; and Burnes states that there are the remains of a city answering to Sangala in the vicinity south-east of that capital. From hence the conqueror marched to the Hyphasis (Beas), whether above, or, as more probable, below, its junction with the Sutlej, is not quite clear. His historians do not mention the latter river, and they allude to a desert beyond the Hyphasis, which exists below the conflux of the two rivers. Here the soldiers received such appalling accounts of the deserts they would have to pass, and of the countless hosts assembled to oppose their progress, that, struck with consternation, and exhausted by fatigue and suffering, they refused to march farther, and Alexander was constrained to give orders for their return. Some traditions of Alexander exist in the Rajput state of Bikanir; a ruin near Dandosir is said to be the remains of the capital of a prince of this region, punished by the Macedonian conqueror.

This, therefore, was the extreme limit of Alexander's progress eastward. He recrossed successively the Hydraotes, the Acesines, and the Hydaspes, where a large fleet had been prepared for a descent of that river. The boats, 800 in number, were built of timber procured from the mountains, and Burnes says that in none of the other Panjab rivers are much trees (Deodar, a kind of cedar) floated down, nor do there exist such facilities for constructing vessels, as in the Jhelum. About the middle of November, B.C. 325, Alexander, who had been in the field since May, therefore all through the rainy season, embarked on board one of his vessels, and whilst the fleet, which he commanded in person, dropped down the stream, two divisions of the army marched along the Hydaspes, and a third along the Acesines, to the confluence of these streams, where, after a voyage of five days, the fleet arrived much shattered. The army was now distributed into four divisions, three of which marched at some distance from each other in parallel columns, whilst the fourth, under the king, advanced inland from the river, to drive the Malli into the other divisions. On arriving at the junction of the Hydraotes with the Acesines, the king had several combats with this tribe, whose capital he took, pursuing them to the other side of the Hydraotes. In these conflicts Alexander exhibited much courage, exposing himself to great personal danger, and was severely wounded with an arrow. Thence he marched into the countries of king Musicanus, king Oxycanus, the Sindomanni (the Sindians) and other districts on the Lower Indus. Subsequently, deputies from the Malli and the Oxydraceæ came with presents to solicit peace, alleging, by way of excuse for their obstinate resistance to the Greeks, their strong love of liberty.

Descending the Indus, Alexander arrived at Patala (Tatta, but Wood prefers the site of Jerk), 'where the river divides into two great branches,' but changes since preclude identification now. According to Arrian, Patala, in the Indian tongue, signified the same as delta in the Greek. Alexander proceeded down one of the branches (probably the Piti) to the sea, and afterwards returned to Patala, whence, leaving his fleet with Nearchus, he marched with his army to Persia, by way of Gedrosia (Mekran) and Caramania (Kerman), in September, B.C. 326. On quitting Patala on the Indus, he proceeded with his army through the dominions of the Arabitæ, a part of the present province of Lus, and in it forded the Arabis

(Poorally) river. To the westward of that diminutive stream, he traversed the territory of the Oreitæ, and thence, crossing over one range of mountains, he entered the province of Gedrosia (Mekran), in which his troops were thinned by the accumulated hardships of thirst, famine, and fatigue. This march was incontestably to the southward of the Brahuik chain; and had the Greek historians been even less explicit, the nature of the country alone must have decided any question that might have arisen on this point. Crateras, who was charged with the guidance of the heavy baggage and invalid soldiers by Arachosia and Drangiana, as certainly marched far to the northward.

The political state of the country at that period may be discerned even in the loose notices left us. Arrian states that there was then a family enjoying supreme dominion in India, which derived their pedigree from Budæus (probably Buddha), whose creed extended widely over this and the neighbouring countries down to the fifth century of our era. The authority of this paramount Indian sovereign, however, did not reach the Panjab, which was severed into separate kingdoms and principalities. That of Musicanus, we are told, was governed by Brahmans; and Burnes conjectures that the powerful kingdom of Alore, or Arore, which extended from the ocean to Kashmir, and from Kandahar to Kanouj, ruled by Brahmans so late as the seventh century, was the kingdom of Musicanus. The Oxydraceæ (probably the Kutchi), and the Malli (no doubt the people of Multan, which is still called Malli-than, 'the country of the Malli')—who, though generally at variance, combined against Alexander, and brought against him an army of 90,000 men—seem to have possessed much power in the south-western parts of the Panjab. Besides those nations, the Greek writers mention seven independent states in the country of the Five Rivers.

Alexander had not time to establish any system of government in the vast provinces he conquered in the east. Where his authority was acknowledged, it was exercised through military commanders, who, after his death (323 B.C.), became, by the force of circumstances, supreme. Seleucus, governor of Babylon, not only secured the country, but extended his power, by the destruction of his competitors, as far as the Indus, which he crossed B.C. 325 to attack Sandrocottus (identified with the Chandragupta of Indian history), who had expelled the Greek garrisons from the Panjab, which was thus restored to native rule. Seleucus is said to have passed the Hesudrus (Sutlej), and, after gaining several victories over Sandrocottus, being suddenly recalled to defend his own territories, to have concluded a treaty of peace with that monarch, to whom he ceded the Panjab and valley of the Indus as far as Peshawar.

General Ferrier thinks that Alexander was probably at Begram, 25 miles north, 15 east from Kabal, the ruins of which are described in a memoir by Mr. Masson, in the Journal of the Asiatic Society of Calcutta, vol. v. p. 1. Burnes, Masson, and Ferrier met with tribes who claim a Grecian descent. According to Burnes, the Mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz, who occupy the provinces of Kulab, Shughnan, and Wakhan north of the Oxus, also the hill states of Chitral, Gilgit, and Iskardo, are all held by chiefs who make that claim. The whole of the princes who claim descent from Alexander are Tajaks, who inhabited this country before it was overrun by Turki or Tartar tribes. The Tajak, now Mahomedans, regard Alexander as a prophet. The Badakhshan family are fair, but present nothing in form or feature resembling the Greek. They are not unlike the modern Persian, and there is a decided contrast between them, the Turk, and Uzbak.

His career was marked by the cruel murders of friends and conquered opponents, over and above the usual severities of war. He razed Thebes to the ground, B.C. 335; he hanged 2000 citizens of Tyre, and sold the survivors, women and children, as slaves, B.C. 332; Philotas was destroyed, B.C. 330; and same year Parmenion in Ecbatana was assassinated; B.C. 329–328 he cut off the ears and nose of Bessus, and sent him to Ecbatana to be killed by his countrymen; the philosopher Callisthenes was hanged B.C. 327, and in 328 he slew Clitus, his officer, with a spear, these two having opposed his claim to be a god.—*Smith's Bio. Dic.; Sharpe's Egypt; Ouseley's Travels; Chatfield's Hindustan; Pottinger's Travels; Ferrier's Journal; History of the Afghans; Malcolm's Persia; History of the Panjab; Rennell's Memoirs; Rich's Kurdistan; Elphinstone's India; Burnes*, iii. p. 84; *Annals of Rajasthan*, ii. p. 186; *Cunningham's Ancient Geography of India.*

ALEXANDRIA in Egypt was founded by Alexander the Great, B.C. 332, and it became of so much importance, that, in the time of the Roman emperors, it was second only to Rome itself in extent and population. In A.D. 638, it was besieged and taken by the khalif Omar, by whom the celebrated Alexandrian library is said to have been destroyed. It declined from that time, and when the French took possession of it in July 1798, the population was reduced to about 7000. Since the time (A.D. 1830) that the route to India became directed by the Red Sea and Suez to Alexandria, this city has again risen to great prominence, and become filled by mercantile men from Europe, Asia, and America. In 1878, its population was estimated at 350,000, but the consulates from Europe have erroneously permitted many to attach themselves; Italians were 30,000, and the Jews 10,000. The ruler has the title of Khedive.

ALEXANDRIA apud Caucasum, was a city built by Alexander in his route towards India, and Rennell points as its site to the quarter of Bamian, but he considers that it is impossible to guess its particular situation. At all events, he says (pp. 170, 171) the proximity of Alexandria to the northern mountains is a fact which Arrian impresses very strongly. Vigne thinks that the pretensions of Bamian to be the Alexandria ad Caucasum are far from being without foundation; and he remarks that, if Bamian be Alexandria ad Caucasum, he would identify Begram with Nicæa, or perhaps Kabal is Nicæa, as both places lie in the route from Bamian on the high road to India, and in the Caucasus. Masson and Mr. Prinsep suppose the modern Beghram, 30 miles from Kabal (25 miles in direct distance), to be the ancient Alexandria apud Caucasum. Burnes thinks it is the town of Bamian, and this opinion is supported

by Ritter, Gosselm, and some others. But Masson remarks that Bamian lies north of the Hindu Kush, and Alexander is supposed by some to have moved to the south of that mountain.—*Masson's Journeys*, ii. p. 150, 383); *Vigne's Personal Narrative*, p. 198; *Rennell's Memoirs*, p. 170.

ALEXANDRIAN ERA is that of the Seleucidæ. It commences with the entrance of Seleucus Nicator into Babylon, B.C. 311 years 4 months. It was once much used, especially by the eastern Greeks, and by the Jews, who call it the era of contracts, from their having been compelled by the Macedonian kings to adopt it in civil processes. It is still used by some of the Arabs. The Arabic name for it, Tarikh-zu-ul-Karnain, the era of the two-horned, seems to have given rise to the supposition that it began with Alexander, whose well-known claims to descent from Jupiter Ammon, occasioned his being represented with horns, as was Seleucus also, from some cause not so fully ascertained.—*Rich's Kurdistan*, ii. 75.

ALEXANDRIAN LAUREL. Calophyllum inophyllum, *Linn.* Alexandrian Senna is Cassia acutifolia, C. lanceolata, C. officinalis. Alexandrian Trefoil, Trifolium Alexandrinum.

ALEXANDRINA VICTORIA, Queen of the United Kingdom of Great Britain and Ireland, Empress of India, in the year 1858 (1st November) assumed, from the English East India Company, the direct government of British India, and in A.D. 1876 (28th April) took the title of Empress of India. At the latter date there were in alliance 601 rulers, chiefs, and feudatories, with the titles of maharaja, maharawal, raja, rāna, rāwal, rae, rao, nawab, and other Hindu, Mahomedan, and Malay forms. In the proclamation issued on the 1st November 1858, the people were assured by Queen Victoria of religious freedom, and the free and impartial right to employment.

ALFA. AR., HIND., PERS.—A peculiar form of shirt worn by the Rafai fakirs. See Darvesh.

AL-FATIHAH, literally 'the preface,' is the title of the first chapter of the Koran.

ALFAZ-ul-ADWIAH, a Persian book of medicine, compiled by Muhammad Yakub-bin-Yusuf, physician to Shah Jahan, translated by F. Gladwin.

ALFOEREN, Alfour, or Arafura, inhabit the interior of New Guinea, Ceram, and all the larger islands in the south-eastern part of the Indian Archipelago; Mr. Earl's inquiries satisfied him that it was a term generally applied to the inland inhabitants of these islands, to distinguish them from the coast tribes, Alfores and Alforias being terms used by the Portuguese in India precisely as the Spaniards called the aborigines of America 'Indios,' or Indians, and the Mahomedan inhabitants of Sulu and Mindano, 'Moros' or Moors. The Portuguese term 'Alforias' signifies free men, or manumitted slaves; but the root 'fora' means out, or outside, and therefore the term Alfoers became naturally applied to the independent tribes who dwelt beyond the influence of their coast settlements. See India; Negrito; Papuan.

ALGÆ. Sea-weeds.

Kyouk Puen, . . BURM.	Leung-fan-tsai, . . CHIN.
Hai-tsau, Tu-fa-tsai, CHIN.	Awa-Nori, . . . JAP.

The Algæ tribe of plants comprehends the sea-weeds, lavers, and fresh-water submersed species of similar habits. Many of these are edible, and are largely employed to burn into kelp, and as manure for grass lands. Laminaria saccharina, or the sugar sea-belt, is said to be eaten by the Icelanders, and is considered a great delicacy in Japan. Carrageen moss, Chondrus crispus, is used in Ireland as an article of food, and is sold in London as a substitute for Iceland moss. A species of Gelidium has been said to be the substance collected by the swallows, to construct the edible nests of Java; and several species of gelidium are made use of as food in the East. The lavers, species of Porphyra and Ulva, are eaten in Great Britain with vinegar, pepper, and oil. Corsican moss is Gracillaria helminthocorton and Laurencia obtusa; Ceylon moss is the Plocaria candida; Chinese moss is Pl. tenax; Australian moss is Eucheuma speciosum; and Irish moss is the Chondrus crispus, and Gigartina mamillosa. Sphærococcus lichenoides, Gigartina mollissima, and other species are also used. The sea-weeds commonly eaten by the Burmese are called Kyouk Puen; they are the Gigartina spinosa, *Grev.*, and the Ceylon moss of commerce, the Sphærococcus lichenoides, *Ag.* Gigartina lichenoides is the Agar-agar of the Malays. Algæ are found plentifully on the Japan coasts at low water, when they are gathered for food. There are chiefly two sorts of plants found growing upon the shells they take up; one is green and narrow, the other reddish and broader. They are both torn off and assorted; each sort is afterwards put into a tub of fresh water, and well washed. This done, the green sort is laid upon a piece of wood, and with a large knife cut small like tobacco, then again washed, and put into a large square wooden sieve, two feet long, where there is fresh water poured upon it, to make the pieces stick close together. Having lain there for some time, they take it up with a sort of a comb made of reed, and press it with the hand into a compact substance, squeezing the water out, and so lay it in the sun to dry. The red sort, which is found in much less quantity than the green, is not cut small; otherwise they prepare it much after the same manner, and form it into cakes, which are dried and sold for use. A sea-weed called Awa Nori is gathered on the sea-beach of Japan; when dried and roasted and rubbed down to a very fine powder, it is eaten with boiled rice, and sometimes put into miso-soup. Sea-weed is imported from abroad into China by junks, as well as collected on the Chinese coast; the foreign sort is principally the leung-fan-tsai, from which agar-agar is made. In China, this sea-weed is eaten after merely cleaning, and stewing it in fat or oil. Almost all the plants of this order yield soda and iodine on incineration. Until the early part of the 19th century, they were collected in large quantities, and burned for the sake of the soda yielded by the ashes. After separating the alkali, iodine was obtained from the mother liquors. Though the trade in kelp (the local name in Britain for sea-weed soda) has been nearly annihilated by the plan for making soda from common salt; still sea-weed ashes constitute the sole source from which iodine is manufactured. The green conferva which floats on the salt-water lake near Calcutta readily yields iodine. It should be dried, burned, the ashes packed in crucibles, and heated to bright redness. The residue, treated with water, on evaporation yields a saline mass of muriate and sulphate of soda, chloride of potassium,

and iodide of potassium and sodium. The natives of the districts at the base of the Himalayas use, in the treatment of goitre, a dried leaf 'brought from a great distance,' and which they call gillur ka putta, or goitre leaf. It much resembles fragments of a common fucus.—*Morrison; Voigt*, p. 745; *Hooker's Him. Jour.* ii. 389; *O'Sh.*, p. 671; *Kæmpfer's Hist. of Japan*, ii. p. 518; *Thunberg's Travels*, iii. p. 115; *Cooke.* See Agar-agar.

ALGEBRA. The mathematicians Brahma Gupta, who lived in the 6th century, and Bhascara Acharya, in the 12th century, both drew their materials from Arya Bhatta, in whose time the science seems to have been at its height, and who, though not clearly traced further back than the fifth century, may, in Mr. Colebrooke's opinion, not improbably have lived nearly as early as Diophantus, the first Greek writer on algebra, that is, about A.D. 360. Algebra had attained the highest perfection it ever reached in India before it was known to the Arabians, and indeed before the first dawn of the culture of the sciences among the people.—*Elphin.* pp. 130, 133.

ALGOSA. BENG. Cuscuta capitata.

ALGUADA REEF, called also Sunken, also Drowned Island, from Alagada, drowned, is S.S.W. 3¼ leagues from Lychime or Diamond Island, off the Ava coast. It is a very dangerous reef of rocks, level with the sea, extending N. and S. about 1¼ miles, with detached rocks around it at considerable distances, on some of which the sea breaks in bad weather. A lighthouse was erected by Captain Fraser of the Bengal Engineers. It is in lat. 15° 40′ 15″ N., long. 94° 16′ 45″ E., with a brilliant revolving light, and is built on a ledge of sandstone. The workmen were chiefly Chinese, and the materials were obtained from Calagouk or Curlew Island. The centre stone of the first course weighed 3¾ tons. The centre stone of the second course was about 3½ tons. The foundation consists of large blocks of granite, which fit together with mathematical accuracy, and the work proceeds along lines of radii from centre to circumference in a succession of concentric rings.

ALGUM-WOOD of Scripture is supposed to have been an Indian product, and assumed to be sandal-wood. The articles mentioned along with it—ivory, gold, apes, and peacocks—are indigenous in India. Sandal-wood is indigenous on the coast of Malabar; and von Mueller says one of its numerous names there, and in Sanskrit, is Vulguka (?), which Jewish and Phœnician merchants corrupted into Algum, and which in Hebrew was still further changed into Almug.

ALHAGI MAURORUM. *Tourne.* Camel's thorn.

A. mannifera, *Desv.*	Manna Hebraica, *D. Don.*
A. Nepalensium, *D. C.*	Hedysarum alhagi, *Linn.*
Ononis spinosa, *Hasselq.*	
Al-gul, ... ARAB.	Jawan, Tamiya, . PANJ.
Juvasa; Juivassa, BENG.	Shutur-khar, . . PERS.
Shinz Kubi, . . BRAHUI.	Khari Jhar, . . SINDH.
Juwansa, . . . HIND.	Kandero, . . . ,,
Gokan, ... PANJ.	Giri karnika, . . . TEL.
Zoz; zozan; jojh, ,,	Tella-giniya chettu, ,,
The Manna.	
Juwansa, . . . HIND.	Turunjabin, . . HIND.

This shrub grows in the deserts of Egypt, Syria, Mesopotamia, Panjab, Afghanistan, Beluchistan, Sind, also in Gujerat, the Southern Mahratta country, at Monghir, Benares, and Dehli. It sends forth leaves and flowers in the hot season, when almost all smaller plants die, and affords a grateful food for the camel in desert places. The manna, the turunjabin of the bazaars, exudes from its leaves and branches, but is secreted apparently only in Persia and Bokhara. Dr. Royle considers A. Nepalensis identical with the Alhagi maurorum, but states on strong grounds that no manna is secreted by it either in India, Arabia, or Egypt. Kandahar, Herat, Persia, and Bokhara seem its proper districts, and thence the turunjabin is imported into India. When pure it sells in Bengal for 10 rupees the seer.—*Ainslie; Wellsted*, i. p. 130; *O'Shaughnessy; Drs. Royle, Stewart, Voigt; Mignan's Travels*, pp. 240, 241; *Pottinger's Travels*, p. 185; *Eng. Cyc. Useful Plants.*

AL-HAMD-ul-ILLAHI RAB-ul-ALIMIN. ARAB. Praise be to Allah, O Lord of the (three) worlds! A pious ejaculation by Mahomedans, which leaves their lips on all occasions of concluding actions. The words Al-Hamd-ul-Illah, Praise be to God, form the Mahomedan grace after meat. It was used, it is said, first by Abraham when the angels came to him.—*Lane.*

AL HAMIR. This word appears to be derived from the Arabic root Hamar, which signifies to be, or become, red. It is said to be the translation of this word which gives the name of the Red Sea. Alhambra, one of the four wards of the ancient city of Granada, is deducible from the Arabic root Hamar. It was so called by the Moors from the red colour of its materials, al-hamra signifying a red house.—*Mignan's Travels*, p. 267.

AL-HAMOWUT and Al-Hasani. See Alamut; Assassin; Hasan-ibn-Saba.

ALI. TEL. Linum usitatissimum.

ALI. HIND. A land measure of four Bisi; nine Ali = 1 Jula.—*W.*

ALI, often styled Ali-ul-Ilahi, the divine, was the son of Abu Talib. He was the cousin and companion of Mahomed, also his son-in-law, he having married Fatima, Mahomed's only surviving child; he was the first of the family of the Koresh to adopt the new faith. He was born at Mecca in the 910th year of the Alexandrian era, and in the 30th of the Arab era, called the year of the Elephant. He was much esteemed by Mahomed, who called him the Door, also the Lion of God, and his sword is known as Zu-ul-Faqar. Mahomed is said by the Shiah sect to have declared Ali his successor at Ghadir-Khum, a watering-place for caravans between Mecca and Medina. Notwithstanding these claims, and his personal merits and valour, on the death of Mahomed in his 63d year, in A.D. 632, and in the eleventh year of the Hejira, Ali was not recognised as his successor, but Abu Bakr was so elected, and, after a reign of two years, was succeeded by Omar, who was assassinated in the 12th year of his reign. He was succeeded by Othman, and only then, in A.D. 656, by Ali. With Ali's rule severe political convulsions continued, much the consequence of his impolicy. On succeeding to the khalifat, he removed from office all who had been appointed by his predecessors, and this was one source of all his troubles. But some of the earliest arose from the intrigues of Ayasha, and after these were settled, the governor of Syria, Moawiyah ibn Abi Sofian, threw off his allegiance to Ali, and had himself proclaimed khalif of the western provinces. An appeal to arms resulted in the defeat of Ali, after a desultory war of 102 days, and Ali then retired to Kuffa in Chaldea, on the banks of the Euphrates.

Here he was assassinated in a mosque, A.D. 660. His two sons, Hasan and Husain, also died violent deaths, and from the contests for political power several religious sects arose; and from the Shiah sect have sprung the Ismaili, Druse, Karmathian, Khariji, and Mutawali. The people of Karund, in the south of Persia, believe Ali to be a god, and they are styled the Ali Ilahi. The shiah sect of Mahomedans all consider that Ali ought to have been the first khalif. In Khorasan, Ali is usually styled Shah-i-Mardan, 'King of men.' The Khajah sect and the entire Ismaili sects all worship Ali as an incarnate deity; and the incarnation, in 1881, Aga Mahomed, a pensioner of the British Government, died at Bombay, and was succeeded by his son.—*Ferrier's Journey*, p. 210; *Palgrave; Wilson.*

ALIA, or Elwa. ARAB. Aloes.

ALI ABBAS, styled Magus, a native of Persia, of considerable celebrity as a physician. He lived about the beginning of the 10th century. His principal work consists of abstracts of the doctrines and opinions of the Greek physicians. It was translated into Latin under the title of Opus Regium.

ALI-AKU. TEL. Memecylon tinctorium, also M. capitellatum edule and multiflorum.

ALIAR. PANJ. Dodonæa Burmanniana.

AL-IDRISI, the patronymic of Abu Abdullah Mahomed. He was born at Ceuta, in Morocco, at the end of the 11th century. His ancestors in the 9th and 10th centuries had furnished a line of princes for Morocco and Malaga. He travelled in Europe, and settled at Sicily, and wrote there his book of geography, which was translated by M. Jaubert.—*Elliot's History of India.*

ALIF LAILA. ARAB. Literally one thousand and one nights. The name of a celebrated book in the Arabic language, known in Britain as the Arabian Nights' Entertainments. The work was partly translated by Lane, and, about A.D. 1836, by a Bengal civilian. The early English edition was imperfect and incorrect.

ALIGARH, a town and district in the N.W. Provinces of India; the town is in lat. 27° 55′ 41″ N., and long. 78° 6′ 45″ E.; population, 58,539. The area of the district is 1964 square miles, with a population of 1,073,333, chiefly Hindus, Jadun and Chauhan Rajputs, Bania, with Chamars (178,126), Jat, Lodha, Koli, Garaiya, and Ahir, and a number of Mahomedans (117,911). There are extensive patches of usar or barren land, caused by saline efflorescence. In the early part of the 19th century, the fortress of Aligarh was held by De Boigne and Perron, officers of Sindhia. It was taken by Lord Lake, 4th September 1803. On the 20th May 1857, the sepoy garrison here mutinied and marched to Dehli. The district is studded with indigo factories, which in 1873 produced 3625 maunds, or 2663 cwts., of the marketable dye.

ALI-GOL. ARAB.-HIND. Amongst the Mahratta irregular infantry.—*W.*

ALI-ibn-HUSAIN, ANSARI, of Baghdad, author of the Ikhtiar-i-Badii, a medical work written in the year 1392, shortly after the classic age of the Arab school of medicine.

ALI ILAHI, a sect at the town of Karund, in the south of Persia, who worship Ali as a god, and believe in his incarnation. They eat pork, drink fermented liquors, never pray, nor fast at the Ramadan, and are cruel and savage in their habits. The sect has marks of Judaism, singularly amalgamated with Sabæan, Christian, and Mahomedan legends. Pottinger says that their chief tenet is that Ali is God. The Gurani tribe of the Zagros chain, between Kermanshah and Zohab, are all of the Ali-Ilahi sect, and they have a yearly festival, which they call the feast of the fowl. In every village, each head of a family brings a fowl to their shaikh or priest. So soon as these are cooked, the people assemble; a cloth is thrown over the kettle, which is placed before the priest, who dips his hand into it, and, taking it out piecemeal, presents a morsel to each person present in rotation. The individual to whose share falls the head of the fowl, is supposed to be more favoured than the rest by Ali during the course of the year. It has been suggested that the Ali-Ilahi are of Jewish extraction, and that this ceremony of the fowl may proceed from the rabbinical custom of sacrificing a cock once a year on the eve of the day of atonement, although nowhere countenanced by the law of Moses. This similarity of custom between the Jews and the Ali-Ilahi explains why the latter place the figure of a cock on the shrine of their holy men. Baron de Bode found several of these cocks, some carved in wood, others made of porcelain, placed on the top of the tombs of their several Pir in the mountainous districts of Holivan and Zohab, among the Gurani tribes.—*Palgrave; Pottinger's Travels*, p. 234; *De Bode's Travels; Taylor; Chatfield, Hindustan*, 145; *Sale's Prelim. Disc. Koran; Hyde's Rel. Vet. Persar.* See Chaldea; Karund; Kibla; Haft Tan.

ALILAT, the ancient Grecian name for the Arabic deity, Al-Ilahat.—*Sale's Koran.*

ALIM, wife of Wajid Ali Shah, last king of Oudh. This queen wrote some delightful lines, and had the pretty takhallus of Akhtar or Star. She was a charming player on the sitar, or Indian guitar. She was alive in 1881, living with her husband at Garden Reach.

ALI MARDAN KHAN was the Persian governor of Kandahar. In A.D. 1637 (A.H. 1047), to escape the tyranny of his sovereign, the king of Persia, he gave up the place to Shah Jahan, and took refuge in Dehli. He was received with honour, and was afterwards, at different times, made governor of Kashmir and Kabal, and employed in an invasion of Balkh and Badakhshan. He excited admiration at the court of Dehli by the skill and judgment displayed in his execution of public works, of which the canal 120 miles long, from the river Jumna to Dehli, bears his name, and affords a proof. It was re-opened in 1820 by Sir Charles Metcalfe.—*Elphin.* p. 513.

ALI MASJID, a fort in the Khaibar pass, in lat. 34° 3′ N., and long. 71° 20′ E., 8 miles from its east entrance, 26 miles from Peshawar, and 69 miles from Jalalabad. It has twice been taken and held by the British,—once in 1839, and again in 1878. It is 2433 feet above the sea. The tribes in and near the pass are clans of the Afridi.

ALINGI-MARAM. TAM. Alangium decapetalum.

ALISA. TEL. Dilivaria ilicifolia, *Juss.*

ALISH. HIND. Rubus fruticosus.

ALI SHER are khel or clans of Gadaizai Iliazai and Nurizai Iliazai Yusufzai, who inhabit Bunèr.—*M'Gr. N.W. F. I.* i. p. 92.

ALISMA PLANTAGO. *Smith.*

Tseh-sie, ... CHIN. | Shwui-sie, . . . CHIN.

This water plant grows in the Sech'uen province of China. Its fleshy rhizomes are used for several diseases, as also are its fruits. The rhizomes are said to stimulate the generative organs of women, and are believed to confer the power of walking on water.—*Smith*, p. 7.

AL ISTAKHRI, the cognomen of Shaikh Abu Ishab, author of the Kitab ul Akalim. He was born at Istakhr, or Persepolis.

ALIVERDI KHAN, died A.D. 1756, and was succeeded in the office of nawab by his grand-nephew, Suraj-ud-Dowla, during whose administration many of the British garrison and civilians of Calcutta perished in the guard-room, since known as the Black Hole.

ALIVERI, garden cress seeds of Lepidium sativum, used in medicine.—*O'Shaughnessy.*

ALIWAL, a village in the Ludhiana district of the Panjab, in lat. 30° 57′ N., long. 75° 37′ E., on the left bank of the Sutlej. A great battle was fought here between the Sikhs and British, 28th June 1846, Sir Harry Smith commanding. The British force of 10,000 men and 32 guns was opposed by Rungoor Singh with 20,000 men and 68 guns, and the Sikhs were driven across the Sutlej.

ALIYA, a branch of the Turkia subdivision of the travelling grain dealers called Binjara.

ALIYA. CAN. A son-in-law; Aliya-Pattam, installation.

ALIZAI, an agricultural and pastoral clan of Kakar, said to number 10,000 fighting men. They are peaceably inclined, and large numbers come every winter to Dera Ghazi Khan to labour as wood and grass cutters and road makers.—*M'G. N.W. F. I.* i. p. 92.

ALIZAI, a clan of the Mahsud Waziri. See Waziri. Also a clan of the Daurani.

AL-JABL. ARAB. See Alamut; Al-Hasan; Assassin.

AL-JANNABI flourished in the 16th century.

AL-JAZIRA. ARAB. The doab of the Euphrates and Tigris, the ancient Mesopotamia.

ALKALI, the Khar and Sajji Khar, HIND. Southern India is particularly rich in alkaline and earthy minerals, one source of which seems to be decaying granites:—

Dhobee's Earth, a whitish grey, sandy efflorescence, often covers miles of country where decayed white granite forms the surface soil; this earth contains from 13 to 25 per cent. of crude carbonate of soda. It begins to accumulate in the dry weather, and immediately after the rains it can be scraped off the surface to the depth of 2 or 3 inches; and by repeated boiling, and the addition of a little quicklime, the alkali is obtained of considerable strength. With a little care, very clean carbonate of soda can be obtained, fit for the manufacture of toilet soap, white glass, and glazes for pottery. The Nellore, Cuddapah, Masulipatam, and Chingleput districts yield this earth in great quantities. Repeated attempts have been made to prepare from it Barilla for exportation, and very fair specimens have been exported at different times, but the moderate price of the carbonate of soda of Britain, prepared from sea salt, will always prevent this from being a remunerative article of export. Coloured frits, for bangle glass, have lately, however, become an article of export from the Madras Presidency.

Nitrate of Soda in Bellary and Hyderabad forms a natural efflorescence. Its chief use is as a substitute for saltpetre for the manufacture of nitric and other acids and chemical substances. It is too deliquescent for making gunpowder, though it answers well for some descriptions of fireworks.

Muriate of Soda.—Mineral salt of very fair quality is obtained in Cuddapah, Mysore, Bellary, and Hyderabad, and occurs also in the Guntur and Nellore districts, almost invariably accompanied by gypsum, magnesian limestone, sandstone, sulphur, red and brown iron ores, and alum slate.

The *Natron* lake of Lunar, in lat. 20° N., furnishes several salts, viz.:

Dalla, a carbonate of soda with a faint trace of muriate of soda, about 2 per cent. of impurities.

Nimmak Dalla, nearly pure muriate of soda.

Khappul, carbonate of soda, with water and about 2 per cent. of impurities.

Pappree, nearly pure carbonate of soda.

Mad-khar, an impure salt, containing carbonate of soda, 27; clay and sand, 30; water, about 17; common salt, 25=99.

Bhooskee, a crude, impure substance containing neutral carbonate of soda, 26; insoluble matter, chiefly sand and clay, 58; water, 15; common salt, 2=100.

Travertin contains carbonate of lime, 78; carbonate of magnesia, 4; insoluble matter, with oxide of iron, etc., 9; chloride of sodium, 2; water, 3.

ALKANET, Dyer's bugloss, orchanet.

Ti-huieh, ... CHIN.	Orkanet, ... GER.
Ossetong, . . . DUT.	Ancusa, ... IT.
Orcanette, . . . FR.	Arcaneta, ... SP.

Alkanet is the commercial term for a dyeing material, obtained from the genera Echium, Anchusa tinctoria, A. officinalis, and Lithospermum tinctorium. The root yields a fine red colour to oils, spirits of wine, lip salves, ointments, wood and cotton, and it is also used for colouring many of the beverages sold under the name of port-wine, and the corks used for the bottles in which this fluid is sold. Anchusa paniculata, A. undulata, and A. officinalis have been introduced into India, but no success recorded. In India, Red Saunders wood and Carthamus tinctoria take their place.—*Tomlinson; Faulkner.*

AL-KARI, a class of Rajput cultivators in Naghm, named from their special cultivation of the Al tree, the Morinda citrifolia.

AL-KAZWINI, the cognomen of Zakariya, son of Mahomed, son of Mahmud. He lived about the middle of the 13th century, and wrote the Asar ul Bilad, also the Ajaib ul Baldan.

AL-KHALIK. ARAB. An overcoat; a double-breasted dress, made with long sleeves, and to fit to the form as low as the hips, with skirts reaching down to the calf of the leg; it is tied across the chest on the left side. It is worn by Mahomedans.

AL-KORAN, the Koran.

ALKUSHI. BENG. Mucuna prurita, *Hook.*

ALLA of Sutlej. Mimosa rubicaulis, *Lam.*

ALLÆANTHUS ZEYLANICUS. *Thw.* Allandoo of the Singhalese; a large tree, 30 to 40 feet high, of the Central Province of Ceylon, at an elevation of 1000 feet. The timber is in use for ordinary purposes; a very tough fibre is obtained from the inner bark, which is used for a variety

of purposes.—*Thwaites, Zeyl.; Beddome, Fl. Sylv.* part xxvi. p. 305.

ALLAH. ARAB. God, the Lord, the Almighty. This word is said to be derived from the Arabic verb 'lah,' which means trembling and shining; but its relationship to the Hebrew el or eloah and alahah has also been conjectured (*Peschel*). It may also be an Arabic rendering of the Hebrew 'el,' God; the Persian khuda. It has also been supposed to have been derived from the Arabic word ilah, a deity, with the addition of the definite article al,—thus, al-ilah, the god. It was current as part of a name before the time of Mahomed. Allah Ta'alla is the most high God, lit. God (whose name) be exalted. Al Ilahat were the goddesses of the pagan Arabs. Mahomedans reverently use this holy name. They have 99 attributive names of God, and their rosaries have 99 beads, with a large prolonged bead, making the 100th, for Allah, God, the Almighty. Amongst other of the attributes are the (al)—

Rahman, the merciful.	Adil, the just.
Rahim, the clement.	Azim, the great.
Khalik, the creator.	Hak, the true.
Ghaffar, the pardoner.	

They will say Bismillah al daim, al abd, al abdi, In the name of God, the Eternal, the Everlasting. One of the most solemn oaths of the Afghans is by the name of God (Allah), three times repeated in three different forms, 'Wullah, Billah, Tillah.' —*Sale's Koran; Elphinstone's Caubul*, p. 211.

ALLAHABAD, a city in the N.W. Provinces of British India, which gives its name to a revenue division of 2747 square miles, comprising the districts of Allahabad, Banda, Cawnpur, Futtehpur, Hamirpur, and Jonpur, lying between lat. 24° 47′ and 25° 47′ 15″ N., and long. 81° 11½′ and 82° 23′ 3″ E. The city is the seat of the government of the N.W. Provinces and Oudh, and is built on the left bank of the Jumna, in a fork at the S.E. extremity of the doab formed by the confluence of the Ganges and Jumna, and 316 feet above the sea. It is in lat. 25° 26′ N., and long. 81° 55′ 15″ E., and is called Prayag by the people. Its population in 1872 was 103,473. The city is 565 square miles distant from Calcutta by rail. Its ancient name seems to have been Vaisali, from its founder Visala or Besa-biraja, one of the third Solar line of Vesala, of the Surya Vansa or Solar dynasty. The spot, being a sangam or junction, is considered sacred by the Hindus, who make pilgrimages to it; and until the middle of the 19th century it was of frequent occurrence for pilgrims to renounce life by drowning themselves there. With earthen pots fastened to them, they would wade into the water, or would go in a boat to the exact spot at which the rivers unite, and when the pots filled, they sank. In the fort at Allahabad is a tall slender monolith, with a tapering shaft erected by Asoka, B.C. 240. It has the edict of that monarch, and also a later inscription detailing the conquests of Samudra Gupta, about the second century after Christ. It was re-erected A.D. 1605 by Jahangir, who has commemorated his accession in a Persian legend. Fah Hian, A.D. 414, and Hiwen Thsang, A.D. 629–645, visited this city. In historic times, Rajputs obtained a footing in this district. They seem to have had their particular leaders, who, after locating themselves and their followers, displaced the original inhabitants by degrees, and extended themselves as far as they could. Thus, in pargana Jhūnsi, the Bais Rajputs trace their origin to two leaders, viz. Bawani and Jūtan. To the descendants of the former the large estate of Mowaya was allotted, and to those of the latter other nine estates. Some entire mouzahs in each of these taluks were subsequently assigned to different branches of the family, and the remainder held jointly by all. It was invaded by Shahab-ud-Din Gori A.D. 1194, and from that time till the introduction of British rule, it remained in Mahomedan hands. During the mutiny and rebellion of 1857–58, Sir Henry Lawrence and Sir James Outram strongly urged the importance of securing the safety of Allahabad, and it remained the sole city for a safe footing, being in the hands of the rebels only from June 6th to 11th. The populace opened the jails, and all officers, Europeans, and Eurasians were murdered; but the fort was held by Sikhs till Colonel Neill arrived on the 11th of June, and on the 18th the station and town was recovered. The Hindu and semi-Hinduized population of the district consists of Brahmans, Rajputs, Bania, Ahir, Chamars, Kayasth, Kurmi, with Mahomedans. Famines from drought occurred in 1770, 1783, 1803, and 1837.—Vol. vi. p. 970–980 of the *Bl. As. Soc. Jour.; Travels of a Hindu; Imperial Gazetteer.*

ALLAH BAND, a bank of earth mixed with sand and shells, near the southern frontier of Sind, which was upheaved by an earthquake in 1819, across the Purana branch of the Indus. It is 50 miles long, and in places 16 miles broad. In 1826 the Indus overflowed and breached the bund, the waters expanding into a vast lake, since merged into the Runn of Cutch.

ALLAKAPPO, one of the eight places at which relics of Buddha were deposited. See Buddha; Tope.

ALLAMANDA CATHARTICA. *Linn.*

A. Aublettii, *Pohl.*, *Don.*	Orelia grandiflora, *Aubl.*
A. verticellata, *Desf.*	A. œnotherifolia, *Pohl.*
A. grandiflora, *Lam.*	A. angustifolia, ,,
P'ha yung-b'han, BURM.	Arali, . . . MALEAL.

A native of Surinam, the West Indies, Guiana, Brazil, introduced into India from Guiana in 1803. The leaves, a valuable cathartic, used especially in painter's colic. In too large doses, violently emetic and drastic. This shrub has very large bright-yellow fragrant flowers and fruits throughout the year. It might take a place in the medicines of European hospitals.—*Useful Plants; Riddell; Jaffrey; O'Shaugh.* p. 448; *Voigt*, p. 528.

ALLAMA PRABHU, the guru or spiritual adviser of the elder Basava, who was concerned in the revolution at Kalyan, in which the king Bijala was slain. He is regarded by the Vira Saiva as an incarnation of Siva. He travelled much in the Peninsula. The Prabhu Longalila was written in his praise.—*Garrett.*

ALLAM PARWA, in lat. 12° 16′ N., and long. 80° 3′ E., a small village on the coast, 65 miles distant from Madras. It was formerly a place of some note, and in 1750 was given to Dupleix by Muzaffar Jang; it was taken from the French in 1760 by Sir Eyre Coote. Formerly famed for its oyster beds.

ALLAPU KOMMU-VELLA VANTI GADDI. TEL. Andropogon nardus? *Rottl.*, *Ains.* 115; A. iwarancusa, *Bl.*? The Sanskrit syn. Guch'ch signifies 'tufts,' a peculiarity of A. iwarancusa.

ALLARD, M., a French captain who travelled through Central Asia, and afterwards served Ranjit Singh, whose armies he brought into a high state of discipline.

ALLAREE. TAM. An eel.

AL-LAT, Al-Azzah, and Manah, were three female deities of the pre-mahomedan Arabs, who worshipped also stones, trees, and shapeless masses of dough. Al-Azzah was worshipped under the form of a tree, Manah of a large stone, Yaguth of a lion, Sawa of a woman, Yauk of a horse, and Nasr of an eagle. Al-Lat was with the tribe of Thakeef, in the town of el-Taif; it was destroyed by Mahomed's order. Al-Azzah was the idol of the tribes of Koresh and Kinaneh; it was destroyed by Khalid.—*Sale's Koran.* See Allah.

ALLAWA. HEB.? HIND. A beltain fire or bonfire raised by Mahomedans in the Maharram, in a pit in front of the Ashur Khana. Men dance around it, shouting, Ya, Ali! ya, Hasan! ya, Husain! Dulha! Dulha!—Meaning, Oh! Ali; oh! Hasan; oh! Husain; bridegroom, bridegroom! Also a hole dug within doors or out, over which they wash their hands and throw refuse into.

ALLEKO-ZYE, a small Afghan tribe of the Daurani section. See Afghan; Daurani.

ALLI ARASANI NAGADAM, a Tamil poem, the comedy of the princess Ali Arasani, who is said to have married Arjuna.

ALLIGAR APPAR KOIL. A Hindu temple near Bangalore, much resorted to by women who crave for children.—*W. E.*

ALLIGATOR, the aligador of the Spaniards, or cayman, is a name commonly but erroneously applied to the crocodiles of the Nile, the Ganges, and other eastern rivers. Dean Trench in his Study of Words (p. 125) says, 'When the alligator was first seen by the Spanish discoverers, they called it, with a true insight into its species, "el ellagarto," or the lizard, as being the largest of the lizard species to which it belonged.' Alligators are wholly confined to tropical and Southern America, where they are styled also cayman, jacare. The alligator closely resembles the crocodile, but has characters sufficiently distinct to have constituted a new genus. See Crocodile.

ALLIGATOR PEAR. The Avocado, or subaltern's butter tree, is the Persea gratissima.

ALLIKALANGU. TAM. Root of Nymphæa lotus.

ALLIKI or Gitti-Gadda. TEL. Scirpus dubius.

ALLILU KAI MARA. CAN. Terminalia chebula.

ALLIPAYARU. TEL. Grewia lævigata, *Vahl.*

ALLIPUR, four miles from Calcutta, the station town of the Twenty-four Parganas.

ALLITERATION is much practised by eastern races, alike with the names of places, of people, and of things. The use of a double assonant name, sometimes to express a dual idea, but often a single one, is a favourite oriental practice. Urjun and Surjun were brothers of Goga, lord of Durd Darehra, in the wastes of Rajwara. Chin and Machin is a phrase analogous to Hind and Sind, used to express all India; and Gog and Magog (Yuj and Majuj, ARAB., PERS.) is applied to the northern nations of Asia; Sind and Hind are, however, capable of separation. As far back as Herodotus, we have Crophi and Mophi, Thyni and Bithyni; the Arabs have converted Cain and Abel into Kabil and Habil, Saul and Goliah into Talut and Jalut, Pharaoh's magicians into Risam and Rejam, of whom the Jewish traditions had made Jannes and Jambres; whilst Christian legends gave the names of Dismas and Jesmas to the penitent and impenitent thieves in the gospel. Jarga and Narga was the name given to the great circle of beaters in the Mongol hunting matches. In geography we have numerous instances of the same thing, *e.g.* Zabulistan and Kabulistan, Koli Akoli, Longa Salanga, Ibir Sibir, Kessair and Owair, Kuria Muria, Ghuz and Maghuz, Mastra and Castra (Edrisi), Artag and Kartag (Abulghazi), Khanzi and Manzi (Rashidi), Iran and Turan, Crit and Mecrit (Rubruquis), Sondor and Condor (Marco Polo), etc. The name of Achin in Sumatra appears to have been twisted in this spirit by the Mahomedan mariners, as a rhyme to Machin; the real name is Atcheh. In everyday conversation in India, such alliterations occur as Choki oki, a chair; Kursi gursi, a chair; Chavi-gavi, a key; Keli-geeli, a key; Bach kach, children.—*Yule, Cathay; Pers. Obs.*

ALLIUM, a genus of plants, largely cultivated in Indian gardens, and, alike by Europeans and natives, extensively used in food, both in soups and as vegetables. Of this genus Voigt names 23 species, but a notice here of the shallot, the onion, the leek, and garlic will suffice. The species are all remarkable for having, in a greater or less degree, the odour of garlic, and for the agreeable stimulating effects that accompany it. For this reason some of them have been objects of cultivation from the highest antiquity. The Welsh onion, A. fistulosum, used in soups and salads, and the Spanish shallot, A. ophioscordion, have not been cultivated in India.

ALLIUM ASCALONICUM. The shallot.

Khyet-thwon-nee, BURM.	Piaz, ... HIND.
Hi-ai, Hi-ai-tu, . CHIN.	Gandan, Gandana, PUSHT.

The shallot is a native of Asia Minor; in China it is pickled. In most parts it is cultivated in a light rich soil, and propagated by dividing the clustered roots; it should be sown in beds at the commencement of the rains, and will give a crop during the cold weather. Dr. Stewart says it (or A. Porrum, *L.*, the leek) may be the plant mentioned by Masson (?) as cultivated at and near Kabal for the leaves, and by Bellew as growing wild near Ghazni (7000 feet), where it is not eaten. Masson states that the leaves may be cut two or three times a year for 25 or 30 years, and mentions one field at Kabal dating from the time of Nadir Shah, more than a hundred years before his visit.—*J. L. Stewart, Panjab Plants*, p. 230; *Voigt*, 668; *Riddell; Roxb.* ii. 142.

ALLIUM CEPA. *Linn.* The onion.

Basal, also Basl, . ARAB.	Gandhana, . . . PUSHT.
Pulantu, . . . BENG.	Pallandu, Latæeka, SANSK.
Ky-et-thwon-ni, . BURM.	Gatta . of SALT RANGE.
Kunballi, . . . CAN.	Pad-wasl, . ,,
T'sung, ... CHIN.	Luno, ... SINGH.
Piaz, ... HIND.	Vengayam, . . . TAM.
Ganthia, . . of LADAK.	Nirulli, ... TEL.
Bawangmerah, . MALAY.	Erra-Ulli-gadda, . ,,
Bawang, Brambang, ,,	Valli gadda, . . . ,,

It is not certain of what country this is a native, but it has from time immemorial been cultivated in Egypt, and is commonly cultivated all over India and China. Many brahmans of India do not eat the onion, regarding it as similar to mutton. It is grown to 10,500 feet in Ladak. It is one of the favourite vegetables

of the Chinese; their large coarse variety is called Muh-t'sung, or tree onion. Every part of the plant is supposed to have some therapeutic action. Onion tea is largely used, and the life-boatmen of the Yang-tsze river depend on it to excite vomiting and reaction in the apparently drowned. Their wild onion Keh-t'sung, and foreign onion Hu-t'sung, are also used medicinally.—*Smith; J. L. Stewart, Panjab Plants*, p. 230.

ALLIUM PORRUM. *W.* The leek.

A. rubellum, *Bieb.*

Koornas? . . .	ARAB.	Khorat? . . .	of BY.?
Puroo, ...	BENG.	Korrat, ...	EGYPT.
Tau-kyet-thwon, .	BURM.	Gundina, . . .	PERS.

This is cultivated all over India, is common in the N.W. Panjab, including the Salt Range, and in the Siwalik tract east to near the Sutlej; and the Kanawar plant growing at 9000 feet, as well as one found in Lahoul still higher, seem to be the same. In most places the root is eaten raw or cooked.—*J. L. Stewart, Panjab Plants*, p. 231.

ALLIUM SATIVUM. *Linn.* Garlic.

Som; Sum? . .	ARAB.	Sir, ...	PERS.
Loshoon, Lashuna,	BENG.	Mahu Shuda, . .	SANSK.
Kyet thwon phyn,	BURM.	Sudulunu, . . .	SINGH.
Beluli, ...	CAN.	Vallai pandu, . .	TAM.
Swan, Ta-swan, .	CHIN.	Ell-ulli, Vellulli, .	TEL.
Lahsan, ...	HIND.	Tella gadda, . .	,,
Bawang-putih, .	MALAY.	Velli gadda, . .	,,

Largely cultivated in India and in all Asiatic countries; its roots consist of pungent acrimonious bulbs, which have a strong offensive smell and flavour. They are employed as a condiment, and as an ingredient in curries, pickles, chutneys, etc.; they are also used in medicine. Garlic is the σκόροδον of the Greeks, Som of the Arabs, and Shumim of Numbers xi. 12. It has been used as an article of diet, and likewise in medicine, from very early times. Garlic seed oil—called Tella gadda nuna, TEL.; Wulla poondoo yennai, TAM.—is only medicinal. It is clear, colourless, limpid, and contains the full odour of the plant. It might be available in cookery for those who relish the flavour of garlic in their dishes, but this will evidently be the fullest extent of its application; hence it can scarcely be considered of any importance commercially.—*Royle; Faulkner.*

ALLIUM SPHÆROCEPHALUM. *Stewart.*

Allium odorum, *L.*

Bhuk, ...	JHELUM.	Skodze, . . .	LADAK.

A long-leaved species growing in Khagan at 10,500 feet; the leaves are dried and eaten in winter with meat; the root is not eaten. What appears to be the same species, occurs in Spiti at 12,000, but no part of it is eaten.—*J. L. Stewart, Panjab Plants*, p. 231.

ALLIUM ULIGINOSUM, *Smith*, the Kau of the Chinese, resembles the leek, and is largely used amongst the Chinese. Its seeds are given in spermatorrhœa, a common ailment amongst the Chinese.—*Smith*, p. 8.

ALLMANNIA NODIFLORA. *R. Br.*

Chamissoa nod., *Mart.*	Achyranthes nodiflora, *Linn.*
Celosia nodiflora, *Linn.*	

Common in Coromandel and Ceylon, and is esculent.—*Roxb.* i. 678.

ALLO NEREDU. TEL. Eugenia jambolana, *R.*, a variety with large edible fruit.

ALLOW. HIND. A stinging nettle of the Himalaya, yielding fibres.

ALLOYS. The natives of all the East Indies are acquainted with a variety of alloys for making cannons, images, gongs, cymbals, bells, and ornaments, with copper and zinc, tin and lead, besides being great workers in copper and brass for the various domestic utensils. In the Travancore state, the workmen have been very successful in their fabrication of alloys, but the ingredients they use are not known. In the Coimbatore district, the metals are employed in the following proportions:—

Copper 10 parts, *zinc* 6½—alloy valued at 4 annas per seer of 24 tolas weight, and is used for all purposes.

Copper 10, *zinc* 5—alloy valued at 3½ annas per seer, somewhat darker than the other, but considered equally useful.

Copper 10, *zinc* 10—alloy valued at 3 annas the seer, considered inferior to the others, but is also in current use.

Copper 10, *tin* 2½—a beautiful bell metal alloy, valued at 6 annas the seer. Is used for the same purposes as the others.

Copper 10, *tin* 2, *lead* ½—an inferior-looking alloy, but employed for similar purposes.

Native smiths render the mixed metal from copper and tin malleable with greater proportions of tin, as also do the Chinese for their gongs and cymbals, by gently striking it while hot, at repeated heatings. Some years ago, bronze sheathing for ships was prepared on the same principle. Teling natives call such malleable bell metal 'akkansu' (TEL.). It is formed into vessels for containing acid food, buttermilk, etc.

Pot metal (copper and lead) is improved by the addition of tin, and the three metals will mix in almost any proportions. Zinc may be added to pot metal in very small quantity; but when the zinc becomes a considerable amount, the copper takes up the zinc, forming a kind of brass, and leaves the lead at liberty, which in a great measure separates in cooling. Zinc and lead are indisposed to mix alone, though a little arsenic assists their union by 'killing' the lead, as in shot metal; antimony also facilitates the combination of pot metal,—7 lead, 1 antimony, and 16 copper mixed perfectly at the first fusion, and the mixture was harder than 4 lead and 16 copper, and apparently a better metal.—*Mr. Rohde's MSS.* See Bells.

ALLSPICE. Pimenta vulgaris, *Lindley.*

Bayberry tree, .	ENG.	Toute épise, . . .	FR.
Pimento, . .	ENG., SP.		

Pimenta vulgaris is a large tree, supposed of S. America. Allspice is rarely adulterated, owing possibly to its low price. It should be introduced into India.—*Hassall; Mason.*

ALLU. GUJ., HIND. In Kathiawar and Rajputana, an ordeal in cases of disputed boundaries, in which the claimant walks over the contested limits with a raw hide or a cloth on his shoulders, previously dedicated to one of the fearful forms of Durga, from whose vengeance he will suffer if his claim be unjust.—*W.*

ALLU BACH-CHALI. TEL. Basella alba, *L.*

ALMANAC.

Calendrier, . . .	FR.	Jantri, ...	HIND.
Kalendrier, . . .	GER.	Almanaque, . .	SP.

The word Almanac is supposed to be derived from the Arabic, and the natives of India have their almanacs arranged on the same principles as those of Europe. To the Hindus, whose religious festivals are largely astronomical, and to

a less extent to Mahomedans, the almanacs are of great importance. They are published in large numbers, in various forms, and are widely circulated. Some are small and cheap; others are large, and profusely illustrated by pictures representing the signs of the zodiac, figures denoting the sun in different months, etc. The people consult almanacs chiefly to find out lucky and unlucky times; without this they deem all else to be vain. Every Hindu almanac consists of five sections, hence the name Panchanga, viz. the lunar day, the solar day, the lunar asterism, the conjunctions and transits of the planets, eclipses, etc., and the karana or subdivisions of the lunar day. Their use of the lunar year for their religious rites, and of the solar or sidereal year for civil duties, is so perplexing, that learned astronomers pass along the streets every morning, and intimate to their houses of call the ceremonial to be attended to.

ALMAS. Arab., Pers. Diamond.

AL MASUDI, a patronymic given to Abu'l-Hasan Abi, a native of Baghdad, a great traveller, acute observer, and writer. He wandered to Morocco and Spain on the west, and eastwards to China, through all the mahomedan and many other countries, and he wrote his travels, which he styled Murūj-ul-Zahab, or Meadows of Gold. —*Elliot*, p. 19.

ALMIRAH, an Anglo-Indian term from Almarinho (Port.), a wardrobe.

ALMOND.

Lauz, ...	Arab.	Luz, ...	Heb.
Mandel, Dut., Dan., Ger.		Amygdala, . . .	Lat.
Amande, . . .	Fr.	Mandorla, . . .	Sp.

This term is applied to the common almond, from the Amygdalus communis. The sweet and the bitter almonds of commerce, the Jordan and Valencia almonds, are the kernels of the fruit of different varieties of Amygdalus communis, *Linn.* It is a Mediterranean tree, extending into Persia, cultivated in the north of Africa, Italy, Spain, etc., a native of the Himalaya, and abundant in Kashmir. Jordan and Valencia almonds are imported into Britain from Malaga and other Spanish ports; bitter almonds, chiefly from Barbary, Sicily, etc. Almonds, both bitter and sweet varieties, are imported into N. India from Ghoorbund, and into S. India from the Persian Gulf. The 'Indian almonds' are fruits of the Terminalia catappa, Aleurites triloba, and Canarium commune; and the almonds of Gen. xliii. 11 have been thought to be pistachio nuts.

Almond, bitter.

Hang-joh-hang, .	Chin.	Ku-mei, ...	Chin.

This is the fruit of the var. amara.

Almond confection is the Hang-su of the Chinese.

Almond oil.

Badam-ka-tel, . .	Hind.	Ingudi-tailam, .	Sansk.
Badam minak, .	Malay.	Badamcottay-yennay,	Tam.
Roughan-i-Badam,	Pers.	Badama vittulu nune,	Tel.

This oil is from the fruit of the almond tree. It is colourless, or very slightly yellow, and is congealed with difficulty. It is obtained for native use in India, but does not as yet form a recognised article of export. About 80 tons of this oil are annually imported into Britain, the price being about 1s. per lb. But it is principally the produce of the Arzo tree, forests of which grow to the south of the empire of Morocco, which produce an exceedingly hard species of almond. In manufacturing the oil, they are well rubbed or shaken in a coarse bag, to separate a bitter powder which covers the epidermis; they are then pounded to a paste in marble mortars, and the paste subjected to a press. The almond is supposed to contain 46 per cent. of oil; but from 5½ lbs. only 1 lb. 6 oz. can be extracted by the cold process, and above 2 lbs. if heated iron plates be used. The oil of almonds is the basis of the great part of the liniments, ointments, and plasters of the European pharmacists. It is, however, little used in Indian pharmacy, the oil of the Sesamum orientale answering perfectly as a substitute.

Almond, sweet; Hang Tien-mei of the Chinese.

Almond tea, Hang-jin-tang of the Chinese, is sold in the streets of China as a ptisan. It is made by boiling the kernels mixed with other substances.—*Smith*, p. 9; *Cat. Ex. Cal.* 1862; *Simmonds; O'Sh.*

ALMORA, in lat. 29° 35′ 16″ N. and long. 79° 41′ 16″ E., a hill station and sanatorium in the north of India, situated on the top of a ridge which runs east and west at elevations of 5425 to 5607 feet above the level of the sea. It is the capital of the province of Kamaon. It is 30 miles from Naini-thal. The Indian Government established a sanatorium at Lohooghat in the Almora hills, a position unsurpassed in India for salubrity of climate and picturesque scenery, and known to be highly suitable for the European constitution. A sulphur mine was discovered at a place called Aina, some 9 miles north-west of Almora. The soil of the neighbourhood yields quantities of saltpetre. It produces graphite, copper, and iron.—*Schl.; Robt.; Englishman; Dr. Buist's Catalogue; Imp. Gaz.* See Kamaon; Sanatoria.

ALMS and almsgiving have ever taken an important place in the religious systems of the world. The Hebrews were commanded to leave for the poor, and Ecclesiastes xi. 1 bids to cast their bread upon the waters, with an assurance that after many days it would return to them again. In the Buddhist, Hindu, and Mahomedan religions, as also amongst the Romish Christians, it is not only deemed good to give alms, but the giving bestows a merit on the individual, and gifts are generally delivered with much openness, in such case differing from the injunction in Matt. vi. 2: 'When thou doest thine alms, do not sound a trumpet before thee.' Hindu and Mahomedan sovereigns bestow much to the shrines of their respective faiths, and annually, on the Maharram, the Mahomedan kings entertain many Syuds on permanent pay. Some mendicants, alike Hindus and Buddhist, are not allowed to solicit or demand alms, but have to go with a quick step, and with or without a bell, through the streets, and without comment accept whatever is thrown into their wallet. With Mahomedans the duty next in importance to prayer is that of giving alms. Certain alms are prescribed by law, and are called Zekat; others, called Sadakah, are voluntary. The obligatory alms were, in the earlier ages of El-Islam, collected, by officers appointed by the sovereign, for pious uses, but now it is left to the conscience to give them, and to apply them. They are to be given once in every year to the poor, provided the property be of a certain amount. The proportion

is generally one-fortieth, which is to be paid in kind, or in money or other equivalent. It is a common custom to give what the donor can afford in alms during the month of Maharram, especially on the tenth day; hence the phrase, the alms of the 'Ashr.' This custom seems to have been copied from the Jews, who are accustomed to abound in almsgiving during the ten days commencing with their New Year's Day, and ending with the day of atonement, more than in all the rest of the year. Ali, the son-in-law of Mahomed, twice in his lifetime gave away all his property. But the Hindu pilgrims to sacred shrines are often exacting, even insolent, and, though rarely so to Europeans, will sit down at a door and refuse to stir until their day's food be given; also Mahomedan fakirs, of whom there are several sects, often continue to demand till alms be given. The Buddhist mendicants of Burma are the least clamorous; but so completely is the act of offering to their shrines the final individual merit, that costly gifts can be immediately removed, while outside the great temples at Rangoon and Prome, such vast quantities of food-offerings are daily thrown, as to be disgusting, and the temple servants, who are slaves or of unclean race, clear it away. All these classes have distinguishing costumes,—the Buddhist with his yellow robe; the Hindu sanyasi or viragi smeared in ashes, and with ochre-dyed clothes; and the Mahomedan fakir may have a loin-cloth and taj or crown. Amongst them all are many true ascetics; and recently, in 1867, a Hindu devotee was to be seen, who had at that time sat for five years in one of the Ellora caves. But there are amongst them also many impostors. See Ali; Alms-bowl of Buddha; Buddhism; Fakir; Groul; Jhula; Kashgul i Ali; Mendicant; Patra; Pinjrapole; Sanyasi; Viragi.

ALNUS GLUTINOSA, grows at the foot of Fusiyama mountain.

ALNUS NEPALENSIS. *D. Don.*

Himalayan alder, ENG. | Kunch, Koish, . HIND.

A very large and straight tree of Darjiling, Kullu, and Kangra, and fringing the Pabur river banks above the junction of the Touse. Its bark is used in tanning, and its wood for gunpowder charcoal.

ALNUS NITIDA. *Endl.*

Clethropsis nitida, *Spach.* | Betula nitida, *Don.*

Ryain, ... BEAS. | Koe, ... RAVI.
Champ, Tsapu, CHENAB. | Kunsh; Kimich, SUTLEJ.
Srol, Rikimra, JHELUM. | Piak; Niu, . . ,,
Srol, Sawali, Silein, KANG. | Gira, Ghuzhbe, TR.-INDUS.

This handsome tree of the N.W. Himalaya and the Panjab rises to 90 or 100 feet, with a girth of 10 or 12 feet. Its twigs are used for binding loads, and for parts of the foot-bridges; its leaves as fodder; the bark for tanning, dyeing, and for making red ink; its wood for bedsteads, and for the crooked stick of rope bridges.—*Dr. J. L. Stewart.*

ALNUS OBTUSIFOLIA. *Cleghorn.* This alder, the Kunch of the Panjab, is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 4000 to 5000 feet. The charcoal from it is employed in iron-smelting.—*Cleghorn, Panjab Report*, p. 64.

ALOA LACTINEA. See Insects.

ALOE plants belong to the Liliaceæ, and are spread throughout India, 104 species having been introduced into the Calcutta Botanical Society's Garden. In Arabia and in Egypt, the aloe plant is hung, like the dried crocodile, over houses as a talisman against evil spirits. Burckhardt assigns, as a motive for its being planted in graveyards, that its Arabic name Sabar (it is also called Sibar) denotes the patience with which the believer awaits the last day. Lane remarks that the aloe thus hung over the door, is put there to ensure long and flourishing times to the inmates, and long continuance to the house itself; and women believe that the Prophet visits the house where this plant is suspended. In India it is hung up to attract eye-flies and mosquitos entering a room. Burton believes this practice to be a fragment of African fetishism, and mentions that the Galla race, to the present day, plant aloes on graves, and suppose that when the plant sprouts the deceased has been admitted into the gardens of 'Wak' the Creator. The African A. spicata is common in the Peninsula of India. It is a good hedge plant, and the leaves yield a useful fibre.—*Lane, Useful Plants; Burton's Mecca*, iii. p. 350.

ALOE CHINENSIS. *Smith.*

Lu-wei, Lah-wei, . CHIN. | Siang-tan, . . . CHIN.

Grows in the Canton province of China; also, it is said, in Java, Sumatra, and Persia. The drug obtained from it is bitter, coal-black, and porous.—*Smith*, p. 9.

ALOE FIBRE, Pita fibre, Nita, and Pita, are the commercial names given in Southern India to the fibres of the American aloe, or Agave Americana; of the A. vivipera, or Bastard aloe; the fibres of Fourcroya gigantea; those of the Adam's needles, the Yucca gloriosa, or common-leaved, and Y. aloefolia, or aloe-leaved, Yucca. And Dr. Hunter also mentions the Y. angustifolia, tenacissima, filamentosa, and regia as species yielding fibres, to all of which perhaps the same commercial term is applied. Agave Americana and A. vivipera have become so naturalized in India as to seem indigenous. They are, however, not yet sufficiently abundant in Southern India to be employed to any very great extent for the production of fibre; but as they take root and grow readily, there is nothing to hinder their very extensive application. Aloe fibre now forms an article of export from the western coast. In Mexico, a highly prized thread is manufactured from the leaf fibre, and made into the ropes used in their mines, and for nets and rigging of ships. Also, the famous hammocks of Panama are made of agave fibre. From the Aloe perfoliata (which Dr. Royle deemed identical with his A. Indica), Dr. Hunter of Madras obtained a fibre two feet long, white, and of fine quality, which readily took colours. The Agave Americana has a short cylindrical woody stem, terminated by fleshy, spiny, bluish green leaves, and it flowers once, on a tall flower stem, 20 to 40 feet. The roots as well as the leaves contain the ligneous fibres styled 'Nita' thread, useful for various purposes. The leaves are sometimes eight feet long, one foot broad, and five inches deep, and abound in fibres of great length; tough and durable, their separation is effected by crushing or bruising, steeping in water, and afterwards beating. In applying them for the manufacture of fibres, it is very essential to have the sap removed as early as possible after the leaves are cut, and with this

view a grooved cylinder press is found very effectual, while frequent beating removes a thick viscid milky juice, which, if allowed to remain after cleaning, imparts a stiffness to the fibre.—*M. E. J. R. of* 1855 *and* 1857; *Drs. Royle, Riddell, Hunter; Balfour's Com. Pro.; Simmonds; Faulk.* See Aloe; Agave; Fourcroya; Yucca.

ALOE INDICA. *Royle.* Indian aloe.

Aloe perfoliata, *Roxb.* ii. 167.

Ghrito-kumari,	Beng.	Kadenaka kate-vala,	Maleal.
Mok,	Burm.	Kwar, Gandal,	Panj.
Kanwar,	Duk.	Masti,	,,
Ghi-komar,	Hind.	Kumarika,	Singh.
Ban-ustaki,	,,	Kattale,	Tam.
Jivak Pat,	,,	Kalabanda,	Tel.
Ghigowar,	,,	Chinni kalabanda,	,,
Ulna-tan,	Malay.	Yerra kalabanda *var.*,	,,
Gahru,	,,		

It is common in dry situations in the N.W. of India, and is probably the source of some of the common aloes (Musabbir) of the bazaars. This aloe is chiefly planted to form hedgerows, and makes an excellent fence. It flowers in the rains, has large reddish flowers, and the stem grows to the height of ten or twelve feet. The leaves make a good common cordage, or rope, used for mats, etc.; the fibre is two feet long, white, and of fine quality, and readily takes colours. The pulp is eaten by the natives, after having been carefully and repeatedly washed in cold water; they generally mix it with a little sugar, and reckon it cooling.—*Ainslie's Mat. Med.* p. 260; *O'Sh.* p. 665; *Dr. Hunter, Madras Exh. Jur. Reports; Voigt,* 658; *Roxb.* ii. 167; *Dr. Stewart.*

ALOE LITORALIS. *Kœnig.* Sea-side aloe.

Kumari,	Beng.	Sirrughu,	Tam.
Chota-kanwar,	Duk.	Sirru Kattalay,	,,
Taif,	Socotr.	Chinna kalabanda,	Tel.
Kariapolam,	Tam.		

A reddish-leaved species growing near the coast, and plentifully at Cape Comorin and its neighbourhood. It yields good aloes. Ink is prepared from its juice, and its pulp mixed with alum is largely used in conjunctivitis.—*Waring; Birdwood.*

ALOE SOCOTRINA. *Lam.* A native of the island of Socotra; leaves minutely serrated; flowers scarlet at the base, pale in the middle, green at the point. Yields Socotorine aloes, also the true hepatic and Mocha aloes.—*O'Sh.; Birdw.*

ALOE SPICATA. *Thun.* A native of the interior of the Cape of Good Hope; leaves distantly toothed, with a few white spots, the flowers filled with purplish honey.—*O'Sh.* p. 665.

ALOE VULGARIS. *Lam.* Common aloe.

A. Barbadensis, A. perfoliata, *Royle.*

Kattalay,	Tam.	Kalabanda,	Tel.

This plant is common in the Peninsula; it is said properly to be a native of Greece, or, as some say, of the Cape Colony, but has long been naturalized in both Indies, and is cultivated in many tropical and hot countries. The leaves are armed with spines, and are a little mottled; flowers yellow. This species yields the Barbadoes aloes of commerce, by some called hepatic aloes. —*Useful Plants; O'Sh.* p. 664.

ALOES; Bitter Aloes.

Sibr, also Sabr,	Arab.	Katasha,	Maleal.
Musabbar, Pikros,	,,	Bol Siah,	Pers.
Mok,	Burm.	Kumarilla,	Singh.
Chin-hiang, Lu-wei,	Chin.	Komarika,	,,
Alia, Elwa,	Hind.	Carriabolam,	Tam.
Gaharu, Alua-tan,	Malay.	Mussambram,	Tel.
Alivah,	,,		

Many species of the aloe furnish aloes, but the best known are—

A. Abyssinica, *Lam.*, of Abyssinia.
A. Arabica, *Lam.*, the A. variegata, *Forsk.*
A. Indica, *Roxb.*, N.W. India, the A. perfoliata, *R.*
A. Socotrina, *Lam.*, of Socotra.
A. spicata, *Thun.*, Cape of Good Hope; and
A. vulgaris, *Lam.*

Aloes is the bitter, resinous, inspissated juice of the leaves, and is imported into Britain under the names of Socotorine, East Indian or hepatic, Barbadoes, Cape, and Caballine aloes. In the four years 1852–53 to 1855–56, Madras exported 515 cwt., valued at Rs. 4037, and imported in the last year to the value of Rs. 2686. In the year 1853, Britain imported to the extent of 33,333 lbs., and re-exported 157,506 lbs. to the various countries of Europe. The usual way of extracting the substance is by making a transverse incision in the leaves or cutting them off at the base, and scraping off the juice as it flows if done in the former way, and allowing it to run in a vessel placed for the purpose, if in the latter. The aloes, after being received into a vessel, are exposed to the sun or other heat, by which means they become inspissated. The Cape aloes is deep brown, shining, of greenish tint and resinous fracture; edges transparent, odour strong. Barbadoes aloes, commonly termed hepatic, is exported in gourds, ranges in colour from dark brown or black to red or liver colour; odour disagreeable. Socotorine aloes, although long considered the best kind, fell below Barbadoes in commercial value. Kurachee aloes are intermediate in properties between the Socotorine and Dekhan kind. Aloes, although aperient, unlike other cathartics, the effect is not increased if given in large doses beyond a certain point. To persons predisposed to apoplexy it is more beneficial than most other purgatives. The compound decoction is a valuable emmenagogue, particularly when combined with preparations of iron.—*Ben. Phar.* 192; *O'Sh.*, 665; *Balfour, Commercial Products; O'Sh., Beng. Pharmac.*

ALOES-WOOD. Eagle-wood, lign-aloes.

Kakal, Halhal,	Arab.	Agallochum,	Heb., Lat.
Sak-hiang,	Chin.	Kavoriki,	Jap.
Habulai?	Egypt.	Aghil, Karaghil,	Malay.
Hahulai?	,,	Garu, Kayu-garu,	,,
Bois d'aigle,	Fr.	Kassina (the tree),	Siam.
Adlar Holz,	Ger.		

This natural product is repeatedly mentioned in the Old Testament, in Num. xxiv. 6, Prov. vii. 17, Ps. xlv. 8, Cant. iv. 14, as a valued perfume. It is possible that the substance met with in commerce is obtained from more than one plant. See Agallochum; Aquilaria aloexylon; Calambeg, Eagle-wood; Lign-aloes; Excœcaria.

ALONZO TALESSO, a great navigator, who left the Tagus river, and in 1506 entered the Eastern Archipelago, and made the discovery of Sumatra.

ALOON-ALOON. Jav. A square or parterre in front of a chief's house, usually ornamented with the waringi tree.

ALOR, or Aror, an ancient capital of Sind. Its ruins are in the Shikarpur district, in lat. 27° 39′ N., and long. 68° 59′ E. It was the capital of the Sogdi of Alexander, and it appears to have been the capital of the kingdom of Sigertis, conquered by Menander of Bactria. The Imperial Gazetteer says it was destroyed by an earthquake, which

about A.D. 962 diverted the Indus into its present channel. It is written Alror in Biladuri, Edrisi, and other Arab authors.—*Tod's Rajasthan*, i. p. 42; *Burton's Scinde*, i. pp. 128, 166; *Dr. Buist's Catalogue; Postan's Personal Observations; Imp. Gaz.* p. 30.

ALOYSIA CITRIODORA. *Ort.*

Lippia citriodora, *Kth.* | Verbena triphylla, *L'Her.*

Much esteemed for the delightful fragrance of its leaves, and is much cultivated in gardens, generally thriving well.—*Voigt.*

ALPAM. MALEAL. Bragantia Wallichii, *Br.*

ALPHABET. The Phœnician traders carried the invention of letters with their trade. They were imported into Greece by an eponym named Cadmus, a word of Semitic origin, and meaning ancient. Rouge and others traced the Phœnician alphabet to an Egyptian source, and the cuneiform letters and the figures of the Chinese are supposed to be corrupted hieroglyphics. At present, the Hindustani or Urdu, the Panjabi and the Persian, are written and printed in the same character; but the Arabic, Bengali, Burmese, Canarese, Chinese, Gujrati, Hindi, Japanese, Mahratta, Malealam, Malay, Siamese, Singhalese, Tamil, Telugu, and Tulu are each written and printed in a separate character. The Sanskrit alphabet has 50 letters, English 26, Egyptian 25, Greek 24, Hebrew 22, Gujrati 21, Bengali, Uriya, and Malealam, each 22, Telugu 23, Canarese 23, Tamil 14, and the Tamil consonants carry the sound of short a. Letters of the English alphabet are, however, used by the natives of Great Britain for all the East Indian words, and Dr. Hunter has recommended, for the words in use in British India, the unaccented a as u in but, the unaccented u as u in put, the unaccented i as i in pit; and to accented a, i, and u, the sounds of a in far, ee in feet, and oo in boot. This will increase, by three, the number of English letters in use in British India. The Arabic, so largely used by all Mahomedans, has 28 letters, but amongst them are two with the sound of s, two with that of h, three with that of z, two with that of t, two with that of d, two with the sound of a, two with that of k, so that its letters might be reduced to 19. In the south of India, the Arabic numerals have been generally introduced into Government accounts. This was on the recommendation of Sir Erskine Perry, in the middle of the 19th century; and it has been supposed possible to use the Roman and Italian characters for all the other tongues, but the 19th century will see the bulk of the educated people of India using English, with comparatively little knowledge of their respective mother tongues. The alphabets of the Thay or Siamese, of the Burmese, and of the Mon of Pegu, are of Indian origin. With the native Indian tongues s and h are everywhere interchangeable, p and f amongst the Mahrattas equally so, l and z and j amongst the Tamil. The European languages with difficulty accept the English j and sh. The latter in French has to become sch, as in schah for shah, a king; Jami has to be written djami.

ALPHEUS, a genus of prawns common in the Indian Ocean. See Prawns; Shrimps.

ALPHONSEA LUTEA. *H. f. et T.*

Uvaria lutea, *Roxb.* ii. 666.

Muvi, Muvvi, . . TEL. | Chiri dudduga, . . TEL.

A fine tree of the mountains of Orissa, of Silhet and Ava.

Alphonsea Madrasapatana, *Bedd.*, a very handsome, evergreen, shade-yielding tree, common on the banks of streams on the Cuddapah and North Arcot hills up to 3000 feet.

Alphonsea ventricosa, *H. f. et T.*; Uvaria ventricosa, *Roxb.* ii. 658; a beautiful tree of Chittagong.

Alphonsea Zeylanica, *H. f. et T.*

Guatteria acutifolia, *Wall.* | Uvaria lutea, *W. and A.*

A branchy, leafy tree of Travancore and Courtallum.—*H. f. et T.; Beddome, Fl. Sylv.* p. 76.

ALPINIA, a genus of the Zingiberaceæ. Some of the species yield aromatic fruits, and some of the plants are wholly aromatic. A. aromatica is named as a plant of the eastern valleys of Bengal, the fruit of which is often sold as cardamoms; A. porrecta, *Wall.*, from China, and A. spicata, *Roxb.*, from Sumatra, may also be noticed. A. alba and A. Chinensis are much used by the Malays and Chinese. The latter has an aromatic root, with an acrid, burning flavour. The fragrant root of A. nutans was sometimes taken to England, according to Dr. Roxburgh, for Galanga major. Its leaves, when bruised, have a strong smell of cardamoms. A. mutica, *Roxb.*, is a native of Penang, has large flowers, with lips crimson yellow and orange-edged. A. Roscoena, *Rom. and Sch.*, is a native of China.—*Roxb.*

ALPINIA ALLUGHAS. *Roscoe.*

Hellenia allughas, *Linn.* | Heretiera allughas, *Linn.*
Taruka, Tara, BENG., HIND. | Mali-inshi-kua, MALEAL.

This is found in Coromandel, in the S. Konkan, in the Kotah jungle marshes, in the estuary of the Irawadi at Sarampur, in Silhet and Assam. It has large and beautiful rose-coloured inodorous flowers; its roots are aromatic.—*Roxb.* i. p. 60; *Voigt*, 570; *Gen. Med. Top.* p. 171.

ALPINIA BRACTEATA. *Roxb.*

A. Roxburghii, *Sweet.*

This is one of the smallest of the India Alpinias. It is a native of the eastern parts of Bengal, and is found at Chappedong in Tenasserim. Its flowers are white, with a crimson yellow lip.—*Roxb.* i. 63; *Voigt*, 571.

ALPINIA CALCARATA. *Roscoe.*

Alpinia cernua, *Sims.* | Renealmia erecta, *Redoute.*
Renealmia calc., *Andh.*

A native of China; has large white flowers, their lips coloured with dark purple veins on a yellow ground.—*Roxb.* i. 69; *Voigt*, 571.

ALPINIA GALANGA. *Swz.*

Maranta galanga, *Linn.* | Amomum galanga, *Lour.*
Galanga major, *Rumph.*

Kulanjan, ARAB., HIND.	Kulanyoga, . . SANSK.
Hung-tau-k'au, . CHIN.	Dhamula, ... ,,
Kau-liang-kiang, . ,,	Tikshra mula, . . ,,
Greater Galangal, ENG.	Suganda yoga, . . ,,
Galanga cardamoms, ,,	Koluwala, . . SINGH.
Chitta-ratta, MALEAL.	Perre-aretei? . . TAM.
Sugandha-vacha, SANSK.	Dumba-stacam? . TEL.
Mahabhara vacha, ,,	Pedda dumpa-
Kulanjana, . . . ,,	rashtrakam, . . ,,

This is a perennial plant, a native of Sumatra, cultivated in the Indian Archipelago, Moluccas, China, Cochin-China, Singapore, Penang, Chittagong, Travancore, the S. Konkan. Its tubers constitute the true Galanga major roots of the druggists, and are used for the same purposes as ginger. It has a faint aromatic smell and strong

pungent taste, with some bitterness, pungency, and acridity, on which account it has fallen into some disuse, though in 1850, 64 tons were exported from Canton, value 2880 dollars. Hung-tau-k'au of the Chinese means red nutmeg. The fruits have the same properties as the root. The flowers are said to be antidotal to the effects of wine. A lesser Galanga is said to be obtained from the Alpinia Chinensis, also from a species of Hedychium.—*Smith*, pp. 9, 10; *Roxb.* i. 59; *Voigt*, 570; *Ainslie; Hogg*, p. 786; *O'Sh.* 652; *Simmonds, Useful Plants; Thwaites*, p. 319.

ALPINIA MALACCENSIS. *Roscoe.*

Maranta Malaccensis, *Bur.*	Renealma Sumatrana, *Donn.*
Galanga ,, *Rumph.*	

A native of the Moluccas and Chittagong; a beautiful, stately plant, with large pure white flowers, their lips orange crimson.—*Roxb.* i. 64; *Voigt*, 571.

ALPINIA NUTANS. *Roscoe.*

Renealmia nutans, *Andr.*	Globba sylvestris, *Rumph.*
Globba ,, *Linn.*	Zerumbet speciosum, *Jacq.*
Costus zerumbet, *Pers.*	
Punag champa, . BENG.	Pa-gau-theing, . BURM.
Pa-gau-gyi, . . BURM.	Ilachi, ... HIND.

This very beautiful plant is a native of the Eastern Archipelago; is found on the banks of the Salwyn, at Silhet and in Coromandel; is cultivated in gardens, and was brought by Dr. Irvine from Tonk to Ajmir. The flowers are beautiful, and the whole plant is fragrant like the cardamom; the seeds do not ripen. Its leaves, etc., when bruised, have a strong smell of cardamoms, and are sometimes named Ilachi or Punag champa. —*Roxb.* p. 65; *Voigt*, 571; *Genl. Medl. Top.* 171.

ALPTIGIN. One of the dynasties formed after the breaking up of the empire of the khalifs was that of the Samani, which terminated after a lapse of 120 years. Abdul Malik, the fifth prince of his race, had a Turki slave, by name Alptigin, a man of good sense, courage, and integrity, who rose to be governor of Khorasan. Alptigin afterwards assumed the independent government of the country about the mountains of Suliman to the Indus, making Ghazni his citadel. This he held for fourteen years, up to the time of his death, A.D. 976, and thence founded the house of Ghazni. Alptigin had a slave named Sabaktagin, purchased from a merchant who brought him from Turkestan, and whom by degrees he had raised to so much power and trust, that at his death he was the effective head of his government, and became his successor. He also married a daughter of his benefactor. In the action that Sabaktagin had with Jaipal, raja of Lahore, at Laghman, at the mouth of the valley which extends from Peshawar to Kabal, he conquered and made great slaughter among the enemy, took possession of the country up to the Indus, leaving an officer with 10,000 horse as governor of Peshawar. On this occasion the Afghans and Khilji of Laghman not only tendered their allegiance, but furnished useful recruits to the country. Sabaktagin died 997. His eldest son, Ismail, succeeded him for a few months, and, after him, the second son, the renowned Mahmud of Ghazni.—*Marshman.*

ALSANDA. TEL. Dolichos sinensis, *Linn.*

ALSEODAPHNE SEMICARPIFOLIA. *Nees.*

Weewarana, Raane, SINGH.	Yaverne, . . . SINGH.

This large glabrous tree is not uncommon on the Western Ghats of the Madras Presidency, from Canara south down to Cape Comorin, up to 5000 feet elevation, and it also occurs in Ceylon. The wood is valued in Ceylon, and is procurable of very large size. It is of a light yellow colour, and is said not to warp. It is used for building and other purposes, and as it resists the attacks of the teredo, is much in use in the construction of boats. It is exported from Trincomalee.—*Beddome, Fl. Sylv.* part xxv. p. 297.

ALSI. HIND. Linseed. Linum usitatissimum.

ALSINACEÆ. *Lindl.* The Chickweed tribe of plants. The Indian genera are—Buffonia, Sagina, Minuartis, Arenaria, Cerastium, Stellaria, Alsinella, Cherleria, Brachystemme, Leucostemma, and Larbrea.

ALSOPHILA, a genus of tree-ferns of India and the islands of the Southern Ocean. A. Australis, a tree-fern of New Zealand, attains to 60 feet in height. A. excelsa, the tree-fern of Norfolk Island, measures 40 to 80 feet in height, and has a magnificent crest of fronds from 7 to 12 feet long. It usually has its root near the course of some main stream; and as its top does not affect the shade, like many of its congeners, it forms a striking object in the landscape. The heart or cabbage at the extremity of the trunk in some species affords a coarse food. It is in substance like a Swedish turnip, but is too astringent in taste to be agreeable, and is not much altered by cooking. The black portion of the trunk is used for stringing by cabinetmakers. A. Cooperi is the tree-fern of Queensland. All the Alsophila should be introduced into India. A. gigantea, *Wall.*, is common to the Himalaya, from Nepal eastward to the Malayan peninsula, Java, and Ceylon; it ascends nearly to 7000 feet in the outer Himalayas. It is far more common than A. spinulosa. A. spinulosa is the 'Pugjik' of the Lepchas, who eat the soft, watery pith. This tree-fern grows also in Sikkim abundantly, in East Bengal, and the Peninsula of India.—*Hooker's Him. Jour.* i. 110, 142, ii. 13; *Von Mueller; Keppel's Indian Arch.*

ALSTONIA, a genus of plants belonging to the Apocynaceæ. A. macrophylla and A. spectabilis are Penang trees; of the former, with large white flowers, nothing is known, and equally little of A. neriifolia, a Nepal shrub, and A. venenata of the Indian Peninsula, the last being Roxburgh's Echites venenata. A. constricta, *F. v. Mueller*, is a small tree of E. Australia; bark an aromatic bitter, useful in ague.—*Von Mueller.*

ALSTONIA SCHOLARIS. *R. Br., Don.*

A. Oleandrifolia, *Lodd.*	Echites scholaris, *Linn.*
Book Attene, ANG.-SINGH.	Septa-pima, . . SANSK.
Lutiana, . . . ASSAM.	Rukatanna gass, . SINGH.
Chatin, ... BENG.	Ir-illay-palai, pala, TAM.
Satwin, ... BOM.	Wodrade, . . . ,,
Lit-htuk, . . . BURM.?	Eda-kula-ariti, . . TEL.
Hori-kowan, . . MAHR.	,, ,, pala, . . ,,
Stawin, ... ,,	,, ,, ponna, . ,,
Pala, Mukanpala, MALEAL.	Pala-garuda, . . ,,
Ayugma parma, . SANSK.	Eda-kuta-nati, . ,,
,, chadda, . ,,	

This considerable-sized tree grows in the Moluccas, Bengal, in the vale of Sawitri, in the hilly parts of the South Konkan, and in the moist valleys of Kamaon. In Ceylon it is common up to an elevation of 3000 feet. In Canara and Sunda it is not very common, but is found near the ghats above and below of great size. It is

also found in the Travancore forests; it is very common in the plains on the western side of the Madras Presidency and in Mysore, and is also found in Assam, Burma, Africa, and Australia. The excellent boards or thin planks it affords are used by their children and by children in Ceylon and in the Indian Peninsula to write their lessons on, hence its name. The whole plant abounds in a milky juice. Its wood is white, light, and close-grained, but rather coarse, and in Assam is much prized for beams and light work, such as boxes, trunks, scabbards, etc. It is valuable for the turning-lathe, and in Ceylon is used for coffins and packing-cases. It is as bitter as gentian, and is possessed, it is said, of similar virtues. The bark is a powerful tonic in bowel complaints, and, in the form of tincture, Dr. Gibson found it useful as a febrifuge.—*Ind. Ann. Med. Sci.*, April 1866; *Mason; Hogg's Vegetable Kingdom; Useful Plants; Dr. Gibson; Voigt; Thwaites*; *Beddome; Mr. Thompson.*

AL SURA, the Arab name of Bassora, from Beal-Sura, signifying the stony soil on which it is built.

ALTA, or Mahawar. HIND. Balls of cotton impregnated with a lac dye; a thin red stuff of cotton, like paper, consecrated to Durga, with which Hindu women colour their feet, and is supposed to promote happiness and prevent distress.

ALTAI, a great mountain chain on the west of Asia, between which and the Himalaya is the vast tract of pasture lands on which from time immemorial the nomades of high Asia have fed their flocks, and multiplied into those hordes which from time to time have swept into Europe and into southern and eastern Asia. The southern mountains of the Altai chain are rich in gold and silver mines (altai, in Mongol, signifies gold). And the same may be said of the chain of the Khigan which separates Mongolia from Daouria. —*Timkowski's Journey to Pekin*, ii. p. 284.

ALTAMGHA. TURK. Literally red stamp. A grant under the seal of the former rulers of Hindustan, recognised by the British as conferring a title to rent-free land in perpetuity, hereditary and transferable from generation to generation. In reality, such were never so treated, being invariably resumed as occasion demanded. The imperial decisions of China are noted in red ink.—*Wilson.*

ALTAMSH. This emperor of India succeeded to the throne in A.D. 1210. He completed the conquest of the greatest part of Hindustan proper (1226–1232), and appears to have been the first Mahomedan that made a conquest of Bengal, the government of which was from this time bestowed on one of the reigning emperor's sons. It was during his reign (1225) that Chengiz Khan, among his extensive conquests, accomplished that of the empire of Ghazni, putting an end to the dynasty of Kharasm, which then occupied that throne, and driving before him the unfortunate Jalal, son of the sultan of Kharasm, who swam the Indus to avoid his fury, and fled to Dehli. Altamsh was succeeded for a few months by his son, and his sister Razzia was then raised to the throne.—*Rennell's Memoir*, p. xlviii.; *Marshman.*

ALTAR.

Mihrab, ... ARAB.	Altare, ... IT.
Autel, ... FR.	

The altar is a sacred place inside Jewish, Buddhist, and Hindu places of worship, and Christian churches, and reverenced in the eastern mode alluded to in Psalm xxvi. 6: 'So will I compass thine altar,'—compassing being a mark of reverence, common among Hindus and Buddhists, many of whom may be seen morning and evening circumambulating their temples from right to left, with their right hands towards the temple. Hindus call this Pradachana; and it is with them a reverential act, which they sometimes also perform to men. Mahomedans also circumambulate, but only the Kāāba at Mecca, into which is built the Hajar us Siah, or Black Stone that is believed to have fallen with Adam from paradise; but in their religious poetry they often allude to the custom, as in the words from the Persian, Tuaf i kaba i dil kun agr dili dari, Encompass thou the kaaba of thy heart, if thou hast a heart.

ALTERNANTHERA SESSILIS. *R. Brown.*

Achyranthes triandra, *R.*	Altern. triandra.
,, sessilis.	Illecebrum sessile, *Linn.*
Poonaghutti bhaji, DUK.	Poonaghanti koora, TEL.
Priasatti, . . . SANSK.	Madana-ghanti, ,,
Poonarkany kirai, TAM.	

In many parts of India this is a common annual, but is greatly prized as greens by the natives, and sells at a high price. A. campestris and A. sessilis are figured in Wight's Icones. — *Jaffrey; Voigt*, p. 318.

ALTHÆA ALHUGAS.

Guimauve, . . . FR.	Gul khyar, . . HIND.
Althia of Dioscorides, GR.	

This is a native of Europe and of Kashmir, and used precisely as the marsh-mallow, and at Kandahar as greens.—*O'Sh.* p. 214; *Bellew; Stewart.*

ALTHÆA ROSEA. *Cav.*

Fu-Sang, . . . CHIN.	Gul Khaira, . . HIND.
Hollyhock, . . ENG.	Khatmi, . HIND., PERS.

This plant, with very large rose-coloured flowers, has produced about 20 varieties of splendid border flowers. Its leaves are said to yield a colouring matter resembling indigo.—*Voigt*, 112; *Smith*, 10. See Dyes; Hollyhock.

ALTI MARAM. TAM. Hardwickia binata.

ALTISHAHR, or the Six Cities, a designation of the western part of Eastern Turkestan, and embracing the towns of Yarkand, Kashgar, Aksu, Khoten, Yanghisar, and Oosh-turfan, with the districts dependent on them. See Bokhara, Little Chinese Tartary, and Eastern Turkestan.

ALTUN-SU. The river Caprus of antiquity is called the Lesser Zab by Abul Fazl. It joins the Tigris below Diarbakr; but it is wrong to call the river Altun, which is an epithet only belonging to the bridge, from what it cost, Altun meaning gold or money. Both Altun and Altai are Turki words for gold.—*Rich's Kurdistan*, ii. p. 13.

ALU. HIND., PERS., PUSHT., TEL. A term, with affixes and suffixes, employed in Persian, Afghan, and Indian countries to designate several shrubs, pomaceous fruits, edible fruits and roots. The Alu of India generally is the common potato, the Solanum tuberosum. The Alu-i-Bokhara is the prune; the Nathar Alu, Batatas edulis, the sweet potato. In Telugu, the Alu-bachchali, is the Basella alba. In Bombay, Alu is a name of Vanguieria spinosa; in Persia, of several rosaceous plants. Gurd-alu is Prunus Armenaica; Kir-alu is Arum speciosum; Rat-alu is Dioscorea sativa; Shaft-alu is Amydalus Persica; and Alu-balu is the Cerasus caproniania. Alu-cha is a variety of prune. Alu Bokhara, prunes, Prunus domestica; also dried plums and apricots.

ALUBO. SINGH. Calyptranthes jambolana.

ALUGLUTA, and Algochh. BENG. Cymbidium tessaloides.

ALUKA. HIND. The leech. See Hirudo.

ALUK ur REMBUT. ARAB. Pistacia terebinthus.

ALU-KYOO. BURM. Arundo, *sp.*

ALUM.

Shabb,	ARAB.	Zaj-balur,	PERS.
Ky-ouk Ky-en,	BURM.	Shab-i-Yemeni,	,,
Aluin,	DAN.	Pedrahume,	PORT.
Alun,	FR.	Kwassze,	RUSS.
Alaun,	GER.	Puttaki,	SANSK.
Phatakri,	HIND.	Chinna karam,	SINGH.
Alume,	IT.	Allumbre,	SP.
Alumen,	LAT.	Paddicaram,	TAM.
Tawas,	MALAY.	Patticaramu,	TEL.

The first alum works known to Europeans were those of Edessa (formerly called Roccha) in Syria. The alum of commerce, however, is manufactured from alum shale, alum rock, bituminous shale, and slate clay. In British India, at Dera Ismail Khan, it is manufactured from a black shale, principally at Kalabagh, on the Indus, and Kutki, where some 900 tons are annually sold, at the rate of 78 rupees per ton. The process of manufacture is almost identical with that employed in European alum works. Alum occurs native in Nepal and at Chownsilla. It is obtained in the Tenasserim valley, about 40 miles below Matah, from a reddish slate clay. The shales are roasted, and, after being reduced to powder, the alum is obtained by washing. Red alum is brought to Ajmir from Lahore, and used in medicine as an astringent, but chiefly employed in dyeing. One maund sells for 10 rupees. The great importation of alum is from China. Surgeons apply it variously, after depriving it of its water of crystallization; and in domestic life it is used for precipitating vegetable substances suspended in potable water. When Chinese fishermen take one of those huge rhizostoma which abound on the coast, they rub the animal with the pulverized styptic to give a degree of coherence to the gelatinous mass. Chinese architects employ it as a cement in those airy bridges which span the water-courses. It is poured in a molten state into the interstices of stones; and in structures not exposed to constant moisture the cohesion is perfect, but in damp situations it becomes a hydrate, and crumbles. In the Sung-yan hills bordering on Foh-kien, in the district of P'ing-yang, Wan-chan prefecture, and in close proximity to Peh-kwan harbour, several alum-making establishments occupy about a mile of the side of a lofty hill. In the alum district, the typhoon of September 1855 was preceded by a rising of water in wells and ponds many miles inland. When the cyclone reached the coast, it submerged about a hundred square miles, occasioning a vast destruction of life and property. The waters of the sea were retained in the country by strong easterly winds for several days, leaving a strip of land bordering on the sea quite dry. Alum shale, Fan-shih of the Chinese, is found very pure in the provinces of Cheh-kiang, Hunan, and Ngan-hwui. It is deflagrated by throwing the alum shale into brushwood, and macerating the residue in vats. The liquor is concentrated in large boilers, having iron bottoms and wooden sides, then poured into reservoirs to crystallize into large solid masses, which are broken into smaller pieces for shipment to India and the Archipelago, and for sale. 6000 tons leave the district of P'ing-yang in one year. The purified alum, called Ming-fan and Peh-fan, is equal to the best Roman alum. Ferruginous alum, Tieh-fan, is a friable mineral of a faint red colour, brought from Shen-si Province, China. This mineral is largely employed by the Chinese in dyeing, and to some extent in paper-making, as in Europe.—*H. Piddington in As. Soc. of Bengal; Calc. Cat. Exhib. of* 1862; *Hon. Mr. Morrison's Foreign Commerce with China; Irvine's Ajmir*, p. 149; *O'Sh. Beng. Pharmac.* p. 366; *Simmonds' Comm. Prod.; Faulkner's Comm. Dict.; N. China Herald*, 23d January 1856; *Powell's Handbook; Smith's Ch. Mat. Med.*

ALUMINA is an earth of common occurrence in the mineral kingdom, in a state of silicate; as in felspar and its associate minerals, and in the various modifications of clay thence derived. Native alumina exists in the sapphire; the oriental emerald, ruby and topaz, corundum, and emery consist chiefly of alumina, with a small portion of oxide of iron and silica. Alumina has a strong affinity for various organic compounds, and its use in dyeing and calico printing depends on its attraction for different colouring principles, and for ligneous fibre. If ammonia be added to a solution of alum in an infusion of cochineal or madder, the aluminous earth falls in combination with the red colouring matter, and the liquor is left colourless. Colours thus prepared are called Lakes. The Ch'ih-Shih-Chi of the Chinese is a pale reddish friable aluminous earth. See Dyes; Precious Stones.

ALUMU KADA. TEL. Ipomœa filiformis.

ALUMZAI, a branch of the Momund tribe, whose headquarters are at Gandao.

ALUNDY, a place near Poona where Vishnu is believed by the Hindus to have become incarnate about the 15th or 16th century. See Naneshwar.

ALU PUHUL. SINGH. Cucurbita hispida.

ALUTE. MAR. A share in the corn and garden produce of a village, given to the Balute or village officers. See Balute.

ALUVA. TEL. Manis pentadactyla, *Linn.*

ALUVAR or Alvar. TAM. Alvaru, TEL. Amongst the southern Vaishnava in the Peninsula of India, twelve reputed saints are said to have each written a portion of the Dravida Prabandha, or Tamil Veda, chiefly designed for Sudras and women. Ramanuja, the founder of the Sri-vaishnava sect, is sometimes supposed to be the same as Yembiru Mauaru, the last of the Alvar. Their names are—

Poyalvar;	Tirupanalvar;
Puthatalvar;	Tirumangalvar;
Peyalvar;	Tondamalvar;
Tirumal peyalvar;	Yempramanar, or Yetaraja, or Ramanuja chariar;
Namalvar;	Kurattalvar.
Kula Sec'haralvar;	
Periyalvar;	

Wilson.

ALUWIHARA. See Sripada.

ALWAN, KASHM., or Alwan-i-Sadah, undyed shawl stuff; plain pashmina. Alwan ek tara, or single thread alwan, is a plain woven pashmina, or shawl-wool cloth. Alwan-do-tara is shawl-wool cloth woven with fine double thread, hence richer and heavier than the ek tara fabric. Alwan is also a Turkey-red cotton cloth.

ALYA SANTANA, or nephew inheritance; in Canara, the law of descent to sisters' sons; the descensus ab utero. The management of property vests ordinarily in the females. See Polyandry.

ALYSICARPUS, a genus of small trees or under-shrubs of India and Burma, of the natural order Fabaceæ. A. bupleurifolius, Heyneanus, styracifolius, monilifer, vaginalis, and nummularia, Nagbala, HIND., are known.—*Voigt*, p. 224.

ALYXIA, a genus of plants of the natural order Apocyuaceæ. The bark of A. stellata, *Roxb.*, of the Eastern Archipelago, Society and Friendly Islands, contains benzoic acid, and is possessed of properties analogous to those of canella and Winter's bark, used in chronic diarrhœa and nervous disorders. A. gynopogon of Norfolk Island and A. Moonii of Ceylon are also known.—*O'Sh.* p. 448; *Roxb.* i. 609.

AM. HIND. The mango; fruit of Mangifera Indica, also Hippophae rhamnoides.

AMADA. BENG. Curcuma amada.

AMADA KADA. TEL. Cyanotis axillaris.

AMADIYAH, a district in Kurdistan near the Van and Taurus, for about 800 years the headquarters of the Kurdish family of Behdir, who trace their descent from one of the early Abbasside khalifs. After the overthrow of the Mir of Rowanduz, it passed without a struggle into the hands of Rashid Pacha.

AMADOU, German tinder.

Spunk, ...	ENG.	Agaric; Amadouvier,	FR.
Surgeon's Agaric, .	,,	Zunderschwamm, .	GER.

A substance similar to agaric is prepared from Polyporus fomentarius, parasitical on the oak, birch, etc., and P. igniarius, growing on the willow, plum, etc. Amadou is prepared by beating thin slices of the fungus, and soaking them in solution of nitre. Black amadou is impregnated with gunpowder.

AMAKARUM. MALEAL. Physalis somnifera.

AMAL. ARAB. Business affairs. Amaldar, an agent, a revenue officer.

AMAL. HIND. Opium. Amal-lar-khana, 'to eat opium together,' is the most inviolable pledge amongst the Rajputs, and an agreement ratified by this ceremony is stronger than any adjuration. If a Rajput pay a visit, the first question is, 'Amal khya?' 'Have you had your opiate?'—'Amal khao;' 'Take your opiate!' On a birthday, when all the chiefs convene to congratulate their brother on another 'knot to his years,' the large cup is brought forth, a lump of opium put therein, upon which water is poured, and by the aid of a stick a solution is made, to which each helps his neighbour, not with a glass, but with the hollow of his hand held to his mouth.—*Tod's Rajasthan*, vol. i. p. 644.

AMAL, or Aonla. HIND. Emblica officinalis.

AMAL. PANJ. Sour; hence Amal-bel, Cissus carnosus; Amal-gach'h, Prunus puddum; and Amli, Tamarindus Indica.

AMALAH is a subdivision of the Peshkoh clan of the Luri Kuchak tribe in Khuzistan, comprising about 2000 families. Their summer quarters are about Khoramabad and Terhan, and in winter they go to Saemara and Koh-dasht.—*Layard; M'G.* p. 22.

AMALARI, a division of the Brahui tribe Bizungi, on the same hills as the Minghal.

AMALE ARISI. TAM. A variety of rice.

AMALGAM. Mercury dissolves most of the metals, and forms a class of compounds termed amalgams. They are usually brittle or soft. The amalgam of tin is readily formed, by triturating the metals together, or by fusion at a gentle heat, and is extensively used for silvering looking-glasses. An amalgam of three parts mercury, one part lead, and one part bismuth, is remarkable for its fluidity, and may be squeezed through leather without decomposition. It is used for silvering the inside of hollow glass spheres, previously made clean and warm. All the amalgams can be decomposed at a moderate heat; and advantage is taken of this property in the arts of water gilding and water silvering, and the cold tinning of cast iron, wrought iron, steel, copper, and many other metals. The processes are followed in India. The amalgam used in dentistry consists of gold of purest kind and tin, each one part, silver two parts. Melt, and when required for use reduce to a fine powder, and make an amalgam with mercury. In China, Yin-kau, Yin-ts'ui, is a mixture of pewter and silver leaf with mercury, used internally as a medicine, but also employed for stopping teeth and for making false teeth.—*Tomlinson; Smith.*

AMALTAS. HIND. Cathartocarpus fistula.

AMAMA. HIND. A large loose turban of shawl, etc., worn by Musalmans; qu. Imama.

AMAN. HIND. Low lands yielding one crop a year. Also AR., free; the soldier's cry for quarter.

AMANAKU ARISI. MALEAL. Seeds of Ricinus communis; lit. lamp-rice.

AMANAT, also Amāni. HIND. Held in trust by the State, as an estate.

AMANJI. TAM. Compulsory labour.—*W.*

AMARA KOSHA, by Amara Sinha, also called Amara Deva, is the most esteemed of all the Sanskrit vocabularies. The author was one of the nine poets who adorned the court of Vikramaditya, who seems to have been a Buddhist. Another of this name is supposed to have lived about A.D. 948. His book was translated into English by Colebrooke, and printed in India, and into French by A. L. Deslongchamps, and printed in Diglot in 1839. The Amara Kosha, Trikanda Sesha, Haravali, and Medini Kosha, four original vocabularies, were printed at Khidurpur in 1807. The poems of Amara Sinha perished during the persecutions to which the Buddhists were subjected.

AMARANTUS, a genus of plants of the natural order Amarantaceæ; several which have bright-coloured leaves are ornamental. About 26 species and varieties are grown. A. anardana, A. frumentaceus, and A. lappica produce seed in sufficient abundance to be gathered as grain crops; their stems and leaves are used as greens and spinach. A. paniculata in three months yielded 8 oz. of seed on a square yard. Under the vernacular name of 'nuteyæ,' they are used as emollients, cataplasms, and for diluent drinks. A. tricolor, A. caudatus, or 'Love lies bleeding,' A. hypochondriacus, or 'Prince's feather,' are flowering plants. The last is found wild in the south of England. A. Blitum, *Linn.*, of Europe, A. campestris, *Willde*, have minute greenish flowers, as also has A. polystachys, the Kupei-kiré of the Tamils.

Amarantus anardana, *Ham.*

Siril, sarairi, sariara, batu, ganhar, .	BEAS.	Dartu, . . .	PUSHT.
Siul, sawal, bhabri,	CHEN.	Kali suval, Lal siwal, siwalara, . .	RAVI.
Lal chanlai, . .	HIND.	Sarera, dankar, bithu chanlei, tulsia,	SUTLEJ.
Ganhar,	JHELUM., KANGR.		

Dr. Stewart gives these as vernacular synonyms both of A. anardana and A. Gangeticus. He says A. anardana is often in the Panjab grown among other crops, up to 9000 feet. A. Gangeticus appears to be wild also in the plains. The leaves are eaten as a pot herb, but it is grown chiefly for the seed, used as a food-grain after parching.

Amarantus atropurpureus, *Roxb.*

Banspata-lal-nuti, BENG.	Shegapu thandu-kirai, TAM.
Lal-nutiya, . . ,,	
Kunka nuti, . . ,,	Yerra totakama kura, TEL.

This is probably a variety of A. oleraceus, an annual with beautiful red foliage and diminutive flowers. It gives a good spinach, though seldom used by Europeans.

Amarantus campestris, *Willde.*

Churi-ki-bhaji, . DUK.	Sirru kirai, . . TAM.
Mekanada, Ganna, SANSK.	Sirru kura, . . TEL.

A. campestris and A. polygonoides? are commonly cultivated by native gardeners for spinach, during the hot months; require to be used when three or four inches high, are of rapid growth, and should be sown every third or fourth week.

Amarantus caudatus, *Linn.*, the Ye-hien-tsai of the Chinese, the love lies bleeding of our gardens, is commonly cultivated for ornament. The Chinese formerly ate it as a vegetable.

Amarantus cruentus.

Batu zard, . . . PERS.	Bostan-afroz, . . PERS.
Taj-i-khurus, . . ,,	

Bread cakes made from its seed are a common food with the peasants of the Himalayas.

Amarantus fasciatus, *Roxb.*

Tun-tuni-nuti, . BENG.	Ban-nuti, . . . BENG.

Has minute greenish flowers.

Amarantus frumentaceus, *Buch.*

Bathu, ... PANJ.	Pungh-kirai, . . TAM.
Kirai, ... TAM.	

A large luxuriant species, grows in the hills between Mysore and Coimbatore, also on the Neilgherries. In the Calcutta Botanic Garden, forty square yards, sown in June, yielded 21 lbs. of clean seed in September. It is cultivated by the hill people of S. India for the seeds, which are ground into flour, and form one of their principal articles of diet. Seeds used by the Hindus as the kernel of comfits. The leaves are of a reddish brown colour, and the plant averages in height from four to six feet.

Amarantus Gangeticus, *Linn.*

Lal-shak, Ranga-shak, BENG.	Lal-sag, . . . HIND.

Sown broadcast, and always procurable. The leaves are very generally used as spinach. There are many varieties, with colours from green to bright red. They cannot be cut.

Amarantus lanceolatus. Banspata nuteeya, BENG. Bamboo-leaved amaranth. The leaves and tender tops are eaten by natives in their curries, and used as emollient poultices.

Amarantus oleraceus, *Linn.*, country greens.

Var. a. viridis. b. ruber. c. albus. d. giganteus.

Shedakh-nindi? . ARAB.	Tota kura, . . . TEL.
Sadanuti, . . . BENG.	Var. alba—Tella tota kura, . . ,,
Ma-ch'i-hien, . . CHIN.	
Dant-ki-bhaji, . DUK.	Var. rubra?—Yerra tota kura, . . ,,
Dat-ki-bhaji, . . ,,	
Sada-tam-pala, . SINGH.	Var. gigantea—
Thandu-kire, . . TAM.	Mokka, also Peruga, ,,

This amaranth is, more than all the others, in use with Europeans in India. The peeled stalks resemble asparagus in form, and are pleasant to eat. The variety A. viridis, the common green sort, is most cultivated. A. ruber, with its bright stems but rusty-coloured leaves, is showy in a garden. A. albus, with white shining stems, is the sada-nuti of Bengal, and is much cultivated there. But the A. giganteus, from five to eight feet high, is that which Europeans mostly esteem.

Amarantus polygamus, *L.*; var. ruber.

Champa nuti, . . BENG.	Chumli sag, . . HIND.
Champa nuteya (var. lal.), . . ,,	Chulai, ... ,,
Shakini, . . . ,,	Sulu-kura-tampala, SING.
Poorika, . . . ,,	Mulli kirey, . . TAM.
Ragiri-ki-bhaji, . DUK.	Dela kura, Doggali kura, Erra Doggali kura, . . TEL.
Chulai-gaji, . . GUJ.	

This is cultivated all over southern Asia. There are three or four varieties, with various coloured leaves. It is one of the best of the Indian spinachs. It is raised from seed during the hot months, and requires to be sown thick, and eaten when young; generally used when two feet high. The humbler natives are seldom able to purchase this vegetable, it being too costly.

Amarantus polygonoides, *Roxb.*

Chiru nuti, . . BENG.	Ban tanduli, . . HIND.
Chilu nutiya, . . ,,	Chira-kura, . . TEL.

Very small and common garden weed, used as a pot herb, and deemed by natives wholesome for convalescents.

Amarantus spinosus, *Linn.*

Kanta nuti, . . BENG.	Mulu kire, . . . TAM.
Thorny amaranth, ENG.	Mulu tota kura, . TEL.
Mullan-chira, . MALEAL.	Nalla doggali, . ,,
Mula-karang-varai-Puttai, . . . TAM.	Erra mulu gor-anta, ... ,,

This grows as a very troublesome weed all over Southern India and Burma. It has sharp spines in the axils of its leaves, and it is troublesome to pick them, though they make a good spinach and pot herb.

Amarantus tenuifolius, *Roxb.*

Ghinti-nuti, . . BENG.	Mulleero, . . . SIND.
Jeel-chumli, . . ,,	Katoo-sirroo-kirai, TAM.

A weed with clusters of green flowers proceeding from the axils of the leaves; stem much branched; found everywhere spreading in cultivated grounds.

Amarantus tricolor, *Wight.*

Mat-ki-bhaji, . . DUK.	Aray-kirai, . . . TAM.
Jillaka, ... SANSK.	Quoi-tota-kura, . TEL.
Kuppai-kirai, . . TAM.	Tanta-kura, . . ,,

Remarkable for its variegated leaves; the centre of it is red and pale yellow; propagated by seed only.

Amarantus tristis, *Linn.*

Mat-ki-bhaji, DUK., HIND.	Kuppi kire; Ara kire, TAM.
Jillaka, ... SANSK.	Koya tota kura, . TEL.

This annual is cultivated and held in great esteem by the natives. It may be cut down several times without destroying the plants, which are much used for food.

Amarantus viridis, *Linn.*, has minute greenish flowers, and its tender tops are eaten, but less esteemed than others of this genus.—*Ainslie; Cleghorn, Panj. Report; Jaffrey's Hints; Mason's Burma; O'Sh. Beng. Disp.; Powell, Handbook; Riddell's Gardening; Roxb. F. Ind.; Smith, Chin. M. M.; J. L. Stewart; Voigt; von Mueller.*

AMARAPURA, on the east bank of the Irawadi river, in lat. 21° 57′ N., long. 73° 4′ E., a former capital of Burma. The name is derived from the Pali, and means the immortal city. It was re-occupied when Ava was abandoned. The Burmese kings vary their capitals, and Amara-

pura was abandoned in 1860.—*Yule's Embassy*, p. 130.

AMARA SINHA. See Amara Kosha.

AMARAVATI, the capital of Indra; also a name given to several towns in peninsular India, frequently spelt Oomraoti or Amraoti. Amaravati, in lat. 20° 55′ 45″ N., and long. 77° 47′ 30″ E., a large commercial town in Berar, built on a plain with hills to the west. It is in the Hyderabad Assigned Districts, 928 feet above the sea. The district holds the Pola and other fairs.

AMARAVATI, a small town on the S. bank of the Kishna river, 20 miles W. of Guntoor, in the Madras Presidency, in lat. 16° 34′ 45″ N., and lat. 80° 24′ 21″ E., with a population of 2155 persons. It was one of the chief centres of the ancient buddhist kingdom of Vengi; and a ruined buddhist tope there has created an interest in the place. The town was called Dipaldinna, translated by Colonel Mackenzie, the 'Mound of Lights,' which resembles the name of a similar place of Buddhist celebrity in Ceylon (Dambadinna). He found its outer diameter 195 feet and 165 feet. Portions of its remains were sent by the Editor in 1857 to Great Britain, and they are now in the British Museum. The portions sent were of three kinds, viz.—1. Large and coarse, belonging to the central building; 2. Carvings belonging to the inner rail, so delicate as to seem rather to belong to ivory than to stone; 3. A group belonging to the outer rail. The quantity of the sculptures was amazing. The central discs of the pillars alone contained from 6000 to 7000 figures. If we add to these the continuous frieze above, and the sculptures above and below the discs on the pillars, there probably were not less than from 120 to 140 figures for each intercolumniation, say 12,000 to 14,000 in all. The inner rail probably contains even a greater number of figures than this, and they are so small as more to resemble ivory carving. But except perhaps the great frieze at Nakhon Vat in Cambodia, there is not, even in India, and certainly not in any other part of the world, a storied page of sculpture equal in extent to what this must have been when complete. The subjects of these sculptures are very various, — animals, bulls, elephants, etc., very well depicted; feasts, concerts of instruments, scenes from the life of Buddha.—*Jour. Ben. As. Soc.; E. Balfour in Journ. Madras Lit. Soc.*, 1850; *and Govt. Central Museum Report for* 1857; *Sewell's Report on the Amraoti Tope*, 1880; *Darwinism in Morals; Fergusson's Tree and Serpent Worship; Fergusson and Burgess's Cave Temples; Imp. Gazetteer.*

AMAR BAURIA. HIND. Cuscuta reflexa, literally the undying creeper, used medicinally in rheumatism, and by alchemists.

AMARDAD-SAL, a Parsee holiday, held on the day following the Khurdad-sal, of which festival it is merely a continuation.—*The Parsees.*

AMAR-DHOB, also Dhoorba. HIND. Cynodon dactylon; amongst the Rajputs, the father binds its root around the arm of a new-born son.

AMARKANTAK, a hill in the Bilaspur district of the Central Provinces, in lat. 22° 40′ 15″ N., and long. 81° 48′ 13″ E. The mean height above the sea of the plateau Vishnapuri, is 3590 feet. The tank of Pach Kund, the source of the Narbada, is 3504 feet. The top of the hills skirting the Vishnapuri plateau to the north, 3700 feet, 100 feet above the Vishnapuri plateau, by aneroid. Near this, Captain Jenkins of the Madras Army discovered coal. Amarkantak plateau forms the watershed of the Mahanadi, Son, Tons, Johilla, and Nerbudda. These rivers, though large and full of water, even halfway from their mouths, are very irregular in the slopes of their beds, and are disturbed by frequent rapids, so that, owing to these impediments, increased still further by the rocky character of the river beds or their banks, navigation is limited for the most part to the lower portions of their course.—*Madras Museum Records.*

AMARNATH or Ambernath, a temple five miles from Kallian, about forty miles from Bombay; it means immortal lord. It is now a Saiva institution, and in ruins, but has evidently belonged to some prior creed, probably buddhist, and re-arranged for the Saiva sect A.S. 782, A.D. 800. The lingam, yona, and vahan nandi are still there. It is sacred to Shambha. An inscription found in it is dated Saka 982, A.D. 1060.

AMARYLLIS, a genus of the Amaryllaceæ, the narcissus tribe of flowering plants, the species being known as Americana, Asiatica, aurea, Barbadoes, Cape, equestrian, frittilaria or snake's head lily, golden, Mexican, parrot, tiger lily, and Turk's cap, mostly natives of China, Cape of Good Hope, and America, but quite acclimated in India, and found almost in every flower garden. They blossom during the rainy and cold season. The colours are of every variety,—red, white, pink, etc. The wild flower of frittilaria hangs pendulous, and is chequered with pale dark purple; specific name from frittillas, a dice board. In India, several are known as Sosan, a Mahomedan name, the Susan of Christian women. A. aurea, golden amaryllis, the Zard Sosan of the Persians, is very ornamental. A. Belladonna has large veined greenish white and carmine coloured flowers. The roots of the Shan-tsze-ku or Man-ku of the Chinese, a splendid flowering plant, are used medicinally.—*Smith; Roxb.; Voigt; Riddell; Hog*, 768; *Gen. Med. Top.* p. 188.

AMARYLLIS GRANDIFLORA, *Stewart*, the Suk'h-darsan of India, is cultivated for its flowers; the strained juice of two drams reduced to a pulp with water is said to be a good emetic, and is dropped into the ear for earache.—*Stewart, Panjab Plants*, p. 232.

AMARYLLIS RADIATA, *Willde*, the Yuk-lan of the Chinese; a native of China, blossoming during the rainy season.—*Roxb.* ii. 140.

AMAS. SANSK., TEL. Moonless period of the month. See Amavasya.

AMATSJA. JAVAN. Hydrangea Thunbergii.

AMATUM. TEL. Spondias mangifera, *Pers.*; S. dulcis, *Forster.*

AMAVASYA, or Amasi, or Amas. SANSK., TEL., TAM. The conjunction of the sun and moon; the ides of the month, also called Arcendu Sangama (written Arca Indu); Ama and Darsa Tithi are other names given to the lunar day, on which the conjunction occurs, which in the Hindu calendar is always reckoned the 30th of the lunar month. Amavasya Tithi, the lunar day of the moon's change. The Amavasya is observed as a fast-day by all Brahmans and strict Hindus, during which they perform various religious ceremonies for their deceased parents.—*Captain Edward Warren's Kala Sanhita.*

AMAWATURA, a book of legends in Singhalese.

AMAZON STONE, a compact felspar of an emerald green colour, opaque, with nacrous reflections. It is hard, and takes a high polish.

AMBAGARH CHAUKI, a zamindari on the N.W. frontier of the Chanda district. Gonds, with a sprinkling of Gauli, inhabit it; the languages spoken are Gondi and the Ch'hattisgarhi dialect.

AMBAKAPI, the Amakatis of Ptolemy, a town in the Eastern Panjab.

AMBA KURB. MAHR. Cupania canescens.

AMBALA, a large military station in the Panjab, in lat. 30° 21′ 4″ N., and long. 76° 48′ 88″ E., and 1026 feet above the sea.—See Umballa.

AMBALA CHETTU. TEL. Spondias mangifera.

AMBALAKAREN, the tribal titular appellation of the Kollari tribes of Madura and the Tondaman country.

AMBALAM. MALEAL. Spondias mangifera.

AMBALAM. TAM. A public hall in Malabar; a Hindu temple. Ambala Vasi, a caste in Travancore who make garlands; they are attendants in temples, and rank between Brahmans and Nairs.

AMBALAY. MALEAL. Carica papaya.

AMBALIKA, mentioned in the Mahabharata was the younger widow of Vichitra Virya, and mother of Pandu by Vyasa. Ambi or Ambika, her sister, was the elder widow, and was mother of Dhrita-rashtra.—*Dowson.*

AMBALITA, a small tree of Ganjam. The juice of the leaves is mixed with mercury, and taken internally for rheumatism and other diseases.

AMBALU. MALEAL. Lac.

AMBARA. TEL. Spondias mangifera.

AMBAR-BATTI. HIND. A perfumed pastille, made from frankincense, used in India.

AMBARI. HIND. A howdah with a canopy or umbrella cover; a canopied seat on an elephant; a litter borne by a camel.

AMBARI. DUK., MAHR.

Dekhani hemp, Bombay.	Mæsta pat, . . BENG.
Brown hemp of Bombay.	Puli numaji, COIMBATORE.
Pallangu hemp of Madras.	Valaiti sunn of MUTTRA.
Pulchi fibre, ,,	Ambaya pata in PURNEYA.
Kudrum . . of BEHAR.	Sunni . of SAHARUNPUR.
Pat, ... BENG.	Gong kura, . . . TEL.

This fibre is manufactured from the Hibiscus cannabinus, largely used in India, and exported as one of the hemps. Ambari ki bhaji, DUK., greens of Hibiscus cannabinus.—*Linn.; Riddell; Royle.*

AMBASHTHA, or Ambhashta, a Hindu of the medical profession. They are numerous in Behar, and are said to be Sudras in caste.

AMBASSADOR.

Baliyus, . . . ARAB. | Elchi, . . HIND., PERS.

In Mahomedan traditions, it is mentioned that Au-Rafia was sent as an ambassador to Mahomed by the unbelievers of Mecca. But when he heard Mahomed preach, he embraced Islam, and refused to return to Mecca; whereupon the Prophet spoke of the sacred character of ambassadors, declined to sanction Au-Rafia's breach of duty, and persuaded him to go back. On another occasion, an ambassador who claimed to be a prophet, and was an enemy of the new faith, expressed his contempt for Islam in the presence of Mahomed; but the Prophet merely replied that but for the respect with which Islam regarded ambassadors, his presumptuous language might have cost him his life. Respect for the representatives of other nations was enjoined upon his followers by Mahomed in the last moments of his life.

AMBATCH, a wood seldom larger than a man's waist, and, as it tapers naturally to a point, canoe rafts are quickly formed by lashing the branches parallel to each other, and tying the narrow ends together. It is a curious combination of raft and canoe; the Ambatch wood is so light, that the whole affair is portable.

AMBATI MADDU. TEL. Trianthema obcordatum, *Roxb.*

AMBATTAN. TAM. Barber.

AMBATTEEYO, an outcast race in Uvah in Ceylon, deemed so degraded that even the Rodiya prevent their dogs from eating the fragments of food cooked by them.—*Tennent.*

AMBAYA-PATA. BENG. Crotalaria juncea.

AMBEL. MALEAL. Nymphœa pubescens.

AMBER, or Dundhwar, in lat. 26° 58′ 45″ N., and long. 75° 52′ 50″ E., the early capital of Jeypore, built by Jey Singh, and a city of great architectural beauty, situated in a rocky mountain gorge, where there are several Hindu temples, and the palace is still kept up. According to Tod, Amber gave its name to a Rajput dynasty, of the Surya Vansa race, a scion of Nirwar, and, according to Prinsep, the ranas of Amber are of the Cuchwaha race of Rajputs, who claim descent from Cush, second son of Rama, king of Ayodhya, who migrated, and built the fort of Rotas on the Sone. Authentic history commences in A.D. 294, with Raja Nola, who founded Narwaz or Nishidr. The political power of this family dates from Hamayun, the son of Baber.—*Thomas' Prinsep's Antiquities*, p. 259; *Tod's Rajasthan*, pp. 299–331; *Imp. Gaz.*

AMBER.

Inkitriun, ... ARAB.	Ambre, ... FR.
Kuru-ul-Bahr? . . ,,	Bernstein, ... GER.
Ambeng, . . . BURM.	ηλεκτρον, ... GR.
Hu-peh, ... CHIN.	Chashmal, ... HEB.
Kiang-chu, . . . ,,	Ambra, ... IT.
Kahruba, ... DUK.	Ambar, succino, . SP.
Barnsteen, . . . DUT.	Ambar, ... TAM.

Amber is first mentioned in Ezekiel i. 4, 27, and viii. 2. Thales noticed it B.C. 600, and Theophrastus B.C. 300. It has always been held in estimation by eastern nations for medicinal use and for ornament. It is found on the shores of the Baltic and the Adriatic, on the eastern coast of England, and on that of Sicily; and in Prussia it is obtained by sinking shafts to the depth of 100 feet, to a stratum of fossil wood, in which the amber is found in rounded pieces from a few grains to five pounds in weight. It is also obtained along the coasts of America, Africa, and the Archipelago islands. Dr. Smith mentions that the Chinese market is supplied from Annam, the Indian Archipelago, and, according to Dr. Williams, from Africa; but Corea, Cambodia, and Japan are also said to yield it; small pieces of an indifferent colour are brought from Li-kiang-fu and Yung-chang-fu in Yunnan. A dark jade-like amber comes from Tangut. The best pieces are all made into court-beads and ornaments. The Chinese name Hu-peh is from a legend that the soul (peh) of the tiger (hu) is changed into this substance after death. The Burmese, perhaps more than any other nations, use it. In every bazaar of India, medicine vendors

retail what they call amber, though the bulk of this is a scorched gum or copal dried by artificial heat, or fossil copal. Amber is of a yellow colour, varying from a bright golden yellow to yellowish white; it is semi-transparent, and shining with a resinous lustre. It is now generally believed to be the gum of some coniferous plants, and often has ants, flies, or other insects embedded in it, indicating its once softer condition. It is electric when rubbed, hence its Latin and Greek names. Roman ladies highly prized it. Japanese particularly value the transparent yellow kinds. Dr. Hooker tells us (Journal, ii. 194) that the lumps of amber forming the necklaces of the women of Sikkim (called Poshea) are procured in East Tibet, but he surmises that they are brought from Burma, where Dr. Bayfield first, and since his time Yule, tells us (Embassy, p. 147) that it is found in the valley of Hukong (which takes its Burmese name of Phyendwen from the amber mines), near the sources of the Kyendwen, in lat. 26° 20′ N., and long. 96° E., and close to the Assam border. It is found with small masses of lignite (which furnish the indication in seeking for it) in a dark carbonaceous earth covered with red clay. It is extracted from square pits, reaching sometimes to a depth of forty feet, and so narrow that the workmen ascend and descend by placing their feet in holes made on two sides of the pit, no sheeting being used. Mr. Walton mentions that the Hukong valley, occupied by the Singpho, is a tract of small hillocks, the highest not exceeding fifty feet. Pits, he says, about three feet square are dug to a depth of six to fifteen feet, in a reddish and yellow clayey soil, which when first broken has a fine aromatic smell, but afterwards acquires that of coal tar. In 1837, only about a dozen people found employment at these mines. The valley of Hukong produces salt, gold, and ivory in addition to amber. The common mixed amber is sold at Ava at 2½ tikals a viss, or 4 rupees for 1½ seers; the price varies according to colour and transparency. For mouth-pieces of pipes it varies in price from 10s. to £15 the pound, according to its colour and size.—*Ainslie's Mat. Ind.; Mason's Burma; Yule's Embassy*, p. 147; *Thunberg's Japan*, ii. 51; *Hooker's Him. Journ.* ii. 194; *Walton's Stat.* p. 38–9; *Bingley*, i. 162.

AMBERBOA, a genus of E. Indian flowering plants of the natural order Matricariaceæ. There are A. Indica, with large purplish rose-coloured flowers; A. odorata, and its variety ambracea, with bright-scented sweet-smelling flowers; and A. moschata, the shah-pasand of India, and sweet sultan of England.—*Roxburgh*, iii. 417; *Voigt*, p. 424.

AMBERGRIS.

Amber, ARAB., FR., DUT.	Ambra, ... LAT.
Payen-anbhat, . . BURM.	Mussumbra, . . SINGH.
Ambragrigia, . . IT.	Ambar-gris, . . SP.
Kun-sura-no-fun, . JAP.	Min-Amber, . . TAM.

This opaque, solid substance is generally found in the intestines or stomach of the Physeter macrocephalus, the blunt-headed cachelot, or spermaceti whale, though every species of cachelot is said to yield it. It is usually of a bright grey colour, or white, or yellow, or black, or ash colour, mottled with yellow and black, and is generally supposed to be a morbid product, analogous to biliary calculi, and not to be found in the healthy animal. 362 oz. have been taken from the body of a small whale. It occurs in lumps from three to twelve inches thick, weighing from 4 oz. to 182 lbs., and mixed with vegetable and animal remains. It is softened by heat, in which state it has a powerful smell, which to some persons is very disagreeable. Indeed, when first taken from the intestines, its fetid smell is disgusting. It is often found floating in the Red Sea, on the east shores of Africa, on the ocean south of Asia, and the countries it surrounds export it largely to China. Some sorts met with in Japan resemble coarse bitumen, or asphalte, or black naphtha dried, consequently more or less black and heavy, and all differing in consistence. Other sorts are whiter in various degrees; and some sorts are exceedingly light, and not unlike a mushroom, which induced Scaliger to concur with Serapion, that it might well be a sort of a fungus marinus, or sea mushroom. The Chinese test its goodness by throwing some of it, scraped very fine, into boiling hot tea, when, if pure, it will diffuse itself equally through the fluid. It swims on water. A factitious article appears in the Chinese market, pure white, and apparently smooth and homogeneous. Garcias-ab-Orta tells (*A. H. l. i. c. i.*) of very large pieces; and when Thunberg was in Japan, a very good piece of a fine greyish ambergris was found upon the coasts of Kijnokuni, which weighed upwards of a hundred catti Japanese, that is, 130 lbs. Dutch weight, and, being by much too large to be purchased by one person, it was divided into four parts, in form of a cross, and one of the four parts was tendered to him. In 1693, after he had left Japan, a tortoise-shaped piece, weighing 185 lbs. Dutch, was sold by the king of Tidore to the Dutch East India Company for 11,000 rixdollars, or upwards of £2000 sterling. It was sent to Amsterdam the year after, and was kept in the Company's museum. It was of a greyish colour, and of a very good sort. It was bought on condition that if it should be discovered to have been in any way adulterated, the money should be restored. Dr. Valentine, professor at Gissen, figured it in his Museum Museorum, lib. 3. c. 28, as did also Rumph in his Amboinsche Raritertkammer, t. liii. and liv., from which, it seems, Valentine took it. Lane tells of a piece weighing about 12½ lbs.—*Bingley; Thunberg's History of Japan*, ii. p. 48; *Pennant's Hindoostan*, i. p. 148; *Low's Sarawak*, p. 90; *Tavernier's Travels*, p. 152; *Bennet, Whaling Voyage*, ii. p. 226; *Lane.*

AMBER, LIQUID; Liquidamber.

Mia-Sailah, . . ARAB.	Liquidamber, . ENG.
Nan-tu-yok, . . BURM.	Rasa-Malay, . . MALAY.

A resinous fluid, obtained from trees that grow in North America, Mexico, the Levant, in the Tenasserim Provinces, and Java, and used to mix with balsam of Peru. The bark of Liquidamber altingia is bitter, hot, and aromatic, and when wounded affords this balsam. A similar substance is obtained from L. orientale of the Levant islands, and L. styraciflua of Mexico.—*Mason's Tenasserim; O'Sh.* pp. 255, 610. See Liquidamber.

AMBHA, a goddess worshipped by the Kathi race. Ambha-mat'ha, a goddess of the Jaina sect, worshipped in many parts of India.

AMBHOTÁ. URIA. Bauhinia, species.

AMBI-HALDI. HIND. Curcuma zedoaria.

AMBI JOGHI, a town in the Dekhan, in long. 76° 30′ E., and lat. 18° 51′ N. It is generally called Mominabad, a military station of the

Hyderabad contingent. It has some ancient Brahmanical temples.

AMBIKA, a name of Parvati; also the patron goddess of Neminath. Ambika is one of the Girnar guardian deities. Her temple occupies a prominent position. See Girnar.

AMBISACES, king of the Indian mountaineers, who sent ambassadors with presents to Alexander, on his crossing over to Taxiles. Rennell supposes his tribe to have been the ancestors of the Ghikar.

AMBLYCEPHIDÆ, the family of blunt-headed innocuous snakes. See Reptiles.

AMBLYRHYNCHUS CRISTATUS, a sea-shore lizard of the Galapagos, from 3 to 4 feet long, with a crest on its head, which is short and obtusely truncated, and broader than long. The mouth can be opened to a very small extent. It is common on all the islands on that archipelago, on rocky sea-beaches, is never found ten yards in shore, and lives on sea-weed. It is a hideous-looking creature, of a dirty black colour, stupid and sluggish in its movements.

AMBONG, in Borneo, a small town in lat. 6° 18′ 26″ N., long. 116° 15′ 33″ E. The famous mountain Kina Balu lies in an E.S.E. direction from the head of the harbour, distant 27 miles, and adds much to the beauty of the neighbouring scenery. The Orang Dusun aborigines reside close to the coast. Bullocks of a good breed are obtainable.—*Jour. Ind. Arch.* iv., 1850.

AMBOORESA. TAM., TEL. Women's coloured cotton cloths. See Cloths.

AMBOYNA, the name of a high island in the Eastern Archipelago, 33 to 36 miles long, and the largest of the Moluccas group, and also its chief town. In this island, on 16th February 1623, the Dutch put eighteen Englishmen to the rack, and afterwards beheaded nine of them. One Portuguese and nine Japanese were put to death at the same time, as accomplices with the English, a deed known in English history as the Massacre of Amboyna. Amboyna was captured by the British, 16th February 1796. The Amboynese are of the Malayan race, short, squat, and darker in complexion than the Javanese. They are gentle, brave, easily managed, and make good mounted and foot soldiers; a considerable number of them have embraced christianity. They are good-tempered, though impetuous, and generally very sober. Amboyna, like the other spice islands, is volcanic; and with Banda, Ternate, Tidore, and smaller islands in their neighbourhood, are fertile in fine spices. But the Dutch nation, to secure a monopoly of this class of products, for years rooted up and destroyed, at a great cost, often by force of arms, every nutmeg or clove tree not required for the production of that quantity of spices which they calculated they could dispose of. Rosingain, near Banda, was almost abandoned after the extirpation of its spice trees, its people emigrating to the neighbouring islands in search of a livelihood. The volcanic soil of Amboyna is rich in the finer woods; and a Dutch botanist presented to a Duke of Tuscany a cabinet inlaid with 400 specimens, all obtained in the island.

On the 17th February 1674, according to Valentyn, Amboyna suffered from a heavy earthquake, and Mount Ateti or Wawanu on Hitu, west of the village of Zyt, poured out a great quantity of hot mud, which flowed down to the sea. The west side of the island is called Hitu, and the east side Lai-Timur.

In 1815, during the eruption of Tomboro, on Sumbawa, an earthquake was felt at several parts of Amboyna.

On the 1st November 1835, earthquake shocks of great violence began, and continued for three weeks, during which the whole population left their houses. The island, previously healthy, then began to be subject to a gastric fever, which continued till 1845.

On the 20th July 1845, another heavy earthquake occurred, when the gastric fever gained fresh strength, and, after other shocks on the 18th and 20th March 1850, the disease again reappeared.

Amboyna and Banda are supposed to have been discovered by Antonio d'Abreu, a Portuguese captain, who left Malacca in 1511, but Ludovica Barthema (Vartoma) of Bologna claimed to have been there in 1506.—*Wall.* ii. pp. 79–90; *Hogendrop, Coup d'œil sur Java; St. John's Indian Archipelago; Crawfurd's Malay Grammar and Dictionary*, i. p. 131; *Horsburgh; M'Farlane, Japan*, p. 44; *Bikmore*, pp. 129, 169. See India.

AMBOYNA WOOD, or Lingoa, or Kayu-boka, a fragrant and very beautiful wood of various colours, used in cabinet work in Great Britain, supposed to be from the Pterospermum Indicum. It is beautifully mottled and curled, of various tints from light red to dark yellow, and is always in lumps, evidently excrescences or burrs cut from trees. The several varieties of this wood are principally used for inlaying, and by the makers of ornamental snuff-boxes. It is brought from Ceram and Amboyna, and at the Great Exhibition of 1851 it was sent from Singapore. —*Archer; Faulkner; Lond. Ex. Juries' Reports.*

AMBUJ. HIND. Lotus; Nelumbium speciosum.

AMBUL-BEL. BENG. Pythonium bulbiferum.

AMBUNG. MALAY. Basket, a measure.

AMBUPRASA-DANA. SINGH. Strychnos potatorum, clearing nut, for purifying water.

AMBUR, in lat. 12° 50′ 25″ N., and long. 78° 44′ 30″ E., a town in the Karnatic, on the right bank of the Palar river, elevated above the sea 1053 feet. A battle was fought here, 23d April 1749, the British supporting Anwar-u-Din on one side, the French supporting Muzaffar Jung on the other, in which Anwar-u-Din was slain. It was the first pitched battle in India in which Europeans were engaged.—*Schl.; Imp. Gaz.*

AMBUSI. HIND.

Dried Mango, . . ENG.	Manga-vattal, . . TAM.
Amurya, ... GUJ.	Mamidi varagu, . TEL.
Kucherian, . . . HIND.	

Green mangoes sliced lengthways, salted, and sun-dried, and used in curries.—*Faulkner.*

AMBUVACHI. SANSK. In Hindu belief, four days in Asharh (June–July) when the earth is unclean, and agriculture is prohibited.—*W.*

AMDHUKA. HIND. Vitis Indica, *Linn.*

AMDOAN, a Tibetan nomade race who dwell in tents of linen, hexagonal, and without frames.—*Latham.*

AMERI. MALEAL. Indigofera tinctoria, *Linn.*

AMERICA has been supposed to have been peopled from Phœnicia, Asia, Africa, and Iceland, and to have been the haunt of Northmen centuries before Columbus. There are physiological resemblances amongst some of the tribes, but differences

in language, physiognomy, and modes of existence. Mr. Logan, in the Journal of the Indian Archipelago, mentions that the prevailing types of physical structure amongst the Chinese have relation to the Mongolian and Tibetan and American forms, and adds that the American heads in plates 30 to 37 of Prichard's Natural History of Man, are Chinese. Abbé Domenech supposes their origin to have been from Scythians, Hebrews, Tartars, Scandinavians, and Welsh. M. de Guignes, in his Recherches sur les Navigations des Chinois du Côte de l'Amerique, states that, under the name Fu-Sang, America is accurately described in a Chinese work of the 5th century as a land in the far east. According to M. Paravey, the Fu-Sang of the Chinese is Mexico, which, he says, was known to the Chinese as early as the 5th century of the Christian era; and carved figures, representing Buddha of Java seated on a Siva's head, were found in Uxmal in Yucatan. According to Sandoval, a succession of emigrations went from Ceylon, and from the south of India, to America many centuries before Columbus. Marco Polo and John Banking state that Manco Kopac, the first Inka of Peru, was the son of the great Kablai Khan, and Montezuma the grandson of Askam, a noble Moghul of Tangut. Humboldt was of opinion that the Taltec derive their origin from the Huns. The American practices of raising tumuli or mounds over the dead, of scalping, and of circumcision, were common throughout Scythia or Tartary. Herodotus mentioned the scalping of Scythia as common in his time.—*Kennedy's Ethnological Essays*, pp. 23–25; *Priest's American Antiquities, Albany*, 1838; *Abbé Domenech; Prichard; Jour. Ind. Arch.*, Dec. 1852, p. 663.

AME-SA. Burm. Anona squamosa.

AMETHI DUNGAR, a town and district in Oudh, held by the Bandhalgoti, who claim to be Kshatriya, but are said to be descendants of a female bamboo-splitter, and that they periodically worship the banka, or splitting-knife.

AMETHIYA, a tribe of Chohan Rajputs in Gorakhpur, originally from Amethi in Oudh.—*W.*

AMETHYST.

Martas, ...	Arab.	Amethystus, . .	Lat.
Amethyste, . .	Fr.	Ametisto, . .	Port., Sp.
Sang-i-Sulimani, .	Hind.	Skuandi, . . .	Singh.
Amatista, . . .	It.	Sugandi kallu, .	Tam.

Under this term two different minerals are now known, viz. occidental or common amethyst, a quartzose mineral found in amygdaloid trap rocks in all countries, but in quantities amongst the volcanic rocks of the Dekhan. Beautiful amethyst crystals occur in dykes of quartz near Bowenpilly, at Secunderabad. Its colour is of every shade of purple violet; some of these are valued, for it is almost the only stone that can be worn with mournings. When the colour of a specimen has to be equalized, it is placed in a mixture of sand and iron filings, and exposed to a moderate heat. The oriental amethyst is also of a purple colour, but is an extremely rare precious stone, and belongs to the corundums. Its colour can be destroyed by heat, and its purity then resembles that of the diamond.

AMGOOLEE. Hind. Elæagnus conferta.

AMHARA, a Semitic race in Africa. See Abyssinia; Africa.

AMHERST, a small town and pilot station in a peninsula on the left bank at the mouth of the Moulmein river, in lat. 16° 4′ 40″ N., and long. 97° 35′ 30″ E. It gives its name to a revenue district of British Burma, lying between long. 97° 30′ and 98° 53′ E., and lat. 14° 59′ and 17° 51′ N. In the roads, the greatest rise and fall occurs in two days after full and change, is 21 to 23 feet. The velocity of tide at springs is 6½ knots per hour. It was proposed to be formed into a sanatorium for the European soldiers in Burma, but the ailments there are of a kind needing a cool or a dry climate. A dangerous reef of rocks runs across the mouth of the Moulmein river, from Amherst lighthouse, which the British Government has tried to remove. The district has many Buddhist pagodas. Up till British annexation, it was a theatre of continuous wars between the Siamese and the Peguar. Its population in 1872 was 239,940, Talain, Karen, Toung-thu, Arakanese, Shan, Burmese, Chinese, Malay, Hindus, and Mahomedans. Its towns are Amherst and Moulmein; its rivers, Salwin, Gyaing (Gwyn), and Ataran, and it has valuable teak forests.

AMHERST, Lord, left England on the 8th February 1816 as ambassador to China. He disembarked in the Gulf of Pe Chi Li, and marched to the capital; but as he refused to follow the Chinese ka-tou or ko-tou mode of reverence, his visit was refused. Lord Macartney, and the Russian ambassador, Count Galowkin, had acted similarly; but the Dutch ambassador, in 1795, had performed the ko-tou. In 1817, he re-embarked on the 'Alceste,' which was wrecked on the 18th February in the Straits of Gaspar. On the 1st August 1823, Earl Amherst became Governor-General of India, and held that office until he re-embarked on the 10th March 1828. During his administration, the British waged a successful war with Burma, the army being led by Sir Archibald Campbell in 1824–25; Bhurtpur fell, in 1826, to the assaults of the army under Lord Combermere, and the fortress of Deeg was stormed and taken.

AMHERSTIA NOBILIS, *Wall.*, the finest indigenous flowering tree in Chin-India, has very large pea-blossom-shaped flowers of brilliant red and yellow, which hang down in tassels more than a yard long. It was discovered by Dr. Wallich on the Salwen near Trockla, and named by him after Lady Amherst. There is scarcely a Burmese monastery near which one or more of these trees is not found planted. The tree is not known to grow wild. Even the finest trees, which attain a height of 30 or 40 feet, and in girth of perhaps four feet, produce seed very sparingly indeed. It flowers in March.—*Mason; Voigt.*

AMIDAM. Tel. Ricinus communis.

AMIL. Panj. Cuscuta reflexa.

AMIN, a revenue officer of government; a confidential agent. Under the Oudh Government, the Amin was a judicial officer presiding over a court of first instance, called Murafa-i-Awala, for the hearing of cases in all departments that might be made over to him from the royal office. They usually held their courts at Lucknow.

AMIN RAZA, uncle of Nur Jahan, was the author of the Haft Aklim, A.H. 1002 (A.D. 1594).

AMIR. Arab., Hind., Pers. A noble; also a title of nobility equivalent in some Asiatic countries to king, like the Amir of Kabal. Also an official designation, as Amir-ul-Bahr, admiral,

or in some places harbour-master; Amir-us-Sooq, chief of the markets, equivalent to the Indian Kotwal. Amirzadah, literally a born chief or prince. This word reappears abbreviated as 'Mirza,' which is always suffixed to the individual name in designating a prince of the blood, as Abbas Mirza, who was the king of Persia's son, but is a prefix when honorific, like the English Mr., as Mirza Abdul Baki Khan. Amir-ul-Muminin, literally prince of the faithful, is a title adopted by the khalif Omar, and retained by his successors. Amir-ul-Umra, a Mahomedan honorary title or title of the commander-in-chief of an army. Pl. Umra.

AMIRANTE ISLANDS, the S.W. group of the Seychelles, consisting of several detached small islands, coral reefs, and banks.—*Horsburgh.*

AMIR AZAN DELEMI, in the tenth century, constructed the Band-Amir over the Araxes, and from whence the river Kum Firoz, after its junction with the Murghab, derived its name. See Bendameer.

AMIR KHAN, a leader in the campaign of 1817–18 against Jeswunt Rao Holkar. A treaty, dated 6th January 1818, confirmed him in the territories granted to him by the E. I. Company.

AMIRKOT, a town on the border of the desert of the Gharra. Babar was born here whilst his father Humayun was flying from India.

AMIRTA KAVIRAYAR was the court poet of Reghunata Setu Pati, who reigned at Ramnad between A.D. 1649 and 1685. He composed an erotic poem, the Oruturai-Khovai, in honour of his patron.

AMIRTASA KARAR, a Jaina who was famed as a Sanskrit and Tamil scholar. He wrote a grammar in Tamil verse.

AMIR YAHIA, a native of Kasvin, hence his patronymic Kasvini; died there A.D. 1552. He wrote the Lubb-ut-Tuarikh. See Abdul Latif Kasvini.

AM-KALANG. TAM. Physalis somnifera, var. P. flexuosa, *Nees.*

AMKUDU, Wrightia tinctoria, *R. Br.*

AML. ARAB. An act, a reign, a rule, carrying into effect; hence Amil and Amildar, a revenue officer. Pl. Amla. Amli, in Bengal, the revenue year, the same as Fasli; also assessment or land rent paid in kind.

AMLA, also Amlaki, SANSK., pronounced Aonla. Emblica officinalis, emblic myrobalan.

AMLAI, of Sutlej. Zizyphus vulgaris.

AMLAK. PUSHT. A tree of Afghanistan, producing a small edible berry.

AMLANCH. PANJ. Ribes grossularia.

AMLA VETASAMU. SANSK. Calamus fasciculatus, *Roxb.* The compound signifies 'sour-cane.'

AMLEEA PAT. BENG. Corchorus, *sp.*

AMLI or Imli. HIND. Amlika, Tintili. SANSK. Tamarind, Tamarindus indica.

AMLI-KAR. HIND.—In the shawl manufacture, needle- or hand-worked, as opposed to Kanikar or loom-woven; of shawls.

AMLOK. PANJ. Diospyros lotus.

AMMA, in almost all languages, mother; in Tamil and Telugu, it is added to the names of Hindu women, as Sitamma, Vangamma. It is also a title of non-Aryan goddesses, as Mari-amma, Yagath-amma, supposed by some to be the Virgin Mary and Sta. Agatha. Ammai is a name of Parvati, and more especially of her image in the pagodas. Ai, Em, Amma, Ma, Mamma, Amman, are the natural terms amongst many races for mother, as in the 'Em of the Hebrews, the Ma of the Egyptians. The most high god, Eliun, or Helyun, the creator of man, seems to have been worshipped under various names, all meaning Lord; and a wife was given to him, also known under various names—Baaltis, *i.e.* mistress, queen; Hastoreth, *i.e.* in the Greek form, Astarte, who as Baltis was worshipped at Byblus with her husband Adonis. But the secret worship of the mother of God, also called Amma, was especially celebrated in the shrine of Aphaka at Byblus, near the river of Adonis. The Amman of the southern Tamil Hindus may therefore be a cosmogonic term indicative of the great Creator's power, the most high God's will. In the Tamil part of the Peninsula of India, the Amman is an idol worshipped by the non-Aryan races in every village, is identical with Amma, and in some places with Ammani Amma. It is one of the many village deities of which neither the Vedas nor Puranas make any mention. Every hamlet has its own, always supposed to be a goddess, and it is usually a stone turned black by oil offerings and time. The word is understood by the villagers to mean mother. The Tamil villagers style their deity by many affixed names:—Ankal-Amman, Mang-Kali-Amma, Poni Amma or golden mother, Kani-Amma, Mutial-Amma or pearl mother, Paleri Amma or great goddess, and other local affixed names, the meanings of which are not apparent. The Mahratta villagers have the same female village deity, whom they name Ai, or mother. The villagers offer sacrifices of sheep, goats, fowls, cocoa-nuts, dhal, palm wine, and fruits; and frankincense, camphor, and ghi are burned. The villagers believe that the village goddesses protect them from sicknesses and from losses, or mitigate these. A pujali or pujari, a worshipping priest, of the sudra caste, is appointed for the daily worship. He anoints it with ashes on its head, or rather on the top of the stone, for it is no image, but a mere shapeless stone. In a small pot he cooks the rice, which he collects from the hamlet people in rotation, presents it to the idol, and then takes it to his own house. He breaks a cocoa-nut in front of the idol, and offers it also, but the one-half he keeps to himself, and gives the other to the family from whom he obtained the fruit. The village offerings are in fulfilment of vows, or offerings, are made of fowls and sheep, praying the goddess will grant their desires; and once a year the villagers collect money by subscription, and celebrate a festival in honour of their deity, during which sheep and fowls are largely sacrificed. The sudra Hindus, and the entire non-Aryan tribes in the south of India, have the fullest faith in their respective village goddesses. When they or their children are overtaken by sickness, they seek the idol, and consult the pujari, who sings songs, affects to hear the Amman's voice, and then announces to the worshipper the offering that must be presented. If cholera break out, it is not unusual for some neighbouring village deity suddenly to rise into great importance, and the sacrificial rite is then almost unceasingly performed. The Hindus have even personified that pestilence into a goddess, whom they have named Maha-Kali, and believe

that if they neglect her worship she destroys them by the disease. Indeed, gods are still in process of establishment, and smallpox and cholera have thus been personified, Maha-Kali of Ujjain being the goddess of cholera, and Mari-Amman of the Tamils a smallpox deity. In South India, the village deity is invariably female. The Amman is brought out from time to time, and carried around the village or town. The protecting goddess of Madras town is one of these Amman, and her temple is in the middle of Black Town. Once a year it is carried around the city bounds, and into the fortress, halting for a week or two at certain recognised resting-places. See Ammavaru; Hindu; Sacrifice.

AMMA KODAGA, a high class of the Coorg or Kodaga race, who do not intermarry nor associate with the other Coorgs.

AMMANI AMMA, the Tamil term for the image of the Virgin Mary. See Hindu; Amman.

AMMANNIA VESICATORIA. *Roxb.*

Ban marach, . .	Beng.	Kallar vanchi,	Maleal.
Agin buti, . . .	Dek.	Miumel-nerupa, .	Tam.
Dad mari? . . .	Hind.	Agni vendrapaku,	Tel.

An annual found in India in wet land during the rains, 6 to 36 inches high. It has a strong smell like muriatic acid; leaves exceedingly acrid, employed by the natives as blisters in rheumatism. Dr. O'Shaughnessy tried them in eight cases. The bruised leaves had been removed from all after half an hour; blisters were not produced in less than 12 hours in any, and in three individuals not for 24 hours, and the pain occasioned was agonizing until the blister rose. These leaves cause more pain than cantharides, and are far inferior to the plumbago (lal chitra) in celerity and certainty of action. The Telugu name, indeed, means fire-leaf. Dr. Stewart says that in the Panjab the leaves of A. auriculata, *Willde*, are similarly employed and similarly named; both plants grow in the hills up to 5000 feet. Other Indian species mentioned by Roxburgh, Wight, and Voigt are A. Indica, multiflora, nana, octandra, pentandra, rotundiflora, and vesicatoria. —*O'Sh.; Voigt; Roxb.* i. 427; *W. Ic.*

AMMA VARU. Tel. Literally, honoured mother; a cruel sacrificial rite, practised among the Hindu sudras and low-caste non-Aryan races of the southern part of peninsular India, on occasions of a cholera, epidemic, or other calamity; a bullock was impaled alive to appease the angry goddess Devi.

AMMON, an oasis in Egypt on which stood the temple of Amun-Ra, whose figure was that of a man having the head and horns of a ram (*Sharpe's Egypt*, i. p. 222). He was displaced afterwards in favour of another idol, in the reign of Tuthmosis III. He is the hidden god of the Thebaid, supposed to be the Zeus of the Greeks, and was styled Amn or Ammon, Amn-ra or Ammonra. He originally corresponded with the Sun-god, and was the highest of the first order of gods, and was the ruler deity. He was styled the son of Isis, and his son was Khunsu. The origin of this worship is supposed to have been Semitic, and amongst northern people was directed to the warm sun, and to the earth in the sunny south.—*Bunsen*, iv. 232.

AMMONIA, liquid ammonia, volatile alkali.

Ch'i-sha, . . .	Chin.	Spirits of Hartshorn,	Eng.

This is a limpid colourless fluid, exceedingly volatile; has a pungent smell and a caustic taste, and in medicine is a useful stimulant. Its name is derived from the oasis of Ammon in Upper Egypt, where the hydro-chlorate was gathered as the product of animal remains. It is now obtained in Europe from coal in the process of gas-making, and converted into several compounds by other processes.

Carbonate of ammonia was known to the Hindus, who obtained it by mixing one part of sal-ammoniac with two parts of chalk. It is now obtained in Europe by a subsequent process after the manufacture of coal gas.

Hydrochlorate of ammonia, sal-ammoniac.

Armina, . . .	Arab.	Ammon. Hydroch.,	Lat.
Dza-wet-tha, . .	Burm.	Sadar, ...	Malay.
Sohaga; Noshadr,	Hind.	Navasaram, .	Tam., Tel.
Salmiak, . . .	Ger.		

This is met with in great abundance in every bazaar of India, obtained from brick kilns. It is, however, also a volcanic product. It is the Nashadar of Avicenna and Serapion. It was obtained in Egypt by sublimation from the soot of the dung of pigeons, cows, camels, and other animals, mixed with chopped straw and made into cakes as firewood. It is now manufactured largely in Europe, from the ammoniacal salts contained in the liquor resulting from the distillation of coal in the gas-works. During its solution in water, the temperature falls several degrees. It is used by tinmen to clean the surface of their metals, and to facilitate the soldering of iron and copper, also prevent the oxydation of the copper; it is also sometimes employed by dyers to brighten their colours. Dissolved in nitric acid, it forms the aqua regia of commerce, used for dissolving gold, instead of nitro-hydrochloric acid. It is also used in small quantities in steam boilers, to prevent the formation of calcareous deposits; and is likewise used to adulterate tobacco.—*Tomlinson; Ainslie; Beng. Pharma.; Bingley; Royle; Niebuhr's Travels*, i. p. 90; *Peacock's Description of the East*, i. p. 259.

AMMONIAC, GUM, Gum ammoniac.

Feshuk? Ushak?.	Arab.	Samagh. Hamama?	Hind.
Gomme Ammoniaque,	Fr.	Gomma Ammoniaco,	It.
Ammonik, . . .	Ger.	Ammoniacum, .	Lat.
Ammoniack, . .	,,	Samagh b'us Shirin?	Pers.
Astrak, . .	Guj., Hind.	Goma Ammoniaco,	Sp.

The Dorema ammoniacum of Don (Linn. Trans. xvi. 601) yields this product from its stem and fruits. According to Lindley, the plant grows in Persia on the plains of Yezde Kaust and Kumisha, in the province of Irak, growing in very dry plains, and gravelly soil exposed to the sun. It was imported into ancient Greece from the desert of Egypt, from near the temple of Jupiter Ammon, hence its name, as well as from the confines of Cyrene. The gum resin is now imported into India viâ Bombay from the Persian Gulf, and re-exported to different countries. It is obtained by incisions in the plant, and occurs in masses of yellowish colour, enclosing white almond-like tears. It is principally employed as an expectorant in the chronic catarrhs and asthmas of old persons. It is also applied externally as a warm and stimulating plaster.—*O'Sh.; Faulkner; De Bode's Tr.* p. 63; *St. John's Ancient Greece*, p. 383.

AMMONITE, Shih-shie of the Chinese, a genus of fossil molluscs, which seem to have existed extensively in all parts of the world during the period that the chalk formations were being

deposited. They occur in great abundance and of great size, some three feet across, in the supra-cretaceous strata between Trichinopoly and Pondicherry, and were described by Mr. Brooke Cunliffe, Captain Newbold, and Mr. Kayes. Dr. Gerard found them in the Himalaya, at an elevation of 16,000 feet. Amongst those discovered in India are A. Madrasianus, Kandi, Kali, Æmilianus, Bhima, Bhawani, planulatus, Denisonianus, Beudanti, Vaju, peramplus, Durga, Cala, revelatus, garuda. The Hindu specific names so frequently applied were so in consequence of Hindu sects worshipping several species of ammonites under the name of Saligrama. See Saligramma.

AMMONITES, the children of Ben-Ammi, the son of Lot, by his younger daughter. They were dispossessed by the Hebrews, and afterwards, for 18 years, strove to reconquer their lands, greatly oppressing all the Israelites who dwelt beyond the Jordan river. They were ultimately driven back by Jephthah the Gileadite. See Judges x. 8, 9, xi. 1, 4, 27.

AMMU INGUROO. SINGH. Zingiber officinale.

AMNA. BENG. Spondias mangifera.

AMNAK, a general term for a large class of high-caste Hindus,—Brahmans, Kshatriyas, and Kayasths,—cultivators in Oudh and in Sind. Numbers of them were until recently liege men or military retainers; all had a sword ready at their landlord's call. They employed a working ploughman or Halwaha, because to plough with their own hands would have been to the Amnak indelible disgrace. They held their lands at a remission (Kur) to meet the pay of the ploughman.

AMOGHVERSHA, king of Tonda Mundalam, in the south of India, in whose reign, in the 9th or 10th centuries, the Jain faith was introduced.

AMOK, also Amuck. MALAY. A furious reckless onset, the muck or the 'run-a-muck' of the English. It occurs amongst men of Malay race and with Bugis men, and is often followed without any apparent provocation, or to be relieved of the feeling of indebtedness, but the usual cause is some personal affront. The person generally rushes through the streets, krising or cutting down all whom he meets, till he is overpowered and slain. The Singapore Free Press relates a case which took place at Salatiga, on the island of Java. The regent of Salatiga, Raden Tumengong Prawiro Kusumo, had been celebrating the marriages of two of his daughters, and everything had passed off smoothly, when, on the morning of the 23d September, about half-past six o'clock, the brother-in-law of the regent, named Raden Prawiro Direjo, who was coffee mantri of Tengaran, suddenly began to stab every person he met in the palace. The regent, being disturbed by the uproar, came from his sleeping place to see what was the matter, when he was at once stabbed in the heart by the amoker, and fell down dead. The brother of the regent then ran the amoker through the back with a spear, and he was soon despatched. Besides the regent, nine of his relations and followers were killed, and six were more or less severely wounded. The amoker was much given to the use of opium, and had at one time lost a valuable employment under government on account of his indolence and carelessness. Through the intercession of the regent he had received another appointment, but he was not satisfied with this, and appears to have conceived an ill-will towards his relation for not supporting his claims more strongly. See Bugis.

AMOMUM, a genus of plants of the natural order Zingiberaceæ. The paradise grains, or Malaguetta pepper, the A. grana-paradisi, is not of India, but of the Guinea coast, as is likewise the A. grandiflora. Several plants formerly classed in this genus have been removed to the genera Elettaria, Alpinia, Costus, and Curcuma. A species brought from the Chinese provinces of Nan-tan-chau and Kwang-si has thin tapering rhizomes called san-tsih (threes and sevens), also kwang-san-tsih. It has an extraordinary reputation amongst military and fighting men, from which its root sells there at about 12s. 6d. an ounce, and is on this account often called jin-san-san-tsih, also kin-puh-hwan. It is deemed by the Chinese to possess powerful medicinal properties, vulnerary, styptic, astringent, and discutient. A. aculeatum, *Roxb.*, of the Malay Archipelago, has crimson spots on deep orange flowers. A. corynostachyum, *Wall.*, a plant of the teak forests of Martaban, with large white flowers. A. dealbatum is the Barra ilachi of Silhet, according to O'Shaughnessy, but Roxburgh says that the seeds are insipid. It grows in Chittagong and Silhet. A. maximum, according to Pereira, yields the great winged cardamoms referred by Lindley to Elettaria. It is a plant of the Malay islands. Its seeds are warm and pungent, with an aromatic taste, not unlike that of cardamoms, but less grateful. A. sericeum, *Roxb.*, a plant of the Khassya mountains, with large white flowers, lip yellow with pink veins in its centre.—*Roxb.; Voigt; O'Sh.; Smith.*

AMOMUM AMARUM, *Smith*, Yih-chi-tsze of the Chinese, a bitter-seeded cardamom growing in Cochin-China, and in China in Qwan-lun-kwoh and Kau-chau-fu. The Chinese believe that it increases knowledge, as it benefits the stomach, with which the Chinese connect the disposition and the wits of an individual. The seeds are very bitter, aromatic, with a flavour like myrrh, and are said to be used like a condiment in pastry.—*Smith*, p. 13, 14.

AMOMUM ANGUSTIFOLIUM. *Roxb.* A native of Madagascar, cultivated in the Mauritius and India; the fruit is the greater cardamoms of the old writers. Its flowers are pretty large, blood-red, yellow, spicy and fragrant; and every part of the plant, when bruised or wounded, diffuses a strong pleasant aromatic smell.—*O'Sh.* p. 650; *Roxb.* i. 39; *Voigt*, 567.

AMOMUM AROMATICUM. *Roxb.* Morung-ilachi, HIND. Has middle-sized flowers, with lip tinged with red down the middle. It is a native of Chittagong and the valleys of the eastern frontiers of Bengal; the fruit has similar properties to those of the true cardamoms, for which they are often sold to the druggists of India.—*O'Sh.* 650; *Voigt*, 568.

AMOMUM CARDAMOMUM. *L.* Cardamom.

Cardamomum minus, *Rumph.*

Ben, ... BURM.	Kapa laga, . . . MALAY.
Peh-tau-k'au, . . CHIN.	Yelarsi, ... TAM.
Tung-po-tau, To kuh, ,,	Yelakulu, . . . TEL.
Elachi, . . DUK., HIND.	

Su-tung-po, of the Sung dynasty, a celebrated poet, gave his name to this plant. This seems the round and clustered cardamom of the shops. It grows in China, Java, the Atteran forests, Sumatra, and the Moluccas, and is cultivated in India. It has middle-sized pellucid flowers, with a yellow

middle line on the lip. Its seeds are agreeably aromatic, and are used by the Malays for the true Malabar cardamoms, from the Elettaria cardamomum.—*Ainslie; Roxb.; O'Sh.; Voigt; Smith.*

AMOMUM GLOBOSUM. *Loureiro.*

Tau-k'au, . . . CHIN. | Tsau-tau-k'au, . CHIN.

A native of the provinces of Foh-kien and Canton, also of Cochin-China. It resembles the Alpinia galanga in appearance, and bears a magnificent red flower in the axils of the leaves, which are compared to those of the wild ginger. The large capsules are oval, roundish pointed, and usually pedicellated. The three-lobed mass of seed has a pleasant smell. It is chewed to correct offensive breath, and, like the flowers of the plant, is said to counteract the fumes of wine. The unripe capsules are the small round China cardamom of Guibourt, devoid of much flavour, and used by the Chinese as a salted condiment; and the large globular capsules furnish the large round cardamom of English druggists.—*Smith*, p. 14.

AMOMUM MEDIUM. *Loureiro.*

Ts'au-kwo, . . . CHIN. | Ovoid cardamom, . ENG.

Grows in Cochin-China and in the Kwang-si and Yunnan Provinces. The seeds are in a reddish mass, large, hard, angular, with a warm turpentine flavour, and are used similarly to those of A. globosum.

AMOMUM SUBULATUM. *Roxb.* Bengali ilachi, BENG.—A large-flowered species of the Khassya hills.

AMOMUM VILLOSUM, *Smith*, Yang-ch'un-sha of the Chinese, grows in the western part of China. The seeds are used like cardamoms.—*Smith.*

AMOMUM XANTHOIDES. *Wall., Schomburgh.*

Shuh-sha-mih, . CHIN. | Si-sha-jin, . . . CHIN.
Sha-jin-kuh, . . ,, | Shu-sha-jin, . . ,,

A plant of the province of Canton or Kwangtung of Burma and Siam. Its seeds are said by Hanbury to be substituted in the London market for those of the officinal Elettaria or cardamom of Malabar.—*Smith*, p. 16.

AMOOKANAM VAYR. TAM. Root of Physalis somnifera.

AMOORA CUCULLATA. *Roxb.*

Andersonia cucullata, *R.* | Amoora, BENG.

A timber tree of the Sunderbuns, with small yellow flowers.—*Voigt.*

AMOORA LAWII. *Wight.*

Nimmonia Lawii, *Wight.* | Nemedra Nimmonii, *Dalz.*
Boorumb, . . MAHR.

A middling-sized tree of the Bombay and Canara ghat forests.—*Beddome, Fl. Sylv.* p. 133.

AMOORA POLYSTACHIA, *W. and A.*, the Aglaia polystachia, *Wall.*, is a tree of the Khassya hills, with pale yellowish fragrant flowers.—*Voigt.*

AMOORA ROHITUKA. *W. and A.*

Meleacea Wightiana, *Wall.* | Andersonia rohituka, *R.*
Sphærosacme rohituka, ,, |

Tikta-raj, . . . BENJ. | Hingul gass, . . SINGH.
Chayau-ka-yoe, . BURM. | Shem maram, . . TAM.
Harrin-hara, . . HIND. | Chawa-manu, . . TEL.
Chem-mara, . . MALEAL. | Rohitaka, . . . ,,

This small, or middling-sized, tree is met with sparingly throughout the Western Ghat forests, and is rather common in the Animally hills of the Madras Presidency up to 3500 feet elevation. It grows in the central province of Ceylon, where it is called Hingoot, in Moulmein, and in the Tounghoo forests. The wood is white-coloured, and adapted to every purpose of house-building. The seeds yield an oil, which is used for various economic purposes.—*Roxb.; Voigt; M'Clelland, Cal. Cat. Ex.*, 1862; *Useful Plants; Thwaites, Zeyl.* i. 60; *Beddome, Fl. Sylv.* part xi. 132.

AMOOS. ARAB. Ptychotis ajowain; Ajwain seed.

AMOQUID. BICOL. Musa textilis.

AMORITES, an ancient mountain race who joined with the Hittites to oppose the Hebrews, but were driven by Joshua from their positions near Hebron, and their kingdom and country to the south of Jabbok captured.

AMORPHOPHALLUS CAMPANULATUS, *B.*

Arum campanulatum, *R.* | A. Zeylanicum, *Commel.*
A. Rumphii, *Gaudich.* | Candarum Roxb., *Schott.*

Wa, ... BURM. | Soorun, ... MAHR. ?
Shina, Mulen Shina, CAN. | Karuna, MALEAL., TAM.
Telinga Potato, . ENG. | Kanda, Kalla, . SANSK?
Ol, Jamkund, . HIND. | Manchi kandagadda, TEL.

This species of the Araceæ is much cultivated in the Northern Circars, being highly esteemed for the wholesomeness and nourishing quality of the roots. The usual time of cultivation is immediately after the first rains in June. A very rich loose soil suits it best, where the swelling of the root meets with little obstruction, and where they draw the greatest nourishment, for which reason it requires to be very well and repeatedly ploughed. The small tuberosities that are found in the larger roots, are what they employ for sets, and are planted in the manner as potatoes are in England, and about the same distance from one another. In twelve months they are reckoned fit to be taken up for use. The larger roots will then weigh, if the soil has been good and the season favourable, from four to eight or more pounds each; they keep well if they are kept dry, and are boiled or roasted. It is very acrid when raw.—*Roxb.; Wight's Icones; Voigt; Hogg's Veg. King.* 796; *Irvine's Ajmir*, 207; *Honigb.*

AMOY, called by the fishermen Haenun, also Hia-men-seu, is an island on the S.E. of China, about 22 miles in circumference. The town of Amoy is situated on the S.W. part of the island, opposite the small island of Ku-lung-su, which affords protection to the town anchorage or inner harbour. On the western side of Amoy island is that of Woo-seu-shan, also that of Woo-an. Amoy was taken 26th August 1841, and 9th June 1842, and delivered over to the British after the first Chinese war of 1841-42, and forms one of the consulates with Shanghai, Hong-Kong, and others. Amoy means Summer gate.—*Horsburgh.*

AMPANA. MALEAL. Borassus flabelliformis.

AMPHIBIA. See Reptiles.

AMPHICOME ARGUTA. *Royle.*

Incemodi, *Royle.* | Incarvillea emodi, *Royle.*
A. arvillea arguta, ,, |

These names are supposed by Dr. Stewart to be applied to the same plant, the Chali of the Sutlej, where it grows up to 8000 feet. It has perhaps the finest flowers of all the Panjab herbs, and generally occupies striking habitats, hanging with its handsome green leaves and pinkish trumpet flowers from the face of perpendicular cliffs.—*J. L. Stewart.*

AMPHIDESMA, a genus of marine bivalve shells, which are found in the sand on the sea-coast of tropical climates. The shells are oval or rounded, sometimes rather twisted and slightly gaping behind. They have two hinge teeth in

each valve, and often distinct compressed lateral ones. The elastic cartilage is placed in a small triangular cavity just behind the hinge teeth. The cartilage has opaline reflections; and those of some large shells, as the mother-of-pearl shells, are sold by the jewellers under the name of Peacock-stone, or Black Opals. They are much sought after in Europe, especially in Portugal.—*Eng. Cyc.* p. 185.

AMPHIDONAX KARKA. *Lind.*

Arundo karka, *Retz, Roxb.*	Trichoon karka, *Roth.*
,, Roxburghii *Kunth.*	Calamagrostis karka, *Gm.*
Nal, Nul; Darma, BENG.	Kikkasa gaddi, . TEL.
Munia fibre, . . SIND.	Puvvu-gutti gadda, ,,

This plant is one of the Panicaceæ. It grows in Bengal and Sind, and from its split stalks are made the common Durma mats of Bengal, used there as ships' dunnage; the fibres also are made into ropes. A. bifaria and A. Bengalensis are also known.—*Voigt*, 714; *Roxb.*

AMPULLARIA, a genus of molluscs with globular-formed shells, many of which are found in the moist meadows, rivers, and tanks of India. Their colours are usually tame.

AMRA. SANSK. Spondias mangifera. On the Sutlej, Zizyphus vulgaris. Am-rai, a mango grove.

AMRAH SUNN. BENG. Corchorus olitorius.

AMRAI, in Kashmir. Ulmus erosa.

AMRAN, a hill, so named by Mr. Rich in his Memoir on the Ruins of Babylon, and who designated it by that appellation, from its supporting a small tomb erected to the memory of a son of the khalif Ali, who fell at the battle of Hillah.

AMRANI, a Beluch tribe. The Amran mountains of Beluchistan bound the table-land of Shal and Peshin on the west, as the Hala range does to the east. The highest part, in lat. 30° 50′ N., and long. 66° 30′ E., is about 9000 feet. The Kojak pass, 1451 feet.

AMR-ibn-ul-AAS, who joined Mahomed in the 8th year of the Hijira, conquered Egypt.

AMRITA. SANSK. From a, priv., and mrita, death, in Hindu mythology, the beverage of immortality which, by churning the ocean, was produced along with fourteen other precious gifts to man. The Vishnu Purana relates that the gods (Sura), on being discomfited by the Daitya, fled to Vishnu, who advised them to make a temporary peace with the Daitya, and with their aid to churn the ocean, using Mount Mandara as a churning rod, the serpent Vasuki as a thong, and the tortoise Vishnu as a prop. Hindu legends relate that this advice was followed. Chitra-Ratha describes, in song, how—

'Whilom from the troubled main
The sov'reign elephant Airavan sprang;
The breathing shell, that peals of conquest rang;
The patient cow, whom none implores in vain;
The milk-white steed; the bow with deaf'ning clang;
The goddesses of beauty, wealth, and wine;
Flow'rs, that unfading shine;
Narayan's gem; the moonlight's tender languish;
Blue venom, source of anguish;
The solemn leech, slow moving o'er the strand,
A vase of long-sought Amrit in his hand.—
To soften human ills, dread Siva drank
The pois'nous food that stain'd his azure neck;
The rest, thy mansions deck,
High Swerga, stored in many a blazing rank.'

The word Amrita has been carried into the Teutonic; and the Immurt'hal, or 'vale of immortality,' at Neufchatel, is as good Sanskrit as German. According to another legend, the Amrita was the occasion of the war between the Sura and Asura, in which the gods took a part. This indicates the occurrence of the first solar eclipse on Indian record. Modern European commentators conjecture that it fell on the 25th October, B.C. 945.—*Sir W. Jones' Hymn to Indra*, vol. xiii. 273; *Tod's Rajasthan*, i. 71; *Warren's Kala Sanhita; Coleman's Hindu Mythology; Williams' Nala.*

AMRITSAR, a town of the Panjab, in lat. 31° 37′ 15″ N., and long. 74° 55′ E., nearly half-way between the Beas and the Ravi, and 32 miles E. from Lahore. Ram Das, the fourth Sikh Guru, formed a reservoir here in 1581 (the Imperial Gazeteer says 1761), to which he gave the name of Amrata Saras, or fount of immortality, from amrita, the water of life, and saras, a pool. This became the name of the town, which was also called Ram Das Pur, and in the midst of the piece of water stands the chief temple of the Sikhs. It is their principal place of worship, and the town is the chief commercial emporium of Northern India. The reservoir is a square of 150 paces, containing a great body of pure water, and multitudes bathe in it. On the edge is a small structure, in which Ram Das is said to have passed his life in a sitting posture. In the centre is a small island with a temple of Hari or Vishnu, richly adorned with gold and other ornaments. In it the Sikh guru sits, and 500 or 600 acoli are attached to the temple. The temple is reached by a bridge; and, when visited by Baron Hugel, two large banners were waving before the entrance of the bridge, on one of which were the words, 'Wah! Guru-ji ka fattah,' and on the other the name of Ram Das. In the 18th century (1761), Ahmad Shah blew up the shrine with gunpowder, and desecrated the spot by slaughtering kine in it. On his return to Kabal, the Sikhs repaired it, and commenced the struggle which ended in the overthrow of the Moghul rule. The town is strongly built and fortified, but could not stand a siege with guns of a large calibre. The annual value of the imports is 2 millions, and of the exports 1½ millions. Its chief manufacture is, by Kashmir men, of shawls, to the value of £200,000, from the fine Tibet wool, which occupy about 4000 looms. Its population is about 133,925 Hindus, Mahomedans, and Sikhs. The area of the division is 5335 square miles, with a population of 2,743,880 souls. The Baba Atal is a lofty column erected over the tomb of a son of Har Govind.—*Baron Hugel's Panjab*, i. pp. 125–6; *Thomas' Prinsep's Antiquities*, p. 130; *M'Gregor's History of the Sikhs*, i. p. 19; *Imp. Gaz.* See Panjab; Sikh; Shawl.

AMRU, a son of Saba or Abd-u-Shamsh, and a grandson of Joktan. He first imposed a khiraj tax on Egypt. See Joktan.

AMRU, also Amrita? a tree alluded to in the mythic tales of Krishna and Radha, whose dalliance was in groves where 'the Amrita tree with blooming tresses is embraced by the gay creeper atimucta;' again, 'delightful are the flowers of the Amru trees on the mountain-tops, while the murmuring bees pursue their voluptuous toil;' it has not been identified.—*Coleman*, p. 39.

AMRU-bin-LAIS, one of the Arab governors of Khorasan whilst the capitals were Merv, Nasha-

pur, and Bokhara. In A.D. 900, A.H. 287, he was defeated by Ismail-bin-Ahmad, the Samani.

AMRUD. BENG. The pear; Pyrus communis, also Psidium pyriferum.

AMRUDDHA. SANSK. In the doctrines taught by Ramanuja Acharya, one of the forms of Indra's manifestations. See Sri Sampradaya.

AMRUL. BENG. Oxalis corniculata, *Linn.*

AMSIN, a pargana in the Fyzabad district of Oudh, formerly held by the Bhar race, who have left many ruins, and the Barwar and Raikwar Kshatriyas still occupy it.

AMU, the Oxus or Bactrus of the Greeks, the Jaihun or Ab-i-Balkh of Turkish and Persian writers, and the Amu Darya of moderns. The Amu rises in the Pamir from two small lakes, one of which is the Sar-i-Kul, 14 miles by 1. It then flows through Wakkan, encloses in an angle Badakhshan, of which it forms the natural frontier, and passes alongside the desert within 40 miles of the city of Balkh. Eighty miles below this Afghan outpost is Khojak ferry, to which came the Russian war steamer Samarcand. Sir Alexander Burnes describes the channel as being 'straight and singularly devoid of rocks, rapids, and whirlpools, and rarely impeded even by sandbanks. The depth varies from 6 feet to 20 feet, with an average current of three and a half miles an hour.' In the spring the river is liable to be flooded with the snows of the Hindu Kush, and in the winter the ice collects on the surface near the Aral sufficiently thick to permit of caravans crossing over it. The absence of towns and villages along its course is to be ascribed to the merciless rapacity of the Turkomans on the one side, and the Kirghiz nomades on the other, both of whom unite in their hatred of settled life and their insatiable desire for plunder. The Tekki Turkomans alone boast of 15,000 horsemen. The Amu Darya has slightly diminished in volume during the present century, through the drying up of some of its affluents, due to the oasis being laid waste and the villages destroyed by the nomades. The fruitful oasis of Khiva, with its canals fifty feet broad, its rows of stately elms, its orchards of mulberry trees, apples, apricots, and cherries, and its lovely gardens, is simply a slice of the desert irrigated by the Oxus. According to Sir Henry Rawlinson, the Amu Darya, from B.C. 600 to A.D. 500, with the Jaxartes, the Syr Darya, emptied itself into the Caspian, and the Aral as an inland sea did not then exist. Even in A.D. 570 the Aral was only a reedy marsh; and it was not till quite thirty years later that the influx of the Oxus caused it to swell out in the hollow in which it now lies. In 1224 the Oxus again forced its way into the Caspian, and the Aral dried up once more, exposing the ruins of cities which had been swallowed up during its previous expansion. In 1330 the river was described by an Eastern traveller as flowing into the Caspian close to the mouth of the Atrek; and the accuracy of this is attested by the remains of the bed which General Abbott saw in 1840. During the whole of the 14th century the Oxus poured itself into the Caspian, while its fellow-stream, the Jaxartes, was swallowed up in the sands. In the 15th century, Ruy Gonzalez de Clavigo describes it as being a noble river, 'three miles in breadth, very deep, and traversing with wonderful force a flat country before falling into the Caspian.' In 1720 a Dutch geographer speaks of the river as having two branches, one flowing into the Caspian, and the other into the Aral. Anthony Jenkinson, and English officers employed in the 18th century in Persia, and Russian explorers of recent date, all agree that the Amu Darya up to very recent times flowed into the Caspian Sea. Like to other great rivers, the Indus, Ganges, Yang-tze-Kiang, and Pei-ho, this river never confined itself to any particular outlet, but during a series of centuries scored one opening and then another in the soft, sandy cliffs that stretch between Persia and Krasnovodsk. Efforts have been made by the Russians to confine the river to a former bed. Both Strabo and Pliny mention that in the early days of the Christian era the merchandise of India used to come down the Oxus to the Caspian, whence it was conveyed up the river Kurr on the one side of the Caucasus, and down the river Rion on the other, till the Black Sea and Europe were finally reached.—*Trotter, Central Asia.*

AMUDAPU CHETTU. Ricinus communis, *L.*

AMULETS.

Tawiz, . . ARAB. HIND.	Brieve, ... IT.
Amulette, Preservatif, FR.	Mustika, . . . MALAY.
Nadoli, ... HIND.	Amuleto, ... SP.

Amulets are worn by almost all eastern nations. They are specially prized by Mahomedans, of whom both young and old wear them. They are usually put on the young to ward off disease and to guard from the evil eye, and consist of figures with numbers on pieces of paper, or Arabic words engraved on potstone, or silver, or gold, and worn from the neck,—often extracts from the Koran. They are also put over the door porch or on the house wall. Amongst the Malays of Java, the amulet is always some very scarce product. The Mustika Kerbo, or Buffalo amulet of the Malays, is quite white, and round like marble, nearly an inch in diameter, and semi-transparent; it is stated to be found at Panggul. The Mustika Waringin, a calcareous concretion, found at Ngadi Rejo; it is quite black, and a little smaller than the Mustika Kerbo. Waringin is the name of the Ficus Benjamina tree, which always adorns the open plain in front of the houses of Javanese chiefs. The Burmese formerly used to insert pellets of gold under the skin in order to render them invulnerable. And Marco Polo, in a story about Japan, specifically speaks of these 'consecrated stones in the arm between the skin and the flesh,' and Conti mentions the amulet, so used in Java Major, as a piece of an iron rod which is found in the middle of certain rare trees.—*Journ. Ind. Archipelago*, 1853, p. 274; *Mission to Ava*, 1855, p. 208; *Polo*, iii. 2; *Conti* (*Hak. Soc.*), p. 32; *in Yule, Cathay*, i. p. 94.

AMULGUCH. PANJ. Cerasus puddum.

AMUL KUCHI. BENG. Cæsalpinia digyna.

AMUMILLA. SINGH. Berrya ammonilla.

AMUR, a river in Manchuria; the Manchu call it Sagalin, also Sagalinoula, or Black Dragon river. The Russians under the treaty of Aigun annexed great tracts of little peopled country on the north banks of this river, and arranged them into the Amur Province, 164,000 square miles, Usuri, Sofyevsk, Nikoloyvesk, 179,000 square miles, and Russian Sakalin, 18,000 square miles. In 1858, Count Mouravieff Amoorsky, and again in 1859 Count Ignatieff, obtained further cessions,

and by the second convention Russia secured the lower Ussuri region and the bay on which Vladivostock is now situated, and thus obtained a magnificent naval station in the Pacific. The river rises in lat. 50° N. and long. 110° E., by two sources, and flows from the centre of Northern Asia into the Pacific Ocean not far north of Japan. The length, including its many windings, is computed at 2800 miles. Its basin contains a surface of 900,000 square miles; the mouth is obstructed by a great bar over which there is not more than two fathoms of water at high tide, and by numerous sandbanks, which are yearly increasing in number and extent. Mongolia, Manchuria, Northern China, all the Tartaries, Tibet, and Siberia, with a population of 20 to 30 millions, are approached by this river. Irkutsk, the capital of Eastern Siberia, can be approached with only about 300 miles of land carriage. The Tungus races of the Lower Amur are the Yeniseisk, Nerchinsk, Manyarg, Manchu, and Orochi, small nomade or fishing tribes. At its mouth members of the Aino are settled; and due north of Pekin is a Mongol tract which nearly separates the true Tungus part of Manchuria. Other small nomade tribes on the Lower Amur include the Goldi and Gilyak. Further north to Behring Straits are Tunguz, Lamooti, Noryak, and Kamtschatdales, in all about 44,189 souls. They are all shamanists and polygamists, and purchase their wives.—*Staunton's Narrative*, p. 15; *Latham's Nationalities of Europe*, i. 269; *Atkinson's Travels; Atkinson's Siberia.*

AMURKALEE. Beng. Ardisia colorata.

AMURNATH, a place of Hindu pilgrimage in the Kashmir state. It is a cave among the mountains, in lat. 34° 15′ N., and long. 75° 49′ E., in a rock of gypsum, and is about thirty yards high and twenty deep. It is held to be the dwelling-place of Siva. Qu. Amarnath?

AMURTA GUDUCHI. Sansk. Tinospora cordifolia, *Miers.*

AMURYA. Guj. Slices of mangoes.

AMUS. Arab. Ajwain seed.

AMUSADA NELLI. Singh. Emblica officinalis.

AMUTHOO. Malay. Cocculus cordifolius.

AMYGDALUS COMMUNIS. *L.* Almond tree.

Louz (sweet), . . Arab.	Louzan, . . . Malay.
,, ul muer (bitter), ,,	Badam-i-Farsi, . Pers.
Kataping, . Bali, Jav.	talq (bitter), ,,
Badamsi? . . . Burm.	Amendo, ... Port.
Badam mitha, . . Hind.	Mandel, ... Rus.
,, karwa, . . ,,	Inghurdi, . . Sansk.
Amandelin, . . . Dut.	Walu-luway, . Singh.
Amandes, . . . Fr.	Almendra, ... Sp.
Mandeln, . . . Ger.	Parsi vadam, . . Tam.
Mandorli, . . . It.	Parsi badama, . . Tel.

The almond tree is cultivated for its fruit, and for the oil expressed from it. Botanically, there is but one species, though there are many varieties and sub-varieties; the most important of them are the sweet and the bitter almonds of commerce,—the latter the talkh or karwa badam of India. The sweet almond contains 24 per cent. of albumen and 54 per cent. of fixed oil, the latter forming the principal product of the tree. The bitter almond trees are smaller than those of the sweet almond, but in every other respect the structure and appearance of the trees and fruits seem to correspond. The taste, composition, and properties of the fruits are, however, totally different. It has been asserted that the sweet and bitter fruits have been gathered from the same tree, and that culture will change the bitter to the sweet, as it has changed the sour crab to the sweet apple, and the bitter, half poisonous, wild potato to its present state. The sweet and bitter kinds are imported into the northern parts of India from Ghorbund, and into the southern parts from the Persian Gulf.

The oil is colourless, very slightly yellow, with difficulty congealed; taste sweet, smell light, agreeable, and resembling that of the seeds. In all its properties and uses it is nearly identical with olive oil. It is obtained for native use in India, but does not form an article of export. The fruits are imported into England at from £2, 10s. to £6 the cwt.—*O'Sh.* pp. 319–322; *Hog*, 298; *Voigt*, 200; *Faulkner, St. of Com.; Bingley; Riddell's Gardening*, p. 97; *Cleghorn's Panjab Report.* See Almond.

AMYGDALUS CORDIFOLIA. *R.* A native of China, and, in Roxburgh's time, common in gardens about Calcutta, where it grew to be a large, very ramous tree. He says that it was cultivated for its small yellow succulent acid fruit, of which tarts were often made. Flowering-time in Bengal, the cool season; the fruit ripens in the hot season.—*Roxb.* ii. p. 500.

AMYGDALUS PERSICA. *Linn.* The peach.

Persica vulgaris, *Mill.*

Khook? . . . Arab.?	Kalloo, Kardi-aru, Pers.
Chinannu, Arui, Chenab.	Moondla-aru, . . ,,
Sunnu, Tsunnu, Kangra.	Bun, ... Sutlej.
Aru, . Jhelum, Panj.	Ghargashtai, . Tr. Ind.
Shaft-alu, . . . Pers.	Ghwareshtai, . ,,

A native of the Himalayas, abundant in Kashmir, the Hindu Kush, Persia, Taurus, and the Caucasus, also in Barbary, whence it has spread into all the countries of the south of Europe. Several varieties are extensively cultivated in China, also in several parts of India, as in Ahmadnaggur and Poona in the Dekhan, also in Mysore, at Bangalore. Three varieties of this fruit are met with in the Dekhan,—a large round white sort, of a delicious flavour; the flat China; and a small thin-skinned description, more resembling an apricot in appearance, and much harder than the others. The peach is easily cultivated by seeds or layers. A seedling will throw out blossom in the second year, and be ten or twelve feet in height; it requires to be carefully pruned, wintered, and watered. No branches should be allowed to grow on the stem closer than three feet from the ground; all spurious and misplaced shoots should be rubbed off before gaining strength to exhaust unnecessarily the juices of the tree; and all distorted leaves, the work of insects, of parasitic plants, mildew, etc., should be picked off and destroyed. The kernels of the peach should be carefully removed from the shell, and in no ways injured, if required for planting; they should be sown in small beds at the commencement of the rains, about eighteen inches apart, and, as soon as the trees are fit for removal, a good-sized ball of earth must be taken up with the roots, to prevent the root fibres from receiving injury. The time for opening the roots of the peach tree is after the close of the rains; remove the earth with care, so as not to injure the roots, for the space of three feet round the stem; pull off all the leaves, and cease to water the tree until the blossom buds appear; then cover up the roots with good loam mixed

with old rotten manure; water freely every third or fourth day, until the fruit begins to ripen, after which be guided by circumstances. It is necessary sometimes to thin the fruit, and also to put the peaches in bags, as they begin to ripen, otherwise the birds destroy them. In the Dekhan peaches first come in about February, and with care may be continued until the rains commence, after which the excess of moisture received by the leaves and roots causes the fruit to swell and burst. The flowers are purgative, but also narcotic. The leaves and kernels, on distillation, yield abundance of prussic acid. The fermented fruit gives an excellent brandy, chiefly manufactured in the United States of America. The bark gives a large quantity of gum during the hot season. In Persia there is a kind of peach tree intermediate between the almond and the peach. In Europe also there are varieties of peach almonds. The nectarine, the downy peach variety, is much cultivated in parts of India and in Afghanistan. The natives of the Panjab believe the fruit useful in worms, Ascaris lumbricoides.—*Smith*, p. 8; *Cleghorn's Panjab Report*, p. 65; *J. L. Stewart, Panjab Plants; Riddell on Gardening.*

AN, in Mewar, the oath of allegiance. Three things in Mewar were royalties: a subject cannot meddle with the An, or oath of allegiance; the Dan or transit dues on commerce; and the Kan, or mines of the precious metals.—*Rajasthan*, i. p. 172.

AN, also Jan and Kal of Beas. Urtica heterophylla, *Roxb.*; also Morus serrata.

ANA. Sansk. Food. See Ana-ch'hatra; Anacuta; Ana-devi; Ana-prasanam; Ana-purna.

ANAB. Arab. Grapes.

ANABAS SCANDENS. Palmyra climber.

Anthias testudineus, *Bloch.* | Perca scandens, *Daldorf.*
Kode, ... Hind. | Panei-eri, Telli, . Tam.

This little fish, of the family Anabadæ, is very common in the marine lagoons and near the mouths of the rivers of southern and south-eastern Asia. It is about five inches in length, mottled brown and yellow. They may be seen hanging on to the mangrove stems in Ceylon, by spines arranged along the margin of the gills, three and four feet above the level of the receding tide, from which elevated position they drop into the water when disturbed by a boat or a steamer passing. A. oligolepis, *Bleeker*, occurs in Ceylon.—*Tennent's Ceylon*, p. 354.

ANAB-us-SALEB. Arab. Solanum nigrum.

ANACARDIACEÆ, a natural order of plants, trees, or shrubs, which abound in a resinous, acrid, or even poisonous juice. Its genera in S.E. Asia are the anacardium, Buchanania, Cambessedia, coniogeton, gluta, holigarna, mangifera, odina, melanorrhœa, pegia, pistacia, phlebochiton, rhus, rumphia, semecarpus, solenocarpus, stagmaria, syndesmis, thysanus, and triceros.

ANACARDIUM OCCIDENTALE. *Linn.*

Acajuba occidentalis, *Gærtn.*
Cassuvium pomiferum, *Lam., Rheede.*

Hijli badam, Ben., Hind.
The-ho-thayet, . Burm.
Cashew nut tree, Eng.
Kaju, . Hind., Malay.
Jambu-monat, . Malay.
Parunki-mavah, Maleal.
Kapa-mavakum, ,,
Bijara sala, . . Sansk.
Wattu-kaju, . . Singh.
Jambo-iring? Sumatra.
Kola mavah, . . . Tam.
Mundiri maram, . ,,
Thab-ambu, . . Tavoy.
Jidi mamedi, . . Tel.
Munta mamidi chettu, ,,

This is a small tree, sixteen feet high, very ornamental when in leaf. It was introduced into the East Indies from the West Indies, where, as also in Mexico and the two Americas, it grows; but it is now cultivated in Ceylon, all over India, Burma, Pegu, and the Tenasserim Provinces eastwards to the Moluccas. In Pegu it is much cultivated about Phoungye houses, and in groves near towns. The wood is dark brown, and is not generally deemed of value in carpentry, but, in Tavoy, Captain Dance says it is used in boat-building, and it forms a charcoal, which the iron-smiths there consider the best for their trade. It bears sweet-smelling flowers, succeeded by a pea-shaped fruit of a yellow or of a red colour, very acrid, and with an astringent juice. The cashew nut hangs at the end of the fruit outside, and is about an inch long, of a kidney shape, edible and wholesome when roasted. It is found in every bazar in India. The nuts are used for imparting a flavour to Madeira wine. Also, ground up and mixed with cocoa, they make a good chocolate, are said to yield a spirit by distillation, superior to rum or arrack, and are described as possessing powerful diuretic properties. They are also said to yield, by expression, an edible oil, equal to olive or almond oil. The cashew nut has two shells, between which there is a thick inflammable oil, called cardole or cashew apple oil. It is a powerful vesicating agent, and, owing to its caustic properties, is sometimes applied to ringworm, warts, corns, cancerous ulcers, etc., and to floors or wooden rafters of houses to prevent the attacks of white ants. It is a very dangerous drug, and ought never to be used. Exposure to the vapour of the oil, when under preparation, will produce violent swelling and inflammation. An astringent gum is exuded from the trunk of the tree to the extent of 5 to 12 lbs. weight annually, which should be collected when the sap is rising. It makes a fair substitute for gum arabic, forms a good varnish, and is particularly useful where the depredations of insects require to be guarded against. The milky juice which flows from incisions in the trunk of the tree imparts an indelible stain to linen.—*Drs. Ainslie, Roxb., Voigt, M'Clelland, Riddell, Mason; Mr. Jaffrey, Useful Plants; Hogg's Vegetable Kingdom; M. E. Jur. Report; Captain Dance.*

ANACHANDRA. Tel. Acacia ferruginea.

ANA-CH'HATRA. Hind. A charitable institution from which food is distributed.

ANA-CHUNIDA. Male., Tam. Solanum ferox.

ANACOLOSA DENSIFLORA. *Bedd.* A very lofty tree in the moist forests of the Anamallais, at 2000 feet elevation; it flowers in November and December, when the boughs are a perfect mass of very fragrant flowers.—*Beddome, Fl. Sylv.* p. 138.

ANA-DEVI, a Hindu goddess, the nourishing deity to whom the Rajputs offer the first portion of a repast.

ANAGALLIS. *Linn.* A genus of plants of the natural order Primulaceæ. A. arvensis, var. β cærulea, with light blue flowers, is a native of Kamaon, Nepal, and Khassya, and is cultivated as a flowering plant in India. It is the Giah surkh gul of the Persians, and Anasu kala bhangra of Kashmir, is said to be poisonous to dogs, producing inflammation of the stomach. It is used by native doctors in epilepsy, mania, and hydrophobia, also occasionally in dropsy. Wight figures, also, A. latifolia.—*Riddell; Voigt; Powell*, i. p. 368; *W. Ic.*

ANAGAMI PALI, in Buddhism, the third of the four paths leading to nirwana.—*Hardy*, p. 433.

ANAI. MALAY. Termites; white ants.

ANAI PULIA MARAM. TAM. Adansonia digitata.

ANAITIS, an Assyrian deity introduced into Egypt. See Ken.

ANAJ. HIND., PERS. Corn; grain.

ANAK. ARAB. Lead.

ANAKALA BHRITA. SANSK. One of the 15 kinds of slaves in Hindu law; a man who has become a slave voluntarily, for food during famine.

ANAKAN. MALEAL. A low person.

ANAK BIRI KULIT. MALAY. Lamb-skins.

ANAKONDA of Ceylon, is the Python reticulatus, *Gray*. It is occasionally of great size, but perhaps rarely exceeding 20 feet, though Mr. Sirr mentions that when full grown it is said to measure from 17 to 25 feet long, with a circumference of 2½ feet.—*Sirr's Ceylon.*

ANAKURU. TAM. A tree of Western India, about 30 feet long and 18 inches in diameter; the natives make small canoes of it, and use it in house-building.—*Edye, M. and Can.*

ANA-KUTA-YATRA, a Hindu festival on the 9th of November, in which they make a pile of boiled rice to represent Govardhan. In Rajputana, this festival was held annually in honour of Krishna, at which the seven statues were wont to be assembled from the different capitals, and food in great quantities (Ana food, Kuta mountains) prepared for the multitudes who collected. On one occasion, about A.D. 1740, most of the Rajput princes were present,—Rana Ursi of Mewar, Rajas Beejy Singh of Marwar, Guj Singh of Bikanir, and Bahadur Singh of Kishengarh. Rana Ursi presented to the god a tora or massive golden anklet, Beejy Singh gave a diamond necklace of value Rs. 25,000; and an aged woman from Surat placed at the foot of the god Heri, a bill of exchange for Rs. 70,000.—*Wilson; Tod, Rajasthan*, i. p. 547.

ANAL. BENG. A reed; Amphidonax bifaria.

ANAMIRTA COCCULUS. *W. and A.*

A. paniculata, *Coleb.*	Cocculus suberosus. *W. and A.*
Menispermum cocculus, *L.*	
M. heteroclitum, *Roxb.*	,, lacunosus, *D. C.*,
M. monadelphum, *Roxb.*	,, orbiculatus, *D. C.*
Khanak-ul-kalb? ARAB.	Gaarla Phalla, MALEAL.
Bakain-ka-phal? BENG.?	Polla, Kakandaka-conuveh, . . MALEAL.
Cocculus indicus, ENG.	Kaka-mari, . . SANSK.
,, Levanticus, ,,	Kaka-calli maram? TAM.
Coques de Levant, FR.	Pen-kottai maram, ,,
Kakmari, . . . HIND.	Kaki-champa, . . TEL.
Bacca orientalis, . LAT.	
Tuba bidji, . MALAY.	

This one of the Menispermaceæ is a strong climbing shrub, with the bark corky, ash-coloured, and deeply cracked into fissures; leaves roundish, hard, and leathery. It grows throughout S.E. Asia, in Ceylon, in Malabar, the Konkans, the Circar mountains, Orissa, Assam, Burma, the Moluccas, and Timor. The seeds are about the size of a cherry; the kernel is oily. They are devoid of smell, of extremely bitter taste, and poisonous in moderate doses to animals, and to vegetables. Twelve grains of the seeds given to a dog killed it in five minutes; a solution prepared from an extract made with the seeds killed a bean plant in twenty-four hours. Cocculus indicus was largely employed in Australia in destroying the parasitic animals which attack the skins of sheep. It is also used for stupefying fish; mixed with crumbs of bread and thrown into ponds, the fish which eat the crumbs become intoxicated, float on the surface, and are easily taken. Fish thus caught are exceedingly dangerous. The only use of the Cocculus indicus in medicine is as an external application, as a powder or ointment, to destroy vermin in the hair, and in the treatment of some cutaneous diseases. Its imports into England largely and rapidly increased.—*Drs. Ainslie, Materia Indica; Roxb., Voigt, O'Sh., Mason; Hook. et T.* 185; *Poole's Statistics of Commerce; Simmonds; Hogg*, 31; *Useful Plants.*

ANA MULU. TEL. Lablab vulgaris.

ANAN (BURM.) is the Fagræa fragrans, or Cyrtophyllum fragrans, *Falconar*, of Burma, and stands pre-eminent in its characteristics as a forest tree of the largest dimensions, for its straightness and freedom from internal decay, and in its indestructibility under all circumstances of useful appliance. A specimen of this wood was brought to Mr. O'Riley's notice, which for 60 years had formed the supports of a native bridge over a creek in his vicinity; embedded in mud, and exposed to the alternations of wet and dry during each tide, it had undergone no change beyond the decay of the sap parts immediately below the bark; the posts of the bridge consisted of young trees cut on the spot and so applied at once. The supplies to be obtained from these forests are unlimited. It would be found to answer admirably for such ship-building purposes as require extra strength and durability, and would afford the finest keel-pieces in the world.

ANA-NARINGI. TAM. Pedalium murex.

ANANAS SATIVUS. *Schult.* Pine-apple.

Bromella ananas, *L.*, *R.*	Ananassa sativa, *Lindley.*
,, sativa, *R. Fl. Ind.*	
Ananas, ARAB., DEKH.,	Purithi, . . MALEAL.
Manas, ... BALI.	Pina, . . PHILIPPINE.
Nanas, . BURM., MALAY.	Anassi, ... SINGH.
Pandang, . . . CELEB.	Anasa maram, . TAM.
Kamas, . . . LAMP.	Ananas, . . . TEL.
Lanas, . . MADURESE.	Anasa chettu, . ,,
Karda cheeka, MALEAL.	Ananas Pandu chettu, ,,

The pine-apple is a West Indian plant, which has been domesticated in hothouses in the colder places of Europe, but in the moist warm localities of the Indian Peninsula, of Bengal, Ceylon, the Tenasserim Provinces, the Straits, Moluccas, Philippines, and China, it grows in great abundance, is even wild, forming hedges; but the flavour of the fruit, which is a general favourite, is greatly improved by cultivation in rich soil. The native women of Bombay believe that eating the pine-apple injures their fertility. The leaves yield a very valuable fibre, from which, in the Straits and in Java, a much-prized delicate fabric, the pina silk of commerce, is manufactured. The leaves are gathered, and, in the same way as the aloe, are placed on a board and scraped with a blunt knife. The fibres that are loosened are drawn out, the leaves turned over, and from four to six inches of the stem end scraped as before, and as soon as the fibres are loosened by the removal of the pulp in that part of the leaf, the fibres are taken hold of by the fingers and drawn out. These fibres are again laid on the board, and any remaining portion of the pulp gently scraped out with the aid of water, when they are gathered and dried in the sun. By another mode of treatment, the leaves are laid in

the sun, so as to dry up a portion of the sap, when, on being taken up and bruised by the hand, the fibres become loosened, and may be taken hold of and drawn out. But a great loss of fibre results, so that this method cannot be recommended.—*Ainslie; Voigt; Hogg*, 764; *Mad. Ex. Jur. Report.*

ANANDA, the nephew or cousin and favourite disciple of Gautama; he was a thero (presbyter) or bhikshu (mendicant), and did not attain the sanctity of the rahathood, or qualification for final emancipation without birth, till the synod held at Rajagriha, in Magadha, soon after the death of Buddha. He was Sakya Muni's personal attendant. At Ananda's intercession, female devotees (Bikshuni) were admitted into the ranks of the Buddhist community, and permitted to embrace an ascetic life, and those at Mathura paid their devotions chiefly to the stupa of Ananda because of this intercession.—*Yule's Embassy*, p. 26; *Hardy's Eastern Monachism*, p. 433. See Buddha.

ANANDA in Sanskrit means joy, and hence Ananda-nat'ha, from ananda, joy, and nat'ha, a lord, the lord of joy. Ananda is an appellation of Siva, also of Bala Rama. Ananda, a cowherd, husband of Yasuda, a couple who fostered the infant Krishna.

ANANDA BHIMA DEVA, a Hindu author of repute, who wrote the polemic work Sankara Digvijaya, on the modifications of religion, celebrating the victory of Sankaracharia over his opponents. He is said to have introduced the Bhakti worship into Puri.

ANANDA TIRTHA. About the early part of the 13th century, Madhavacharya, called also Ananda Tirtha, established a new subdivision of the vaishnava sect.

ANANDRAVER. MALEAL. In N. Malabar, amongst the polyandric races who follow the descent of Marumaka tayam, or *descensus ab utero*, this is a term for the more distant relatives of a Tarwada, or united family. See Aka Podwal; Polyandry; Nair.

ANANI. SANSK. Earth, worshipped amongst the Kol under the designation Isani (Isa, goddess; anani, earth). See Kol.

A-NAN-PHO. BURM. Gordonia floribunda.

ANANTA. SANSK. Infinity, eternity, time, endless. In Hindu mythology, a name of Sesha, the king of the serpents. Sesha means duration, and Ananta, endless; in Hindu theogony, Ananta is the serpent on which the deity reposes in the intervals of creation. See Kalpa; Lakshmi; Sesha; Vishnu.

ANANTA, author of the Vira Charita, a book of tales of the wars of the descendants of Vikramaditya and Salivahana.—*Dowson.*

ANANTA-CHATURDASI, a Hindu festival in honour of Vishnu, held on the 14th of Bhadrapad (about the beginning of September), when a figure of Anant Dora is made of silk and gold lace.

ANANTA-MUL. BENG. Indian sarsaparilla; Hemidesmus indicus.

ANANTA-PARATI AIYANGAR was born in Tanjore, A.D. 1786. After remaining for a few years as temple accountant, he retired to Tiruvadamarutur, and devoted the remainder of his life to the composition of poetry, chiefly in honour of saiva shrines. He died A.D. 1846.

ANANTA VARMA, a prince mentioned in the inscription on the Buddha-gaya vaulted cavern or Nagarjuni cave, of about the 9th or 10th centuries.

ANANTI, Anati, or Anti chettu. TEL. Musa paradisiaca, *L.*

ANANTI, a name of the town of Ujain.

ANAPA CHIKKUDA KAYA. TEL. Lablab vulgaris, *Savi.* Anapa kaya, Lagenaria vulgaris, *Ser.*

ANA-PRASANAM, amongst the Hindus, is a social and sacred rite, of giving rice for the first time to an infant when six months old, at which, as also at the Choula rite, relatives and friends are entertained. On the first occurrence of the birthday, the child is anointed and decorated with jewels; relatives and friends are entertained; and in the evening the child is carried to a temple, and presented to the deity of their sect. As the second anniversary draws near, or about that time, the boy's head is shaved on a propitious day, which affords another opportunity for feasting friends.

ANAR. HIND. Punica granatum, pomegranate.

ANARADHAKA MUNDA, one of the parricidal Bhattiya family; reigned 8 years from B.C. 478. See Bhattiya.

ANARADHAPURA, an ancient city in Ceylon, now in ruins. It is the Anurogrammum of Ptolemy. This seems to be described by Baker as Anaraj or Anarajpoora, with several Buddhist dahgopas, the heights of which vary. They were built at from B.C. 307 to A.D. 376. The ruins are 16 miles square, comprising a surface of 256 square miles. Those of Pollanarua are much smaller, but they are nevertheless of great extent.—*Hardy's Eastern Monachism*, p. 433; *Baker's Rifle*, p. 99.

ANARKALLI. See Lahore.

ANAS, a genus of birds, teal, ducks, many of which are widely distributed in the world. A. strepera, the Gadwall of northern regions, in Barbary, and tolerably common in India. A. acuta, the Pintail Duck; northern regions, Barbary; very common in India. A. boschas, the Mallard; northern regions, Barbary to Sind, Panjab, and the Himalaya and its vicinity; replaced southward by A. Pæcilorhyncha. A. querquedula, the Gargany; Europe, Asia, N. Africa; very common in India. A. crecca, Teal; Europe, Asia, Barbary; common in India. A. Penelope, the Widgeon; Europe, Asia, N. Africa; common in India. Cygnus atratus is the black swan of Australia. A. cygnoides is domesticated in China. A. cinereus, common in India, and A. brachyrhynchus in the Panjab.—*Blyth.* See Birds.

ANAS or Anome. MALAY. Arenga saccharifera.

ANASANDRA or Chandra. TEL. Acacia ferruginea, *D. C.*

ANA SHORIGENAM. MALEAL. Girardinia Leschenaultiana, Urtica heterophylla, *Roxb.*

ANASHOVADI. MAL., TAM. Elephantopus scaber, *Linn.*

ANA-SHUNDA. MALEAL. Solanum ferox.

ANASI. TAM. Ananas sativus, Pine-apple.

ANAS PHOOL. HIND. Anasi-pu, TAM. Illicium anisatum, Star anise.

ANASUYA, wife of the rishi Atri, and mother of the Hindu sage Durvasas. She dwelt with her husband in a hermitage in the forest south of Chitra Kuta, and befriended Sita.—*Dowson.*

ANATIDÆ, a family of water birds. See Birds.

ANAU ANANDAT, a name of Lake Manasarovara.

ANAVALOBHANA, a domestic ceremony amongst the Mahrattas, to ward off miscarriage.

ANA-VINGA. MALEAL. Casearia canziala.

ANAXAGORAS, a Grecian whose two reputed followers were Damon and Pythias, supposed by Major Cunningham to be the words dharma, virtue or practical morality, and buddha, wisdom. See Damon and Pythias.

ANAYAN. TAM. A cowherd or shepherd.

ANAY VAL MYR. TAM. Hair of elephant's tail.

ANCHA or Anche. TAM., TEL., KARN. A letter post, or for travelling.—*W.*

ANCHAL. HIND. Very broad gold or silver ribbon, or edging.

ANCHAR. MALEAL. Antiaris toxicaria, Upas antiar.

ANCHOR.

Langar, .	BENG., HIND.	Lubi, ...	GUJ.
Ly-ouk-su, . . .	BURM.	Ancora, ...	IT.
Ancre, ...	FR.	Sawuh, Jangkar, .	MALAY.
Anker, ...	GER.	Ancla, ...	SP.
Ankura, ...	GR.	Langaru, . . .	TEL.

Of this article of ship's furniture there are many kinds,—sheet, bower, stream, kedge, and grapnel. Those for smaller vessels are manufactured in India of wrought iron, but many are of rude construction, and every coast has its own form, and a particular mode of using it. The Indian fisherman's mooring anchor is generally of stone, from four to five feet in length, four-sided and pyramidal, the apex cut off. At base it is from six to eight inches square, and from four to six at top. At the top is a hole, through which a cable or hawser is passed. Near the base are two holes at right angles to each other; through these, pieces of wood are thrust corresponding to the prongs or flukes of the anchor. The whole weighs from 80 to 150 lbs., according to the size of the vessel, and answers very well the purposes intended. These anchors are most commonly made of limestone, and are on the whole suitable.

ANCHOVY.

Anchois, . . .	FR.	Acciughe, Anchione,	IT.
Anchove, Anschove,	GER.	Anchova, . .	PORT., SP.

The anchovies met with in the commerce of India are wholly imported. The true anchovy is the Engraulis encrasicholus *Cuv.*, a small fish about four inches long, with bluish-brown back and silvery white on the belly. It is very abundant in the Mediterranean, where, though occurring in other seas, they are chiefly caught at night by nets, their heads immediately taken off, and gutted. Another Mediterranean species, E. meletta, is largely substituted for and mixed with the true anchovy, but they are from four to seven inches long; and other fish, Dutch and Sicilian, are also employed to adulterate anchovy paste and sauce. The Madras coast has three species of Engraulis; the Netteli or Teran Goonie, E. albus, is caught in great nets in immense numbers, and by Europeans is highly esteemed for the breakfast table; and one about six inches long is very delicate eating. The Tamil names of the others are Pota Netteli and Maper Netteli. The Gna-ping-nai-say of the Burmese coast and Tenasserim Provinces was considered by Dr. Mason to be the E. meletta.—*Faulkner; Mason; Hassall; Eng. Cyc.; Poole*, p. 9; *Bingley*, iii. 221.

ANCHUSA, a genus of plants belonging to the Boraginaceæ. A. italica is mentioned by Nicander, v. 38, and is called Bugloss, from the supposed resemblance of its leaves to a cow's tongue (βουγλοσσα). In India, the Greek synonyms bugloozun and fooghulus are assigned to Onosma bracteatum, *Royle*. In the Bombay bazars, the Cacalia Kleinia is similarly termed Gao zaban, or cow's tongue. Anchusa tinctoria (Alkanet) is a native of Europe, for which root those of the Onosma echioides and O. tinctoria have been substituted. The Onosma emodi, *Wall.*, of the Himalaya is closely allied to this, and is called Maharanga, from the intensity of its colour. The alkanet of Constantinople is produced by the root of the Alcanna vera. It is imported into England in very small quantities as a dye.—*Poole, St. of Com.; Voigt; O'Sh.* p. 495–6; *Hog*, 541.

ANCHUSA TINCTORIA. *Smith.*

Tsz-ts'au, Ti-hiueh, CHIN. | Tsz-tan, ... CHIN.

Its root is brought from Hu-peh, Honan, Peh-chih-li, Kwei-chau, and Shan-si. It is cultivated by the Yau or T'ung tribes of Miau-tsze, who live in Li-po-hien, in Kwei-chau, and Lien-chau, in Canton province. The red root is employed by the Chinese in smallpox.—*Smith*, 16.

ANCISTROCLADUS HEYNEANUS. *Wall.*

Kurdal, ... MAHR. | Valli Modigam, . MAL.

Grows at the Parr Ghat ravines at Khandalla, but not common. The Modira valli, usually quoted for Artabotrys odoratissima, has a great resemblance to this plant. This is a very pretty shrub. A. Vahlii, *Arn.*, the Gona wel, or Gona pattan wel, of the Singhalese; grows in the central and southern parts of Ceylon, up to 2000 feet.—*Thwaites*, p. 188; *Gr. Cat.*

ANCISTROLOBUS CARNEUS. *Wall.*

Hypericum carneum, *Wall., Cat.*

Zin-ga-lae, . . . TAVOY. | Zoung-ga-lae, . . BURM.

This tree attains a maximum height of 30 feet; it rarely exceeds 3 feet in girth, and its maximum is 3 cubits. It is plentiful in the Pegu and Tounghoo forests, and is widely scattered all over the Amherst, Tavoy, and Mergui Provinces, but in none abundant. It is also a native of China. Its dark-brown wood, when seasoned, floats in water. It has a long fibre, tenacity, durability, and sufficient lightness, and is very free from knots. It is used by the Burmese for building, for ploughs, and for utensils of all kinds, and is recommended for handles of chisels, hammers, and tools generally.—*Captain Dance; Drs. M'Clelland; Mason; Voigt.*

ANCISTROLOBUS MOLLIS, *M'Clelland*, the Yin-bya of the Burmese, is a tree plentiful in the Pegu and Tounghoo forests. The timber grows very tall, but seldom exceeds three feet in girth. Wood dark brown.—*M'Clelland.*

ANCORUTTAY. TAM. Trichosanthes palmata.

ANDAGU KYOUK, BURM., or image stone, on Long Island in the Bassein river, is a peculiar, very fine, white or greenish, argillaceous sandstone, which the Burmese carve into images of Buddha.

ANDAL. PANJ. Cuscuta reflexa.

ANDAMAN RED-WOOD, Pterocarpus dalbergioides, *Roxb.*

ANDAMANS, a cluster of four larger islands, with several islets, in about long. 92° 15′ to 93° 15′ E., and extending from lat. 10° 32′ to 13° 45′ N.

The islands are mentioned by Marco Polo as the Ongaman. They are indented by numerous bays and inlets, and are covered with forests of lofty trees. These islands were surveyed in 1789 and 1790 by Lieutenant Archibald Blair, and from 1791 to 1796 settlements were formed by the Indian Government, but, proving unhealthy, they were abandoned from 1796 until 1857, when the East India Company again re-occupied them. They are inhabited by a race the least civilised perhaps in the world. Professor Flower has mentioned that the largest skulls he had measured were those of the flat-headed Indians of North America, and the smallest those of the Andamanese and the Veda of Ceylon. Marco Polo mentioned them as savages who killed and ate all strangers. At present their colour is of the darkest hue, and their aspect uncouth. Their limbs are ill-formed and slender, their bellies prominent; and they have woolly hair, thick lips, and flat noses. They go quite naked, the women wearing only at times a kind of tassel or fringe round the middle, which is intended merely as ornament, as they do not betray any signs of bashfulness when seen without it. The men are 5 ft. 2 in. and 5 ft. 3 in. in height. The Andamaner has the appearance of a small-sized Negro race, like others in the south of the Peninsulas of India and Malacca, in the Great Nicobar, as the Kādar, the Semang, the Negritos and Negroes of the Philippines and New Guinea. Some have become familiarized to Europeans, and in 1875–76, 79 of them had settled in Viper Island; but formerly they would affect to enter into a friendly conference, and, after receiving articles presented to them, they would set up a shout and discharge their arrows at the donors. They were cunning, crafty, and revengeful; frequently expressed their aversion to strangers in a loud and threatening voice, exhibiting various signs of defiance, and expressing their contempt by indecent gestures. In skirmishes they displayed much resolution, and would plunge into the water to seize a boat, and discharge their arrows while in the act of swimming. The women bear the greatest part of the drudgery in collecting food, repairing to the reefs at the recess of the tide to pick up shell-fish, while the men are hunting in the woods, or wading in the water to shoot fish with their bows and arrows. They are very dexterous at this, which they follow also at night by the light of a torch. In their excursions through the woods, a wild hog sometimes rewards their toil, and affords them a more ample repast. They broil their meat or fish over a kind of girdle made of bamboos, but use no salt or other seasoning. A canoe, a moderately-sized one, capable of accommodating about 20 persons, is used for the purpose of obtaining food for about 30. It is scooped out of a tree by the men, who take their turn, working with a sort of adze. The canoe is very fragile, and rarely lasts above a year, for they are constantly making its sides thinner, by ornamenting and scooping out its interior. It is ballasted by stones, and has a prow projecting about two feet, on which the fisherman stands. They are more especially useful for turtle fishing, and the spearing of skates and rays. The bamboo pole has a sharp moveable spear which unships at one end, and to this is attached a long line. When the bamboo is thrown, and the spear becomes imbedded in the prey, it slips away from the bamboo, but remains attached to the line. Should the fish be large, some of them dive down under water, attacking the victim with knives and spears, whilst others endeavour to pass a line over the captive. For their small nets they use a fibre as thread, which they neatly work up, employing their fingers as a mesh, gradually enlarging it as required. When turtles are scarce, a large net is used. Just before the tide begins to ebb, this is attached to stakes which encircle the whole of a reef where turtle resort for food. As the tide recedes, they are penned in, but they fight most desperately to break through the net. The Andamanese now use spears, and but few, as a rule, escape. Their bows and arrows are used principally for shooting fish in shallow water. The upper two-thirds of the arrow is a hollow reed, the lower a piece of heavier wood, armed with a piece of iron or a nail. They throw stones with considerable accuracy. The Andamaners display much colloquial vivacity, and are fond of singing and dancing, in which amusements the women also participate. Their language is smooth, and their melodies are in the nature of recitation and chorus, not unpleasing. Their language is very limited as to the number of words; but by a marvellous power to imitate which these people possess, every vocal sound was repeated instantly, and with a wonderful precision. Andaman and Fuegian widows wear the skull of their deceased husbands hanging from their neck by a cord.—*Andaman, Adm. Rep.; Horsburgh; Journ. As. Soc. Beng.; Records, Government of India; Rangoon Times; Asiatic Researches*, iv. p. 389; *Personal Observations.*

ANDARU, a mobed or priest of the Parsees.—*W.*

ANDEH KOH, about a mile east of the village of Mohtur in the Mahadeo hills, running to the Denwa valley, is a ravine, with steep, precipitous sides, believed by the inhabitants to harbour a great snake. Opposite it is the Jambo-Dwip, another great ravine.

ANDERE. SINGH. Acacia arabica.

ANDGERI, CAN., the Ind Yeru or Yeru of the Mahrattas, is supposed to be a species of Sapindus or Nephelium. It is found in the Canara and Sunda forests, above the ghat, chiefly at Nilcoond and in the southern jungles. The wood is serviceable in house-building.—*Dr. Gibson.*

ANDH, a hill tribe, formerly predatory, who, with the Gond, Kurku, and Kolamb, inhabit the Mailghat and the southern skirts of its hills. These four tribes resemble each other in physical appearance, but they each speak a different tongue, and they are quite distinct in features from the inhabitants of the villages.

ANDHER, a little village 10½ miles south-west of Bhilsa and 5 miles west of Bhojpur. It contains remains of Buddhist topes.

ANDHI. HIND. A tempest; a circular storm.

ANDHRA, the ancient name of the country in which Telugu was spoken, now called Telingana; also the Telugu language itself, and likewise a man of that country. Sanskrit writers call the Telugu language Andhra; and there is a division or race of Brahmans called the Andhra or Dravida. The Andhra dynasty ruled from B.C. 31 to A.D. 429 or 436. Pliny speaks of the Rex Andrarum as a powerful Indian prince. They were known as the Andræ to classical authors. The Puranas

designate them Andrabhritya, and the inscriptions style them Satakarni and Satavahana. The Peutingerian Tables speak of Andræ Indi. They are mentioned in the Vishnu, Vayu, Matsya, and Bhagavata Puranas. Pliny and Hiwen Thsang (A.D. 630) mention them and the Kalinga kingdom; and at the latter date Andhra was one of the six great Dravidian divisions. Wilson, Tod, Jones, and Fergusson have each calculated their eras, but doubts still surround their history. An Andhra dynasty ruled at Magadha about B.C. 18. The first was Sipraka (B.C. 21), a powerful servant of Suserman, and whom he killed, and then founded the Andhra Bhritya dynasty. Their last powerful sovereign was Gautamiputra (A.D. 312–333). Professor Wilson arrived at the conclusion that the race of Andhra kings should not commence till about 20 years B.C., which would agree with Pliny's notice of them. They established their authority in Magadha only in the first centuries of the Christian era, and ended in A.D. 436. Warangal, Chicacole, and Rajahmundry were the capitals of the territory which is now known as Telingana, and also the Northern Circars.

Sipraka, . . .	B.C. 31	Hala, ...	A.D. 266
Krishna, . . .	A.D. 8	Mantalaka, . .	,, 271
Satakarni I., . .	,, 10	Purindrasena, .	,, 276
Purnotsanga, . .	,, 28	Sindara, . . .	,, 281
Srivaswami, . .	,, 46	Rajadaswati, . .	6 mos.
Satakarni II., .	,, 64	Sivaswati, . . .	,, 284
Lambodara, . .	,, 120	Gautimaputra, .	,, 312
Apitaka, . . .	,, 138	Vasishtiputra, .	,, 333
Saugha, . . .	,, 150	Pulomat, . . .	,, 335
Satakarni III., .	,, 168	Sivasri, . . .	,, 363
Skandaswati, .	,, 186	Skandaswati, . .	,, 370
Mrigendra, . .	,, 193	Yajnasri, . . .	,, 377
Kuntalaswati, .	,, 196	Vijaya, ...	,, 406
Swatikarna, . .	,, 204	Chandasri, . .	,, 412
Pulomavit, . .	,, 205	Pulomat, . . .	,, 422
Gorakhshaswari,	,, 241	,, died	429 or 436

—*Ferg.* 717, 718; *Thomas' Prinsep's Indian Antiquities*, p. 241; *Wilson's Glossary; Cunningham's Ancient Geography of India*, p. 528; *Imp. Gaz.* See Chalukya; India.

ANDHRA DRAVIDA BHASHA is the term by which the Tamil and Telugu languages are designated by the learned natives of the south of India. Shen Tamil (Sen Damir) is the ancient classical Tamil language, and is usually called High Tamil.

ANDI, a religious mendicant of the saiva sect of Hindus in the south of India.

ANDI. PANJ. Cæsalpinia sepiaria.

ANDIJAN, a town of Ferghana. It has 20,000 inhabitants, and is the chief place in the khanate of Khokand. Khokand is an Uzbak chiefship, situated on the Syr Darya or Jaxartes.

ANDI-PANDU. TEL. Banana.

ANDI PULAVAR was born near Gingee. He wrote verses on the Asiriya metre; a commentary on the Nannul called Uraiyari Nannul; and Asiriya Nikandu, a dictionary of Tamil synonyms.

AND-KHARBUZA. PANJ. Carica papaya.

ANDKHO or Andkhui, in lat. 36° 54′ N., and 35° 23′ E., in Afghan Turkestan, 100 miles west of Balkh, has a population of 15,000, of Turkman, Uzbak, Tajak. In Balkh and near Andkhui, the harvest is at the beginning of June; in the oasis countries, in July; in Kungrat and in the north of Khokand, not till the beginning of August. Of the rivers in that central region, the Oxus is the most important, and the Zaraf-shan, Shahr-Sabz, and Jaxartes follow. See Afghanistan.

ANDRACHNE TRIFOLIATA. *Roxb.*

Stylodiscus tri., *Bennett.* | Psychodendron tri., *Wall.*

This tree of quick growth, the Uriam of Assam, is found in Java, Ava, Peninsula of India, at Hurdwar, Chittagong, Nepal, and Assam. Wood and bark red; employed for masts and spars of small vessels.—*Voigt; Cal. Cat. Ex.*, 1862.

ANDRADA. Anthony Andrada, a Jesuit, passed through Kumaon to the Manasarawara lake, and thence went on to Rudak, on the western confines of Tibet. His journey was made in 1624, and is discredited by commentators and geographers because of his mentioning this lake as the source of the Ganges and Indus, instead of the Sutlej. There is no doubt, however, that the voyage is genuine, though we have no details of it.—*Prinsep's Tibet*, p. 12. See Rudok.

ANDROGRAPHIS ECHIOIDES. *Nees.*

Justicia echioides, *Roxb.*

Chavalapuri Kada, TEL. | Gorre Chimidi, . . TEL.

This plant grows in Ceylon, in the Peninsulas of India and Malacca, and in the Himalaya. It has two varieties, *a.* Lamarckiana and *b.* Linnæana. —*Voigt; W. Ic.*

ANDROGRAPHIS PANICULATA. *Wall.*

Justicia paniculata, *Burm.*

Ufar? . . . . ARAB.?	Kara-Kaniram, . MALEAL.
Kalo megha, . . BENG.	Kairata, . . . SANSK.
Maha tita, . . . ,,	Hin-bin-komba, SINGH.
Kriat, CAN., DUK., HIND.	Kalpa, . . . ,,
Hwanglien, . . . CHIN.	Kiriat, Nela Vembu, TAM.
Kalupnath, . . . HIND.	Nela Vemu, Kari
Kiriatha, . . . MALEAL.	Vemu, ... TEL.

This valuable annual grows in dry ground, under the shade of trees, and it flowers in the cold season. The roots have long been a popular febrifuge and stomachic. It is the basis of the 'Drogue amere,' or a compound of mastic, frankincense, resin, myrrh, aloes, and kriat root, steeped in brandy for a month, and the tincture strained and bottled. According to Ainslie, it was originally brought from the Isle of France; but it is cultivated in Tinnevelly and other districts, and is now found wild in Bengal, Ceylon, the Peninsula, and Java. It is the true Chiretta, but it is only one of the plants from which the Chiretta of the bazars is obtained.—*Roxb.; Voigt*, p. 493; *O'Sh.* p. 482; *Beng. Ph.* p. 210; *Indian Annals, No.* 6.

ANDROMEDA LESCHENAULTII. *D. C.*

A. Kotagherrensis, *Hook.* | Gualtheria leschen., *D. C.*

The Indian winter-green grows abundantly on the Neilgherries. The oil procured from it is identical with the Canadian oil of winter-green.—*Drury's Useful Plants*, p. 37.

ANDROMEDA OVALIFOLIA. *Wall., Don.*

Eran, Ellal, . . . BEAS.	Eilan, Eilaur, . . RAVI.
Arur, Rattankat, CHENAB.	Erana, ... SUTLEJ.
Ayar, Eliyun, . . PANJ.	Sar-lakhtei, . . TR. IND.

A small tree abundant in many parts of the outer Panjab Himalaya, often growing along with Rhododendron arboreum, at from 4000 to 7000 feet. The seeds and young leaves are poisonous to cattle, goats, etc., in the spring months only. Rattankat means blood-cutter. Madden states that the honey got from the flower is poisonous. The wood is soft and weak, and used for fuel and charcoal only. A. fastigiata, *Hook.*, grows

abundantly on Mon Lepcha at 13,000 feet.—*J. L. Stewart, M.D.; Hook.* i. 343.

ANDROMEDA PILIFOLIA. *Smith.*

Yang-Chih-Chuh, CHIN. | Nau-yang-hwa, . CHIN.

In China, its flowers, and those of the Azalea, are mixed with other substances to form benumbing applications, which, in Chinese surgery, take the place of chloroform, ice-bags, and ether spray.—*Smith.*

ANDROPOGON. Eighteen species have been brought under this genus from the genera anatherum, phalaris, anthisteria, cymbopogon, calamus, holcus, and saccharum. A. arundinaceus, punctatus, Bladhii, trispicatus, pertusus, glaber, Roxburghianus, conjugatus, and binatus, are of Bengal; A. Cymbarius is of the Coromandel mountains; A. prostratus and A. scandens, of the Indian Peninsula and Bengal; and A. milliformis, of Lucknow. A. contortus, as also A. aciculatus, are spear grasses. A. Annuatus, *Forsk.*, the Palwan and Minyar of the Panjab, is abundant in many parts of the Panjab plains. It is considered excellent fodder for cattle and for horses, when green.—*J. L. Stewart's Panjab Plants*, 248; *Roxburgh; M'Clelland; Jaffrey; Mason.* See Vegetables.

ANDROPOGON GLABER. *Roxb.*

Gundha-goorana, . BENG. | Tambut, ... DEC.

Grows in the higher parts of Bengal.—*Roxb.*

ANDROPOGON INVOLUTUS. *Stend.*

Munji, . BEAS., SUTLEJ. | Baggar, . . . JHELUM.

Common in many parts of the Siwalik tract and outer Himalaya, at from 2300 to 4000 feet, up to and beyond the Indus.—*Panj. Pl.*

ANDROPOGON IWARANCUSA. *Blane.*

Iwarancusha, . . BENG.	Gaccha, Guch'cha, SANSK.
Ghat Yarí, . . . HIND.	Allapu kommuvella
Izkar, ... PANJ.	vantigadda, . . TEL.

This fragrant grass is a native of the low hills along the base of the Himalaya, at Hardwar and the Kheeree pass, and is also found at Asirgurh and in Malwa generally. The roots are used by the natives in northern India in intermittent fevers. In habit and taste it comes remarkably near A. schoenanthus. The oil is used as a stimulant, internally and externally, much in the same manner as cajaput oil.—*Roxb.* i. 275.

ANDROPOGON MARTINI. *R.* Roosa grass.

A. Nardoides, *Nees.*	A. Calamus aromaticus, *R.*
Grass oil of Nemaur, ENG.	Chor-pillu, . . . TAM.
Kubel; Ganjni, . HIND.	Mandap-pillu, . . ,,
Kamaksha-pillu, . TAM.	Kamakshi, . . . TEL.

This plant grows in the Balaghat, in Central India, and northwards to Lucknow and Dehli. It has a strong aromatic and pungent taste, and the milk and butter and flesh of animals which feed on it become impregnated with it. It yields the grass oil of Nemaur, known in southern India as the roosa grass oil, which differs but little either in appearance or quality from the lemon grass oil; they are used for the same purposes, and form a good substitute for the more expensive cajaput oil, and are sold in England under the name, oil of rose-scented geranium. The oil is also called ginger grass oil, and is also erroneously termed oil of spikenard. The plant is supposed by Dr. Royle to be the Calamus aromaticus of the ancients. The true spikenard of the ancients is supposed to have been obtained from the Nardostachys jatamansi, a plant of the Valerian family. Grass oil is never taken internally by natives; but they have a great faith in it as a stimulant to the functions of the several organs, when rubbed on externally. They also use it as a liniment in chronic rheumatism and neuralgic pains, and place great reliance on its virtues, but its cost prevents it being used generally. It has a fragrant aromatic smell, persistent, and very agreeable at first, but after a time the odour becomes unpleasant, and gives many people a feeling of nausea with headache. The natives use it for slight colds, also to excite perspiration, by rubbing in a couple of drachms on the chest before the fire or in the heat of the sun. At Saugor, twenty seers of the grass, which grows wild over the station and district, are mixed with two seers of sesamum oil, and then slowly distilled. The oil thus becomes highly impregnated with the peculiar roosa flavour, and this spurious article is sold as such at four rupees a seer. It has an odour distinct from that of lemon grass and citronelle. For the 1862 Exhibition, every endeavour to obtain unadulterated oil failed. The best is said to be pressed at Ajmir.—*Voigt*, p. 707; *Roxb.* i. 277; *Cal. Cat. for Ex. of* 1862; *Gen. Med. Topography*, p. 176; *M. Ex. J. Rep.*

ANDROPOGON MURICATUS. *R.* Cuscus.

Anatherum muricatum, *B.*	Phalaris zizania, *Linn.*
Khor? Kror? . ASSAM.	Viratara, . . . SANSK.
Pan-yen, ... BURM.	Vatte-ver, Vizhal-ver, TAM.
Bina, Bala, Usir, . HIND.	Ila-mitcham-ver, . ,,
Khas-khas, . . . ,,	Viranam-ver, . . ,,
Akar-wangi, . . MALAY.	Kuru-veru, Kassuvu, TEL.
Ramicham, . . MALEAL.	Avuru gaddi veru, . ,,
Jalasayah? . . SANSK.	Vatti-veru, . . . ,,
Lamajjakamu, . ,,	Vidavali-veru, . . ,,

Grows in most parts of India and in Burma; its roots, the Khas-khas, are used for making the fragrant fans and tatties in general use. The grass is used for thatch. It seeks a low, rich, moist soil, especially on the banks of watercourses. It covers large tracts of waste land in the province of Cuttack, and plentifully in all the jungles of Oudh. It is locally used for much the same purposes as sarsaparilla, and its roots and oil are used in native medicine for other purposes. Khas-khas attar, an essential oil extracted from the roots, sells in the bazar at two rupees per tola. It is probably merely a perfumed sesamum oil.—*Roxb.* i. p. 265; *Voigt; Mason; Ainslie; Madr. Exh.*

ANDROPOGON NARDUS. *Rottl.*

Gand bel? . . . HIND.	Wassana-pillu, . . TAM.
Bhustrina?	Allapu kommu-vella-
Guchcha, . . . SANSK.	vanti-gadda, . . TEL.

There seem to be grave doubts as to the right of this plant to be separated from A. iwarancusa, *Blane*, and the A. nardoides of Riddell seems identical. It makes a very pleasant-tasted tea and valuable diet drink. In infusion it is a stomachic, and it yields an essential oil.—*Ainslie, Mat. Ind.* p. 258; *Voigt.*

ANDROPOGON NIGER. *Kunth.* In 1853, this was introduced into France from China; and, under the term sorgho, its many varieties are now extensively cultivated in the United States. It produces an abundant crop of grain. The husk or rind yields a superb dye of a violet red,—a colour which, combined with acids and alkalies, gives a variety of tints, such as deep red, orange red, brown red, etc. This dye has been recently applied to cotton wool and to silk. A

rich saccharine juice in the stalk yields 14 per cent. of sweet extract, of which 10½ per cent. is fit for crystallized, and 3½ per cent. for uncrystallized sugar, and all can be made, if wanted, into alcohol. In 1859, the editor received a few seeds from China, supplies of other varieties were obtained from the Cape Colony, and the Madras Board of Revenue made great efforts to extend their cultivation; but the ryots have not taken to it. In the United States, however, thirty-two varieties of sugar-producing sorghums and millets have been profitably cultivated for fodder and for sugar. A. niger, in temperate regions, takes four or five months to arrive at its full perfection, but at the utmost not more than three months in the hot regions of India; but the plant requires irrigation. The deodhan of North India, known as the Shaloo (qu. Siahlu) in the Dekhan, described as the A. saccharatus, *Roxb.*, may be this species. See Sorghum.

ANDROPOGON SCHOENANTHUS. *Linn.*

A. citratum, *De Cand.* | Cymbopogon schoen., *Spr.*

Sirri, . . .	AMBROYNA.	Mala-trinakang,	SANSK.
Gundho-bina, . .	BENG.	Pengiri Mana, .	SINGH.
Tsa-ba-len? . . .	BURM.	Wassana-pillu, . .	TAM.
Mik-ko-thu, . . .	,,	Kamachi-pillu, . .	,,
Sweet-rush, . . .	ENG.	Kavatam-pillu, . .	,,
Lemon grass, . .	,,	Kamachi-kassuvu, .	TEL.
Ghanda-bela, . .	HIND.	Chippa-gaddi, . .	,,
Sireku, ...	MALEAL.	Kamachi gaddi, .	,,
Gour-gia, ...	PERS.	Nimma gaddi, . .	,,
Bhustrina, . .	SANSK.	Vasana gaddi, . .	,,

This plant is a native of Arabia, but is now cultivated in the West Indies, Ceylon, in the north of India, all over Burma, and in the Moluccas. It grows to a height of three or four feet. The active principle of the leaves seems to reside in the essential oil which they contain, and which is obtained by distillation. This is known in commerce as lemon grass oil, and forms an important article of export from Ceylon, amounting in value to nearly £7000 annually. It may be seen covering all the Kandian hills; and so long as it is young, it is the best possible pasture for cattle. It has a strong but extremely pleasant acid taste. It derives its name from having, when crushed, an odour like that of the lemon, so strong, that after a time it becomes quite heavy and sickening, although grateful and refreshing at first. A decoction of the leaves is deemed by the people efficacious in colic. An infusion of the leaves is used in India as tea, and deemed tonic and slightly stimulant, and is given to children as a stomachic. It is also diaphoretic. Mixed with butter-milk, the leaves are used in cases of ringworm; and the white centre of the succulent leaf-culms is used to impart a flavour to curries. The oil is of a light straw colour, but becomes red if kept long. It is much used in perfumery, as the oil of verbena. In Ceylon it grows abundantly on the Ambulawe mountain, which overhangs Gampula on the road to Nawera Elia. Almost annually in the dry season, the plant is burned down; but the roots are uninjured, and after a few days' rain young shoots burst forth.—*Sirr's Ceylon; Roxb.; Voigt; O'Sh.; Hog; Ainslie; Dr. Mason, Useful Pl.; Bird., Bom. Pro.; Sim.*

ANDU, a system of dates in use on the Dravidian inscriptions. The term has not received any probable explanation.—*Dr. Burnell.*

ANDUGA. TEL. Boswellia glabra, *R.*

ANDUSI. PANJ. Prichodesma Indicum.

ANE or Ani. KARN. Anai, TAM. A dam, a dyke, a bridge, a bank. Kall-ane, a stone embankment. Anekattu or Anekatte, an anicut, a dam, or dyke; also a channel to direct irrigation.—*W.*

ANEMARHENA ASPHODELOIDES, *Smith*, the Chi-mu of the Chinese, is a plant of the provinces of Honan, Shan-si, Shen-si, Ngan-hwui, and Kiang-su. Its rhizome is used as a substitute for squills.—*Smith.*

ANEMONE CERNUA, according to Siebold, is in repute among the Chinese as a tonic bitter, under the name of Hak-too-woo, and many species which Fortune imported from China found their way to the principal gardens in Europe. Drs. Hooker and Thomson name A. albana of Central Asia; A. biflora of Beluchistan, Kashmir, and Afghanistan; A. rubicola of the inner Himalayas and Sikkim, and A. vitifolia of the Himalaya generally. At Lahore is a species known to the people as Brami, which has a much divided leaf. The plants are acrid and irritating, and are used as sialogogues, and for gout and rheumatism.—*Powell's Handbook*, i. p. 323; *Fortune's Wanderings*, p. 405; *O'Sh.* p. 160; *Riddell; Hogg's Vegetable Kingdom*, p. 14; *Hook. f. and T'hom.*

ANETHUM GRAVEOLENS. *Linn.* Dill.

Shabit, ...	ARAB.	Sowa, Sui-chuka, .	HIND.
Tsa-mon-h'pyu? .	BURM.	Jemuju? . . .	MALAY.
Tsa-muot? . . .	,,	Adas-manis? Anisi,	,,
Anise of Matthew, .	ENG.	Sada kuppe, . .	TAM.
Anethon, .	GR. of Diosc.		

This plant grows in the south of Europe, in Egypt, Astracan, and India. Dill water is a commonly used carminative for the relief of flatulence, flatulent colic, and the hiccough of infants, and may be advantageously combined with a few grains of magnesia or aromatic confection. In Pegu, dill seeds are constantly for sale in the bazars. The Burmese do not distinguish it from carraway. The Hakims of Northern India believe the use of dill seed promotes the secretion of milk.—*Drs. Honig., O'Sh., Mason, Roxb., Voigt*, p. 22; *Birdwood.*

ANETHUM PANMORI. *Roxb.*

Fœniculum panmori, *D.C.* | Sonf, Panmhori, . HIND.

A native of various parts of India, root white, nearly fusiform, and almost simple. Used in India as an aromatic, in food, and in medicine.—*O'Sh.* p. 360.

ANETHUM SOWA, *Roxb.*, Bishop's weed.

Shabit, ...	ARAB.	Shaleya, ...	SANSK.
Sulpha, Sowa, . .	BENG.	Hinendura, . . .	SINGH.
Tsa Myeik, . . .	BURM.	Satha-kuppa, . .	TAM.
Sowa Dill; Dill, .	ENG.	Saddapa, . . .	TEL.
Soya, Sowa, . . .	HIND.	Sopu; Sompa, . .	,,
Shuta puspha, . .	,,	Shatha-kuppa, . .	,,
Sita Siva, Missreya,	SANSK.		

This plant is cultivated in the cold season in Bengal, in the Peninsula, Burma, etc. Its seeds are aromatic and carminative, and are used by the natives in their curries, and medicinally to relieve flatulence; the green parts also are used as a vegetable both by Musalmans and Hindus. The seeds are the Shubit of Avicenna, which is usually translated Anethum; by the Arabs it seems to have been considered the Anethon of Dioscorides. By distillation, the fruits yield a pale yellow volatile oil, sp. gr. ·881, soluble in alcohol, ether, and in 144 parts of water.—*Eng. Cyc.; O'Sh.; Birdwood, Bom. Pro.; Roxb.* ii. 96; *Voigt.*

ANGA. SANSK. A section, a portion. For example, there are six Anga of the Veda, viz. Siksha, rules for reciting the prayers, the accents and tones to be observed; Kalpa, ritual; Vya Varana, grammar; Nirukta, glossarial comment; Chhandos, metre; Jyotish, astronomy. The four Veda, the six Anga, with Mimansa, theology, Nyaya, logic, and Dharma, the institutes of law, and the Puranas, with the Hindus, constitute the fourteen principal branches of knowledge.—*Garret; Williams' Story.* See Veda; Vidya.

ANGA. HIND. In dress, it is the body part of the Angarkha without the skirt and tails. The Angi is the same article of clothing as the choli, sinabandhi, and kanchali. Also a limb of the body, of which Hindus reckon eight, the ashtanga.

ANGADA, the son of Bali, a fierce monkey chief, one of Rama's confederates.

ANGAHARAWA, also Angaharuwada. SINGH. The planet Mars; Tuesday.

ANGAKARA GADDA. TEL. Momordica dioeca.

ANGAMI, a rude pagan tribe on the range of hills in Upper Assam, on the eastern frontier of the Mikir and Cachar. They speak one of the Naga dialects. See India; Mozome; Naga.

ANGAN. DUKH. The open enclosure of a Mahomedan or Hindu house in British India; a small courtyard, called compound from the Malay Kampong.

ANGARI. SIND. Smut, a blackness in ripening corn.

ANGARKHA. HIND. A long coat or tunic, fitting tight to the body, and hanging down below the knee. It is worn by Hindus and Mahomedans.

ANGAUNGA. HIND. Perquisites from the threshing-floor to the brahman, purohit, guru, grazier, and village god. From the time of distributing to the time of weighing, profound silence is maintained, and many ceremonials observed.

ANGDES, Ongdes, or Ondes, adjoins Tibet. The inhabitants call themselves Hungia, and appear to be the Hong-niu of Chinese authors, the Hun (Hoon) of Europe and India.—*Tod's Rajasthan*, p. 136.

ANGEL is a term which, in the Hebrew and Greek languages, relates to a messenger. Angels are noticed in the Jewish, Christian, and Mahomedan religions. Mahomedans say the angels were commanded to prostrate themselves before Adam. Mahomedans believe that every particle of matter in the universe is entrusted to the care of an angel (Malāk, ferishtah). They believe also in a hierarchy of angels. The four of highest rank support God's throne, as in the Apocalypse, in the likeness of a man, a bull, an eagle, and a lion, to whom, on the day of judgment, four other angels will be added. After these come Ruh (spirit), Israfil, the messenger, Jabril (Gabriel), and Mikail (Michael).—*Lane; Koran.*

ANGELICA GLAUCA, the Chura of the Panjab, growing at 8000 to 10,000 feet; on Hattio, etc., near the Sutlej; is found also in the Dhaula Dhar range above the Kangra valley.—*Stewart.*

ANGELY WOOD, Artocarpus hirsutus.

ANG-GAYTHEE. HIND. A chafing dish. Ang-Gaythee Shah, a Mohurrum fakir.

ANGHRIPARNIKA. SANSK. Uvaria lagopodioides.—*D. C.*

ANGIA CHINENSIS, a tree of China and Siam; produces a varnish.

ANGIRA. SANSK. Charity. See Brahmadica.

ANGIRASA, a gotra or family of brahmans derived from the rishi or sage Angirasa, to whom many hymns of the Rig Veda are attributed. He was one of the seven Maha Rishi, also one of the ten Prajapati. A later Angirasa was an inspired lawgiver.—*Dowson.*

ANGLER FISH, Lophius, *sp.*

ANGOLAM. MAL. Alangium decapetalum; A. hexapetalum.

ANGOLA WEED, Ramalina furfuracea.

ANGOORER-GACH. BENG. Vitis vinifera.

ANGRIA is a name applied to the more elevated part of a great bank off the west coast of the Peninsula of India. Surveys have shown that the bank is a great submerged table-land, perfectly flat, its greatest breadth, about 100 miles, being a little west of Bombay.

ANGRIA. About the middle of the 17th century, Kanhoji Angria, who had been a Mahratta soldier, was made governor of Severndrug. He soon assumed independence, obtained possession of nearly all the Mahratta fleet, and conquered territory on the mainland. In 1722, the British and Portuguese made an unsuccessful attack on his strong fort of Colabah; in 1724, an attack on Viziadrug or Gheriah failed, and when he died at the close of 1728, his sway extended over a hundred miles of the coast line. He was succeeded by his illegitimate son, Tullaji Angria. In 1755, the E. I. Company's marine, under Commodore James, in concert with a Mahratta army, captured Severndrug and Bancoote; and in 1756, Admiral Watson destroyed Angria's fleet (11th February), and the following day Gheriah surrendered to Colonel Clive. The last descendant died about the middle of the 19th century, and the territory was annexed.—*Orme.*

ANGU. MALAY. Anguza, PERS. Asafœtida.

ANGUL, in Orissa, is a hilly district, which was confiscated in 1847, because its raja attempted to make war against the British. The population of 63,505 souls is chiefly Brahman, Rajput, and Khasa Hindus, with the aboriginal Kandh (5423), Taala (3358), Pan (10,341), and Kharia (2743). The Talcher coal-field embraces a considerable portion of Angul.—*Imp. Gaz.*

ANGULA. HIND. A long measure, a finger's breadth; the standard measure for carpenter's work, 8 barley corns=1 angula, 12 angula=1 span.

ANGULI-TORANA. SANSK. Three semicircular lines drawn across the forehead by saiva Hindus. They are made of sandal-wood powder or the ashes of burned cow-dung; and are usually called tri-pundra.—*W.*

ANGUR. PERS. Grapes.

ANGUSHTRI or Anguti. HIND. A finger-ring.

ANHENTA. SINGH. Datura fastuosa.

ANHILWARA, the dynastic name of three races who ruled in Guzerat from A.D. 696, till, in A.D. 1309, Guzerat was annexed to Dehli by Ala-ud-Din Mahomed Shah. The title was taken from the town Anhilpur, which rose to great distinction as a commercial site, and with Cambay as its seaport was the Tyre of India. At its height, Anhilpur was 12 coss (or 15 miles) in circuit, within which were many temples and colleges, 84 chaok or squares, 84 bazars or

market-places, with a mint for gold and silver coin. Col. Tod thinks it not unlikely that the Chaora, the name of the tribe of the first dynasty of Anhilwara, is a mere corruption of Saura, as the ch and s are perpetually interchanging.—*Tod's Tr.*, pp. 147, 152, 156; *Rajasthan*, i. p. 31. See Balhara; Guzerat; Kattywar.

ANHONI, in the Hushangabad district, has a hot spring nearly due north of the Mahadeo hills, at the edge of the outer range which divides the Denwa from the Nerbudda valley. It is said to be good for boils and skin diseases, and is much visited.

ANI. TAM. Elephant.

ANI-ANI. MALAY. White ants.

ANICUT. ANGLO-TAM. Literally dam-built; a dam or weir thrown across a river to dam up the water. The grandest is that across the Godavery river, about 7 miles long; but others dam up the waters of the Kistna, the Palar, the Colerun, the Tumbudra, and the Pennar. See Ane.

ANI-GUNDAMANI. TAM. Adenanthera pavonina. Its seeds are the muni or bead seeds.

ANI'KAT'HALAY. TAM. Agave Americana.

ANIL-KA-KHAND, a sacred well in the bed of the Aghor river, under the temple of Hinglaj, in Beluchistan. The people believe it has never been fathomed.

ANIMAL CHARCOAL, prepared from bones, is used as a filtering material for clarifying oils, and in the processes of sugar-refining.

ANIMAL FOOD is not absolutely forbidden to the priests of Buddha, and Burmese followers of this faith eat quantities of fish, reptiles, and crustacea. Even the more strict of them, though they may refuse to take life for food, eagerly use meat when they can get animals killed for them, or find them dead from accident or disease; and the cow, buffalo, tiger, and horse are all partaken of in Burma, tiger flesh selling for five annas a pound. Many Hindus of the Brahman, Rajput, and Vaisya castes, as a rule, will not eat animal food, and no Hindu can eat the cow without ceasing to be a Hindu; but all sudra Hindus eat goats, fowls, mutton, fish, and the aboriginal races eat nearly all quadrupeds.—*Hardy, E. Monach.*

ANIMAL KINGDOM, a scientific term, comprising all living animals. Many commercial products are obtained,—horns, skins, furs, bristles, wool, hair, bones, teeth and tusks, fins, shells, air-bladders, quills, feathers, oils, etc. The animal oils are in frequent use as medicinal substances amongst the people of India for external application, such as that from the pea-fowl's fat, from the newt's foot, the crocodile and the iguana.

ANIMALLY, literally Elephant hills, a mountain range in the collectorate of Coimbatore, in the southern part of the Peninsula of India, and in the Travancore dominions, extending from lat. 10° 13′ 45″ to 10° 31′ 30″ N., long. 76° 52′ 30″ to 77° 23′ E., with peaks up to 8850 feet high. There are small scattered colonies of the Kader, the Malai Arasar, Pulyar, and the Maravar races. The Kader are open, independent, straightforward men, simple, and obeying their Mopens or chiefs implicitly. They are of small stature, strong built, active, with woolly hair, and something of the African features, and file their front teeth to a point. The women wear enormous circles of pith in the lobes of their ears, which they distend down to their shoulders. A black monkey is their greatest dainty. The Malai Arasar are taking to agriculture. The Pulyar are demon-worshippers. The mountains are covered by valuable forest trees, and at one time were worked with an annual profit of about 50,000 rupees a year, and there are many beautiful woods suited for turnery. The wild animals are the elephant, tiger, leopard, bear, hyæna, wild dog, bison, sambur, spotted and barking and hog deer; also the wild goat.—*Lt.-Col. Hamilton, in literis; Imp. Gaz.*

ANIMISHA. SANSK. Hindu gods are supposed by the Hindus to be exempt from the momentary elevation and depression of the upper eyelid, to which mortals are subject, and to be able to look with a firm unintermitted gaze. Hence a deity is termed Animisha and Animesha, one whose eyes do not wink. Various allusions to this attribute occur in poetry. When Indra visits Sita, to encourage her, he assumes at her request the marks of divinity,—he treads the air, and suspends the motion of the eyelids; when Agni, Varuna, and Indra all assume the form of Nala at the marriage of Damayanti, she distinguishes her mortal lover by the twinkling of his eyes, whilst the gods are stabdha lochana, fixed-eyed. And when the Aswini Kumara practise the same trick upon the bride of Chyavana, she recognises her husband by this amongst other indications. The notion is the more deserving of attention, as it is one of those coincidences with classical mythology which can scarcely be accidental. Heliodorus says: 'The gods may be known by the eyes looking with a fixed regard, and never closing the eyelids;' and he cites Homer in proof of it. An instance from the Iliad may be cited perhaps as an additional confirmation; and the marble eyes of Venus, by which Helen knew the goddess, are probably the stabdha lochana, the fixed eyes of the Hindus, full, unveiled even for an instant, like the eyes of a marble statue. Other marks distinguish divine from mortal bodies; they cast no shadow, they are exempt from perspiration, they remain unsoiled by dust, they float on the earth without touching it, and the garlands they wear stand erect, the flowers remaining unwithered.—*Hindu Theatre*, i. 137; *Williams' Story of Nala*, p. 248.

ANIMUS. The interpretations of the ruh and nafs of the Arabs, of the nefesh and rauch of the Hebrews, of the pneuma of the Greeks, and animus of the Romans, applied to the breath, the life, the soul of man, are philosophical points. Mahomedans style Jesus the Messiah, Ruh-Allah, the Spirit of God. This view identifies the everlasting soul with the Holy Spirit and the breath of life. In the English tongue there is no settled mode of speaking of these, for a man is said to die; in a shipwreck, every soul is said to perish, and a person ceasing to live is described both as dying and as departing, the latter equivalent to the Mahomedan rahlat or intiqal, passing away and departure.

ANI-PARITI. MALEAL. Hibiscus rosa sinensis.

ANI-PIPUL. DUKH. Ficus religiosa, *Linn.*

ANI POOLIA MARM. TAM. Adansonia digitata.

ANI-PULLI. TAM. The tree squirrel.

AN-IRAN, the non-Aryan people.

ANIRUDDHA, the son of the incarnate Indian Cupid.

ANISAROOLY MARA. CAN. Alangium decapetalum.

ANISEED. Pimpinella anisum.

Anisun, . .	ARAB., GR.	Sonf, ...	HIND.
Kadis-Manis? . .	BALI.	Anise, ...	IT.
Mahori, ...	BENG.	Adas-manis? Mungfi,	JAV.
Tsa-moun tsa bah,	BURM.	Jira-manis, . .	MALAY.
Hwai-hiang, . .	CHIN.	Razian-i-rumi, . .	PERS.
Siau-hwui-hiang, .	,,	Sataphaspha, . .	SANSK.
Tu-hwui-hiang, .	,,	Sombu, ...	TAM.
Anisa, ...	GUJ.	Pedda Sadapa, Sompu,	TEL.

The plant producing these small, aromatic, pungent, fragrant, sweetish seeds, is the Pimpinella anisum, one of the Apiaceæ of Lindley, which is cultivated in the Levant, all over Europe and in China. They are an agreeable carminative, and yield on distillation a volatile oil, and a fixed oil by pressure. The Bali and Javanese terms may possibly designate the star anise. — *Drs. Voigt, O'Sh., Riddell and Mason; Vegetable Kingdom*, 376; *Faulkner; Poole.*

ANISE-STAR, Illicium anisatum.

Badian-i-khatai,	AR., PERS.	Skimmi, ...	JAP.
Pa-co-hu-huei-hiam,	CH.	Adas Manis, . .	MALAY.
Anas phul, . . .	DUK.	Anasipu, . .	TAM. ? TEL.
Badian, ...	HIND.		

Star anise is the fruit of the Illicium anisatum of Linnæus, a shrub or small tree, which grows in the countries extending from China to Japan from lat. 23½° to 35° N. The name is given from the clustering star-like form assumed by the capsules or pods, five to twelve in number, joined together at one end, and diverging in rays, generally five. These are used all over the east as a condiment. They are prized for the volatile oil obtained from them, and for their aromatic taste. The bark has a more aromatic flavour than the seeds, but is not so sweet. In China, their most common use is to season sweet dishes. In Japan, they are placed on the tombs of friends, and presented as offerings in the temples. They are chiefly exported direct to India, Great Britain, and the north of Europe. In India, they are much used in seasoning curries and flavouring native dishes, and large quantities are used in Europe in the preparation of liqueurs. In Britain, it is from this fruit that the oil of anise is prepared, and it imparts the peculiar flavour of the Anisette de Bourdeaux. — *Morrison; Simmonds; Faulkner; O'Sh. Beng. Phar.; Vegetable Kingdom.*

ANISHORINIGAM. MALE. Urtica heterophylla.

ANISOCHILUS CARNOSUM. *Wall.*

Lavendula carnosa, *Linn.*		P. crassifolius, *Hort.*	
Plectranthus carnosus, *Sm.*		P. strobiliferus, *Roxb.*	
P. dubius, *Spr.*		Coleus spicatus, *Benth.*	
Litaki-pangeri, . .	DUK.	Karruwalli, . . .	TEL.
Thick-leaved lavender, ...	ENG.	Pindi banda, . .	,,
		Pindi bonda, . .	,,
Kat-karka, . .	MALEAL.	Roga chettu, . .	,,
Karpurawalli, . .	TAM.		

This is used in native medicine. It has small bluish purple flowers, and grows among the Circar mountains, and at Taong Dong.—*Roxb.; Voigt; Ainslie; Useful Plants.*

ANISODUS LURIDUS. *Link.* A tincture of its leaves is recommended as an anodyne and sedative.

ANISOMELES MALABARICA. *R. Br.*

Nepeta Malabarica, *Linn.*		Ajuga fruticosa, *Roxb.*	
Stachys ,, *Sieb.*			
Gao-Zaban	of BOMBAY.	Madheri, ...	TAM.
Bootan Koosham,	SANSK.	Moga biraku, . .	,,
Retti; Pema-retti, .	,,	Chinna ranabheri, .	TEL.

A plant of the West Indies, Mauritius, the Peninsulas of India, Malacca, and Java. It has a very fetid odour. In the West Indies, the entire plant is deemed emenagogue, and natives of India use the leaves internally in dysentery.—*Roxb.* iii. 1; *Voigt; O'Sh.; Veg. King.; Ainslie.*

ANISOMELES OVATA. *R. Br.*

Anis. disticha, *Heyne.*		Nepeta Amboinica, *Linn.*	
Ajuga ,, *Roxb.* iii. 2.		Marrubium Indic. *Burm.*	
Ballota ,, *L. Mant.*		Ballota Mauritiana, *Pers.*	
Nepeta disticha, *Bl.*			

A plant of Ceylon, Peninsular India, Bengal, and Nepal, with a strong camphoraceous smell.—*Roxb.* iii. 2; *Voigt*, 460.

ANISOPHYLLA ZEYLANICA. *Benth.* This tree, the Tetracrypta cinnamonoides, *Gard.* and *Champ.*, and the Wella-piyanna of the Singhalese, grows in the southern and central parts of Ceylon, up to an elevation of 1500 feet. The wood is used for building purposes. — *Mendis; Beddome, Fl. Sylv.* part xvii. p. 195.

ANIYATA-DHAMMA, a class of priestly misdemeanours of the buddhists of Ceylon.—*Hardy's Eastern Monachism*, p. 433.

ANJALI. SANSK. One of the Hindu forms of respectful obeisance; it is the Dandawat of the south of India. The head is slightly bowed, the palms of the hands are brought together and raised laterally to the middle of the forehead, so that the tips of the thumbs only are in contact with it.—*Hind. Theat.* ii. p. 108.

ANJAMAN, among the Parsees, a constituted council or assembly.—*W.*

ANJAN. HIND. A grass of the N. W. Provinces of Bengal, used as fodder.—*W.*

ANJAN, HIND. ?, or Anjana-kahloo, also Unjuncle, TAM. Sulphuret of antimony; also manganese, used in pottery as a glaze.

ANJANA, an Indian era, which began B.C. 691.

ANJENGO, a fishing village in Travancore territory, on the Malabar coast, in lat. 8° 40′ N., and long. 76° 47′ 50″ E. The name is a corruption of two Tamil words, Anji Tenga, or five cocoa-nut trees. The place was for many years an English factory. The ruins of the Portuguese church and fort still exist. Orme, the historian, was born at Anjengo, and Eliza Draper, the object of Sterne's affection, lived here.—*Forbes' Oriental Memoirs, Abbé Raynal's History of the Indies; H. Drury, Cochin; Horsburgh.*

ANJIL. ARAB. Malva sylvestris, *Linn.*

ANJILI MARAM. TAM. Artocarpus hirsuta.

ANJIR. PERS. Figs.

ANJUN. MAHR. Hardwickia binata. Anjuna, also Kurpa, Memecylon tinctorium and M. ramiflorum, *Lam.*

ANKADOSA. TEL. Leea staphylia, *R.*

ANKAL-AMMA, one of the tutelary village goddesses of the Peninsula of India. See Amma.

ANKAM. MALEAL. In Malabar, a duel, or single combat, formerly frequent among the Nair race; each combatant had to pay a sum for permission to fight. The duel was sometimes fought by hired champions.—*W.*

ANKHI. PANJ. Rubus *sp.*

ANKLETS.

Khal-Khal,	ARAB., HIND.	Karyalu, ...	TEL.
Kapu, ...	TAM.		

Anklets of gold, silver, brass, copper, deer horn, the metals being solidly massive, also as chains, are in use in all eastern countries. Occasionally a grown man of the Hindus may be

seen with a small gold or silver ring, but in general they are restricted to women and children. The custom has doubtless been through all ages, and they are alluded to in Isa. iii. 16, 18. Some, and particularly those of the Marwari women, are inconveniently massive; and heavy rings, usually of silver set with a fringe of small bells, are often worn by other Hindu ladies. The other loose ornaments, one above another, on the ankles, at every motion of the feet produce a tinkling noise.—*Toy Cart.*

ANKLONG. MALAY. The musical bamboo of Java. See Bamboo.

ANKOLAMU. TEL. Alangium decapetalum.

ANKO-RUTE. TAM. Trichosanthes palmata, *Roxb.*; T. bracteata, *Lam.*

ANKUS. PERS., HIND. Elephant goad.

Arpe, ...	GR.	Ankasa, . . .	SANSK.
Cuspis, . . .	LAT.	Hendoo, . . .	SINGH.

The goad and guiding rod of an elephant-driver, in shape resembling a small boat-hook. It is figured in the medals of Caracalla of the identical form in use at the present day in India.

ANMAIL. TAM. Pavo cristatus.

ANNA, a British-Indian coin, sixteen to a rupee, and equal to about three-halfpence. It is applied to indicate a rateable share, as 4 or 5 annas in the rupee, similar to the percentage.

ANNA BUGDI. TAM. Green copperas.

ANNA DEOTA. See Chank.

ANNAI KARAI MARAM. TAM. Odina woodier.

ANNAM. The Annamitic group of peoples inhabit Cochin-China and Tonkin, and are a section of the division of the human race to which the Chinese belong. The Chinese form of Annam is Ngannam; the Tonkinese call the Cochin-Chinese, Kuang and Ke-kuang; the Cochin-Chinese, on the other hand, call the Tonkinese, Kepak. Two centuries before Christ, the Chinese found the Annam race in possession of the basin of Sang Koi. The first migrations from the northern side of the E. Himalaya is now best represented by the Annam, Kambojan,—Mon, and Lau tribes, who appear to have been at a later period gradually pressed by the Tibeto-Burman tribes to the eastward and southward. The Mon-Annam, or E. Himalaya tribes occupy the territory bounded on the north by the left side of the valley of the Brahmaputra as far as the head of Assam, and a line drawn thence eastwards along the range in which the Irawadi has its sources, and across the converging meridianal chains, beyond, to the most eastern, the Mangli, which separates the Kiang from the M-Kong. In physical appearance, the Annam race, in size, form of the head and person, expression, and temperament, have a close resemblance to some Indonesian tribes. The Javan group has a larger admixture of the Annam type than the Sumatran or Borneon. Annam heads are common in eastern Java, and especially among the Bawian and Maduran peoples. The Malay and western Javan have frequently a more Siamese form. The Annam race want the large straight faces, flat occiput, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye, and grave expression of the Siamese. The Annamese are of low stature, the men with long arms and short stout legs. They are very light coloured. The men are hardy and active. The women, still fairer, are well formed and graceful. The higher classes are solemn and decorous, like the Chinese; the lower, lively and talkative. The dress of both sexes consists of loose trousers and loose frock with large sleeves. In their persons, their dress, and their food, they are very uncleanly. They are about 14 millions. Their religion is Buddhism, but Shaman superstitions also prevail. A Cochin-Chinese marries when he has the means, and among the poorer classes the age of the female is from 15 to 20. The wife is purchased; polygamy is habitual. Abortion is often had recourse to. Unmarried women are not all chaste; but adultery in the married woman is punished with death. The Annam, Kambojan, Siamese, Mon, Burman, and the other ultra-Indian languages are all characterized by strong complex sounds. The Annam and Siamese abound in complex vowel sounds, and the Burman family in complex consonantal sounds, which are harsh in Singpho, less so in Rakhoing, and much softened in Burman.—*Bowring's Siam*, i. p. 683, ii. p. 464; *Crawfurd's Emb.* p. 459; *Lubbock, Origin of Civil.* p. 243; *Latham's Ethnology; Crawfurd's Dictionary*, pp. 321–488. See Cochin-China; India.

ANNA PURNA DEVI, a beneficent form of the Hindu goddess Parvati. She is described as of a deep yellow colour, standing or sitting on the lotus, or water lily. She has two arms, and in one hand holds a spoon, in the other a dish. In her dress she is decorated like the other modern images of Durga. Anna Purna is a household goddess, and is extensively worshipped by the Hindus. Her name implies the goddess who fills with food, and they believe that a sincere worshipper of her will never want it. She is possibly the Anna of Babylon; and she has been considered as the prototype of the Anna Perenna of the Romans, whom Varro places in the same rank with Pallas and Ceres, and who was deified and held in high esteem by the Roman people, in consequence of having supplied them with food when they retired into Mount Aventine. Besides the great similarity of names, there is a singular coincidence in the times of their worship, the festivals of Anna Purna taking place in the early part of the increase of the moon in the month Choitru (partly in March), and those of the Roman goddess on the Ides of March. To make the chain complete, Anna travels east from Babylon to India; west from Babylon to Phœnicia, accompanies her sister Dido to Carthage, flies thence to Italy, and then the Anna Purna of the Hindus becomes the Anna Perenna of the Latians. Such is the Roman legend. In India she is known simply as Anna, also as Anna Purna or Anna Devati. In his hymn addressed to her by the rishi Agastya, she is personified as Pitu or material food.—*Coleman's Mythology*, p. 91; *Wilson's Hindu Theatre.*

ANNEE, a Tibetan nun.

ANNELIDA, of Cuvier, from annulus, a ring; an example of this class of animals is the ringed form of the common earthworm.

ANNESLEY, SIR JAMES, a medical officer of the Madras Army, who rose to be the head of the Medical Board, author of Sketches of the most prevalent Diseases of India, comprising a Treatise of the Epidemic Cholera of the East, and Reports of the Diseases in the Madras Army, London, 1825; Researches into the Causes, Nature, and Treatment of the more prevalent Diseases of India, and of Warm Climates generally, London, 1828.

ANNIUS PLICAMUS. See Hipporas.

ANOA DEPRESSICORNIS, the sapi utan, or wild cow of the Malays. It approaches the ox-like antelopes of Africa, and has been classed as an ox, a buffalo, and antelope. It is found only in the mountains, and never occupies places where there are deer.

ANOCH. HIND. Fraxinus xanthylloides.

ANOGEISSUS ACUMINATUS. *Wall.*

Conocarpus acuminatus, *Roxb.* ii. 443.

Yoong, ... BURM. | Pachi manu, Pashi, TEL.

This lofty tree is met with in several parts of India. Its timber is good and durable. That of the Godavery is described as very hard and strong, and very ornamental, and much resembles the wood of A. latifolius. It has a purple heart-wood; it is much used for building purposes, but will not stand exposure to water.—*Roxb.; Voigt; Beddome.*

ANOGEISSUS LATIFOLIUS. *Roxb.*

Conocarpus latifolius, *Roxb.*

Dhaori, Dhowra,	HIND.	Chiriman, Sheriman,	TEL.
Dawu, . . .	SINGH.	Yella Maddi, . .	,,
Vellaynaga, . .	TAM.	Dhobu, . . .	URIYA.
Veckalie, . . .	,,		

This very valuable timber tree grows to an enormous size. It is common throughout the Madras Presidency, Mysore, Bombay, Bengal, and Ceylon, in the plains, and it ascends the mountains to an elevation of about 3000 feet. It grows at Chillaune, Islamabad, in the Kennery jungles, the valleys of the Konkan rivers near their sources, the inland Dekhan hills, and in the Dehra Doon. Its wood is light-coloured, with a purple heart; it is close-grained, and very durable when properly seasoned; it is much used in house and ship building, and is one of the best woods for poles and axle-trees of carts, and for agricultural implements. If left in the forests exposed to the weather, the wood rapidly deteriorates, and is soon attacked by insects and white ants. The wood from small trees wants the dark-coloured heart, and is anything but durable. Near the Godavery, the wood is said to be one of the hardest in the forests. The leaves are used by tanners. A gum exudes from the bark, which is sold in the bazars. A. pendula, *Edgew.*, is a tree of Ajmir and Nimar.—*Roxb.; Voigt; Beddome.*

ANOINTING, a form of installation and initiation. It is the 'massah' of the Arabs, hence their Al-Maseh and the Hebrew Messiah. In Rajputana, anointing appears to have been, in all ages, the mode of installation. The unguent used is of sandal wood and attar of roses made into a paste, or very thick ointment, of which a little is placed upon the forehead with the middle finger of the right hand, and then the jewels, the aigrette and necklace, are tied on. Amongst the earliest notices of this ceremonial is that in Genesis xxviii., when Jacob rose up early in the morning, and took the stone that he had put for his pillow, and set it up for a pillar, and poured oil upon the top of it. The Brahmans anoint their stone images with oil before bathing them, and some anoint them with sweet-scented oil. This practice probably arises out of the customs of the Hindus, and is not necessarily to be referred to their idolatry. Anointing persons, as an act of homage, has been transferred to their idols. There are resemblances betwixt the Jewish and Hindu methods of, and times for, anointing. Oil is applied to the crown of the head, till it reaches all the limbs; it is called abhyanga, and is noticed in Psalm cxxxiii. 2, Mark xiv. 3. At the close of the festival in honour of Durga, the Hindus worship the unmarried daughters of Brahmans, and amongst other ceremonies pour sweet-scented oils on their heads. Amongst the Hindus, this ceremonial is attended to after sickness, which Psalm xiv. 7 mentions. And Hindus, when fasting, in sickness, or sorrow, abstain from the daily anointing of the body with oil, but again anoint on recovery, as 2 Samuel xii. 20, where 'David arose from the earth, and washed and anointed himself, and changed his apparel, and came into the house of the Lord, and worshipped.' Bathing, anointing the body with oil, and changing the apparel, are, among the Hindus, the first outward signs of coming out of a state of mourning or sickness. The abhyanga st'hnanam, or bathing on the wedding day of a Hindu couple, is part of the marriage ceremony. This practice of anointing all the body with oil is wholly confined to the Hindu community; the Mahomedans, whether of India or Western Asia, do not practise it. It is probable that the Hebrews learned the custom in Egypt or from their Assyrian neighbours, and that the anointing of kings, which European nations have adopted, was handed down through the Old Testament. The Masah of the modern Arabs is the canonical mode of performing the smaller ablutions or purifications.—*Tod*, ii. 568.

ANOLA. HIND. Fruit of Emblica officinalis, the emblic myrobalan. It is roundish, blackish, grey, very wrinkled, obscurely six-sided; nut three-celled, each cell with two shining seeds.

ANOMA, a river famous in the history of buddhism, as the scene of prince Siddharta's assumption of the dress of an ascetic, where he cut off his hair, and dismissed his attendant and his horse. Its distance from Kapila is said to be 60 yojanas.—*Cunningham, Ancient Geog.* p. 423.

ANOMADASSA, according to the Singhalese buddhists, a Buddha previous to Gautama.—*Hardy, Eastern Monachism*, p. 433.

ANONACEÆ, the custard apple order of plants, natives of the old and new worlds. The order includes about 15 genera and 250 species, more than half of them occur in the Indies, of the genera uvaria, guatteria, orophea, miliusia, lobocarpus, Pattonia, anona, artobotrys, polyalthia, hyalostemma, saccopetalum. The anona are trees or shrubs, with a powerful aromatic taste and smell, furnishing esteemed edible fruits, of which the custard apple, sour sop, sweet sop, and bullock heart may be named.—*Voigt; H. and T.*

ANONA CHERIMOLIA. *Mill.* A tree of Peru, with a succulent fruit of a dark purple colour, containing a soft sweet mucilage. It was introduced into India in 1820. There are two varieties of the cherimoyer, one smooth, the other with a tubercle on the middle of each scale.—*Dr. Weddell, Bolivia; Riddell; Voigt.*

ANONA MURICATA. *Linn.* The Soursop tree of the West Indies, but cultivated in India and Tenasserim. It has large yellowish green flowers, with a vinous smell, and bears only once a year. The fruit resembles the custard apple, ripens in March, and grows to about the same size as the bullock heart; is of a greenish colour when ripe, and has a rough, thorny appearance; the flavour is very peculiar, differing from the other species of

the Anonaceæ; the scent resembles that of black currants; the seeds are similar to those of the custard apple. The wood is inferior.—*Riddell; M. E. Juries' Reports; Voigt; Hook. f. et T.* p. 114; *Vegetable Kingdom*, 28.

ANONA RETICULATA. *L.* Bullock heart.

Luvunæ? . BENG., HIND.	Anona maram, . SINGH.
Ram-Phal, DEKH., HIND.	Rama sita maram, TAM.
Nona, Manna, . MALAY.	Rama chettu, . . TEL.

This fruit tree derives its specific and English names from the appearance of its dark brownish and red fruit. It is to be met with in all parts of the tropics, and grows to a large size. It is soft, sweetish, and pulpy, and is not much esteemed by Europeans.—*Drs. Ainslie, Riddell, Mason, Birdwood, Bombay Products; M. E. J. Rep.; H. f. et Th.* 115; *Crawfurd's Dict.*

ANONA SQUAMOSA. *L.* Custard apple.

Shurifa, ... ARAB.	Sri Kaya, . . MALAY.
Luna, Meba, . . BENG.	Att'ha mara, . . MALEAL.
Ame-sa, Au-za, . BURM.	Auta-chika, . . ,,
Na-nat? . . . . ,,	Ata-chika, . . ,,
Fan-lih-chi, . . CHIN.	Ganda-gutea, . SANSK.
Sita Phal, . . . DEKH.	Atta, ... SINGH.
Sweet Sop, . . . ENG.	Atta maram, . . TAM.
Ata? . . HIND., BENG.	Sita pallam maram, ,,
Manoa-papoa, . MALAY.	Sita ph'allam chettu, TEL.
Buwah-nona, . ,,	

This small tree, originally from tropical America, grows freely, even wild, in the south-east of Asia. The fruit is wholesome and pleasant, and, being perfectly free from acid, may be used by such delicate people as dare not venture on others of a different nature. It is delicious to the taste, and, on occasions of famine, has been useful. This and similar subacid fruits, to the Burmese, serve as substitutes for flesh meat, being eaten with rice as an ordinary article of their daily provisions. The tree, when cultivated and pruned during the hot season, produces fruit afterwards of double the usual size. The leaves have a disagreeable odour, and the seeds contain an acrid principle fatal to insects, on which account the natives of India use them, powdered and mixed with the flour of Bengal gram (Cicer arietinum), for washing the hair. A few leaves and some seeds put into a bed infested with bugs, have been said to dispel these pests immediately, but their virtue is over-praised.—*Royle, Gibson, Useful Plants; M'Clelland; Riddell; Crawfurd; Ainslie; Malcom's South-Eastern Asia*, i. p. 180; *Voigt; Hooker and Thomson; Cal. Cat. Ex.* 1862; *Birdwood, Bombay Products.*

ANORATHA SAUMEN established buddhism at Pagan, in Burma, and built all the temples there.—*Yule*, p. 9. See Pagan.

ANOSPORUM MONOCEPHALUM, *Nees*, one of the Cyperaceæ, is the Gothoobi of Bengal.

ANOU, MALAY, of Sumatra, the coarse, black, bristly Ejo or gomuti fibre, from the Arenga saccharifera, or gomuti palm.

ANSA, or Ansana. SANSK. Portion of a portion of Krishna, as Paramatma, or supreme spirit. See Chaitanya.

ANSARI, a tribe of shaikh mahomedans in the N.W. Provinces, who seem to have come to India from Herat in the time of Firoz Shah. They claim to be descendants of the original Ansari, an Arab tribe who became auxiliaries of Mahomed, and adopted his views at Medina.—*W.*

ANSARI, a numerous and powerful people, occupying a large territory in Karamania and Syria. They are a shiah sect, who worship Ali, son of Abu Talib, and son-in-law of Mahomed. One of their sections, called Ansariyeh, is divided into five tribes, who reverence the moon, the stars, the air, and the sun. In religion, as in blood, those Ansariyeh appear to have much in common with the famous sect of the Assassins, whose chief was known in the crusading chronicles as the Old Man of the Mountain. To this day, like the Jews, the Ansariyeh have kept themselves apart from their neighbours, by whom they are despised and detested. Burckhardt calls the Ansari sects Kelbai, Shamsai, and Mokladjai.—*Robinson's Travels*, ii. pp. 68, 69; *Oliphant; Catafago.*

ANSER, the goose, the hansa of India. A. albifrons, A. cinereus, and A. brachyrhynchus, are known in India and the Panjab. A. Indicus occurs at Siligori. A. cygnoides of China is domesticated. The wild species is still extant. A. cinereus (Anser ferus), 'Greyleg goose,' Europe and Asia, is common in India. A. brachyrhynchus, 'Pink-footed goose,' Europe, N. Asia, Panjab (rare)? The domestic goose of India is a hybrid between A. cygnoides and A. cinereus.—*Hooker, Journ.* i. p. 399; *Catal. Cal. Museum.* See Birds.

ANSJELI. MALEAL. Artocarpus hirsuta, *L.*

ANSUS, an island in the Eastern Archipelago, inhabited by Papuans. Their houses, built on posts, are placed entirely in the water. At very low water only is the beach partially uncovered. This beach consists of mud, in which the mangroves grow luxuriantly, and completely obstruct a landing. The gardens, from this cause, are situated on the surrounding islands, principally on an island with a high beach, lying opposite to the kampong. The Papuans of Ansus have their hair growing in tufts. Their appearance is good-natured, faces regular, eyes beautifully black, the mouth broad, with beautiful regular teeth, and the forehead high but narrow. Many have thin lips and finely curved noses, which give them a more European physiognomy. The men are generally handsome and well formed, stout, without being too thick, strong and muscular; the women very good-looking; and some children with very regular soft faces, and long pendent curling hair.—*Jour. Ind. Arch.*, June 1852, p. 330–3.

ANT.

Namlah, ... ARAB.	Irmbu, Yaroomboo, TAM.
Fourmi, ... FR.	Chima, ... TEL.
Cheonti, ... HIND.	Neml, ... TURK.
Lamut, . MALAY, PERS.	

Ants have attracted attention from the earliest ages, on account of the singular economy and extraordinary industry manifested by the different species. Dr. Jerdon, a Madras medical officer, in a series of papers in the thirteenth volume of the Annals of Natural History, described forty-seven species of Southern India. M. Nietner, of Ceylon, forwarded to the Berlin Museum upwards of seventy species taken by him in that island, chiefly in the western province and the vicinity of Colombo. Dr. Jerdon, in the Madras Lit. Soc. Journal, arranges them according to St. Fargeau, who, in the first volume on the Hymenopteres in the Suites à Buffon, divides ants into four tribes, viz., 1*st Tribe*—Les Myrmicites, females with a sting, first segment of abdomen of two knots. This includes the following genera:—Cryptocerus; Atta; Ocodoma, differing from

Atta in its larger head, and the presence of spines; Eciton, and Myrmica. 2*d Tribe* — Ponerites, females with sting, first segment of abdomen of one knot only. It includes the genera Odontomachus and Ponera. 3*d Tribe*—Les Formicites, females without a sting, first segment of the abdomen of one knot only; and it contains the genera Polyergus and Formica. But many Indian ants cannot be well referred to any of these genera.

The black ant of India is the Formica compressa, and the red ant is F. smaragdina. The genus Polyrachis is plentiful in all eastern forests. It is remarkable for the extraordinary hooks and spines with which the bodies of the species are armed; and they are also, in many cases, beautifully sculptured or furrowed. One species has processes on its back just like fish-hooks; others are armed with long straight spines. They generally form papery nests on leaves, and, when disturbed, they rush out and strike their bodies against the nest so as to produce a loud rattling noise. They live in small communities. Their curious hooks, spines, points, and bristles adhere to their enemies.

The green ant of the Malay Archipelago, Œcophylla smaragdina, is a rather large, long-legged, active, and intelligent-looking creature. It lives in large nests formed by glueing together the edges of leaves, especially of the zingiberaceous plants. When the nest is touched, a number of these ants rush out, apparently in a great rage, stand erect, and make a loud rattling noise by tapping against the leaves. Their jaws are blunt and feeble.

Many of the Myrmecidæ sting most acutely. They are very abundant, and destroy greatly, devouring every edible thing. See Insects.

ANTAKA. In the Hindu religion, an attribute of Yama or Dharma-raja, in the character of the Ender, the Destroyer. See Yama.

ANTAMOOL, or Anantamool. Beng. Hemidesmus Indica. The roots largely used as a substitute for sarsaparilla, price three annas per pound.

ANTAPUR. Near this is a knoll fifty feet high, and four hundred in circumference, surrounded by still higher hills. Captain Newbold was of opinion that it is an ancient furnace, but others think that volcanic agency is the cause of this curious elevation. One local tradition has it, that a Rakshasha or giant, named Edimbassamli, who had objected to the marriage of his sister with a son of king Pandian, and was therefore murdered, was buried here. But another tradition states that a great battle was once fought here, and that the dead were burned on an enormous funeral pile. The ashes, or whatever they are, effervesce when treated with diluted sulphuric acid.

ANTAR, author of a famous Bedouin romance. The grand words the aged shaikh pronounced over the dead body of this Arab hero were:—'Glory to thee, brave warrior! who, during thy life, hast been the defender of thy tribe, and who, even after thy death, hast saved thy brethren by the terror of thy corpse and of thy name! May thy soul live for ever! May the refreshing dews moisten the ground of this thy last exploit!' The Anatireh or Antariyeh, in Cairo, are a class who recite or chant poetical war tales, and take their name from the Antar romance.

ANTARA TAMARA. Tel. Any floating, large-leaved water plant, as the Villarsia Indica, *Vent.*; Menyanthes Ind., *L.*; Pistia stratiotes, *L.* Antara Valli Tige is the Cassyta filiformis, *L.*

ANTARAVEDI, a Hindu shrine on the coast of the Godavery district, one of seven sacred sites on that river, at each of which pilgrims bathe, to complete the saptasagana yotra. During the five days' ceremony of the Kalayanam, about 20,000 pilgrims visit it.—*Imp. Gaz.*

ANTAR-BED or Antarved, the ancient name of the lower part of the doab from Etawa to Allahabad, but sometimes taken as the name of the entire doab between the rivers Ganges and Jumna.

ANTARJALI. Sansk. A Hindu rite of taking a dying person to the river-side, or, at the moment of death, immersing the lower part of the body in water. This cannot but hasten the fatal event. The Pioneer newspaper related two instances of this in April or May 1875, one near Calcutta, the other near Lahore:—'On Thursday last, the victim was carried to the river-side, amidst a crowd of people, with the usual accompaniment of tomtoms and other discordant noises, etc. His head dangled over a stretcher much too short for him; and as he raised his hand to shield his face from the glaring light, his son and heir opened an umbrella and held it over him by way of protection. Arrived at the river, he refreshed himself with a draught of milk and a smoke, chatting meanwhile with his sympathizing relatives. Last Saturday still found the man quite equal to his milk and tobacco, and his friends carried him off to another spot on the river, and immersed him until he was drowned.'

ANT-EATER, Manis pentadactyla, Pangolin.

Badjar-kita,	Beng.	Tarang-giling,	Malay.
Scaly Ant-eater,	Eng.	Pang-giling,	,,
Tanggilin,	Malay.	Arialer,	Tel.

The Pangolin of India, belonging to the Edentata, gets that English name from its Malay designation. The genus is common to Africa and south-eastern Asia, and in India is not rare, though, from their habit of appearing abroad after sunset, they are not often seen. Manis Javanica of Desmarest inhabits the Malayan peninsula, Penang, Borneo, Java; M. crassicaudata of Tickell (the M. pentadactyla of Linnæus is the M. macroura of Desmarest) and found in several parts of India, and in the lower part of the Himalaya. This species has been known ever since the expedition of Alexander the Great, and is mentioned by Ælian under the name φατταγη.—*Tickell; Elliot; Ogilvie; Cantor; Jerdon.*

ANTELOPE is the name usually given by the British in India to the Antilope cervicapra of Pallas, A. bezoartica, *Blyth.* An antelope only 15 inches long was obtained in Sumatra by Mr. Carl Bock, about 1880. See Antilopinæ.

ANTELOPE HORN, Ling-yang-koh of the Chinese. In pregnant and puerperal cases, the horn in powder is given, partially calcined.

ANTEN, a district in the island of Banka, containing the richest of the tin mines.

ANTENNARIA CONTORTA. *Don.* The jhoola of the N. W. Provinces; its tomentum is used.

ANTHELIA. This phenomenon is common in the Khassya hills and in Ceylon. Sir J. E. Tennent mentions that at early morning, when the light

is intense and the shadows proportionally dark, when the sun is near the horizon and the shadow of a person is thrown on the dewy grass, each particle furnishes a double reflection from its concave and convex surfaces, and the spectator sees the shadow of his own head surrounded by a halo as vivid as if radiated from diamonds.—*Sir J. E. Tennent's Ceylon; Hooker, Him. Journ.*

ANTHEMIS NOBILIS. *Linn.* Chamomile.

Atna mus—Plant,	ARAB.	Ku-kiuh-hwa, . .	CHIN.
Baboonuj—Flower,	,,	Anthemis,	GR., Theoph.
Okh-hywan, . .	,,	χαμαιμηλον,	GR., Dioscor.
Tuffah-ul-arz, . .	,,	Babune phul,	HIND. PERS.
Hubuk-ul-bukir, .	,,	Baboona-gao, . .	PERS.
El-dak-l-mirza, .	,,	Chamaindoo-poo,	TAM.
Kau-kiuh-hwa, .	CHIN.		

The flowers of this native of Europe and Persia are met with in all the Indian bazars. It is largely used in the infusions or khissanda, and is a simple bitter tonic. In China, A. apiifolia is said by Burnett to be found as its representative. The flowers of Chrysanthemum album and of Matricaria chamomilla are excellent substitutes for the true chamomile.—*Smith's Chin. Mat. Med.; O'Sh.; Waring; Birdwood, Bombay Products; Royle.*

ANTHEMIS PYRETHRUM. *H. Kunth.*

Anacyclus pyrethrum, *D. C.*

Akarakara,	BENG., HIND.	Pyrethron,	GR. of Dios.
Indian Pellitory,	ENG.	Akarakara, . .	PERS.
Indian feverfew, .	,,	Akarakaram, . .	TAM.

This is a native of the south of France and Barbary, but its roots are largely imported into India, where they are used in medicine and as an ingredient in certain snuffs. As a masticatory it is used largely in toothache, and it has effectually cured cases of spontaneous salivation; but it is used as an external as well as an internal stimulant and sialogogue.—*Vegetable Kingdom; O'Sh.; Cat. Ex.*

ANTHERÆA MYLITTA. *Drury.* This is a Tusseh silk moth of Ceylon, which feeds on the Terminalia catappa and Palma Christi. A. Paphia, *Linn.*, called Bughey in Northern India, is found in Assam, Bengal, Birbhum, and Behar, and feeds on the Zyziphus jujuba or Ber, and on the Asseen. It has not been domesticated. Other species are, A. Assama, *Helfer*, A. Frithii, *Moore*, A. Helferi, *Moore*, A. Roylei, *Moore*, all of the Himalaya; and A. Perotteti, *Guer.*, of Pondicherry.

ANTHERICUM, a genus of the Liliaceæ. A. annuum, canaliculatum, exuviatum, filifolium, fragrans, graminifolium, glaucum, Liliago, Nepalense, Nimmonii, physoides, ramosum, revolutum, tuberosum, vespertinum, grow or are cultivated in India.

ANTHIA. Some carnivorous insects are found ranging far to the north in the Himalaya, an example of which is Anthia 6-guttata, a well-known native of the tropics. The specimens, however, are mere dwarfs compared with those of peninsular India, a fact which may be regarded as a proof that Anthia has here reached its extreme limits, and consequently will soon disappear, as is the case, and be represented by another type, fulfilling the same functions, only under a difference of form. See Insects.

ANTHISTIRIA ANATHERA. *Hooker, Nees.*

Chooneria, . . .	HIND.	Jyotishmati, . .	HIND.

This is one of a genus of grasses of the order Panicaceæ. It is abundant in parts of the Salt Range, Trans-Indus, and in the outer hills, from 2300 feet to 8500 feet. Madden mentions that in Kamaon its roots are frequently luminous, whence it is there called jyotishmati.—*Dr. J. L. Stewart.*

ANTHISTIRIA CILIATA. *Linn. f.*

A. Australis, *R. Br.* | Kangaroo Grass.

A grass of south Asia, Australia, and all Africa; its growth should be encouraged by every means. It grows abundantly in the Konkans, where it is largely converted into hay for horses; A. polystachia, A. heteroclita, *Roxb.*, and A. scandens, *Roxb.*, are also made into hay.—*Von Mueller; Mason; Voigt.*

ANTHOCEPHALUS CADAMBA. *Bth.* and *Hooker.* A timber tree of Darjiling Terai, one of the Rubiaceæ.

ANTHOGONIUM GRACILE. *Wall.* One of the Orchiaceæ growing in Nepal and the Khassya mountains, with large blood-coloured flowers.

ANTHOZOA, a natural order of polype found within the tropics. The Corallium rubrum, *Lam.*, the red coral of commerce, is obtained from this order, and the coral is the axis of the polypodium.

ANTHRIBIDÆ. See Insects.

ANTHUS OBSCURUS, A. petrosus, 'Rock Pipit,' of Europe, Siberia, Japan, is replaced in the Himalayan region by A. cervinus, which is likewise found in Europe. A. Pratensis, 'Meadow Pipit,' is of Europe, North Asia, Japan, Asia Minor, West India (Gould), Nepal (Hodgson, Gray), and Pegu.

ANTI, HIND. Also Sylie. A necklace made of coloured threads, worn by fakirs.

ANTIALCIDAS, one of the Greek successors to a part of Alexander's kingdom. Antialcidas succeeded Lysias in the Paramisus, about B.C. 150, also in Nysa. See Greeks of Asia.

ANTIARIS. There are six or seven species recognised of this genus of trees, viz. A. toxicaria, *Lesch.*, the genuine upas tree of Java, the A. innoxia, *Blume*, and the A. macrophylla, *R. Br.* A fourth species (ramis foliisque utrinque velutinis) is cultivated in the Kew Gardens; the A. saccidora, *Dalz.*, of the western coast of peninsular India, is a fifth; the sixth is the A. Zeylanica, *Thwaites*, of Ceylon, which, like A. saccidora, yields sacks, but this author now refers it to A. innoxia, *Blume;* and a seventh is A. Bennetti, *Seeman*, the Ma-nui or Ma-vu-ni, Taga of the Tonga Islands; all are trees of great height.—No. 53, vol. 9, *Ann. Mag. Nat. Hist.; Hog's Vegetable King.* p. 68; *O'Sh.* p. 282; *Thwaites' Pl. Zeyl.* p. 263.

ANTIARIS INNOXIA. *Blume.* Sack tree.

Lepuranda saccidora, *Nimmo.*

Jagguri, . . .	CAN.	Araya-angely, .	MALEAL.
Karwat, . . .	,,	Riti gas, Ritti, .	SINGH.
Chandal, . . .	HIND.	Netavil maram, .	TAM.
Juzoogri, . . .	MAHR.	Alli, . . of	ANIMALLAY.

A stately forest tree, not uncommon in the drier parts of Ceylon, indigenous on the west side of India, in the ravines at Kandalla, and in the jungles near Coorg, and very common, and the most gigantic of all the trees in the Wynad jungles. The wood is good, although not much used; but Kurumbar bags or sacks are made from the liber or inner bark by a very simple process. A branch is cut, corresponding to the length and diameter of the sack wanted. It is soaked a little, and then beaten with clubs until the inner bark separates from the wood. This done, the sack, formed of the bark, is turned inside out, and pulled down until the wood is sawn off, with the exception

of a small piece left to form the bottom of the sack, and which is carefully left untouched. These sacks are in general use among the villagers for carrying rice, and are sold for about six annas each. The Singhalese sew up one end of the bark for a sack.—*Royle's Fib. Pl.* p. 343; *Mr. M'Ivor, in M. E. J. R.; Thwaites' Zeyl.* p. 263.

ANTIARIS TOXICARIA. *Leschen.* Upas tree.
Ipo toxicaria, *Persoon.*

Bina, ... BORNEO. | Anchar, Antiar, . JAV.

A tree of Java, often over 100 feet in height, and its juice is one source of the half fabulous Upas poison. The poisonous milky sap flows freely from the bark when tapped. The Upas antiar poison is prepared from it in an earthen vessel; the juice is mixed with the seed of the Capsicum frutescens, and various aromatics. The poison at first acts as a purgative and emetic, then as a narcotic, causing death by violent fits of tetanic convulsions. But its virulence is less than the poison of the cobra. The people, however, are much impressed with its power. The tree has a fine appearance, with bark of a very white colour, and the stem is supported at its base by buttresses. In clearing new grounds near the tree, the inhabitants do not like to approach it, as they dread the cutaneous eruption which it is known to produce when newly cut down. But, except when the trunk is extensively wounded, or when it is felled, by which a large portion of the sap is disengaged, the effluvium of which, mixing with the atmosphere, affects the persons exposed to it with the ailment just mentioned, the tree may be approached and ascended like the common trees of the forest.—*Horsfield*, p. 53; *Batavian Transactions*, vol. vii.; *Low's Sarawak; Vegetable Kingdom*, p. 680; *O'Sh.* p. 579; *Crawfurd's Dict.* p. 442.

ANTICHRIST. The Mahomedans believe in Antichrist, whom they term Al-Dajjal. They believe that he is to be slain by Christ, who is to re-establish Islam, and this is to be a sign of the approach of the last day.

ANTIDESMA ACIDA. *Linn.* Poolchi pallam of the Tamils. Its acid fruit is eaten by the poorer people. A. lanceolaria is a shrubby plant of Chittagong and Ceylon, up to 1500 feet; A. montanum, a middle-sized tree, from 3000 to 6000 feet, in Ceylon. Wight also figures A. acuminata, paniculata, tomentosa. — *Roxburgh; Ainslie; Thw.; W. Ic.*

ANTIDESMA ALEXITERIA. *Linn.*
A. Zeylanicum, *Lam.*

Heen ambilla gas, . SING. | Noli tali maram, . TAM.

A small but very handsome tree, common in Ceylon, in the jungles at Coimbatore, and in the forests on the Bombay side of India. It affects rather the skirts of cultivated land, and never reaches a size fit for purposes of carpentry. Its leaves are used in decoction in snake-bites. From the tough stringy fibres of the bark, the inhabitants of Travancore make ropes. It has a pleasant-tasted, reddish-coloured fruit, said to be prized on the Malabar coast for its cooling qualities.—*Ainslie; Vegetable Kingdom; Drs. Gibson, Wight, and Roxb.* iii. p. 758; *Thw.* p. 289.

ANTIDESMA BUNIAS. *Spr.*

A. comptum, *Tul.* | A. Alexiteria, *L.* (partim).
A. floribundum, *Tul.* | Stilago Bunias, *Linn.*
Ariya poriyam, . MALAY. | Kara-willa gas, . SINGH.
Noli tali, maram, . TAM. | Kabilla gas, . . ,,

A quick-growing, middle-sized branchy tree, common in Ceylon up to 3000 feet above the sea, also on the Coromandel and Malabar sides of the Peninsula of India, and found in Assam and in Nepal. It attains rather a large size in Assam, with a girth of twelve or fourteen inches, but the wood, by immersion in water, becomes heavy and black as iron. The bark is used for making ropes. Its leaves are acid and diaphoretic, are used as decoction in snake-bites, and, when young, are boiled with pot herbs, like sorrel, and employed in syphilitic cachexia.—*Roxb.* iii. 758; *Wight; Useful Pl.; Veg. King.* p. 683; *Thw. Zeyl.* p. 289.

ANTIDESMA DIANDRUM. *Roxb.*

Stilago diandra, *Willde.* | Tella-gomoodoo, . TEL.

This tree grows on the Northern Circar mountains, in Ceylon, and Travancore; for various uses.

ANTIDESMA PANICULATA. *Roxb.*

Khoodi jám, . . BENG. | By-it-zin, . . . BURM.
Kyet-tha-hen, . . BURM. | Boo-ambilla gas, . SINGH.

This is a low, ramous tree, common in Ceylon up to 2000 feet above the sea; common in Bengal jungles, and found in the Rangoon, Pegu, Tounghoo, and Tharawaddy forests. It has a light ash-coloured bark. On the same plant are notched, round, and pointed leaves. It flowers in April and in July, and bears a red, sour fruit, resembling the barberry. It furnishes a small crooked timber of a close grain, with the wood of a red colour, and adapted to cabinetmaking.—*Drs. Mason, M'Clelland, Roxb.* iii. p. 770.

ANTIDESMA PUBESCENS. *Roxb.*

Jeriam kottam, MALEAL. | Jana palaseru, . . TEL.
Jeram kottam, ,, | Pollari, Pollai, . . ,,

This small tree is a native of the Northern Circars; its bark is used for making ropes. The berries are eaten by the natives.—*Roxb.* iii. 770.

ANTIGONUS. Seleucus Nicator, B.C. 305, gained a great victory over Niconor, a lieutenant of Antigonus. Seleucus, B.C. 303, crossed the Indus to wage war on Chandragupta, but, making a hasty peace, he turned on Antigonus, whom he drove into Phrygia, where he was defeated and slain, B.C. 301. The name of Antigonus appears in the edicts of Asoka on the rock temples.

ANTILOPINÆ, the antelopes, a sub-family of the Bovidæ, are classed by Jerdon with the Bush antelopes or Tragelaphinæ of Blyth, and Desert antelopes, as under:—

Bush Antelopes.
Portax pictus, Jerdon, The Nil-Gai.

Antilope tragocamelus, *Pal.* | Tragelaphus hippelaphus,
Damalis risia, *H. Smith.* | *Ogilby.*
Maravi, ... CAN. | Ru-i, ... MAHR.
Gurayi, Guriya, . GOND. | Manu-potu, . . TEL.
Roz, Rojh, . . . HIND.

This is supposed to be the Hippelaphus of Aristotle. It is found throughout India, from the foot of the Himalaya to the extreme south of Mysore. It does not occur in Ceylon, Assam, nor in the countries east of Bengal. It frequents thin forests and low jungles, associating in small herds of seven to twenty. When caught young it is easily domesticated.—*Jerdon.*

Tetraceros quadricornis, Jerd., 4-horned antelope.

Antilope chickara, *Hardw.* | T. striaticornis, *Leach.*
A. sub-quadricornutus, *Ell.* | T. iodes, paccerois, *Hodgs.*
Bhirul, ... BHILS. | Chouka; Chousingha, H.
Kurus, . . . BUSTAR. | Jangli Bakra, . . ,,
Kond-guri, . . . CAN. | Bhekra, Bhirki, . MAHR.
Bhirkuru (male), . GOND. | Konda-gori, . . TEL.
Bhir (female), . ,,

Throughout all India, Western Panjab, Sind, the Mulnad, and the lower hills and forests of the Himalayas, but not in Ceylon nor in the valley of the Ganges, nor the countries east of Bengal. It lives in jungly hills and open forests. It is strictly monogamous, and is always met with singly or in pairs. It is of a uniform bright bay colour. Mr. Elliot says the spurious horns are so small as rarely to be met with in adult individuals. They arise from bony swellings immediately in front of the true horns. They are about two feet high, and the colour is various shades of brown. — *Ogilby; Elliot; Jerdon.*

Desert Antelope.

Antilope bezoartica, Jerd., Indian Antelope.
A. Cervicapra, *Pall., Ell., Fr., Cuv., Hard.*

Alali (male), . . BAORI.	Kahoit (black buck), HIND.
Gandoli (fem.), . ,,	Phandayat, do. MAHR.
Harin, ... BENG.	Barout (male), . . NEP.
Kalsar (male), . . BEHAR.	Sasin (female), . ,,
Baoti (female), . ,,	Mriga, ... SANSK.
Chigri, ... CAN.	Irri (male), . . . TEL.
Common antelope, ENG.	Ledi (female)? . . ,,
Indian antelope, . ,,	Jinka, ... ,,
Mirga; Harn (male), HIND.	Guria, Goria, . TIRHUT.
Harna; Harnin (fem.), ,,	Kala (male), . ,,

The common antelope frequents the plains on the cotton soil of India. When they move off to avoid some object of which they have doubts, they often bound to surprising heights. Their swiftness is such that dogs have never, or only rarely, it is believed, captured a healthy one, but they are often run down by wolves, who drive and surround them, and the cheetas kill great numbers of them, usually selecting the bucks. About 1838, great herds of very many hundreds, with many outlying bucks, were to be met with in the Dekhan, but the hunting leopard, the cheeta, and the sportsman have so weeded out the bucks, that only small patches of three to twelve are now (1871) to be seen, and these all does, who, without the males, easily fall a prey. The bucks are of a dark black colour, and the younger bucks are driven off by the buck of the herd so soon as they begin to turn black, but fierce combats ensue before the buck of the herd is selected. The horns are from 19 to 25 inches long, with 4 or 5 flexures, and up to 50 rings or annuli.—*Elliot; Jerdon; Pers. Obs.*

Gazella Bennettii, Jerdon, Goat antelope.

Antilope Arabica, *Hemprich, Elliot.*	Antilope Christii, *Gray.*
A. dorcas, *Sundevall.*	A. hazenna, *Is. Geoff.*
	Gazella sub-gutturosa?
Dabi, Zăbi, . . . ARAB.	Indian gazelle, . ENG.
Porsi (m.), Chari (f.), BAORI.	Chikara; kal-punch, HIND.
Tiska, Budari, . . CAN.	Kal-sipi, ... MAHR.
Mudari, ... ,,	Hazenne, . . MALWA.
Ravine deer, . . ENG.	Burudu jinka, . . TEL.

The Indian gazelle is not known in Bengal or Malabar, but occurs in all other parts, and abounds in Hurriana, Rajputana, and Sind, preferring the open bare plains, or rocky plains or sandhills. It abounds in the Indian Peninsula, in the valleys of the sandstone formation, and generally among the jungles of the red soil to the eastward of the southern Mahratta country, in small herds of three, five, six, or more, but commonly a buck with two does. Mr. Elliot says the gazelle of Arabia is found in the islands of the Red Sea, particularly in Dhalak and on the western shore about Massowa, and all along the Abyssinian coast. The gazelle of Hauran and Syria are probably the same. The Dabi is the same as the Hebrew word in Deuteronomy xiv. 5, translated the Roe, and is the gazelle of the Arabian poets, who say, 'The eyes of the Dabi are the most beautiful of all.' The ordinary height is about 2 feet, and its horns 10 or 11 inches.—*Elliot in Mad. J. Lit. and Sc.*

Gazella Dorcas, Blyth.

Antilope Arabica.	G. Kevella.
Gazella Cora.	G. Corinna, *H. Smith.*

Has been said to occur in western India, but is known to be brought from Aden and Muscat.

Gazella sub-gutturosa, Jerdon.
A. Dorcas, var. Persica, *Ruppell.*

Persia, Sind? Beluchistan?

Kemas Hodgsonii.

Antilope Hodgsonii, *Abel.* | Pantholops Hodgsonii.

The Chiru of Tibet is a fine antelope, beautiful and stately, confined to the Bhot country, Tibet, and neighbouring territories, and appears to be wholly unknown on the southern face of the mountains.—*Ogilby.*

Procapra picti-candata, Hodgson, is the Ra goa, or Goa of Tibet.

Antilope gutturosa, Pallas, of central Asia and China.

Saiga Tartarica, the Saiga antelope of Eastern Europe, Central Asia, and deserts of Tartary.—*Jerdon, Mammalia.*

ANTIMACHUS. See Greeks.

ANTIMONY, SULPHURET OF.

Ismad, koh'l, . . ARAB.	Stibium, ... LAT.
Tay-lak-youk, . . BURM.	Kinang, ... MALAY.
Peh-lah, ... CHIN.	Antimonia, . . . RUS.
Spies-glas, . . . DUT.	Sauvira, ... SANSK.
Surma, . DUKH., PERS.	Anjana Mai, . . TAM.
Ter-Sulphide of A., ENG.	Kohlu, Anjancle?. ,,
Grey Antimony, . ,,	Nilanjanam, . . TEL.
Anjan, ... HIND.	Anjanam, Katuka, ,,

This is obtainable in most eastern bazars, and is used medicinally by native physicians, and by Mahomedan men for an eyelid application. But ores of iron and manganese and lead are often sold as surma. It is obtained in Cornwall, Saxony, Spain, Mexico, Siberia, Chin-kiang-fu in China, the Eastern Islands, Siam, Pegu, Martaban, Amherst, and Beluchistan? but the best is from Sarawak, in Borneo, and from Vizianagram. Ter-sulphide of antimony is said to be found in the Salt Range near the Keura salt mine. Vast quantities of antimony have been found by Major Hay in the Himalayan range of Spiti. A sulphide of antimony is found at Jaggatsukh Kulu, in the Kangra district, and specimens were sent from Bajaur, and it has been found near Beyla by Major Boyd; it occurs massive in Beluchistan. Mr. O'Riley found it at the sources of the Ataran; and large quantities of the ore have been dug up in the neighbourhood of Moulmein. The metal was found for the first time in Borneo in 1823, on the north-western coast of that island. It exists in several places there, but mines of it have been worked only in Sarawak. This ore is generally of a lead-grey colour, possessing considerable splendour, and is met with compact, and in rhombic prisms of considerable size, and variously modified. Butter of antimony is a substance sometimes used with sulphate of copper for bronzing gun barrels, the iron decomposing the chloride, and depositing a thin film of antimony on its surface. The chief alloys of antimony are type metal, consisting of 4 lead and 1 of antimony; stereotype metal, 6 lead and 1 antimony,—music-plates consisting of lead, tin, and antimony; Britannia metal, con-

sisting of 100 parts of tin, 8 antimony, 2 of copper, and 2 bismuth. Pewter is sometimes formed of 12 parts of tin and 1 part antimony. Antimony is also used in the preparation of some enamels and other vitreous articles, and much employed in modern medicine as antimonial powder and tartrate of antimony. James's powder is said to consist of 43 parts of phosphate of lime, and 57 of oxide of antimony.—*Madras Museum; O'Sh.; Dr. Mason's Tenasserim; Faulkner; Tomlinson; Madras Exhib. of* 1857; *Jur. Reports of Exhib. of* 1851 *and* 1857; *London Exhib. Cat. for* 1862; *Crawfurd's Dict.* p. 13; *Major Boyd, in Bom. Geo. Trans.* 1839, p. 40, vol. iii. p. 204; *Capt. Foley in Bl. As. Tran.* 1836, vol. v. p. 273.

ANTIMUN. MALAY. Cucumis sativus, *Linn.*

ANTIOCH, an ancient town of celebrity, of which the modern village of Antaki is the humble representative. Previous to the Macedonian conquest, its name was Riblath; but, being chosen by Seleucus Nicator, one of Alexander's generals, to be the seat of his future government, and being greatly embellished by him, it received the name of Antioch, from respect to his father, Antiochus. For several centuries it was the residence of the Syro-Macedonian kings, and afterwards of the Roman governors of this province. Vespasian, Titus, and other emperors, granted to it very great privileges. It is frequently mentioned in the Acts of the Apostles, and here the disciples of Christ were first called Christians. Being repaired by the emperor Justinian, A.D. 529, it was called Theopolis, or 'the City of God,' on account, it is said, of the inhabitants being mostly Christians, attracted hither, no doubt, by the peculiar liberty they enjoyed in the exercise of their religion. This liberty was a remnant of the *jus civitatum*, or 'right of citizenship,' which Seleucus had given to the Jews (of whom the Christians were considered as a sect), in common with the Greeks. Their church was long governed by illustrious prelates.—*Robinson's Travels*, ii. p. 288.

ANTIOCHUS was the name of thirteen rulers over parts of Alexander the Great's conquests. Alexander was born B.C. 356, died 323, and the following are the surnames and the ordinarily recognised dates of those of his successors bearing this name:—

I. Soter,	B.C. 280	VIII. Grypus,	B.C. 125
II. Theos,	,, 261	IX. Cyzicenus,	,, 112
III. Magnus (Achæus),	,, 223	X. Eusebes,	,, 95
IV. Epiphanes,	,, 175	XI. Epiphenes.	
V. Eupator,	,, 164	XII. Dionysius of Josephus, and	,, 88
VI. Theos,	,, 144		
VII. Sedetes,	,, 137	XIII. Asiaticus,	,, 69

After the last of these, Syria became a Roman province. Some of the Antiochi merit separate notices, from the influence which they exercised over N.W. India. Antiochus I., surnamed Soter, was a Syrian king. In B.C. 280, Seleucus Nicator was assassinated by Ptolemy Ceraunus, from which date, the whole of Asia, from the Indus to the Jaxartes, was under Antiochus Soter, who from B.C. 280 to 261 reigned undisturbed over the same territory, and left it to his son, the second Antiochus, surnamed Theos. In the reign of Antiochus Theos, a Scythian named Arsaces came from the north of the sea of Azof, induced the Persians to throw off the Greek yoke, and founded the Parthian empire, making Rhages his capital. Antiochus III. was surnamed Magnus (Achæus). According to the Greek and Roman historians, he invaded India B.C. 206, and formed an alliance with Sophagasenes, the sovereign of that country, who, it is now ascertained, was Asoka, or Piyadasi, king of Magadha (grandson of Chandragupta), who ascended the throne B.C. 247. Antiochus the Great, in his march towards India, defeated Euthydemus near Merv, in a battle in which Antiochus led the united Syrian and Parthian armies. Euthydemus was then taken into alliance, and he led Antiochus and his Syrian army through Bactria, *i.e.* by the route north of the mountains, to the Kabal valley, and across the Indus, in B.C. 206. There Antiochus the Great made peace with Sophagasenes, the Asoka of India, and Asoka recorded this, by edicts engraved on rocks and pillars, in various parts of India in characters exactly resembling those on the coins of Agathocles. That on the Girnar rock names Antiako-Yona, Raja. In B.C. 205, Antiochus returned by way of Arachotia. He was assassinated. The discovery of his name in two of the edicts of Asoka, was made by James Prinsep.—*Bl. As. Trans.* 1838, p. 156; *Hist. of the Panjab*, i. p. 57. See Greeks of Asia.

ANTIRRHINUM MAJUS, *Linn.*, is the English Snapdragon, which with other species of this genus, A. molle, siculum, and orontum, are grown in India as flowering plants. A. orontum has a variety known as A. Indicum.—*Jaffrey; Voigt*, 499.

ANTISA. TEL. Achyranthus aspera, *L.*

ANT-LION, of India. At the lower part it resembles that of a spider, but the head is armed with a sharp, strong pair of claws. They excavate, in fields, gardens, and roadways, small cup-shaped cavities, with exquisitely smooth edges and sides, at the bottom of which they lurk, so that any insect approaching near immediately falls below to the ambush, and is seized and destroyed. Their excavations are usually carried on at night, and in the process, though they throw up the sand and gravel to a considerable height, the soil around their cups is very level. They will throw up a particle of sand towards any adhering insect, which, by moving the mass, brings down the insect with it. In Ceylon are four of the tribe,—Palparius contrarius, *Walker;* Myrmelon gravis, *Walker;* M. dirus, *Walker;* and M. barbatus, *Walker.*—*Tennent's Nat. Hist. Ceylon*, p. 4.

ANT-PUTH. MAHR. A screen placed between a Mahratta bride and bridegroom in the marriage ceremonial.

ANTS, WHITE. Termites.

Dewak,	HIND.	Rayap, Rayah,	MALAY.
Ani-ani,	MALAY.	Shellu,	TAM.
Anai-anai,	,,	Cheddulu,	TEL.

White ants are species of Termites. They are interesting, from the great mounds of earth, seven or eight feet high, which they erect. In the open fields, the injury to produce which they can occasion is trifling; but in gardens, where, as with sugar-cane, the crops are long in the ground, much loss is sustained from their attacks. They usually work under cover, and erect galleries of earth, cemented as they progress. In towns, with substantial houses of mortar and beams of wood, the loss which they occasion is often very great, for they pierce the walls and tunnel the beams in every direction. The effective remedy is to

destroy their cells and dig up their queen, a large shapeless white mass in the centre of the mound. A composition of lime, tar, and soap, in equal parts, boiled together and smeared over places where white ants appear, is a very effectual bar to their further progress. To protect the beams, the ends are now usually laid on the wall, and the sides left unenclosed, so that the approach of these insects can be detected; and this opening also prevents dry-rot. The earth-oils of Burma are thought to be effectual preventatives to their encroaches. In British Burma and Port Blair, where the majority of buildings are wooden structures, the whole of the timber is coated with earth-oil, which is laid on warm before the timber is put into the building, yearly coatings being also laid on prior to the rains. Sets of sugar-cane and other substances can be protected by steeping them for half an hour in a mixture of assafœtida, 8 chittacks; mustard seed, 8 seers; putrid fish, 4 seers; bruised butch root or monkshood, 2 seers; with sufficient water to mix them into the thickness of curds. But the poisonous influence of the butch on vegetable life is known, and cannot be recommended where the product is to be eaten. Small quantity of arsenic, mixed with flour or oatmeal and moistened with molasses, made into a dough and placed near their tumuli, is said to ensure their destruction. The wood-oils from the various species of Dipterocarpi, applied to wood, prevents, it is said, the dry-rot, as also the attacks of white ants; and the addition of catechu to the oil greatly increases its preservative powers. To check their ravages, Captain Man recommends that timber be smeared over with a mixture of 3 of gambier and 12 of dammer oil. Captain Fraser advised that from ½ lb. to 4 lb. of hartal, the yellow sulphuret of arsenic, should be mixed with the concrete. Sulphate of copper or of arsenic mixed with the lime in immediate contact with timber, offers a ready method of preserving it from insects. A mixture of arsenic, aloes, soap, and dhobis earth has also been recommended. Pound the arsenic and aloes, scrape the soap, mix with mud, and boil for an hour in a large pot half-full of water; when cold, fill up with cold water. It is applied as a wash. The practice which obtains in Rohilkhand is to char the ends of all rafters slightly, and then coat them over with coal-tar.

ANTUMORA. Beng. Isora corylifolia.

ANU, in Hindu legend, one of the sons of Yagati, one of the old fathers of mankind. Anu was the founder of one of the five great Turanian tribes, the Yadu, Turvasa, Druhyu, and Anu. He refused to exchange ages with his father. Among his descendants were Anga, Banga, Kalinga, etc.

ANU. Sum. Hair of the Arenga saccharifera.

ANUGA KAYA. Tel. Lagenaria vulgaris.

ANUGAMANA, in Brahmanism, the performance of sati by a woman whose husband has died in a distant country; a sandal, or any article of his clothes, may then represent him. It seems also to have the name of Anu-Marma. See Sahamanana; Sati.

ANULOMAJA. Sansk. In Hinduism, the offspring of two persons of different social position, of whom the father is of the superior class in the regular succession, as of a Brahman, and the woman of the Kshatriya class; when the order is inverted, the progeny is termed Pratilomaja.

ANUMULU. Tel. Lablab vulgare, *Savi.*

ANUPSHAHR, founded in the reign of Jahangir, is in the Balandshahr district of the N.W. Provinces, on the west bank of the Ganges. About 100,000 Hindu pilgrims visit it on the full moon of Kartik.—*Imp. Gaz.*

ANUSASANAM, a quinquennial republication, ordered by Asoka, of the great moral maxims inculcated in the Buddhist creed, viz. 1. Honour to father; 2. Charity to kindred and neighbour, and to the priesthood (whether Brahmanical or Buddhist); 3. Humanity to animals; 4. To keep the body in temperance, and (5) the tongue from evil speaking.

ANUVANSA, a Sanskrit list of ancient Indian kings.

ANVULLA. Mahr. Averrhoa bilimbi.

ANWARI, one of the most famous Persian poets. He lived in the 12th century.

ANWAR-i-SUHAILI, the Persian version of the Pancha Tantra, *q. v.*

ANWAR-ud-DIN, nawab of Arcot, with whom the British entered into alliances against the French, who were in alliance with Muzaffar Jung. See Ambur.

ANYANKA BHIMA, a prince celebrated in Orissa, who unfortunately killed a Brahman, and he raised numerous temples in expiation. He also endowed Juggurnath (Yoganatha).

ANZARUT. Arab., Pers. Sarcocolla.

AOD. Arab. Aloes-wood or Eagle-wood. The eastern nations distinguish several kinds:—

Aod-i-Bahoor, Eagle-wood.
Aod-i-Balessan, supposed to be the wood of Balsamodendron Kafa, *Forsk.*
Aod-i-Chini, Chinese Eagle-wood.
Aod-i-Hindi, Indian ,,
Aod-i-Kamari, Mountain ,,

Aod is used generally, in India, to designate the frankincense of the Boswellia, the Olibanum of the ancients; but throughout the east, with Arabic and Persian suffixes, it is also employed to name varieties of Eagle-wood, from the Aquilaria agallocha. Lane says Al-Aod is the source of the English lute, the French luth, and Italian liuto. Aod-us-Salib, or wood of the cross, is an ornament worn by Arab. women. It is a little round slender bit of wood, enclosed in a case of gold; supposed by Lane to be of Christian origin.—*Lane.*

AODHYA, the modern Oudh.

AODIYA. Hind. A predatory tribe in the Cawnpur and Futtehpur districts. They made remote excursions at particular seasons, in different disguises.—*Wilson's Glossary.*

AOGRRAH. Pusht. Rice boiled dry, and then mixed with buttermilk and eaten like porridge.

AOKHAL. Hind. Land reclaimed from waste and brought under cultivation.

AOLANIA, a Jat tribe residing in the Panipat district, following Hinduism, but they claim the Arabic appellation of Malik, or king, conferred upon them, they affirm, by some ancient prince to denote their sovereignty over other Jat tribes.

AOOS. Hind. Dew. Aous-dhan, autumn rice; a second crop of rice.

AORNOS. Military colonies of Macedonians were established at Alexandria ad Caucasum, Arigæum and Bazira, and garrisons at Nysa, Ora,

Massaga, Peucelaotis, and Aornos, a mountain supposed by some to be Mahaban in the Pir Panjal or Mid-Himalayan range. General Court says that opposite Attock is a rock with all the peculiarities described. Quintus Curtius says, on a mountain that is topped by a castle, attributed to Raja Hody. Alexander the Great (leaving a corps of 10,000 infantry and 4000 horse to stand fast), in the spring of 327 B.C., led an army of 120,000 foot and 15,000 horse, composed of Asiatic mercenaries and Greeks, through the Hindu Kush to Kabal. Despatching thence a strong division by the Kabal valley to the Indus to prepare a bridge, he marched by the upper road into the Yuzufzai country, according to his usual policy of leaving no enemy behind him. Driven out of their other fastnesses, the highlanders took refuge in Aornos, which was believed in the Greek camp to have thrice defied Herakles himself. Winter was at hand, or had actually come on, but, discovering the one difficult path which led to the fort at the top, Alexander and Ptolemy, at the head of two divisions, each following the other, drove out the enemy in four days, by making a mound across a broad and shallow hollow which separated them from the besieged. Leaving all the hill country subdued behind him, the invader crossed the Indus, probably in March 326 B.C.

General Cunningham's chief objections to the Mahaban hill as the representative of Aornos, are —1. It is a vast mountain of comparatively easy access, and of which no spur presents a very steep face towards the Indus. 2. The Mahaban hill is not less than 80 miles in circuit, whereas Aornos was not more than 200 stadia, or about 22 miles, according to Arrian, or 100 stadia or 11 miles, according to Diodorus. 3. The Mahavana hill was visited by Hwen Thsang in A.D. 630, and he describes it simply as a great mountain, which derived its name from the Mahavana monastery, in which Buddha had dwelt in a former existence under the name of Sarvvada Raja. He says the only other possible positions are—the ruined city of Takht-i-Bahai; the lofty isolated hill of Karamar; the hill of Panjpir; the ruined fortress of Ranigat. Ranigat is situated on a lofty hill above the village of Nogram, which is just 12 miles to the S.E. of Bazar, and 16 miles to the N. of Ohind. Its position, therefore, is strongly in favour of its identification with Aornos.—*Cunningham, Ancient Geog. of India*, p. 72.

AOUL, a Tartar nomade village or camp.

AP. HIND. A respectful term of address to Mahomedans, and Hindus, and Europeans, equivalent to 'worship,' you or thou being never used, only such terms as Ap, Janab, Pir-o-Murshid, Sirkar.

APA. TEL. Bauhinia diphylla, *Buch.*

APAMARGAMU or Apamarpa. SANSK. Achyranthes aspera, *L.*

APAMÉA, daughter of Artabazus the Persian, married Seleucus, who gave her name to three towns. Koornah, one of the three Apamea, is situated at the point of a triangle formed by the confluence of the rivers Euphrates and Tigris, and although now dwindled into a petty town, it was formerly a place of consequence. Koornah is situated on a low flat, with apparently a rich soil, and along the river are low banks to prevent the country being flooded. At this spot some oriental traditions have fixed the garden of Eden.—*Malcolm's Persia*, ii. p. 141. See Koornah.

APANDA or Astyages, son of Isfendiar, one of the Kaianian dynasty of Persian kings.

APANG. BENG. Achyranthes aspera.

APARAJITA. BENG. Clitoria ternatea. Aparajita, in Hinduism, a form of the goddess Bhawani. The name is doubtless derived from the flower of the Clitoria. Aphrodite of the Greeks is supposed by Mr. Paterson to be the Aparajita of the Hindus. See Sacti.

APA SAHIB, a raja of Nagpur, who was defeated by the Indian army at the battle of Seetabuldee, on the 26th December 1817. His real name was Mudaji Bhonsla, and he had succeeded to power by strangling Parsaji. Apa Sahib with his two chief ministers were finally ordered by the Governor-General to be sent to Allahabad, but on the night of the 12th–13th May 1818, Apa Sahib escaped, and took refuge in Gondwana, where the people protected him against all offers for him to be delivered up. Whilst in Gondwana, Chain Shah and other of the Gond chiefs, and many parties, to the extent of 20,000 Pindari, Mahrattas, and Arabs, joined him, or acted against the British in small parties in the valleys of the Nerbadda, the Tapti, and the Purna rivers; but a large plan of operations was matured by Lieut.-Col. J. W. Adams, who in February 1819 penetrated into the mountains from the Nerbadda, took Chain Shah prisoner, and Apa Sahib fled to Asirghur, from which he again fled to Ranjit Singh's protection, and finally to that of the raja of Jodhpur, where he died, almost forgotten, in 1840. See Bhonsla.

APASTAMBA, an ancient writer on Hindu ritual and law, author of Sutras connected with the black Yajur Veda and of a Dharma-Sastra, These were translated by G. Buhler. Two recensions of the Taittiriya Sanhita are ascribed to him or his school.—*Dowson.*

APASTAMBA, a Hindu ascetic mendicant, follower of the doctrines of Patanjali. He is said to have retained a posture so immoveable, that the birds built their nests in his hair.—*Ward*, iv. p. 30.

APATE. See Insects.

APAYATRITA. SANSK. One who has lost caste, and cannot therefore inherit.

APE.

Keph, ...	ETHIOP.	Kubbi, Keibi, . .	PERS.
Kephos, Kepos, .	GR.	Kaki, ...	SINGH.
Koph, ...	HEB.	Korangu, . . .	TAM.
Band'r, ...	HIND.	Kothi, ...	TEL.

Apes form the sub-family Simianæ of the family Simiadæ or Monkeys, of the natural order Primates. Apes are represented in Borneo and Sumatra by Simia morio and S. satyrus. The ancient Egyptians are said to have worshipped monkeys, and some of them in India are still reverenced by Hindus. Various kinds of Ape seem to have been made known to the Hebrews, Greeks, and Romans, by specimens brought from Africa and India; those known to the Hebrews probably from India, the Hebrew name Koph being almost the same as the Sanskrit Kapi. — *Harris.* See Mammalia.

APHIS, a tribe of insects; one species of China is supposed to produce oak-galls. Aphis coffeæ, the coffee-louse, is found in small communities on the young shoots and on the under side of the leaves of the cocoa-nut tree, but the injuries it occasions are insignificant. Firminger says (p. 43) a species of Aphis is the most injurious of all the

many insect enemies of the sugar-cane. It usually appears after long-continued dry weather, and disappears on a downpour of rain. Moore notices A. kakrasingha and A. pistaceæ. See Insects.

APHORISMS or Sutra are the usual mode of instruction followed in the Hindu Vedas, liturgical books whose sacred character Hindus still acknowledge. Sutra were adopted in the fourth period of the Hindu progress, about B.C. 1000, and the ceremonial prescriptions were reduced to a more compact form, and to a more precise and scientific system. The aphorisms of the Nyaya philosophy, of the Mimansa and Yoga, were reprinted in Sanskrit and English about the middle of the 19th century, by Professor James Ballantyne of the Benares College.—*Max Müller.*

APHRODISIACS. Several oriental races eagerly search for substances of this nature, and parts of fishes, insects, molluscs, and plants have a high reputation. With the Chinese, the gelatinous fins, air-bladders of fish, the nests of a species of swallow, and some molluscs, are greatly esteemed, also musk-rats' tails.

APIACEÆ of Lindley, the Umbelliferæ of Jussieu, are the celery tribe of plants. They number above 1000 species; upwards of 130 belong to the S. and E. of Asia; several are used medicinally.

APIS, the sacred bull of Egypt, was chosen by the priests of Memphis for its black and white spots; and Mnevis, the sacred bull of Heliopolis, had nearly similar marks. The Jews, in preparing their water of purification, were ordered, in Num. xix. 2, to kill a red heifer without a spot. Amongst the Egyptians, the solemnities at the burial of Apis were entirely Bacchic. The priests did not wear the nebris or deer skin, but they wore the panther skin, and carried Thyrsus staves. The sacred bull of the Hindus, Nandi, the vahan of Siva, is carved in black stone, seated, looking at the lingam.—*Bunsen*, i. 432. See Sacrifice.

APIUM GRAVEOLENS. *Linn.* Celery.

Karafs, ... Arab. | Bhut-jata, . . . Hind.

This temperate climate plant, acrid and poisonous when wild, is much cultivated wherever Europeans settle, and is grown in India in the cold weather. Its seeds are sold as medicine in every bazar of India. Its essential oil, dissolved in strong spirit, forms an essence a drop of which suffices to flavour a tureen of soup. —*Voigt*, 20; *O'Sh.* 357; *Stewart.*

APIUM INVOLUCRATUM. *Roxb.*

Chanoo, Rhadooni, Beng. | Ajmud, ... Hind.

Cultivated in gardens in Bengal for the seed, which is used in diet and medicine. Its fruit very hot and carminative, good in dyspepsia, much used in all masalihs.—*Roxb.; Dr. Irvine; O'Sh.*

APJOOLA. Hind. A mixed fabric of cotton and silk, made at Dacca.

APLOTAXIS AURICULATA. *D. C.*

Putchuk, . . . Hind. | Uplati, ... Hind.
Kut; Koot; Kust-i-shereen; Kust-talkh, ,, | Koostam, . . . Tam. | Sepudday, . . Malay.

The root is exported from India to China, where it is used as incense. There are two kinds, viz. Kust-i-shirin and Kust-i-talkh. It has been referred to Aucklandia costus, *Falconar*, also to Costus arabicus and C. speciosus.

APOCYNACEÆ, a natural order of trees and shrubs, including nearly 100 genera, with about 400 species, about half of which are found in the S.E. of Asia, Arabia, Ceylon, the Peninsulas of India and Malacca, Bengal, Nepal, and Java. The Apocynaceæ abound in a milky juice, with which some acrid principle is frequently combined, rendering the whole suspicious and many highly dangerous; but the milk of the Hya-hya, or milk-tree of Demerara, and of a species of Tabernæmontana, *Arnott*, are said to be innocuous. In Sumatra, Urceola elastica yields caoutchouc, as A. Vahea does in Madagascar; and bird-lime is prepared from the Voacanga, as in India, from species of Ficus. Nerium piscidium yields a strong fibre, etc. Willoughbeia edulis also yields caoutchouc. Several yield good timber, as Wrightia coccinea, which for its lightness and strength is used in making palanquins in the south, while in the north of India that of W. mollissima is used by turners. Holarrhena pubescens (koora) yields a light wood, and species of Strychnos, some of superior quality. The bark and seeds of Wrightia antidysenterica have long been employed by the Asiatics, and are the Tiwaj and lissan-ul-asafeer of the Arabs. The Hindus call it indurjuo, and distinguish the seeds by the name of indurjuo shireen (mild) from those of Holarrhena antidysenterica and H. pubescens, which they call indurjuo talkh (bitter). Ichnocarpus frutescens is sometimes used as a substitute for sarsaparilla; and Ophioxylon serpentinum has derived its specific name from its employment in snake-bites. One of the order furnishes the lancewood of Moulmein, a tree found all over the provinces. The Karens make bows of it, but prefer Cassia fistula. Mr. Mason says the tree belongs to the dogbane tribe, and is not at all related to Guatteria virgata, the lancewood of commerce. The principal genera of the E. Indies are:—

Allamanda.	Epichysianthus.	Ranwolfia.
Alstonia.	Heyligia.	Rejona.
Apocynum.	Holarrhena.	Strychnos.
Calpicarpum.	Ichnocarpus.	Tabernæmontana.
Carissa.	Kitabalia.	
Cerbera.	Leuconotus.	Thevetia.
Cercoma.	Melodinus.	Urceola.
Chilocarpum.	Nerium.	Vinca.
Copsia.	Ophioxylon.	Willoughbeia.
Echaltium.	Plumiera.	Wrightia.
Echites.		

—*Mason's Burma; Royle, Him. Bot.* 271; *Voigt.*

APOCYNUM JUVENTUS, *Smith*, the Ho-shau-wu of the Chinese, grows in Su-chau-fu, Kang-su, Kwang-tung, and Kwang-si. Its root is believed by the Chinese to prolong life, and it is used internally medicinally.—*Smith.*

APOLLO of the Greeks is the analogue of the Hindu Krishna, whose favourite place of resort was a tract of country around Agra, and principally the plains of Muttra, where Krishna and the nine Gopia, evidently the nine Muses, usually spent the night in dancing. Krishna, Hindus say, slew the Naga snake; and the Apollo of the Greeks was surnamed Nomios, or the pastoral, and Opifer in Italy, who fed the herds of Admetus, and slew the serpent Python. The Apollo of Edessa also was called Monimos. He was identical at Babylon with the Phœnician god Esmun. Krishna and his Gopia are represented as well in their characters of Apollo and the Muses, as in those of the sun and the planets in harmonious movements round him.—*Coleman.*

APOLLODOTUS. Of the Greek successors to Eucratides, Apollodotus and Menander alone are

mentioned by classical authorities. Apollodotus ruled in Patalene, Syrastrene, and Larice about B.C. 165. According to Colonel Tod, the Yavan, or Greek princes, who apparently continued to rule within the Indus after the Christian era, were either the remains of the Bactrian dynasty, or the independent kingdom of Demetrius or Apollodotus, who ruled in the Panjab, having as their capital Sagala, changed by Demetrius to Euthymedia. Bayer says, in his Hist. Reg. Bact. p. 84, that, according to Claudius Ptolemy, there was a town within the Hydaspes, yet nearer the Indus, called Sagala, also Euthymedia; but he scarcely doubts that Demetrius called it Euthydemia from his father, after his death and that of Menander. Sagala is conjectured by Colonel Tod to be the Salbhanpoora of the Yadu race when driven from Zabulisthan, and he supposes that the Yu-chi or Yu-ti, who were fixed there from Central Asia in the fifth century, and if so early as the second century, when Ptolemy wrote, may have originated the change to Yuti-media, the 'Central Yuti.' Numerous medals, chiefly found within the probable limits of the Greek kingdom of Sagala, either belong to these princes or the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sassanian character on the reverse. The names of Apollodotus and Menander have been deciphered, and the titles of 'Great King,' 'Saviour,' and other epithets adopted by the Arsacidæ, are perfectly legible. The devices, however, resemble the Parthian. These Greeks and Parthians must have gradually merged into the Hindu population.—*Tod's Rajasthan*, i. p. 233. See Greeks of Asia; Kabal.

APOLLONIUS of Tyana, lived about A.D. 50. It is related in his Indian travels that Phraotes, who ruled over the kingdom which Porushad swayed, spoke Greek, and was versed in all the literature and philosophy of Greece. In his life by Philostratus, he is stated to have visited the Brahmans on the hills north of Sri-nagara, now called Triloci Narayana, near the Kedara Ganga. Their chief, Jarchas, stated that Ethiopians had resided here under a ruler, Ganges, and that they migrated to Egypt. Doubts exist as to Apollonius having visited India, or Ethiopia, or Babylon.

APONOGETON MONOSTACHYON. *Willde.*

Garna Kalanga,	CAN.	Koti Kalangu,	TAM.
Phechoo,	HIND.	Ketti Gadda?	TEL.
Kakangi,	SANSK.	Nama Dampa,	,,

A perennial aquatic plant of the Peninsula of India, growing in shallow standing water and the beds of tanks, flowering during the rainy season. The natives are very fond of the small tuberous roots as an article of diet. Several species grow in still, sweet watery places of India. Roxburgh, ii. 211, mentions A. echinatum, A. microphyllum, growing in the Bhutan mountains, A. undulatum in Bengal. A. crispus, *Thumb.*, of India and N.S. Wales, has tuberous roots, small but starchy, and of excellent taste.—*Von Mueller; Ainslie; Roxburgh; Madr. Ex. Jur. Rep.; Useful Plants.*

APOROSA LINDLEYANA. *Wight.*

Scæpa Lindleyana, *W. Ic.*

Sulla, Surroli,	CAN.	Kabella,	SINGH.

This tree is abundant throughout Coorg and the Wynad, up to 4000 feet elevation; is met with throughout the Madras western forests, in Bombay, also in Ceylon, up to 2000 feet; and it is also found in Sikkim. The wood is in use for building and other purposes. A. acuminata, fusiformis, latifolia, and lanceolata, are small trees of Ceylon.—*Thwaites*, p. 288; *Beddome, Fl. Sylv.* p. 286.

APOSTLE is a term sometimes applied in European literature to Mahomed, but his followers only recognise the appellations of Paighambar and Rassul Allah, the Messenger of God.

APPA. TAM. Apupa, TEL. Unleavened cakes of rice flour and cocoa-nut milk, called Hoppers.

APPA. TEL. Appan, TAM.; Apa, MAHR. A term of respectful address, a father, as Rangappa; Govind Apa. Appa in Tuluva means mother.

APPEL. MELEAL. Premna integrifolia, *Roxb.*

APPER, one of three celebrated votaries of Siva, who composed a portion of the poem Devaram, which forms part of the Tamil Veda.

APPLACARAM. TAM. Barilla.

APPLE is a term applied, in India, to the fruits of several plants,—Cashew apple, Custard apple, Love apple, Pine apple, Rose apple, Greater wood apple, Lesser wood apple, the apple proper, Pyrus malus. The apples of Solomon's Song are the quinces or the Cydonia vulgaris. The apple-tree of Australia is the Angophora lanceolata.

The common apple, Pyrus malus.

Tuffah,	ARAB.	Seb, Seo,	HIND., PERS.
Pin-Kwoh,	CHIN.	Pomo,	IT.
Hwa-hung,	,,	Malus,	LAT.
Pomme,	FR.	Seba,	PERS., SANSK.
Melea,	GR.	Manzana,	SP.

This is naturalized in several parts of India. In China, it is cultivated in Honan, Peh-chih-li, Hup-eh, Shun-teh-fu, and Ho-kien-fu.

APPOCOVAY. TAM. Bryonia rostrata.

APPROVERS, in India, are criminals who have been tried and convicted as having belonged to a band of Thug murderers or Dacoits, but who, having made a full confession of their crimes (in some individual cases amounting to the murders of as many as eighty persons), and having denounced their associates, have received a conditional pardon.

APRANG, also Rangbharat, Dam-ul-akwayn, and Hira-dakhan, a gum resin, a beautiful kind of kino, brought to Ajmir from Bombay; considered very astringent. It is given in intestinal hæmorrhages, and is also used in enamelling on gold; four tola one rupee.—*Irvine, Ajmir*, p. 126.

APRICOT, Prunus Armeniaca.

Barkuk,	ARAB.	Chir,	HIMAL.
Bukur-Kohani,	BOKHAR.	Khubani,	HIND.
Kin-hang, Hang-jin,	CHIN.	Meliaca, Albicocca,	IT.
Hwang-mei,	,,	Mish-mish, Zard-Alu,	PERS.
Abricot,	FR.	Badam Kohi,	,,
Chinaru, Chulu,	HIMAL.	Albaricoque,	SP.

In India the tree has been naturalized. The fruit is greatly esteemed in Persia, Syria, Arabia, Afghanistan, etc. Moorcroft mentions ten varieties grown in Ladakh, all of them raised from seed, except one, which is budded. The stones are sold as 'Sari' in the Himalaya, and called also 'Maghz khubani.' Apricot oil (Raughan-i-khubani), of the finest kind, is made by expression from the kernels. It is clear, of a pale yellow colour, and smells strongly of hydrocyanic acid, of which it contains usually about 4 per cent. This is a hill product near Simla, and near Kanawar, as also near Kangra.—*Powell's Handbook*, vol. i. p. 422; *Dr. Royle; Birdwood*, p. 154; *Moorcroft; Darwin, Var., etc.*

APSARAS. SANSK. In Hindu mythology, nymphs of Swarga, the celestial court of Indra, celestial dancers, celebrated for their beauty.

Amongst them is Rembha, the popular Venus of the Hindus, and some others are described to be of inconceivable loveliness. They symbolize the floating clouds of the upper sky, or personifications of the vapours extracted by the sun. In Indra's court they are forty-four in number,—thirty-four worldly and ten divine,—and arranged in fourteen gana or bands. They are the types of the swan maidens of German folk-lore. They answer also to the Pari of the ancient Persians, and the damsels called in the Koran, Hur-ul-ayun, the antelope-eyed Huri. Sir William Jones thus describes them in Swarga:—

'Now, while each ardent Cinnara persuades
The soft-eyed Apsara to break the dance,
And leads her loth, yet with love-beaming glance,
To banks of marjoram and champac shades,
Celestial genii tow'rd their king advance,
So call'd by men, in heav'n Gandharvas named.'

According to Kshatriya belief, Kshatriya warriors slain in battle are transported to Indra's heaven by these Apsarases. Manu, vii. 89, says, 'Those rulers of the earth, who, desirous of defending each other, exert their utmost strength in battle, without ever averting their faces, ascend after death directly to heaven.' And in Book ii. 19 of the Nala, Indra says, 'Why are no warriors slain now-a-days, that I see none arriving in heaven to honour as my guests?'—*Coleman, Hind. Myth.; Sir William Jones, Hymn to India*, vol. xiii. pp. 270 and 273; *Williams' Story of Nala*, p. 140.

APTA. Mahr. Bauhinia parviflora, B. racemosa.

APTERA. Example, fleas and lice. See Insects.

APTIMUN, Hind. Also Amr-Bel. A yellow-coloured parasite creeper, often seen on babul trees all over India. The entire plant is used in native medicine, in 'munj,' or muzil, a diluent form of medicine, employed preparatory to giving a purge. The Aptimun Wilayti is an extract of the Aptimun plant from Bombay, and used in the same way as the plant.—*Irvine, Ajmir*, p. 125.

AQUA MARINE.

Seing, ...	Burm.	Patsa kallu, . .	Tam.
Zamarrud, . .	Pers.		

This is found in the south of India, where it is classed as an inferior emerald. Chrysoberyl is found among the Tora hills near Rajmahal, on the Bunas, in irregular rolled pieces, small, and of a light green colour. These stones are sold as emeralds by the natives under the name of punna; but the native dealers are aware that they are softer than the real emerald of India, which is generally green-coloured corundum. The oriental emerald is often seen in Burma, but beryl and emeralds are brought from the north of Ava.

AQUEDUCTS, in S.E. Asia, are chiefly known as underground tunnellings, designated throughout Persia, Beluchistan, and India as Kanat and Karez.

AQUILARIA AGALLOCHA. *R.* Aloes-wood.

Yellanjuj, . . .	Arab.	Agur, ...	Hind.
Ayaloogi, Ayulugin, .	,,	Ayal-urchi, . .	Pers.
Ak-yau, ...	Burm.	Agallochum, . .	Lat.
Ugoor or Ag'r, .	Benj.	Kalamba, . .	Malay.
Eagle-wood, . .	Eng.	Kaya gahru, . .	,,
Calambac, . . .	,,	Agaru, . . .	Sansk.
Bois d'Aigle, . . .	Fr.	Krishna agaru, .	Tel.
A'g'r, ...	Hind.		

This is an immense tree, a native of the mountainous tracts E. and S.E. from Silhet, in lat. 24° and 25° N. Roxburgh mentioned that the real Calambac or Agallochum of the ancients is furnished from this tree; and though, in his time, small quantities of the fragrant resinous wood were imported from the eastward, the imported articles were always considered inferior to that from Silhet. Dr. Mason also is of opinion that the A. agallocha produces the fragrant lign-aloes, or wood-aloes, which is offered for sale in all the bazars on the Tenasserim coast, and is the produce of a tree that grows on the Mergui islands. It is imported into Mergui by the Selung race, who, as they profit from the trade, endeavour to keep all in ignorance of the tree from which they obtain it. The Hebrew and Greek names are 'derived from the Indian name of the tree, agil, Sanskrit agaru and aguru.' The chief consumption of aloe-wood is in Siam and China, where it is burned in the temples. It was used in Napoleon's imperial palaces as incense. The wood is heavy, yellowish-white, shaded with green; fibrous, spongy, and resinous; its taste aromatic, its odour in combustion very agreeable.—*O'Shaughnessy; Mason; Malcom's Tr.* i. p. 191; *Royle's Ill. Ind. Bot.* 172; *Roxb.; Voigt; Vegetable Kingdom; Mad. Ex. Jur. Reports.* See Aod.

AQUILARIA MALACCENSIS. *Lam.*

A. ovata of Botanists. | Bois d'Aigle of Malacca.

This tree is a native of Malacca, China? and Ceylon? It has a whitish timber. Roxburgh seems inclined to regard this as identical with A. agallochum of Silhet, but others recognise it as a separate species.—*Roxb.* ii. 422; *Voigt*, 306; *Veg. Kingdom*, 629.

AQUILARIA SECUNDARIA? This tree has a white and inodorous timber, but when diseased, it secretes a resinous matter said to be the true Eagle-wood.

AQUILARIA SINENSIS. *Spreng.*

Ophiospermum Sinense, *Loureiro.*

Pa-mou, . . . Chin. | Pah-muh-yang, . Chin.

A tree of China.—*Voigt.*

AQUILEGIA. In India, several species are known as ornamental flowering plants. Their name, literally, the Water Gatherer, is because the leaves collect water in their hollow.—*H. f. et T.* p. 44; *Veg. King.* p. 18; *Voigt; Riddell.*

AQUILINÆ, a sub-family of the family Falconidæ, comprising the True Eagles, the Kite Eagles, the Hawk Eagles, the Serpent Eagles, Fishing Eagles, as under:—

1. True Eagles.

Aquila chrysaetos, Linn., The Golden Eagle.

Falco chrysaetos, *Linn., Gould, Blyth, Horsf.*
,, niger, *Gmelin.*
,, melanonotus, *Lath.*
Aquila daphænia, *Hodgson.*
,, nobilis, *Pallas.*

Burkut, . . . Tartar. | Bear coote of Atkinson.

It inhabits the greater part of northern and central Europe, Asia, America, and has been found in the Himalaya. In Central Asia, it is trained by the Kirghis and other nomades to kill antelopes, foxes, wolves.

Aquila imperialis, Bechst., Imperial Eagle.

Falco imperialis, *Bechstem, Gould, Blyth, Jerdon.*
Aquila mogilnik, *Gmelin.*
,, heliaca, *Sav.*
,, bifasciata, *Gray and Hardw., Sykes, Jerd.*
,, Nepalensis, *Hodgson.*
,, chrysaetos, *Jerdon.*

Frus, ... Beng. | Jumiz, Jumbiz, . . Hind.

The imperial eagle ranges in the south of

Europe, North Africa, West and North Asia; it inhabits the Himalaya, is not uncommon in central India and on the table-land of India, but is rare in the Dekhan.

Aquila nævia, Gmel., The Spotted Eagle.

Falco nævia, *Gmel.*, *Blyth*, *Horsf.*, *Gould.*
Aquila melanaetus, *Sav.*
,, clanga, *Pallas.*
,, vittata, *Hodgs.*

Bukayari Jiyadha, . BENG.	Kal-janga, . . . HIND.
Black kite, . . . ENG.	Nella-gedha, . . . TEL.

It is found in the south and west of Europe, North Africa, and West Asia, and throughout India, especially in the neighbourhood of cultivation, tanks, marshes, and paddy fields, and common in the Sunderbuns.

Aquila fulvescens, Gray, The Tawny Eagle.

Aquila punctata, *Gray and Hardw.*
,, fusca, ,, ,,
,, vindiana, *Franklin*, *Jerdon.*
,, nævioides, *Blyth*, *Horsf.*

Wokhab, ... HIND.	Salwa, ... TEL.
Ali, ... TAM.	Dholwa of the WAGRI.
Alawa, ... TEL.	Bursawul of the YERKALA.

It is found throughout the greater part of India, except in the more moist and wooded portions, but is unknown in Bengal and the Malabar coast, and does not extend into the Indo-Chinese countries. It is a very noisy, shrill-screaming bird. It builds on high trees.

Aquila hastata, Less., The Long-legged Eagle.

Spizaetus punctatus, *Jerd.*	Lemnaetus unicolor, *Blyth.*
Jiyada, Gutimar, HIND.	Pahari Tisa, . . . HIND.

A small, handsome eagle of Bengal and the south of India.

Aquila pennata, Gmel., The Dwarf Eagle.

Aquila minuta, *Brehm.*	Spizaetus milnoides, *Jerd.*
Butaquila strophiata, *Hodgs.*	
Garden eagle, . . ENG.	Gilhri mar, . . . HIND.
Field kite, . . . ,,	Punja Prandu, . . TAM.
Baghati Jumiz, . HIND.	Oodatal gedda, . . TEL.

This eagle is found in the south of Europe, North Africa, West Asia, and throughout India, frequenting groves of trees, gardens, and cultivated land. The crows readily distinguish it, and pursue it clamorously.

2. KITE EAGLES, viz.

Neopus Malaiensis, Reinwardt, The Black Eagle.

Falco, *Reinw.*, *Blyth*, *Jerd.*	Heteropus, *Hodgs.*, *Horsf.*
Aquila perniger, *Hodgs.*	Nisaetus ovivorus, *Jerd.*
Heugong, ... BHOT.	Adavi nalla Gedda, TEL.
Lakmong Bong, . LEP.	

It occurs in the hilly and jungly districts of India, in Malabar, Wynad, Western Ghats, Neilgherries, Central India, and Himalaya.

3. HAWK EAGLES, viz.

Nisaetus Bonelli, Temm., Crestless Hawk Eagle.

Falco, *Temm.*	Aq. intermedia, *Bonelli.*
Aquila, *Horsf.*	Nis. grandis, *Hodgs.*
Eutolmaetus, *Blyth.*	N. niveus, *Jerd.*
Peacock killer, . . ENG.	Rajali, ... TAM.
Hare do., . . ,,	Kundeli salawa, . TEL.
Mohr-angah, . . HIND.	

This magnificent eagle is found throughout India in hilly and jungly districts.

Limnaetus niveus, Temm.

Falco limnaetus, *Vigors*, *Horsf.*, *Blyth.*
Nisaetus pallidus, *Hodgs.*

The Sadal of Bengal has been found in the tract between the Himalaya and Calcutta.

Limnaetus cristatellus, Temm., Crested Hawk Eagle.

Aq. Elliotti, *Jerd.*	F. cirrhatus, *Gmel.*
Falco Lathami, *Tickell.*	
Shah Baz, . . . HIND.	Jutu Bhairi, . . . TEL.

Found throughout central and southern India, Bengal, East and West Ghats, and Himalaya.

Limnaetus Nepalensis, Hodg., Spotted Hawk Eagle.

Nisaetus Nepalensis, var. cristata, *Hodgs.*, *Blyth.*
N. pulcher, *Hodgs.*
Falco orientalis, *Temm.* and *Schlegel.*

Reijore, ... BHOT.	Kanzha, . . CHIL., LEP.

This splendid hawk eagle has been found in the Himalaya, Darjiling, the Khassya hills, and Ceylon.

Limnaetus Kienierii, De Sparre.

Astur, *De Sparre*, *Blyth*, *Horsf.*
Spisaetus albogularis, *Tickell.*

This beautiful rufous-bellied hawk eagle has been found in the Himalaya, Darjiling, and Central India. Another species is L. Caligatus, *Horsfield.*

4. SERPENT EAGLES.

Circaetus Gallicus, Gm., Common Serpent Eagle.

C. brachydactylus, *Meyer*, *Sykes*, *Jerd.*
Falco, *Gmel.*, *Gould*, *Blyth*, *Horsf.*

Sap mail, ... BENG.	Pamula-gedda, . . TEL.
Mal-patar, . . . CAN.	Rawul of the WAGRI.
Samp-mar, . . . HIND.	Kondatele of YERKALA.
Pambu prandu, . TAM.	

Found all over India, generally in open plains. Its chief food is snakes, guanas, and lizards, but it eats also crabs, rats, weak birds, frogs, centipedes, and large insects. They have been caught on the ground with their claws on the snake's head, its body coiled round the bird's wings.

Spilornis cheela, Gray, Crested Serpent Eagle.

Falco, *Daudin*, *Blyth*, *Horsf.*
,, albidus, *Cuv.*, *Temm.*
Circaetus undulatus, *Jerd.*
,, Nepalensis, *Hodgs.*
Buteo bacha, *Franklin*, *Sykes.*
B. melanotus, *Jerd.*

Tilai baj, Sab cheer, BENG.	Botta Genda, . . GONDI.
Furj Baj, ... HIND.	Murayala, . . . MAHR.
Goom, ... CAN.	Nalla pamula gedda, TEL.

It is found all over India, in jungly districts; also in Assam and Burma. It lives on snakes, lizards, frogs, and large insects; it has a plaintive, wild cry.

Spilornis bacha, Daudin, the F. bido, *Horsf.*, inhabits Java and Sumatra.

Spilornis spilogaster, Blaine, India and Ceylon.

Spilornis holospilus, Vigors, inhabits the Philippines.

5. SEA EAGLES or FISHING EAGLES.

Pandion haliætus, Linn., The Osprey.

P. Indicus, *Hodgs.*	P. fluvialis, *Sav.*
Mach moral, Bala, . BENG.	Macharang, . . NEPAL.
Mach manga, . . HIND.	Verali, addi pong, TAM.
Machariya, . . . ,,	Koramin gedda, . TEL.
Pantiang, . . . LEP.	Hegguli of the YERKALA.

The fish-hawk of Europe, Asia, and Africa, is spread all over India; it is frequently robbed of its prey by the Haliætus leucogaster.

Polioætus ichthyætus, Horsf., White-tailed Eagle.

Falco, *Horsf.*, *Blyth.*	Hal. plumbeus, *Hodgs.*
Pandion, *Horsf.*	Ichthyætus bicolor, *Gray.*
Haliætus, *Jerd.*	,, Horsfieldi, *Hodgs.*
Pandion lineatus, *Jerd.*	,, lucarius, *Hodgs.*
Mach morol, . . . BENG.	Madhuya, . . . HIND.

It is spread over most of India, Saugor, Bengal, Burma, and all the Malay countries. Its chief

food is fish, but it carries off birds, as teal and ducks.

Polioætus, sp.

Pontaetus humilis, *Temm.* | Ichthyœtus nanus, *Blyth.*

A native of Malacca and the islands.

Haliætus fulviventer, Viellot, Ring-tailed Sea Eagle.
Falco Macei, *Temm.*
Haliætus Macei, *Blyth, Horsf.*
,, albipes, *Hodgs.*
,, lanceolatus, *Hodgs.*
,, unicolor, *Gray, Hardw.*

Bala koral, . . . BENG. | Macha rang, . . . HIND.
Machkoral, . . . ,, | Kokna, Ugus, . . KOL.
Machmanga, . . HIND.

This fine fish eagle is abundant in Bengal, and found in all the north of India, ascending the Ganges and the Indus rivers. It lives on fish, but eats also snakes, turtle, etc.

Haliætus leucogaster, Gm., Grey-backed Sea Eagle.
Blagrus leucogaster, *Blyth.*
Falco blagrus, *Daudin, Jerd.*
,, dimidiatus, *Raffles, Gould.*
,, maritimus, *Gmel.*
Ichthyætus cultrungis, *Blyth.*

Kohassa, Samp-mar, HIND. | Ala, . . . TAM., TEL.

Found all over India, Burma, Archipelago, but chiefly on the coasts, and up some of the large rivers; lives on sea-snakes, fish, rats, crabs. It habitually robs the osprey.—*Jerdon, Birds*, i. pp. 64, 84.

AR. TAM. A river; a common postfix in Tamil countries, as Pal-ar, Ady-ar, etc. Ar, a river, is early Scythic or Kushite Babylonian, and the word is found in the Ar-Malchar of Pliny and the Ar-Macales of Abydenus, terms used to designate the Nahr-Malcha, or royal river of authors. —*Rawl.* i. 2.

AR, an ancient word entering very extensively into the language of the Indo-Germanic races, and supposed to be the source of the term Aryan. It seems to be connected with the original term for one of the first of avocations, namely, ploughing and the plough. In the western hemisphere, the answer will be remembered which was said by the Delphic oracle to Myson, when Anacharsis inquired who was the wisest man in Greece: 'He who is now ploughing his fields.' Into the Indo-Germanic languages the word has been adopted in various ways connected with the earth, the fields, ploughing, and field implements. The root ar means to plough, to open the soil; and from it we have the Latin ar-are, the Greek ar-oun, the Irish ar, the Lithuanian ar-ti, the Russian ora-ti, the Gothic ar jan, the Anglo-Saxon er-jan, the modern English to ear. Shakspere says (Richard II. iii. 2), 'To ear the land that has some hope to grow.' From this we have the name of the plough, or the instrument of earing—in Latin, ara-trum; in Greek, aro-tron; in Bohemian, oradto: in Lithuanian, arklas; in Cornish, aradar; in Welsh, arad; in Old Norse, ardhr. In Old Norse, however, ardhr, meaning originally the plough, came to mean earnings or wealth, the plough being, in early times, the most essential possession of the peasant; in the same manner as the Latin name for money. The act of ploughing is called aratio in Latin, arosis in Greek; and Max Müller believes that aroma, in the sense of perfume, had the same origin, for what is sweeter or more aromatic than the smell of a ploughed field? A more primitive formation of the root ar seems to be the Greek era, earth; the Sanskrit ira; the Old High-German ero; the Irish ire, irionn. It meant originally the ploughed land. Besides, the simple ar in Old Norse means ploughing and labour, and the Old High-German art has likewise the sense of ploughing. Αρουρα and arvum, a field, would certainly have to be referred to the root ar, to plough. The English word plough, the Slavonic ploug, has been identified with the Sanskrit plava, ship, and with the Greek ploion, ship.—*Müller's Lectures*, p. 242; *Taylor's Words and Places; Müller's Chips*, 1864.

ARA. SCYTHIC. A mountain. The word is not to be found in any Sanskrit dictionary with this signification, yet it appears to be a primitive root possessing such meaning, as we have Ar-budha, hill of Buddha; Aravalli, hill of strength; Aravindha, hill of limit.

ARABIA, in the S.W. of the continent of Asia, is about 1430 miles long and 1200 miles broad. The ancient Greek and Roman geographers divided Arabia into A. Felix, A. Petræa, and A. Deserta. The first nearly corresponds to the modern Yemen, but included Mahrah and Hadramaut; the second, the modern Hejaz; the third extending N.E. from A. Felix as far as the Euphrates. Some oriental authors, however, have included the whole peninsula under Yemen and Hejaz; while others, into Yemen and Hejaz, Nejd, the Tehama and Yemana. Hadramaut, Mahrah, Shehr, and Oman have also been reckoned independent provinces by some, while others include them in the two great divisions, Yemen and Hejaz. It is also known to the people as the Balad-ul-Arab and Jazira-ul-Arab. It has a central table-land surrounded by a desert ring, sandy to the south, west, and east, and stony to the north. This outlying circle is in its turn girt by a line of mountains, low and sterile mostly, but in Yemen and Oman of considerable height, breadth, and fertility; while, beyond these, a narrow rim of coast is bordered by the sea. The middle table-land occupies half the peninsula, and the whole of Arabia is about two-thirds cultivated or cultivable, the remaining third being irreclaimable desert. All the western parts of the Arabian peninsula, from Suez to Aden, including Palestine, the Hejaz, Mecca, and Yemen, are often spoken of as nominally subject to the Othoman Empire; but at Mr. Palgrave's visit, the more northerly parts, from lat. 26° to 32° N. into the Syrian desert, and eastwards to the Euphrates, were subject to the king of Shammar, the more important of whose territory surrounded Jabl Shammar; and the Wahabi king owned the tract from the shores of the Persian Gulf westward to the Hejaz, with Shammar on the north, and the great desert on the south. The sway of the king of Oman extended along the eastern shores from Bahrein to Dofra. Mesopotamia, Irak, and the plains north of Palmyra are part of Arabia, forming with the Hadad a region uniform in its physical features and in the race which inhabits it. The Shammar, Anazeh, and the Montefik tribes are as purely Arabian as their kinsmen of Nejd, and the villagers of the Euphrates and the Jof as those of the Hejaz and Yemen. The lands of northern Arabia, since the 15th century, have, however, been repeatedly fought for by Bedouin tribes. But up to 1880 the Shammar were supreme in Mesopotamia, and the more powerful Anazeh in the Hamad and as far north as Aleppo. Since 1862, the Turkish Government have marched

down the valley of the Euphrates, and taken military possession of Jaber and Deyr; and several tribes have since taken to agriculture. The Shammar Bedouin of Mesopotamia have above twenty sections, in all about 12,000 tents. Their allied tribes, nine in number, have about 30,000 tents. The Anazeh Bedouin have nine sections, in all 27,500 tents, with four allied tribes possessing 2400 tents. The Amur, Aduan, Aluin, Beni Sakkhr, Lehep, Sherarat, and Saleb are independent tribes of the upper desert and Hamad. Under the partial control of the pashalik of Baghdad are six tribes, amongst them Montefik, with 8000 tents, partly Bedouin, partly Fellah, inhabiting Irak.

The present Arabians, according to their own historians, are sprung from two stocks,—Kahtan, whom they claim to be the same with Joktan or Yoktan, the son of Eber; and Adnan, descended in a direct line from Ishmael, the son of Abraham and Hagar. The Arabs of the south are regarded as descendants of Kahtan, and those of the north, of Adnan, of the blood of Ishmael. Yoktan, according to Bunsen, was one of the two sons of Nimrud, and was the chief of the first Arabian emigration that proceeded southwards. Tradition, he says, points to the mountains of Armenia as the birthplace of the Arab and Canaanitish races. It is supposed that they travelled along the banks of the Tigris into Mesopotamia, from which a portion of them commenced a great migration southwards, the result of which was the foundation of the primeval kingdoms of southern Arabia, the kingdoms of the Adites in Yemen, who believe that they came from the sacred north, and once lived in a glorious garden of the earth, which they were to restore. In southern Arabia, Yemen, Hadramaut, and Oman, the people are more or less Himyarite in blood, history, and civilisation. The people now occupying the peninsula are regarded by Captain Burton (*Mecca*, 41, 45) as of three distinct races, viz. the aborigines of the country, who have been driven into the eastern and south-eastern wilds bordering upon the ocean; second, a Syrian or Mesopotamian stock, typified by Shem and Joktan, that drove the indigenæ from the choicest tracts of country. These invaders still enjoy their conquests, representing the great Arabian people. And, thirdly, an impure Egypto-Arab race, well personified by Ishmael, his son Nebajoth, and Edom (Esau, the son of Isaac), that populated and still populates the Sinaitic peninsula. The indigenes, he says, are sub-Caucasian tribes, which may still be met with in the province of Mahrah, and generally along the coast between Muscat and Hadramaut. The Mahrah, the Jenabah, and the Gara especially show a low development, for which hardship and privation only will not satisfactorily account. These are Arab-el-Arabah, for whose inferiority oriental fable accounts as usual by thaumaturgy. Dr. Carter, likewise, has remarked the similarity between the lowest type of Bedouin and the indigenes of India, as represented by the Bhil and other jungle races (*Burton*, iii. pp. 29–31). The principal immigrant race, Burton says (iii. p. 31), were the Noachians, a great Chaldæan or Mesopotamian clan, which entered Arabia about B.C. 2200, drove before them the ancient inhabitants, and seized the happier lands of the peninsula. This race would correspond with the Arab-el-Muta-Arabah, or Arabicized Arabs of the eastern historians. The third family, an ancient and a noble stock, dating from B.C. 1900, and typified in history by Ishmael, still occupies the Sinaitic peninsula. These Arabs, however, do not, and never did, extend beyond the limits of the mountains.

As a race, the Arabs have well-marked characters. The ideal of the ancient Arab was a fiery-souled, irresistible warrior, always in sight of his tribe, bold in speech, rapid with song and repartee, indulging in wine, feasting, gambling, and love of women, holding tears to be disgraceful, with limbs as iron as his armour, supporting without suffering the heat of the desert under an Arabian sun, delighting in the beauty and swiftness of his steed or of his camel, impassioned for the chase, a match unarmed for the lion, indefatigable in combat, and routing like Antar whole armies with his single spear and shield. From the impulse and unity given by Mahomed, the world saw the Arabs issue from their naked deserts. At all times impetuous, their energies were then concentrated to enforce belief at the point of the sword; and within twenty years they mastered Syria, Palestine, Egypt, and Persia, the conquest of Persia being merely a prelude to further extension in the east. Mahomed's death occurred at Medina on the 8th June 632. Abu Bakr succeeded as the temporal and spiritual head, with the title of khalifah. The fall of Bosra opened the way to that of Damascus. The battle of Aiznadin, in 633, in which 50,000 Christians are said to have fallen, decided the fate of the capital of Syria. In 634, Emessa and Balbec were taken, and Jerusalem capitulated to Omar. Aleppo fell 638, and the capture of Antioch completed the conquest of Syria. The battle of Kadesia and the fall of Madain made the Arabs masters of Persia to the banks of the Oxus, and Alexandria fell to the forces of Amru. But from this time intrigues and great dissensions occurred. Omar was assassinated; his successor, Usman, during an insurrection, was slain in his palace, at the age of 82 and the 35th of his rule. Ali, the cousin and son-in-law of Mahomed, the fourth khalifah, had a troubled rule, which ended in his assassination in a mosque at Kufa at the age of 63; and his son Hasan was poisoned at Medina, at the instigation of Moawiyah. From A.D. 661 the Ommiades ruled as khalifs, till A.D. 750, in which year all the descendants of the house of Moawiyah were massacred during an insurrection in favour of the great-grandson of Abbas, uncle of Mahomed, who fixed his court at Kufah, and then at Hashemiah, on the Euphrates. His successor, Mansur, built and occupied Baghdad, where the Abbassides reigned till overthrown by Hulaku, grandson of Chengiz Khan, in the 13th century, after which event Arabia became a province. During the khalifat of Umar in A.H. 15 or 16, but without his knowledge, a military expedition set out from Oman (Uman) to pillage the coasts of India. It appears to have proceeded as far as Tana, near Bombay. Usman sent an expedition against Baroach and against Debal, under his brother, who failed disastrously. Umar disliked and forbade naval expeditions, a prohibition which was only relaxed in the time of Moawiyah. In A.H. 22, Abdullah, son of Amar, invaded Kerman, and took Kuwashir, the capital. Mahomed Kasim,

by arms and policy, conquered the entire valley of the Indus. He handed his conquests to Temim, who governed for 36 years till the downfall of the Ommiad khalifs, on which event the Arabs were expelled by the Sumra race in A.D. 750, and all the Arab conquests in India were restored to the Hindus. Sind, from Bakkar to the sea, was ruled by the Sumra Rajputs till the end of the 12th century. At an early date after the Hijira, they established a factory at Canton; and their numbers were so great by the middle of the 8th century, that in A.D. 758 they attacked and pillaged, and fired the city, and fled to their ships. From periods dating back to many centuries before the Christian era, the Arab race were keen traders, and to the present day they continue to settle wherever commercial transactions can be made profitably. Throughout eastern Africa, they and their descendants from mixed blood, occupy a prominent position, also in the western parts of British India, and numbers of them are spread throughout the Eastern Archipelago. They are prone to excitement, and particularly on matters of religion. Ever since the time of Mahomed, they have sent forth keen missionaries, and their proselytizing efforts have been, and continue to be, largely successful, and at present they are working in Africa. In their own country, the towns on the sea-coast have an admixture of other Asiatic and African races; and as Arab Bedouin life is ever changeable, quarrels and wars have greatly modified the tribes, dispersed some, and amalgamated others, so that to the present day the Mozeina and Suleim are said to have alone maintained their individuality from the time of Mahomed. How far soever they have spread, they continue to designate themselves with their tribal name as a cognomen, as, for instance, Amir-ud-Din, Koreshi; or with the name of the district or country in which their forefathers had settled, as, for instance, Mir Kadar Ali, Kirmani. And the descendants of Mahomed are styled Mir, prince, or Syud, lord; those of Ali by his other wives are Alavi Syuds; the offspring of a Syudani with a husband of another tribe being honoured with the title of Sharif, or noble. The Walajahi family, who ruled in the Karnatic from the middle of the 18th century, claim descent from Umar.

The population of the Arabian peninsula, vaguely estimated at 12,000,000, consists of many independent tribes, chiefly engaged in pastoral pursuits. In this respect it is in the same state now as in ancient times, when the Kushite and Joktanite occupied A. Felix, when the Ammonite and Ishmaelite dwelt in A. Deserta, and the Moabite, Edomite, Nabathœan, Midianite, and Amalekite in A. Petræa. None of the Arab cities are large. According to Captain Burton, the population of El Medinah is from 16,000 to 18,000. Mecca contains about 45,000 inhabitants, Yambu from 6000 to 7000, Jeddah about 2500, and Taif 8000. Many tribes exact blackmail from the villagers. It is the 'khuwat,' (brotherhood), the tribute claimed from time immemorial by the Bedouins, in return for their protection, or rather forbearance, in not touching the harvest or driving off the cattle. Each village pays 'khuwat' to one shaikh in every tribe, who then acknowledges it as his ukhta or 'sister,' and is bound to protect the inhabitants against all the members of his own tribe.

The maritime states are independent, but acknowledge the feudal supremacy of the Wahabi ruler whenever his power, or their dissensions, may place him in a position to exercise it. Their chiefs are expected to afford military aid in his expeditions. The territorial possessions of the maritime states are confined to the inhabited spots on the sea-coast, and may be said to be bounded by the walls of their towns and the date-groves in their vicinity. They are each of them closely related to nomade tribes in the interior, over which the chiefs of the former exercise a limited control. The maritime tribes are dependent for their subsistence on the pearl and common fisheries. They engage also extensively in the coasting trade of the Gulf, and in the carrying trade to India and Zanzibar. With the exception of Koweit and the Bay of Kaleef, sheltered by reefs, the maritime coast possesses no harbours, and forms a lee shore to the prevailing N.W. winds. The character of the coast of Arabia from the mouths of the Euphrates to the range of mountains in Oman, and which joins the sea near Ras-ool Khyma, is low, sandy, and barren. Water is everywhere more or less brackish. The desert passes close up to the walls of the towns, and except the scanty date plantations, the produce of which is altogether inadequate to the supply of the inhabitants, precludes cultivation. The towns are built on the banks of deep creeks or backwaters, into which the larger boats can enter only when unladen. The average fall of rain does not probably exceed four to six inches in the year. The heat during summer is excessive.

In 1799, the British thought of occupying Perim, and in 1802 they engaged in political and commercial alliances with the chiefs on the coast; and, on the 19th January 1839, Aden was taken by the British, and has since been extensively fortified. The tribes around Aden are the Abdali, Foodeli, Akrabi, Oulaki, Hushahi, Yaffai, Subaihi Alawi, Amir, and D'bene. The Oulaki occupy about 55 miles of the coast from the borders of Hadramaut westwards, and about 200 miles inland. Since 1848, Mocha and all the east coast of the Red Sea has been under the Turkish Government.

Many of the Arabs, between the rise of Christianity and the time of Mahomed, became Christians. Niebuhr (v. ii. pp. 178, 179) supposed the tribe of Abu Salibah, near Damascus, to be Christians, because of their name, literally Children of the Cross. In the days of Mahomed, the people of Mecca upheld the worship of their idols from motives of gain, but Arabs in general had little respect for them, and treated them worse than Neapolitans have ever treated a refractory saint. If the prophecies of their kalim, seers or holy men, did not concur with their wishes, they often put them to death. When Amr-ul-Kais commenced an expedition to avenge the death of his father, he entered, according to custom, the temple of the idol Zu-ul-Khulusa, to obtain his approbation by means of the divining arrow. Drawing the wrong arrows three times in succession, he broke them all and threw them at the head of the idol, saying, 'Wretch! if your father had been killed, you would not forbid revenge for his death!' There was also an idol-worship in which bloody sacrifices were offered.

The Arab family, now, is largely Mahomedan,

except the Christian Arabs of Malta. But the Bedouin have the least religious sensibility of any known race; at the present time they are Mahomedans merely in name, and never utter a prayer, or if they perform any religious rites at all, these may possibly be some lingering relic of the old Sabæan adoration of the rising sun. Captain Burton mentions that in most places, even in the heart of Mecca, he met with debris of heathenry proscribed by Mahomed, yet still popular. Several sites in Palestine and Arabia are held sacred by Jews, Christians, and Mahomedans. In the north is Jerusalem, and Tour or Tor, the Sinai and Mount Horeb of all these sects. On the S.W. are Mecca and Medina; and to the S.E. is Karbila, reverenced by Mahomedans of the Sunni or the Shiah sects. Karbila was taken in 1802 by the Wahabi, and Medina fell in 1804.

Differences in their modes of life constitute the great distinction between the different tribes. The genuine Bedouin disdains husbandry, as an employment by which they would be degraded. They maintain no domestic animals but sheep and camels, except perhaps horses and asses. Those tribes which are of a pure Arab race, live on the flesh of their buffaloes, cows, and horses, and on the produce of some little ploughing. An ordinary Bedouin family has a tent, a few camels, goats, and poultry, a mare and her saddle and bridle, a lance 16 feet long, a matchlock or musket, a hand mill, a cooking-pot, pipe, and leather bucket.

Burton tells us that sharifs and other great men sometimes bind a white turban or a Kashmir shawl round the kerchief, to keep it in its place. The Aakal varies in every part of the country. Here it is a twist of dyed wool, there a bit of common rope, 3 or 4 feet long; some of the Arab tribes use a circlet of wood, composed of little round pieces the size of a shilling, joined side by side, and inlaid with mother-of-pearl; the eastern Arabs wear a large circle of brown wool, almost a turban in itself; in Barbary, they twist bright-coloured cloth round a rope, and adorn it with thick golden thread. The dress of the women is a wide cotton gown of a dark colour, blue, brown or black, fastened by a leathern girdle. Over their heads they wear a kerchief called shauber or mekroune, the young women having it of a red colour, the old, black. All the women puncture their lips and dye them blue; this kind of tattooing they call bestoum. Round their wrists they wear glass bracelets of various colours, and silver rings both in the ears and nose. Both in summer and winter they go barefooted. The females of Oman are tall and well made, with a roundness and fulness of figure, not, however, approaching to corpulency. Their complexion is not darker than that of a Spanish brunette, and in the towns they preserve their complexions with care. Mahomedan ladies in Oman enjoy more liberty, and at the same time are more respected, than in any other eastern country. During civil commotions, they often take a part in public affairs, and in some instances have displayed the utmost heroism. In Arabia, slavery of the Negro race is common, and concubinage of the master with the slave women universal. They are all fond of songs and stories, and this has been a trait of their character from pre-Mahomedan times. A copy of the Kabir-ul-Aghani, a book of songs compiled in the 10th century by Abul Faraj Ali of Isfahan, for which he got 3000 dinar (about £1500), has been since sold in Baghdad for 4000 drachmas of silver. As historians and physicians, they were pre-eminent for several hundred years. Amongst other famous names, mention may be made of the Abbassi, Abul Farag, Ibn Zohar, Avicenna, Al Biruni, Baizawi, Mir Khond, Khondamir, Masudi Ibn Haukul, and many others, and wherever spread they continue eminently literary.

The Arabic language, as written in the Koran, is the most developed and richest of the Semitic tongues. It is not now spoken in any part of Arabia, as there written. Probably it never was so, any more than the Latin, the English, the German, or Italian have ever been spoken as written in their respective bounds; and Burton quotes Clodius, in his Arabic Grammar, as saying that the dialectus Arabum vulgaris tantum differt ab eruditâ, quantum Socrates dictio ab hodiernâ linguâ Græca. Arabs divide their spoken and even written language into two orders, the Kalam Wati, or vulgar tongue, sometimes employed in epistolary correspondence, and the Nahwi, a grammatical and classical language. Every man of education uses the former, and can use the latter. Palgrave tells us that the Arabic language of the Koran, the Ishmaelitic Arabic, is current in Jabl Shomer, and throughout Upper and Central Nejd, Naseem, Hoshem, Sedeyr, and the northern half of Aared, and at Riad. Southwards of these limits, the Kahtanic Arabic begins to prevail, till in Oman it wholly supplants the other. As now spoken by the middle and higher classes in Egypt, it is generally inferior in point of grammatical correctness and pronunciation to the dialects of the Badawi of Arabia; but the dialect of Egypt is much to be preferred to that of Syria, and still more to the dialects of the Maghrabi or western Arabs. In Persia and India the Koran is almost the sole Arabic work studied by the learned, and with them it is nowhere spoken. The differences in the dialects of Arabia are well illustrated by the presence in the language of many synonyms, one being in common use in one country, and another elsewhere. After the first great success of the Arab arms, up to the founding of the Baghdad empire, the various dialects became fused into the language of Hejaz, and the old dialect confined to literary compositions. The most flourishing age of Arabic poetry and general literature and science, commenced with the Baghdad empire, and extended to the conquest of Egypt by the Othman Turks. But even in the present declining age of Arabian learning, literary recreations still exert a magic influence on the Arabs. Modern Arabic is written in the same dialect in Egypt, in Syria, in Baghdad, in Constantinople, at Algiers, and at Zanzibar, whether it be a mercantile letter, a state proclamation, an advertisement, or a letter in a newspaper, and it is understood by everybody. The learned men who write novels or other books of belles-lettres may be aiming to bring back a classical style, but their dialect is less trustworthy, as actually modern. Poetry also may be ever so antique, just as in the decline of Greece the learned wrote poetry in Homeric dialect. Similarly to Italy, which has local dialects strongly distinguished, though the language of literature is but one, so is it with Arabic. The local dialects of Algiers, of Cairo,

of Aleppo, of Baghdad, have marked diversities, as those of Sicily and Milan; but Mecca seems to set the law in Arabic literature, as Florence in Italian. According to Wilkinson, the earliest inscription hitherto discovered in the present Arabic letters, occurs at the gold mines of Jabl Ilaqa, in the Ababdali desert.

Of all the Semitic languages, the Arabic is the only one that has retained its original abode in Arabia proper, and it has also spread itself on all sides into the districts of other tongues. The others have become extinct, or exist in a modified form. The living dialects of the Himyaritic, for instance, are the Gara or Ekhili and the Mahrah.

At present, the Arabic alphabet is in use amongst the Turks, Persians, Malays, and with some of the peoples of India and Africa, but differing in several particulars from one another, and they have also different modes of writing for different forms of business, each of which has its particular name. The writing characters anciently in use in these regions are known from the sculptures which remain. Neither the Arabic nor the Persian letters are sufficiently numerous to compose the pronunciations of many foreign tongues, and they are ill suited to record proper names, as in geography. Much of the value of Abul Fazl's records is lost from this cause.—*Niebuhr, De Bode, Mignan, Palgrave, and Wellsted's Travels; Forster's Arabia*, 1845; *Lowth's Wanderer*, 1855; *Tremenheers's Tribes*, 1872; *Lady Anne Blunt's Bedouin Tribes; Burton's Pilgrimage; Lane's Egyptians; Sharpe's Egypt; Gibbon's Roman Empire; Elliot's India as told by its own Historians; Skinner's Overland Journey; Aitcheson's Treaties; Pelly; Rawlinson; Joseph Catafago; Logan in Jo. Ind. Art.; Sale's Koran, Prel. Dis.; Major Upton.*

ARABIAN NIGHTS' ENTERTAINMENTS, a book known in Europe by this name, is the Arabic work Alif Laila, or One Thousand and One Nights, which again was a translation into Arabic, with modifications, of the Sanskrit book Vrihat Katha. Lane supposes that the original was a Persian work, the Hazar Afsanah, meaning The Thousand Tales; also that the word Afsanah was rendered in Arabic Khuafi, the name of an Arab of the Odhrah tribe, whose name came subsequently to be applied to any incredible tale.

ARABII of Arrian are the Arabitæ of Curtius, the Arbiti of Ptolemy, the Ambritæ of Diodorus, and the Arbies of Strabo. They dwelt to the west of the lower Indus, and are said to have been named from the river Arabis, Arbis, Arabius, or Armabel, the modern Purali river, which flowed along their confines, and divided their territory from that of the Oritæ.—*Elliot; Cunningham, India*, pp. 304, 305.

ARABI MUTCHI. Duk. Mullet fish.

ARABSHAH, author of a life of Timur. He lived at Samarcand in A.D. 1422.

ARAB-ul-MOSTARABA, or mixed Arabs, the lineal descendants of Ismael, occupied the Hejaz, and amongst their descendants was the tribe of Koresh. The nomades are styled Arāb; Arăb being the town residents.

ARACA. Maleal. Betel-nut.

ARACEÆ, about 100 species of the Arum tribe occur in S.E. Asia, in the genera arisæma, amorphophallus; colocasia, homalonema; scindapsus, pothos, acorus, pistia, calla, and arum.

ARACHIS HYPOGEA. *Linn.* Earth-nut.

A. Africana, *Lour.*		A. Asiatica, *Lour.*	
Mung-phalli,	Beng.	Valaiati-mung,	Duk.
Atke'kule,	,,	Bui Sing, Bui-Mung,	H.
Myæ-bai,	Burm.	Mung-phalli,	,,
Loh-hwa-sang,	Chin.	Kachang-tanah,	Malay.
Manilla Gram,	Eng.	Buchanaka,	Sansk.
Ground-nut, Earth-nut,	,,	Ver Kadale,	Tam.
Manilla-nut, Pea-nut,	,,	Veru Sanaga,	Tel.

This species of the Leguminosæ, indigenous to South America, is extensively cultivated in the East Indies for the sake of the oil yielded by its seeds, and for the fruit. With the exception of the cocoa-palm, it is, of all the oil-yielding plants, the most extensively cultivated in the Malay Archipelago. Two varieties are grown in Malacca, also in Java, one with white, the other with brown seeds. It is sown in September and gathered in February. The young fruit, instead of being placed at the bottom of the calyx, as in other kinds of pulse, grows at the top and in the inside of a long slender tube, which looks like a flower-stalk. When the flower has withered, and the young fruit is fertilized, nothing but the bottom of this tube with its contents remains. At this period a small point projects from the summit of the young fruit, and gradually elongates, curving downwards towards the earth. At the same time the stalk of the fruit lengthens, until the point strikes the earth, into which the now half-grown fruit is speedily forced, and where it finally ripens in what would seem a most unnatural position. When mature, it is a pale-yellow wrinkled oblong pod, often contracted in the middle, and containing two or three seeds the size of a hazel-nut. The fruit is generally toasted before it is eaten, is extremely palatable, and is sold in the streets and bazars of every town in India. In flavour the nuts are as sweet as an almond. Its clear, pale yellow oil is most valuable in commerce; in the neighbourhood of Calcutta, it is used for pharmaceutical purposes, and for lamps and machinery. The kernels in London are sold at about £16 the ton; they yield 44 per cent. of oil, which has been sold there at about £42 the ton. This useful oil is good for every purpose for which olive or almond oil is used.—*Roxb.; Riddell; Voigt; Hogg, Veg. King.; Crawfurd, Dic.; O'Sh.; Simmonds' Veg. Prod.; Birdwood's Bombay Prod.; Ainslie; M. E. Reports Cat. Ex.* 1862; *Mason's Tenasserim.*

ARACHOSIA of classical writers is the Arokhaj and Rokhaj of the Arab geographers. The latter form is also found in Arrian's 'Periplus of the Erythræan Sea.' In Hindu mythology, it is the country of the Rachos, with whom the immigrant Aryans came in conflict, and have been turned to the fearful Rakshasa of popular Hindu belief. General Cunningham seems to regard Arachosia as Ghazni. According to General Ferrier, Arachosia can be distinctly shown, by the Greek measurements, to have been at the ruins of Shahr-Zohauk or Olan Robat, between Kilat-i-Ghilji and Mokoor. According to Ch. Bunsen, to the south of Kabal is Haraquaiti, denominated the fortunate, the Harauwatis of the cuneiform inscriptions, the Arachosia of the classics. It was the tenth people whom the Aryans conquered. It was here that the Aryans commenced to inter their dead, which the Zendavesta strictly prohibits, as being the greatest

desecration of the sacred earth.—*Bunsen*, iii. p. 464–485; *Ferrier's Journ.* p. 323.

ARAD. GUJ. Phaseolus mungo.

ARADHYA, a class of brahmans who profess the Jangam creed, but adhere to their caste views. In other sects of Hindus, the brahman uniformly takes precedence of other castes. But among the Vira Saiva or Jangam sect, he is degraded beneath all others. Hence there is a perpetual feud between the Aradhya brahman and the Jangam, who (unless at funerals, where all are bound to assist) treat these brahmans with contempt.—*Brown on the Jangams*, p. 8; *Wilson's Glossary*. See Jangam; Basava.

ARADOONDA. TEL. Capparis horrida.

ARAFAT, anciently called Jabal Ilal, the Mount of Wrestling in Prayer, and now Jabal-ur-Rahmat, the 'Mount of Mercy,' is a low pointed hillock of coarse granite, split into large blocks, with a thin coat of withered thorns, about one mile in circumference, and rising abruptly from the low gravelly plain—a dwarf wall at the southern base forming the line of demarcation—to the height of 180 or 200 feet. It is about a six hours' march or 12 miles on the Taif road, due east of Mecca. Near the summit is a whitewashed mosque with a minaret, looking like a small obelisk; below this is the whitened platform, from which the preacher, mounted on a dromedary, delivers the sermon, to be present at which is an essential part of the Mahomedan pilgrimage to Mecca.—*Hamilton's Senai*, p. 131; *Burton's Mecca*, iii. p. 252, 257.

ARAFURA. See Alfoeren.

ARAHAR. BENG. Pigeon pea; Cajanus Indicus.

ARAK. VERN. Arrack, any alcoholic spirit. Arak i Bed i Mushk, distilled water of willow flower. Arak-i-Gowgird, sulphuric acid.

ARAK. PANJ. Hordeum hexastychum. Arak-pushpi, Pentatrophis sporalis.

ARAK. According to Leon de la Borde and Forskal, two trees are known in Arabia by this name,—one, in the interior of Oman, the Salvadora Persica; the other, shorter and smaller, is the Avicennia nitida.—*Delille, Voyage en Arabie de Leon la Borde; Wellsted's Travels*, i. p. 416.

ARA-KADU. TAM. Literally, the jungle on the river; the modern Arcot.

ARAKAN was ceded to the British by the treaty of Yandaboo, dated 24th February 1826. Its districts are now Akyab, An, Ramri, and Sandoway. It is called by the natives Ra-khoing-pyee or Ra-khoing country. There are three principal rivers, the Mayn, the Koladyn, and the Le Myo. The inhabitants of Arakan proper are the buddhist Burmese, known there as Ra-khoing-tha, the Kola mahomedans from Bengal, and the Dom, also from Bengal, in the plains; and in the hills, the Khyoung-tha, the Ku-me or Kwe-me, the Doing-nuk, and the Mroong. Its chief ports are Chittagong and Akyab, and rice is its great export. The province is a narrow belt of land, hemmed in between the sea and the Aeng or Youmadong range of mountains, which runs very near the coast. It is traversed from north to south by the Koladyn, a large river navigable for a considerable distance into the interior; and has numerous small rivers, all of which have tidal channels, and form a sort of delta along the coast, which is skirted by many islands. From the proximity of the mountains to the coast, and their considerable elevation, the rainfall is very great, amounting to 160 and 180 inches annually.

The Arakanese and Burmese are of the same race, and have the common national name of Myam-ma, which is changed to Burma in European tongues. It is, however, a comparatively modern appellation for the several tribes which conjointly form the nation. The difference between the dialects spoken by the Burmese and Arakanese is mainly in pronunciation, the written languages of both countries being for the most part alike. Some tribes reside on the banks of the mountain streams, and are distinguished by the name of Khyoung-tha. Their language proves that they do not belong to the Yuma group, but are intruders from the north; and their own traditions recognise the Ku-mi as the tribe in possession of the seaboard when they entered Arakan. Mug is a term which the Mahomedans gave to the Arakanese, but that people restrict it to the descendants of Arakanese by Bengali mothers. The Mug form six-tenths of the native population of Arakan.

The Arakan hill tracts, lying between long. 92° 44′ and 93° 52′ E., and lat. 20° 44′ and 22° 29′ N., commence about 100 miles from Akyab, and terminate on the northern confines of British India, in a country occupied by independent wild tribes. The hill tracts of Arakan have an area of 5000 square miles, are separated from Cachar on the N. by the territories of independent tribes, chiefly the Looshai and Shandoo; on the E., between Arakan and Upper Burma, lie the countries of the Shandoo and the Chin; on the S. is the Akyab district, and on the W. is Chittagong and hill tracts. The hill tracts of Northern Arakan in 1878–79 had a population of 18,329:—

Khyoung-tha, or Choungtha,	1,580	Chin,	1,559
Khami,	10,800	Anoo,	43
Khoon,	100	Chaw,	219
Mro,	3,722	Shandoo,	50
		Arakanese,	119

Bengali, Tamil, Telugu, Mahomedans, Hindus, Burmese, Manipurian, and Siamese or Shans, make up the remaining 130.

The trans-frontier independent tribes are the Looshai, Shandoo or Pooi, the Khyn and Khongshoo. Kami number about 22 clans. Ka-mi means 'man.' The Chin are much scattered through Burma and Arakan. They tattoo the faces of their wives at puberty. They have muskets, also bows and arrows. They make koung or rice-beer. The Mro tattoo. The Kami, Shandoo, and Upper Pin Mro do not tattoo. The Ku clan of the Chin, as their sole apparel, have a girdle of rattan cane, dyed red, coiled round and round their waists.

The Choung-tha (choung, a river, and tha, a son) or Ra-kaing are of the Myamma (Burmese) stock, and have seven clans, all situated on the Koladyn. They tattoo.

The Chaw are a small tribe, who are supposed to be descendants of Hindus taken in war.

The Koon bury their dead; their language resembles that of the Ka-mi.

They all practise the jhoom or kumari cultivation. They grow tobacco largely. They all have slaves, captives and debtors; and the graves in their burial-places, especially of the Chin, are marked by a stone slab lying across 4 or 6 hewn

pillars. The widows are re-married to the brother of their deceased husband.

The Shandoo or Pooi are a powerful tribe. They have eleven septs,—the Boukyee, Bwa, Hakka, Lallian, Moungdoo, Rumpee, Saypee, Sayboung, Tanglang, Toungsat, and Yaillain. They dwell in villages of 80 to 700 houses. They were all till lately inveterate raiders, plundering and enslaving. They swear friendship in sacrificing a bullock or other animal. The Shandoo are known to the Burmese and the Yaw of Upper Burma by the name of Myouk-Chin, also as Boungshay, but usually as the Aying or barbarian. The powerful tribes claim 'ata,' or protection tribute, from the weaker bodies, and they enforce it by raiding.—*Hughes' Hill Tracts; Lubbock, Origin of Civilisation; As. Soc. Journ.; Treaties.*

ARA KOORA. TEL. Marsilea quadrifolia.

ARAL, an extensive inland sea in the Aralo-Caspian depression, from lat. 43° 35′ to 46° 45′ N., and long. 58° 22′ to 61° 46′ E. Its length from N.E. to S.W. 265 miles, its breadth in the centre 165 miles, and its area 17,600 geographical miles. It is 117 feet above the Caspian, and 33 feet above the ocean. The Amu Darya and Syr Darya, the Oxus and the Jaxartes of the Greeks, empty themselves into this sea. It is called by the Kirghiz tribes Aral Tenghiz, Sea of Islands. The water contains 1·3 per cent. of salt, but is drinkable. It has many islands and reefs of rocks. Its depth varies up to 37 fathoms; rain rarely falls. Its surface is supposed to be lowering. The Greeks, writing of the Jaxartes and Oxus, asserted that both these rivers disembogued into the Caspian. From this an opinion has been entertained that in ancient times the Sea of Aral formed a part of the Caspian.—*Collet, C. I., Khiva.*

ARALA. SANSK. Ailanthus excelsa.

ARALI. MALEAL. Allamanda cathartica, *L.* In Tam., Nerium odorum, *Ait.*

ARALIA CACHEMERICA. *Dne.*

Dunuk, Chananri, CHENAB. | Bana-khor, Churial, PANJ.

A rank plant growing to 6 or 8 feet high; is abundant in some places in the Jhelum and Chenab basins, at 5200 to 9000 feet. It is said to be eaten by goats.—*J. L. Stewart, M.D.*

ARALIACEÆ, the ivy family, a natural order of plants, generally trees or shrubs. The genera panax, dimorphanthus, aralia, and hedera occur in the East Indies. The natives of Sikkim collect the leaves of many Aralias as fodder for cattle, for which purpose they are of the greatest service in a country where grass for pasture is so scarce; this is the more remarkable, since they belong to the natural family of ivy, which is usually poisonous. The use of this food, however, gives a peculiar taste to the butter. In other parts of Sikkim, fig leaves are used for the same purpose, and branches of bird-cherry, a plant also of a poisonous family, abounding in prussic acid. Aralia cordata, *Thunb.*, a plant of China; its young shoots provide an excellent culinary vegetable.—*Von Mueller; Hooker, Jour.* i. p. 359; *Hogg's Vegetable Kingdom*, 390.

ARALIA EDULIS. *Hooker f. Smith.*

Dimorphanthus edulis. | Tang-kwei, . . . CHIN.

Grows in the Chinese provinces of Kan-suh and Shan-si. Its root is used in hemorrhages, fluxes, dyspepsia, menstrual and puerperal diseases. Chinese women believe that it makes them turn to their husbands. The young shoots and roots are eaten in China and Japan. It greatly resembles celery.—*Smith.*

ARALIA PALMATA, *Smith*, the Wu-kia-p'i of the Chinese, grows in Shen-si, Hu-peh, and in the valley of the Yang-tsze. Its root is made into a tincture, and prescribed in rheumatism and tertiary ailments.—*Smith.*

ARALIA PAPYRIFERA. *Hooker.* Rice paper.

T'ung-ts'au, . . CHIN. | T'ung-toh-muh, . CHIN.

This plant grows in King-chau-fu in Hu-peh, and is cultivated in Formosa. The ordinary size of its pith is about that of a man's thumb, but larger sizes are obtainable. It furnishes the rice paper of commerce, which is so largely consumed in the provinces of Canton and Foh-kien, that it is estimated 30,000 dollars' worth of it are annually made use of in Fu-chu-fu alone, where every lady wears artificial flowers made out of it. One hundred sheets, each about three inches square, can be bought for three half-pence. The pith is sometimes 1½ inch in diameter. It is not grown from seed, but from young shoots; when these appear above ground early in spring, and are a few inches high, they are carefully separated from the parent roots and transplanted into pots, in which they remain until about a foot high, when they are removed to land prepared for them. They are said to attain their full growth of 10 or 12 feet at their tenth month; they are cut down, the twigs and leaves removed, and the stems left to soak for some days in water, to loosen the bark and wood, and facilitate the removal of the pith. This last, after being cleaned and made into a cylindrical shape, is cut into convenient lengths, and is now ready for the hand of the paper-cutter, who, with a sharp broad-bladed knife, makes a slight longitudinal incision in the cylinder of pith, which is then turned round gently and regularly on the edge of the knife, until the whole available material is planed off in thin even slices. Much care and dexterity are requisite to produce sheets of even thickness.—*Bennett*, pp. 299–304; *Hooker; Smith.*

ARALIE. MALEAL. A tree about forty feet in height, and two feet in diameter; used in Malabar for planks in vessels.—*Edye. Mal. Can.*

ARALU. SING. Terminalia chebula.

ARAM, the highland south-west of Armenia (Arminn); the country between the sources of the Euphrates and Tigris, and Mesopotamia proper, is Aram Nahrain. The Aramæans were a Semitic race of highlanders who first settled on the upper part of the Euphrates and Tigris districts, and then passed through Mesopotamia proper (Aram of the two rivers). The name of Uz, in Nejd, proves that its offsets extended as far as North Arabia. The Aramaic tribes, according to Chevalier Bunsen, are the historical nations of Syria, Aram, Mesopotamia, and Babylonia, speaking Syrian in the west, and the so-called Chaldaic in the east. In the gradual diffusion of mankind, the western provinces of Iran seem to have fallen to the share of the Aramæans and Elamites; and the Semitic people and language displaced the Kushite. From their primitive language two distinct branches sprang, the original Arabic, with the Musnud, Koreish, and other dialects of that tongue, being one, and the Aramaic the other. The latter had two grand subdivisions, from one of which, known as the Western Aramaic, were derived the Am-

haric, Syriac, Hebrew, etc.; and from the other, or Eastern Aramaic, came the Syrian, Babylonian, and Chaldean tongues. From its monosyllabic construction, the eastern seems to be more ancient than the western Aramaic; and it appears likewise to be the root of the Zend, Pehlevi, Sanskrit, and other dialects in use throughout a portion of the territory along which it had spread eastwards. The greater part of what was called Mesopotamia in later times, constituted the territory of ancient Babel, and was the Aram-Nahrain. The same territory, in Gen. xxviii. 2, 6, 7, is called Padan-Aram, or champagne Syria, both of which designations agreed with the description of the country given by Strabo.—*Colonel Chesney's Euphrates and Tigris*, p. 118; *Bunsen*, iii. and iv. p. 353.

ARAMANDA. TEL. Eugenia bracteata, *Roxb.*

ARAMRA, in Kattywar, held by the Badhail race, who, along with the Wagher race of Dwarica, were long the terror of the neighbouring seas.

ARAM SHAH, son of Kutub-ud-Din, Aibek, in 1219 succeeded to his father on the throne of Dehli, but was deposed by Altamsh, his father's slave.

ARANDI. SANSK. Ricinus communis; castor oil.

ARANEA, *sp.*, the Arasuk or Bir-bahuti insect. See Bir-bahuti; Insects.

ARANELLI. TAM. Cicca disticha.

ARANG, a small town on the banks of the Mahanadi, in the Central Provinces; formerly one of the seats of the Hai-Hai Rajput dynasty.

ARANG. MALAY. Charcoal. Arang para, lamp-black. Arang tanah, coal.

ARANGO. GUJ. Large rough carnelian beads, of various sizes and shapes, made in Cambay, and formerly extensively used in the African slave trade.—*Faulkner.*

ARAN-KOWAL. HIND. The lotus of the desert, from aranya, a waste, and comala (pronounced kowal), a lotus.

ARANYA. SANSK. A forest, a wood. Aranya-shashthi, a Hindu festival on the 6th (shashti) of Jeyesth (May—June), observed by Hindu women in the hope of obtaining handsome children. Part of the ceremonial is walking in a wood. Shashthi is also the name of a Hindu goddess.

ARANYAKA. SANSK. Treatises relating to Hinduism, to be read in a forest. Part of one is said to have been written by Asvalanyaka, another part by Sayana. They are religious and philosophical writings, which expound the mystical sense of the ceremonies, discuss the nature of God, etc. They are attached to the Brahmanas. Their names are the Brihad, which is attached to the Satapatha Brahmana; the Taittiriya; the Aitareya, a part of the Aitareya Brahmana; and the Kanshitaki. There are passages in these books unequalled in any language for grandeur, boldness, and simplicity.—*Garrett; Dowson.*

ARARAT, a volcanic mountain, in lat. 39° 42′ N., long. 43° 38′ E. It consists of two peaks,—Great Ararat, 17,323 feet, on the north-west; Less Ararat, 13,093 feet, on the south-east. An eruption occurred on the 2d July 1840. It is called by the Persians, Mountain of Noah; Aghridagh, by the Turks; by the Arabs, Jabl-ul-Judi; and by the Armenians, Massinssar, or Mountain of the Ark. But all unite in revering it as the haven of the great ship which preserved the father of mankind from the waters of the deluge. Some planks of the ark are fabled to have remained on this hill at the date of the accession of the Abbassi khalifs, A.D. 749.—*Porter's Travels*, i. 183; *Gen. Monteith's Report; MacGregor.*

ARAS, a modern name of the ancient Araxes, the Awerma of the Puranas, now called Kum Feroz. It laves the foot of the rock Istakhr. The Araxes, at its commencement, owing to its many affluents, bears the Persian appellation of Hazara; it springs from the side of the Bin Gol, or mountain of thousand lakes, about 30 miles south of Erzerum, and nearly in the centre of the space between the eastern and western branches of the Euphrates. Its course, from its first spring near Jabal Seihan, is almost north-east for about 145 miles through Armenia, when it turns eastward, being then near the frontier of Kars; this proximity continues for 110 miles. The sources of the Aras and those of the north branch of the Euphrates are about 10 miles from one another. In modern times, the north-eastern districts, along the banks of the Araxes, intervening between Aderbijan and Georgia, have been in general subject to the sovereigns of Persia. —*Malcolm's History of Persia*, ii. p. 212; *Jour. Royal Geo. Society*, vi. part ii. p. 200.

ARASA. BENG. Solanum verbascifolium.

ARASA. KARN. Arasan, TAM. A king, a ruler; a variation from raja.

ARASA-MARAM. TAM. Ficus religiosa. Arasa-Nar, a fibre obtained from that tree.

ARASHTRA, SANSK., or the kingless, the republican defenders of Sangala or Sakala. They are the Adraistæ of Arrian, who places them on the Ravi. They were known by the several tribal names of Bahika, Jartikka, and Takka, from which last is the name of their old capital of Taxila or Takka-sila, as known to the Greeks. The people still exist in the Panjab hills; and their alphabetical characters, under the name of Takri or Takni, are now used by all the Hindus of Kashmir and the northern mountains, from Simla and Sabathu to Kabal and Bamian.—*Elliot.* See Chandragupta; Takka.

ARASINA-GURGI. CAN. Garcinia pictoria.

ARATI. SANSK. An enemy. The Arati ceremony amongst Hindus is practised on the birth of a child, to avert the evil eye. See Curcuma longa.

ARATNI. TAM. An ell; the short ell measure.

ARAUCARIA BIDWILLI. *Hooker.* The Bunya-bunya of the natives of Australia, grows about Sydney and on the mountain ranges between Burnett and Brisbane rivers. It attains a height of 250 feet, with a circumference of 25 feet. Its cones are 9 to 12 inches long, and 5 to 9 inches in diameter; and as these form an important article of food at certain seasons to large tribes of aborigines, the trees are preserved. Each tribe has its own group of trees. Araucari Cookii, *R. Br.*, of New Caledonia, rises 200 feet; A. Rulei, *F. v. Mueller*, is a large tree; and A. Cunninghamii, the Australian or Moreton Bay pine, forms vast forests along the shores of Moreton Bay, in lat. 14° to 29° S., and on the alluvial bank of the Brisbane river, lat. 27° to 30° S. It attains from 100 to 130 feet in height, with a circumference of upwards of 14 feet, having a clear stem to 80 feet, with a circumference of 25 feet.—*Jaffrey; Von Mueller; G. Bennett*, pp. 325, 326.

ARAUCARIA EXCELSA. *H. K., R. Br.*
Dombeya excelsa, *Lamb.* | Colymbea excelsa, *Spr.*

The Norfolk Island pine grows also in New Holland, New Caledonia, Botany Island, and Isle of Pines. It is a majestic tree, attaining to heights of from 60 to 228 feet, with a circumference of 33 feet. Its wood is useful for carpenters' indoor work, but is too heavy for naval purposes, as spars. Admiral Keppell says that its timber soon rots when exposed to the weather, and the auger worm makes fearful ravages in the fences made of it. It is generally used for building purposes, flooring, partitions, etc.; and when kept dry, and not exposed to the weather, it is more durable.—*Keppell's Voyage of the Meander*, p. 82; *Keppell's Ind. Arch.* ii. p. 282; *Von Mueller.*

ARAVA, the Dravida people, commonly called Tamil, who speak the Arava or Tamil language.

ARAVALLI, a chain of hills connected by lower ranges with the western extremity of the Vindhya mountains on the borders of Gujerat, and stretching from S.W. to N.E. up to a considerable distance beyond Ajmir, in the direction of Dehli, between lat. 25° and 26½° N., and long. 73° 20′ and 75° E. The range forms the watershed of the Indus and Ganges valleys. Its highest peak is Mount Abu, about 5650 feet. It divides Rajputana into two nearly equal parts, forming the division between the desert on the west and the central table-land. It would be more correct to say the level of the desert, for the S.E. portion, including Jodhpur, is a fertile country. Except this tract, all between the Aravalli mountains and the Indus, from the Sutlej or Hysudrus on the north to near the sea on the south, is a waste of sand, in which are oases of different size and fertility, the greatest of which is around Jessalmir. The narrow tract of Cutch intervenes between the desert and the sea, and makes a sort of bridge from Guzerat to Sind. Central India is a table-land of uneven surface, from 1500 to 2500 feet above the sea, bounded by the Aravalli mountains on the west, and those of the Vindhya on the south, supported on the east by a lower range in Bundelkand, and sloping gradually on the N.E. into the basin of the Ganges. It is a diversified but fertile tract. The patar, or plateau, of Central India, is distinct from the Vindhya to the south and the Aravalli to the west, and its underlying rock is trap. Aravalli means the hill of strength; and these hills have afforded protection to the most ancient sovereign race in the east or west,—the ancient stock of the Suryavansa, the Heliadæ of India, or children of the sun, the princes of Mewar, who, when pressed, retired to its fastnesses, only to issue again when occasion offered. The people who occupy the Aravalli are the Meena mountaineers, a predatory race. The hills are rich in mineral products, and enabled the Mewar family long to struggle against superior power, and to raise the magnificent structures which ornament their kingdom. The mines are royalties, and a monopoly. 'An-Dan-Kan' is an expression which comprehends the sum of sovereign rights in Rajasthan, being allegiance, commercial duties, mines. The tin? mines of Mewar were once very productive, and yielded, it is asserted, no inconsiderable portion of silver, but political reasons, during the Moghul domination, led to the concealment of such sources of wealth. Copper of a very fine description is likewise abundant, and supplies the currency; surma, or the oxide of antimony?, is found on the western frontier. The garnet, amethystine quartz, rock crystal, chrysolite, and inferior kinds of the emerald family, are all to be found within Mewar. —*Elphin.* i. p. 2; *Tod's Rajasthan*, i. pp. 10, 12.

ARAYA-ANJELI. MALEAL. Antiaris saccidora.

ARAY KEERAY. TAM. Byttneria herbacea.

ARAZI. AR. From Arz, land. In N. India, Arazi-abadi, the village site, which is unassessed. Arazi-bagh, grove lands. Arazi-behan, or behnaur, seed beds.

ARBAB, the title of the chiefs of the Khalil, Momand, and other tribes on the Peshawar frontier. It is the plural of the Arabic rab, lord.—*MacGr.*

ARBABI, a branch of the Nharui tribe of Baluch, now tributary to Persia.

ARBAMBAL of Jhelum. Hedera helix; ivy.

AR-BAND. HIND. The loin-cloth or dhoti of the Hindu men, passed between the thighs.

ARBELA. On the site of this great ancient city of Assyria, the modern town of Ervil has been built. A Turkish fortress is built on the top of the great mound.—*Mignan's Travels*, p. 334.

ARBI or Arvi. HIND. Colocasia antiquorum.

ARBOR ALBA, the cajaputi tree. A translation of the two Malay words, Kayu-putih.

ARBOR SECCO, the dry tree of Ezek. xvii. 24, is repeatedly spoken of by Marco Polo as existing in N.E. Persia.—*Yule, Cathay*, i. p. 48.

ARCA. SANSK. One of the names of the sun.

Arca Bahu Phala, in some MSS. is written Arca Bahoota and Arca Baghabala. It is, in Hindu astronomy, the arc which a planet describes during that part of the equation of time which arises from the inequality of the sun's motion in his orbit, being an equation to which all the planets are subject, but the motion of which it differently affects.

Arc Endu Sangama, the instant of true conjunction of the sun and moon.—*Warren's Kala Sanhita.*

ARCENTHOBIUM OXYCEDRI. *Bieb.* Shukoar of Chenab. A pretty little mistletoe, common on Juniperus excelsa, at some places 9000 to 9500 feet in Lahoul. It frequently kills the trees which it attacks. It is said to flower generally in winter. —*J. L. Stewart, M.D.*

ARCHA, in Hinduism, objects of worship, as images, etc. See Sri Sampradaya.

ARCHALWA, of Sutlej. Coriaria Nepalensis.

ARCHANGELS. Mahomedans reckon four, viz. Jibrail or Gabriel, who is God's messenger; Mikail (Michael), who is the protector of the Jews; Israfil, who will sound the last trumpet at the resurrection; and Azrail, the angel of death. In the book of Enoch, six are named, Uriel, Raphael, Raguel, Michael, Sarakiel, and Gabriel.

ARCHER FISHES. The Chelmon rostratus, *Linn.*, Chætodon rostratus, *Shaw*, is, according to Sir E. Tennent, the archer fish of the fresh waters of India. On seeing a fly settle overhead on a leaf, it propels a drop of water and brings it down. See Chætodon toxotes.

ARCHERY. In Sanskrit, Dhanurvidya is always put for military science in general. Archery was the predominant branch of the military art among ancient Hindus, as is evident from this use of the term, and from all descriptive accounts of heroic education. Rama, his sons, the Pandava, Ayus, and all other princes, are represented in the Ramayana, Mahabharata, and in all poems and plays, as making archery a principal part of their education, furnishing a remarkable analogy, in this respect, to the

practice of the ancient Persians and Scythians. Throughout south-eastern Asia, the bow has almost disappeared, the only people using it constantly in war and for the hunt being the Bhils, Sontals, and the Mincopi; but at the annual 'langar' of the Nizam of Hyderabad, there continued to the latter part of the 19th century to be seen a few soldiers in the procession armed with bows.

ARCHIL, a violet dye, obtained from several species of lichen, the most important of which are Roccella tinctoria and R. fusiformis. Also from Lecanora perella, or Orseille de terre, and L. tartarea or cudbear.—*Tomlinson.*

ARCHIPELAGO. In the south and east of Asia, there are several great groups of islands to which this term is applied. The Maldives, Chagos, and Laccadives are of Madreporic origin.

The *Maldive* Islands are in 17 groups called Atolls. They extend from 0° 40′ S. to 7° 6′ N., separated from each other by narrow channels. The population is about 200,000, supposed to be of Arab descent.

The *Laccadive* group extends between 10° and 12° 40′ N., and consists of fifteen smaller clusters of two or more islands. The people are of Arab origin.

The *Eastern* or *Indian Archipelago* consists of an immense labyrinth of islands, among which are at least twenty of considerable size, and one which nearly equals Europe in extent. Its clusters of islands and islets, scattered in irregular profusion over the Southern Ocean, commence at the S.E. extremity of the Bay of Bengal, and stretch eastward far into the Pacific, through 50 degrees of longitude and 31 degrees of latitude, from 11° S. to 19° N., and from Sumatra to New Guinea, in an area of five millions of square miles. It comprises islands and groups of islands, inhabited by races differing widely in character, estimated at 35 millions. Many of them are under the control of Holland, Spain, and Great Britain. Five-sixths of the whole Archipelago are claimed by the Dutch as their own possession, or as feudatories (*Moniteur des Indes*), Sumatra, Babi, Nias, Mintao, the Pora Isles, Poggi, and the Enganos; Java, Madura, Baweean, the Kangeang, Banka, Billiton, Bintang, Linga, the Natunas, Anambas, and Tambelan, the kingdom of Sambas in Borneo, with the great Pontianak and Banjarmassim residencies, and the Karimata Isles; Celebes, Sumbawa, Bouton, Saleyer, Amboyna, Ceram, Buru, Siam, Sangir, Talaut, the Xulla and Bangaai groups, Halmahera, Obie, Batchian, Ternate, Tidor, Waigin, Battanta, Salawatte, Mysole, the Bandas, the Ki, Arru, and Tenimber; a part of Timor, Rotti, Savu, Sumba, Ende, Adenaar, Solor, Lombate, Putare, Ombai, Bali, and Lombok, with the western part of New Guinea, — all these truly form a magnificent colonial empire.

Physical Features. — The monsoons regularly recur, blowing over the ocean and over forests and swamps which remain in a state of primitive nature. Abundant rains fertilize the soils, and produce a magnificence of vegetation which no country but Brazil can rival. It has been, and still continues, the theatre of prodigious volcanic action, to which it owes much of its unequalled beauty and fertility; for ashes and scoria, if they blast and destroy for a time the luxuriant tropical flora, are afterwards the basis, and become the cause of a most exuberant vegetation. The limits of the volcanic band which crosses the Archipelago are distinctly defined by the active volcanoes with which it is studded. There appears a great volcanic stream in the neighbourhood of Kamtschatka, from which it can be traced in a south-west direction through the Kurile Islands, Japan, and Loo-choo, skirting the coast of Asia to Formosa, where it meets another coming from the south and south-west through the Philippines and Mindanao to the Moluccas, embracing the eastern extreme of Celebes and the western peninsula of New Guinea, and then another curved from the westward along the trans-Javan chain to the Straits of Sunda, where it meets one from a north-westerly direction through Sumatra and the Andamans to Cheduba Island, in the northern part of the Bay of Bengal. From the western extreme of New Guinea, however, along the north coast of that island to New Britain, although its volcanic character has been decided by recent French navigators, there remains a tract including 13 degrees of longitude in which no active volcano has been seen. In Java there are forty-six volcanic peaks, twenty of which still occasionally emit vapour and flame. The eruptive forces operate with violence, and the great eruption of Tomboro, in the island of Sumbawa, about 200 miles from the eastern extremity of Java, was a notable example. This volcano had been for some time in a state of smouldering activity, but in April 1815 it burst forth with tremendous violence, and did not cease to eject lava until July. The sound of the incessant explosions was heard in Sumatra, distant 970 geographical miles in a direct line; and at Ternate, in the opposite direction, at a distance of 720 miles. Out of a population of 12,000 in the province of Tomboro, only twenty-six individuals survived. On the side of Java, the ashes were carried to a distance of 300 miles, and 217 towards Celebes; and the floating cinders to the westward of Sumatra formed a mass two feet thick, and several miles in extent, through which ships with difficulty forced their way. The finest particles were transported to the islands of Amboyna and Banda, 800 miles east from the site of the volcano; and the area over which the volcanic effects extended was 1000 English miles in circumference, including the whole of the Molucca Islands, Java, and a considerable portion of Celebes, Sumatra, and Borneo. But if the disruptive forces in these regions have been great, the creative and constructive power is active. The zoophyte is adding silently and incessantly to the number of the island-groups; coral-reefs are constantly emerging from the waters; seeds, deposited by birds, or wafted by winds, quickly vegetate; verdure spreads over the waste; and palm trees rise in tufted groves, as if by enchantment, from the ocean. The hidden but ever active energy of the coral insect makes the navigation of this Archipelago exceedingly difficult, for charts and soundings do not long form safe guides where an unseen power is always at work, reducing the depth of seas, and converting water into dry land.

Mountains. — A mountain range, prolonged through Arakan, halts at Point Negrais, to reappear through the Andamans and Nicobars; and, after extending along the S.W. coast of

Sumatra, terminates at its S.E. point. Another range runs along the Malay Peninsula, is lost for a time, but appears again in the high peak of Lingin, and terminates in Banca and Billiton; and a branch from this separates at Pulo Timoan, on the east coast of the Peninsula, and ends at Carimata, in the strait between Billiton and Borneo. Two ranges traverse Cambodia and Cochin-China in the same direction, and these perhaps traverse Borneo. Between the Cambodian range and the mountains at Sarawak, on the north-west extremity of Borneo, the Natunas Islands and Pulo Condor form the connecting link; and as the Sarawak hills run to the south-east, the range is probably continued, either by a connected line, or by isolated mounts, until it terminates in the Gunong Ratos, near Cape Selatan. This range, after traversing the western part of Borneo, terminates on the south coast, a little to the eastward of Kotaringin. The Annam or Cochin-Chinese range can be traced distinctly across the Archipelago to Australia, and the multitude of islands which are now to be seen, are either masses upraised by volcanic action, or the tops of great volcanic outbursts which have appeared above the ocean; and where the earth has not risen above the water's surface, great submarine banks are to be traced from one island to another. The depth of water on these banks averages about 30 fathoms, deepening rapidly as the edge is approached, and shoaling gradually towards the land. The chain which extends along the Malay Peninsula, and is continued at intervals to Banca and Billiton, abounds in metals, and mining operations are pursued with great success. Its tin mines and those of Banca are well known. This range may be considered as the backbone of the Great Asiatic Bank, which extends into the Archipelago from the south-eastern extreme of Asia to a distance of nearly 1000 miles,—in fact to within 50 miles of Celebes, perhaps to the south-west extremity of that island also, but there is a space of nearly 30 miles across which no soundings have been carried. Sumatra, which lies on its western verge, has been subjected to volcanic action, but not to so great an extent as to disturb the direction of its mountain range, which runs parallel to that of the Malay Peninsula. The third range that can be traced into the Indian Archipelago is the one that traverses Laos and Camboja, at the southern extremity of which it disappears for a time, showing itself only at Pulo Condor and Natunas, until it emerges under the north-west extreme of Borneo, and is continued along the entire west coast of that island. Here it again disappears, and only shows itself again on the north coast of Java, where it ceases entirely, the remaining portion of this island being either of volcanic formation or of alluvial deposit. The teak tree, which abounds on the Cambojan part of this range, but is not found in Borneo, is again met with here, the projecting part of the north side of Java, between Samarang and Surabaya, being a vast teak forest, from the timber of which the greater portion of the shipping employed in the Archipelago is constructed. Java is the only island in the eastern seas in which the teak tree is indigenous, nor will it thrive in the volcanic parts of the island where its cultivation has been attempted. This, which may be called the Cambojan range, is also rich in minerals, gold and diamonds, especially the Bornean part of it. The volcanic islands of the Archipelago also contain metals, gold-dust being found at the bottoms of many of the mountain streams.

Ethnology.—In the Archipelago there seem to be the Malay race proper, and varieties of Negro races, viz. the Mincopi of the Andamans; the Semang or dwarf Negroes of the Malay Peninsula; the Negrito or Aeta of the Philippines; the larger Negro race or Papua of New Guinea; and a race whom Crawfurd styles the Negro Malay, intermediate between the Papuan and Malay. Mr. A. R. Wallace, however, indicates only two very strongly contrasted races, Malays and Papuans.

The Malay inhabit the great western islands, Sumatra, Java, Borneo, and Celebes; the latter, New Guinea and the adjacent small islands. The Malays are superior to all the others in intellect and civilisation. They occupy nearly the whole of the Malay Peninsula, half of Sumatra, and all the sea-coast of Borneo. Their numbers are estimated at 1,500,000 in Borneo, 1,250,000 in the Malay Peninsula, and 1,000,000 in Sumatra. The typical Malays are of a light-brown colour, resembling cinnamon or lightly roasted coffee; they have, constantly, straight, black, and rather coarse hair, little or no beard, and generally smooth, hairless bodies; they are of a low stature, rather strongly made, with short thick feet, and small delicate hands. The face is broad, the eyebrows flat, the nose small, well formed, with the nostrils somewhat exposed, the lips broad and well cut, the mouth large but not projecting. In character, the Malay is impassive, reserved, and bashful. His feelings of surprise, admiration, or fear are not readily manifested, and he has little appreciation of the sublime or beautiful. He is somewhat taciturn, is deliberate when he speaks; he but seldom laughs, nor does he openly express his gratitude for a favour. He revenges an insult more quickly than an injury. He is honest and trustworthy in money matters, but prides himself upon his capacity for lying. His intellect is but mediocre. He is deficient in the energy necessary to acquire knowledge, and his mind seems incapable of following out more than the simplest combinations of ideas. He is quick in acquiring mechanical arts, and therefore makes a good servant for simple routine duties.

The Papuan is, in many respects, the opposite of the Malay. In colour he is a deep sooty brown or black, his hair is harsh, dry, and frizzly, growing in little tufts, which in youth are short and compact, but which in adults often grow out so as to form a compact frizzly mop nearly a yard in diameter. He is bearded, and his arms, legs, and breast are more or less hairy. The Papuan is taller than the Malay; the face is elongate, and the hands and feet rather large; the forehead is flat, the brow very prominent, the nose large, long, and arched, with the nostrils hidden by the overhanging lip. The face has thus a Semitic character, which is perceptible even in the children. The Papuan is impulsive and demonstrative in speech and action, expressing his emotions and passions in shouts and laughter, in yells and frantic leapings. He is noisy and boisterous in speech and action, both at home and before strangers. Of his intellect little is known, though it is supposed to be not inferior to that of the Malay. He has a love of art, decorating his canoe, his house,

and almost every domestic article with elaborate carving. The Papua of New Guinea are true Negroes, and have made some advances in civilisation.

The inhabitants of the Moluccas and Timor may be classed either with the Papuan or Malay. The Negro Malay are fairer than the Negro, darker than the Malay, but intermediate between Malay and Papua.

The Negrito of the Philippines, the Mincopi, and the Semang of Malacca differ in important characters from the Papuan races. The Mincopi and Semang are a small Negro race. The Negrito are short, but well made, active, with soft frizzled hair, nose slightly flattened, features more regular and skin less dark than the African Negro.

The inhabitants of all the Pacific Islands, as far west as New Guinea and Australia, have much in common, while they differ greatly from other races. A vertical waving line may be drawn through the Moluccas, so that all the tribes of the Archipelago to the west of the line will be of Malayan or Asiatic origin, and all to the east of Papuan or Polynesian origin.

Island Groups and Languages.—Three islands of the Archipelago—New Guinea, Borneo, and Sumatra—are of the first class, inferior in size only to Australia. Java takes a second place. Three are of third size—Celebes, Luzon, and Mindanao. And those of a fourth size are at least sixteen,—Bali, Lombok, Sumbawa, Chandana, Flores or Mangarai, Timor, Ceram, Bouru, Gilolo, Palawan, Negros, Samar, Mindoro, Panay, Leyte, and Zebu, —most of them with spacious alluvial tracts, navigable rivers, and much natural riches. The groups and chains in which they are distributed are dispersed over narrow seas, with the greater islands intervening. Innumerable channels and passages, therefore, open in every direction to the mariner,—tortuous, intricate, full of rocks, reefs, and shoals, which render them in some parts difficult of navigation (*Groot, Moniteur*, i. 53). They are made less dangerous, however, by the prevailing serenity of the waters, the regularity of the currents, and the steadiness of the winds. Tremendous storms, indeed, called typhoons, occasionally visit the Straits of Malacca (Berncastle's *Voyage*, i. p. 274), and blow over the China Sea; but they are rare, and the islands of the interior region may be said to lie amid perpetual calms.

The groups known as the islands of the Arafura Sea consist of the Tenimber, the Ki, and the Aru islands, with others of inferior significance. They are scattered over a considerable space of sea, and vary in size from seventy miles in length, to mere tufts of verdure floating in the sea, like baskets of grass and flowers, crowned by tall clumps of palm, and dispersing through the atmosphere a fragrance like that of the cinnamon gardens in Ceylon.

The *Tenimber* group consists of many islands, inhabited by a curious race of people, half savage in manner, whose villages, built on limestone hills near the shore, combine with the varying outlines of the surface, the fresh and green aspect of the interior slopes, and the blue water in the channels between, to present a grateful prospect to the navigator's eye, rarely equalled in brilliance.

Timor is a word which means the east, and was probably imposed on this island by the Malays, to whose language it belongs, because this was the extreme limit of their ordinary commercial voyages to the south-east. Its principal inhabitants are of the Malay race, but it contains also Papuans, and tribes of the intermediate race. The two languages of Timor are the Manatoto and the Timori, the first spoken at the north-east end of the island, and the last used by many of the tribes as a common medium of intercourse. No alphabet has ever been invented in Timor; but, judging by the specimens of its languages, the vowels are the same as those of the Malay and Javanese.

From Timor to New Guinea there runs a long chain of islets, forming, as it were, a wall or barrier to the south-eastern portion of the Archipelago. In these islets the inhabitants are of the same race with the Malays, and speak many languages. Mr. Windsor Earl says that 'in the south-eastern parts of the Indian Archipelago, where opportunities of social intercourse between the various petty tribes are of rare occurrence, every island, every detached group of villages, has its own peculiar dialect, which is often unintelligible even to the tribes in its immediate neighbourhood. In some of the larger islands,—Timor, for example,—these tribes are so numerous, and the country occupied by many of them so extensive, that it becomes impossible to form even an approximate estimate of their number.' Of one language, the prevailing one, among several languages of the island of Kisa, one of the Sarawati group, in the chain of islets already mentioned, Mr. Earl furnished a curious and instructive vocabulary of 330 words. The Kisa is an unwritten tongue, but its vowels are the same as those of the Malay and Javanese.

The *Spice Islands*, in the Molucca and Banda Seas, consist of many islands, with numerous languages. Next to Java, of which they form a sub-government, the Moluccas are the most important of the Dutch possessions in India. The islands to which this term is applied are Amboyna, Banda, Ternate, Tidore, and smaller islands in their neighbourhood. The islands are small, volcanic, unproductive in grain, but fertile in fine spices. But the Dutch nation, in order to secure a monopoly of this class of products, for years rooted up and destroyed, at a great cost, often by force of arms, every nutmeg or clove tree not required for the production of that quantity of spices which they calculated they could dispose of. Rosingain, near Banda, was almost abandoned after the extirpation of its spice trees, its people emigrating to the neighbouring islands in search of a livelihood. The people are of the Malayan race, short, squat, and darker in complexion than the Javanese. The Amboynese are of a middling height, and well formed. They are gentle, very sober, brave, easily managed, and make good mounted and foot soldiers, and a considerable number of them have embraced Christianity. Banda is very unhealthy, and is subject to frightful earthquakes. When first discovered by Europeans, the inhabitants had made considerable advances in civilisation, although still much inferior to that of the Javanese. Sir Stamford Raffles furnished specimens of three of the languages of this furthest east portion, viz. those of Ceram, correctly Serang, of Ternate, correctly Tarnate, and of Saparuwa, one of the Banda isles. Of 28 words of the language of Ceram, 9 are Malay, 2 Javanese, and 17 are common to these two languages. Ceram Laut was the great place

to which the Bugis carried the Papuan slaves whom they stole from New Guinea.

The great group of the *Philippines*, although contiguous to the proper Indian Archipelago, differs materially in climate and in the manners of its inhabitants. It extends over fifteen degrees, from near latitude 5° 40′ to 18° 40′ N., and consists of ten principal islands, of which only Luçon and Mindanao are of great size, and about 1200 smaller islands and islets, with a population approaching three millions. The bulk of the people are of the same tawny-complexioned, lank-haired, short and squab race, as the principal inhabitants of the western portion of the Indian Archipelago. The focus of the aboriginal civilisation of the Philippines, as might be expected, has been the main island of the group, Luçon. This is a corruption of the Malay and Javanese word, lasung, meaning a rice-mortar. The Spaniards are said to have asked the name of the island, and the natives, who certainly had none, thinking they meant a rice-mortar, which was before the speakers at the time, answered accordingly. In the Philippines are many separate nations or tribes, speaking distinct languages, unintelligible to each other. The principal languages of Luçon are the Tagala, the Pampanga, the Pangasinan, and the Iloco, spoken at present by a population of 2,250,000, while the Bisaya has a wide currency among the southern islands of the group, Leyte, Zebu, Negros, and Panay, containing 1,200,000 people. Mr. Crawfurd tells us that it does not appear, from a comparison of the phonetic character and grammatical structure of the Tagala with those of Malay and Javanese, that there is any ground for fancying them to be one and the same language or languages sprung from a common parent, and only diversified by the effects of time and distance; and an examination of the Bisaya dictionary gives similar results.

The great islands of *Mindanao* and *Palawang*, and the *Sulu* group of islets, forming the southern limits of the Philippine Archipelago, contain many nations and tribes, speaking many languages of which little has been published. Mr. Crawfurd, on the information from Mr. Dalrymple, informs us that even in the little group of the Sulu islands, a great many different languages are spoken, and he gives a short specimen of 88 words of one of those most current. Sulu was for many years the market where the Lanun and other pirates disposed of much of their plunder, and in former times itself was decidedly piratical. The Mahomedan religion has made much progress in Mindanao and the Sulu islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. Mr. Crawfurd remarks that whether the principal languages of the Philippines be separate and distinct tongues, or mere dialects of a common language, is a question not easy to determine. Certainly, he adds, the phonetic character of the Tagala, the Bisaya, the Pampangan, and Iloco are, sound for sound, or letter for letter, the same.

Mincopi, spoken in the Andaman Islands, is dissyllabic. In phonology, the Mincopi is fundamentally opposed to Silongi, Nicobari, and Semangi; Niasi to Acheean, and Tilanjani to the rude Malayan dialects which appear to have prevailed, and are partially preserved in the adjacent portion of Sumatra. The vocalic element is found in all the Sumatran and peninsular languages, strong in Battan and Lampongi, less so in the Malayan dialects, and comparatively weak in the Acheean and Semangi. In the Mincopi, Tilanjani, and Niasi, the consonantal element is very slight.

Besisi, a dialect of the Malayan Peninsula.

Binua.—The ruder Binua dialects of the Malayan Peninsula, when compared with Malay, present the same aspect as the uncultivated Sumatran. But having been, comparatively with the more civilised and powerful Battan and Achin races, almost completely subjected to Malayan influence, the indigenous peninsular vocabularies are rapidly disappearing. The languages of the Binua or Sakai of Pera appear to resemble the ruder dialects to the southward.

Nicobari, spoken in the Nicobar group, has a phonology allied to that of the Silong and Simang.

Silongi, a dissyllabic language spoken in the Mergui Archipelago.

Semang.—The most northern of the old Indonesian languages of the Malay Peninsula, are those of the Semang tribes of Kidah and Pera. They are mainly dissyllabic, but they have more monosyllables; and a dissyllabic tendency may still be detected in the contraction of some Malay words. The phonology of the Semang has some strong peculiarities, the voices low and soft compared with that of the Binua and Malay tribes.

Sumatra.—The *Malayan* language, in its more ancient form, partook in a considerable measure of the general character of the W. Indonesian of Sumatra, as is evident from the phonology of its ruder dialects. With the purer phonology of E. Indonesian, it combined the consonantal, aspirate, and guttural tendencies of the Malacca basin. Traces of this earlier character are still found in the centre of Malayan civilisation, Menangkabau, where the language received its greatest culture, and attained the form which, with some phonetic improvements and a few glossarial changes, it has preserved in its dissemination throughout the Archipelago. The Malay of Menangkabau is distinguished from all the other Sumatran languages, by its higher culture, purer phonology, wider prevalence, and greater influence on other languages. It is superior to the ruder phonologies of the Peninsula and Sumatra, but also, to a large extent, Javan. The principal languages of Sumatra are the Battan dialects and the Malaya, these being spoken by the largest populations and over the widest extent of territory.

In *Sumatra* are found at least three well-marked languages, each occupying its own area, and a fourth still preserving its peculiar character and location, although much affected by foreign influence. In addition, the western islands contain at least three other distinct and stable languages. It has, however, only the diffusive language the Malay. The chief Sumatran tongues are the Battan, Acheean, Korinchi, Lampong, Rejang.

Battan.—In the Battan dialects of Sumatra an Indonesian element predominates, and they have the closest affinity with Malay. The basis of Battan is similar to that of Niasi, the latter language having spread into Sumatra, and modified the W. Indonesian character of Battan.

The *Achin* language is distinguished from all others in Asianesia, by having the accent on the terminal instead of the penultimate syllable. In

other respects its phonology has the prevailing Sumatran character.

Mantawai is the language of a race who inhabit the Pera and Pagai groups. Its phonology is considerably more Battan than that of Nias, purer than the ruder Malay, and apparently free from Sumatran aspirates.

Java, an island of 40,000 square miles in extent, and by far the most fertile of the Archipelago, contained in 1880, with Madura, 19,797,077 inhabitants. In the eastern and central parts there may be said to be three Javanese languages,—the popular, the polite (which is a kind of factitious dialect of it), and an ancient tongue, found only in old books and ancient inscriptions. The modern and popular language, as well as the polite dialect, is written in a peculiar character, of which the substantive letters amount to twenty. In Java, in addition to the Javanese, is the Sunda language, which is spoken over about one-third of the island, extending from Cheribon across the island down to its western extremity. This tract is more mountainous than that inhabited by the Javanese, and the people somewhat less advanced in civilisation, but possessing the same amiable and docile character as that nation.

Sundan has some peculiarities which separate it from the other languages of the Javan group, and ally it to some of the W. Borneon and S. Peninsular dialects. Formatively, Sundan is more simple than the Javan or even the Malayan, and approximates to the ruder Peninsular, Sumatran, and Borneon languages.

Maduran.—The industrious, peaceful, and numerous people who speak the Madurese language, with its dialect the Sumanap, occupy the island of Madura, divided from Java by a strait, and form in some districts the bulk of the population on the opposite shores of Java, to which, depopulated by long wars for the past two hundred years, they have been emigrating.

Bali.—In the adjacent island of Bali, which is small but fertile, well cultivated and populous, is the Balinese, with its ceremonial dialect and sacred language, and it is one of the most improved languages of the Archipelago.

Lombok.—The fourth language, which Mr. Crawfurd considers to have a strong affinity with the Javanese, is that of Lombok, a fertile and populous island, divided from Bali by a narrow strait. This is the termination in an easterly direction of the group of tongues which begins with Sumatra. According to Mr. Logan, Javan has a much broader, more forcible, asperate, and primitive phonology than Malay, and the Javan group embraces Sundan, Maduran (with its dialect Bawian), and Bali.

Kawi.—The Kawi language preserves some evidence that, at the era of its formation, the Javan language was less removed from the adjacent languages than it afterwards became, through the continued development and influence of Kawi, and a disposition to a factitious and pedantic culture. The Javan language participates to a certain extent in the peculiarities of the Kawi, and *e* is a frequent sound in both. Indeed, it would appear that most of the peculiarities of the Javan, or those phonetic traits which distinguish it from the general N. Indonesian phonology on the one side, and from E. Indonesian on the other, may be referred to the influence of Kawi.

Borneon Languages.—The Ngaju, Kahayan or Kayan of the south coast, and that of the Landaki of the west coast, inland of Pontianak, are entirely Malay in their structure and formatives. The *Kayan* must be considered as the most southerly of the N.E. projection of Borneo, a position which brings it into proximity with the Bissayan and E. Indonesian languages. This is assuming the correctness of Mr. Burn's statement, that the Kayans have spread from the basin of the Tiding over the watershed into the north-western lands extending from the Bruni to the Rejang.

Alphabets.—In the Archipelago are nine distinct alphabets, every one of which appears to be a separate and a native invention. But they are not only distinct from each other, they differ equally from all foreign alphabets. These nine alphabets of the Archipelago are the produce of five large islands only out of the innumerable ones which compose it.

The *Javanese* is certainly the most perfect alphabet of the Archipelago, and the rest, although they differ in form, bear it, in principle, a common resemblance. It has a distinct and invariable character for every sound in the language, and so far, therefore, it is a perfect system. The consonants amount to 19, and can be represented in Roman letters as follow—b, c, d, d, g, j, k, l, m, n, n, p, r, s, t, t, w, y. Besides these, there is the aspirate which always follow a vowel, and never aspirates a consonant. The vowels are 6, viz. a, a, e, i, o, u. The diphthongs are 2, viz. ai and aü, but have no characters, being expressed only by their elements. The Javanese alphabet, like all the others of the Archipelago, is written from left to right. In the character thus described are written the proper Javanese, the Sunda, the Bali, and occasionally it is believed the Lombok. The Sunda and Bali alphabets, however, want the palatals d and t. Altogether, including Palembang in Sumatra, it is probable that the Javanese alphabet is current among no less a population than twelve millions. It is the most perfect, and has obtained the widest diffusion. But in prior times, other characters, to the extent of twelve in number, have prevailed in Java.

In *Sumatra*, beginning from the west, the first evidence we have of a native written character is found among the *Batak*, and it is singular enough that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each other. The form of the Batak letter is horizontal. The substantive characters of the Batak alphabet are the same as those of the Javanese, with the exception of the letter c and the palatals d and t, which it wants.

The *Korinchi* alphabet, among the people of this name in Sumatra, who border on Menangkabau, has 29 characters, and consists of horizontal or slightly raised scratching.

The *Rejang* is the alphabet of Lemba and Pasummah on the western side of Sumatra. It consists of 23 substantive characters, formed of upright scratches or strokes, and on the whole it is more complete than either the Batak or Korinchi.

The *Lampong* nation occupies that portion of the S.W. side of Sumatra which lies opposite to Java, divided from it only by the Straits of Sunda.

It has its own peculiar alphabet, which consists of 19 substantive letters, the vowel a and the aspirate being included among them, with double or treble consonants making them up to 44. It has a great deal of that angular linear and meagre form which characterizes the other Sumatra alphabets. The consonants correspond in power exactly with the Javanese, the palatals d and t excepted, which the Lampong does not contain. The Lampong, like the Rejang, has the Hindu classification, but it is not so correctly followed; the vowel a and the sibilant are found out of place, and thrust in among the liquids.

The *Acheean* and *Malay* of Sumatra are written in the Arabic character.

In *Celebes* are two distinct alphabets, one of them the Bugis, at present in use over the whole island, and which extends to Bouton and Sumbawa, and wherever the Bugis nation have settled or colonized. The modern Bugis has 23 substantive characters, consisting mostly of small segments of circles running horizontally. The Bugis letters have no resemblance to those of Sumatra or Java, or even to the obsolete alphabet of Sumbawa. The other alphabet of Celebes is now obsolete.

The *Bima* alphabet, formerly in use amongst the Bima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes.

The ninth and last alphabet of the Archipelago is the *Philippine*, that of the Tagala nation of the great island of Luçon or Luconia, and consists of thirteen characters. It is the only one existing in the whole of this group, and seems at one time to have been used among the civilised tribes of the neighbouring islands, having spread even to Magindanao and Sulu. The forms of the letters are rather bold and more complex than that of the Sumatran alphabets.

The main characteristic of the Archipelago letters, their differing among themselves, and their differing equally from all foreign letters, leads to the conclusion that each alphabet was a separate and independent invention, made, in all likelihood, in the localities in which we at present find them. What causes conduced to this early invention of letters among these nations, and at so many different and distant points, it is not very easy to say. The *Malayan Peninsula* and *Borneo*, extensive as they are, have never given rise to an indigenous civilisation, sufficient to raise their inhabitants beyond the condition of small and miserable communities, and hence no indigenous alphabet can be traced to them. Their more civilised inhabitants are invariably stranger immigrants. The Borneo coasts are occupied by the Malay race and by the seafaring Orang Laut and Bugis, but in its interior are about sixty nations, and with distinct names, speaking distinct languages. The most powerful are the Dyak and the Kayan, wholly illiterate.

No kind of native writing can be traced to the *Spice Islands*, which, notwithstanding their rich native productions, are incapable of yielding corn, iron, or cattle, the rough staples of early civilisation, and without the presence of which, letters have never been invented or existed. In the great island of *New Guinea*, with its savage Negro population, and with the same deficiencies, the presence of any kind of writing is not reasonably to be looked for. No trace of a written character has been found in the wide extent of the islands of the Pacific. Most of them are probably too small to have furnished a population at once sufficiently numerous and concentrated to generate the amount of civilisation requisite for the purpose. In the great islands of New Zealand, with their comparatively energetic race of inhabitants, the discovery of letters would most probably have been made, as among some rude nations of Sumatra, had the civilisation necessary not been precluded by the absence, as in the smaller islands, of the larger animals for labour, and of all the cereal grasses for food.

The facility with which materials to write on are obtained in the countries occupied by the Malayan nations, has probably contributed something towards their early discovery of the art of writing. The want of them, on the contrary, is known to have proved a great obstacle to the progress of letters, and probably was to their invention in temperate regions. The absence of a good material in ancient Europe hindered the invention of printing; while its presence in China no doubt contributed largely to its early discovery in that country. Like the Hindus and the Buddhists of continental Asia of the present day, the Archipelago islanders write on palm leaves, which have received no other preparation than that of being dried, and cut in slips; on the inner bark of trees a little polished only by rubbing; on slips of the bamboo cane, simply freed from its epidermis; and on stone, metal, and finally on paper. The palm leaf ordinarily employed is that of the lontar, or Borassus flabelliformis. The Malay word is most likely a corruption of two words,—ron, a leaf in Javanese, and tar or tal, the proper name of this palm in Sanskrit. This seems corroborated by the Javanese name, which is written rontal. From the use of this word, the practice of writing on palm leaves may have been derived from the Hindus. This word, with many others wholly or partly Sanskrit, belongs to the ceremonial and factitious dialect of the Javanese language, a genuine native name, kropyate, existing for it in the ordinary one.

The instrument for writing with on the palm leaf, bark, and the bamboo, is an iron style, and their writing is, in fact, a rude engraving, which is rendered more legible by rubbing powdered charcoal over the surface, which falls into the grooves, and is swept off the smooth surface.

The Javanese, however, understand the manufacture of a kind of paper from the gluga, Broussonetia papyrifera, and the article itself daluwan, changed into dalanian for the polite language. The process is not the ingenious one of China, India, Persia, and Europe, but greatly resembles that of making the Egyptian papyrus, and still more closely the preparation of the South Sea cloth, the raw material being, indeed, exactly the same. The true bark, cut in slips, is long macerated and beaten, and, after being thus treated, slips of it are joined to each other over a smooth surface, and defects made good by patching. The fabric thus obtained is of a brownish grey colour, unequal in its texture, rigid, but strong. With the exception of the Javanese, it does not seem that the natives of the Archipelago ever wrote with ink, before they were instructed by the Arabs, no doubt from the absence of paper. The Javanese have a native name

for 'pen' and 'ink,' sua and mansi; but with the other nations the only ones are Arabic, kalam and dowat, often indeed greatly disfigured, as in the example of the Bugis, who convert them into kalah and dawak. The pen generally used is not reed as on the continent of Asia, or a quill as in Europe, but a stub obtained from the Aren palm, Arenga saccharifera. Even paper is generally known to the Indian islanders by the Arabian name of kartas, so that it is probable that a true paper was imported long before the arrival of Europeans, although the natives were never taught the art of preparing it. At present, European paper is in general use by all the more civilised nations, to the exclusion of Asiatic material.

Animal Kingdom.—Mr. A. R. Wallace tells us that the distribution of the existing forms of mammals throughout the Indian Archipelago may thus be indicated. Commencing with the species common in Asia at the present day, and excluding those which may have been introduced in a domesticated state, such as the horse, dog, kine, and deer, the common brown monkey has penetrated farthest from the continent of Asia, as it extends through Sumatra and the trans-Javan chain to the eastern extremity of Timor; but the 30 miles of Strait which separate this island from Letti seems to have stopped its further progress, for it is not found in a wild state in the Serwatty group. To the north, it extends through Borneo and Celebes, and is found in a single island of the Molucca seas, Batchian. This animal, from its habit of frequenting the banks of rivers, is very liable to be carried out to sea in the masses of drift which are sometimes detached from the banks by the current, and its extensive distribution may be attributed to this cause. In Borneo, the elephant co-exists with the black bear (Ursus Malayanus), the Felis macrocelis, or Sumatra gigantic tiger cat, and so many varieties of the quadrumanes that their introduction can scarcely have been accidental. In Java, the rhinoceros, the royal tiger, the wild ox of the Malayan Peninsula, and several varieties of the smaller quadrumanes, still exist in the jungles. Sumatra and the Peninsula contain every form of mammal found in Java and Borneo, with the addition of the tapir. These facts would go to prove that Java, Borneo, and Sumatra continued attached to the continent of Asia at a comparatively recent epoch. The common brown monkey is the only member of the family of quadrumanes that has reached Celebes and Bali, although the strait which separates the latter island from Java is only two miles wide.

The marsupialia range from Australia towards the continent of Asia. A variety of the kangaroo (macropus), two varieties of the opossum (didelphis), one of which closely resembles the ring-tailed opossum of New South Wales (Phalangista Cookii), one variety of the Dasyurus, the native cat of the colonists of New South Wales and Port Essington, and one variety of the small flying opossum, have been found in the south-west part of New Guinea; and, singularly enough, the kangaroo has adapted itself to the half-drowned nature of the country by inhabiting the trees. A variety of the kangaroo still exists at Arru Island, which seems to be identical with the small grey or 'brush' kangaroo, found in the thickets throughout Australia. This is the 'Filander' of Valentyn. The name by which it is known in the Moluccas is 'Pilandook.' In Ceram, the ring-tailed opossum, the native cat, the flying opossum, and the little flying squirrel, all marsupials, and identical in appearance and habits with those which extend throughout Australia, hold undisputed possession of the forest trees. The ring-tailed opossum, which is the most numerous, as in New South Wales, is a common pet throughout the Moluccas. The opossum, more especially the ring-tailed variety, which inhabits trees, is the most hardy of marsupials, that is to say, its geographical range is farther extended than that of any other pouched animal. The tree opossum and the native cat (Dasyurus macrourus) are the only varieties of this ancient form of mammals which have not retreated before the European quadrupeds that have been introduced into the southern districts of Australia, the mere presence of a flock of sheep, without their usual attendant the dog, being sufficient to drive the kangaroos from the 'runs.' The tree opossums are not liable to be disturbed by any animals less agile than the monkey, as they are never seen on the ground except when thrown out of the trees while fighting, and then they scramble up again as fast as they can. The consequence is that the tree opossums now abound in the settled districts of Australia to an extent that could not have happened previous to the arrival of Europeans, when the aborigines kept down their numbers by dragging them out of their nests in the hollows of trees to serve as food. Even the presence of the monkey is not fatal to the tree opossums, as is evident from their co-existing in Timor and in part of South America. The musang or mungoose of the western parts of the Archipelago will prove fatal both to the tree opossum and to the native cat, whenever it comes to be introduced to Australia, as it can enter the hollows of the trees and destroy them in their nests. The tree opossums of Australia feed on the leaves and tender shoots of the Eucalyptus. In the Moluccas, where the Eucalyptus is rare, if found at all, the tree opossums feed on the leaves of the Warringin and Lingoa trees, and on the outer bark of the Kanari. As the two first exist in the Malay Peninsula, the latter under the name of Angsannah, the absence of the tree opossum from this part of the Archipelago cannot be attributed to want of suitable food. The Malayan name is 'kusu,' which has been Latinized by the old Dutch naturalists into 'Cuscas,' and adopted by modern zoologists. In Timor, the ring-tailed opossum is common in the southern parts of the island. The only marsupial that has yet been traced in Celebes is the flying opossum. The zoological connection of Java, Sumatra, and Borneo with the continent of Asia is as distinct as that of Timor, Ceram, and New Guinea with the continent of Australia. Probably Celebes will be added to the Australian group. The inferences to be drawn from these facts must be self-evident. The distinct character of the mammalian forms existing in the countries lying on the Great Asiatic Bank, show that Borneo, Java, and Sumatra were attached to the continent of Asia by an unsubmerged range at a period long subsequent to the separation of Australia, which would imply that the curved band that passes from Formosa through the Philippines, the Moluccas, Java, and

Sumatra, is the most recent line of volcanic action.

Productive Character.—The mountain ranges in south-eastern Asia and the Indian Archipelago are all more or less metalliferous. Lead mines are worked in that part of the Malayan range which traverses the kingdom of Ava; and copper mines have been opened in the Annam or Cochin-Chinese range, the produce of which is equal in quality to South American copper, but inferior to that of Japan. Iron is also smelted from the native ores on the western side of the Annam range, and it is likewise said that silver mines are worked. The tin of the Malay Peninsula, Banka, and Billiton, and the gold of the Peninsula, Borneo, and Celebes, are all collected from the detritus in which the projected metal has been deposited. Lodes have been discovered and followed up, but they are found to fine away. Lead and antimony ores are found in the Cambodian range to the north of Kampot. Maize, upland rice, yams, and other esculent roots here attain perfection. The wheat grown in the uplands of Timor is remarkably rich in gluten, although the small size of the grain gives it an unfavourable appearance in European eyes. The coffee, cotton, cacao, and hemp (Musa textilis) growing on the upheaved areas are the best produced in the Archipelago. Coal has been found. Iron ore of excellent quality is abundant where the line of upheaval has crossed primary ranges; and limestone, so necessary as a flux in smelting the metals, is found everywhere. In the island of Coupang, copper was found, but the strata had been so broken up, that mining operations could not have been prosecuted with advantage (Jour. Ind. Arch. iv. p. 495). Reputed gold deposits lie on the south side of the island. Quicksilver in a pure state is sometimes brought to Coupang by natives from the interior. The gold deposits in the western parts of the Archipelago are supposed to be now pretty well exhausted; and in the more remote regions—Timor, New Guinea, and possibly Sumba—are the only spots in which the steady course of industry is likely to be interrupted by the search for precious metals. The native chiefs of the former island, terrified by the rapacity of the early European navigators, are said to have combined in establishing a law which made searching for gold a capital crime, except on occasions in which it was thought proper to propitiate the deities by the dedication of a Bulan Mas or golden moon, when a human being was sacrificed to the spirits of the mines before the gold could be collected. This ceremony is probably alluded to in the Account of Timor, published in appendix, p. 6, Moor's Notice of the Archipelago.

Commerce.—Intercourse between continental Asia and the islands of the Archipelago dates from a very remote period. Their rare products were in request in China and India long before they were heard of in Europe. Camphor and spices, two of the most esteemed productions of these islands, were used by the Chinese 2000 years ago, the one for diffusing an aromatic fragrance through their temples, the other as indispensable condiments in their feasts. In the volcanic area, a surpassing richness of the soil is produced from the volcanic rock, which decomposes rapidly before the influence of the atmosphere. The natural productions are unimportant,—the nutmeg, which is scattered over that portion of the band which approaches the continent of Australia, being almost the sole exception. But the docility of the native inhabitants proved to be such, that they were easily coerced to labour, and the curved volcanic band which traverses the Archipelago became studded with European settlements throughout its length and breadth, which now yield the great bulk of the produce exported from the Indian Archipelago. In the northern part of the Philippines, the famed Manilla tobacco is the chief production; sugar plantations occupy the centre; and the Musa textilis, which yields the Manilla hemp, is the chief product of the south. Spices are almost the sole productions of the Dutch settlements of the Moluccas. Some islands east of Java yield products suited to the wants of the natives to such an extent as to give rise to an export trade with all parts of the Archipelago. In Java, coffee, sugar, rice, cinchona, and tobacco are the most important articles, the two first being exported to Holland in immense quantities. Coffee and pepper are the chief products of Sumatra, where the soil is less fertile than in some of the other islands of the band. The volcanic agency here becomes comparatively weak, and is confined to the outer coast of the island, where, being backed by an area of upheaval, the greater portion of the alluvium descends into the sea and is lost.

The edible nest, which is constructed by the Collocalia nidifica in the caverns of the limestone cliffs, is found throughout the areas of simple upheaval. Agar-agar, a marine lichen extensively used in China, trepang or sea-slug, and mother-of-pearl shell, are common to both banks, but the Australian bank is by far the most productive.

Ocean Traffic.—There are five different seas recognised by European geography within the limits of the Eastern Archipelago, viz. the wide expanse between Borneo and the Malay Peninsula; another between Borneo and Java, called the Java Sea; another between Celebes and Timor; the Sea of Celebes, between that island, Sulu, and Mindanao; and the fifth, a basin of considerable extent, between the Philippines, Palawan, and Borneo. Around all these flow, on the west, the Bay of Bengal and the Indian Ocean.

Atmospheric Phenomena.—The transparency of the atmosphere is so great, that sometimes Venus can be discovered in the sky in the middle of the day. Especially in the rainy season, the land looms very greatly; then we see mountains which are from 5000 to 6000 feet high, at a distance of 80 or 100 English miles (*Jansen*). Waterspouts in many parts are very frequent. The height of the spouts is usually somewhat less than 200 yards, and their diameter not more than 20 feet; but when the opportunity of correctly measuring them has been favourable, as it generally is when they pass between the islands, so that the distance of their basis could be accurately determined, they have never been found higher than 700 yards, nor thicker than 50 yards. In October, in the Archipelago of Rhio, they travel from south-west to north-east. They seldom last longer than five minutes; generally they are dissipated in less time. As they are going away, the bulbous tube, which is as palpable as that of a thermometer, becomes broader at the base, and little clouds,

like steam from the pipe of a locomotive, are continually thrown off from the circumference of the spout, and gradually the water is released. In the north-east part of the Archipelago, the east monsoon is the rainy monsoon. The phenomena in the north-east part are thus wholly different from those in the Java Sea. In the Archipelago there is generally high water but once a day, and, with the equinoxes, the tides also turn. The places which have high water by day in one monsoon get it at night in the other.

Religion. — Wherever western civilisation has reached the indigenes, they have conformed to the religions of the new-comers. The brown or Malay race are largely Mahomedan in Sumatra and in the Malay Peninsula; in Sumbawa the Mahomedans take a high place, and are largely proselytizing the mountaineers, who, however, secretly trust in their idols. Bali is still Hindu, and the Balinese burn their dead, and the widows and some slaves of rajas burn with their husband's corpse, but other widows burn or are despatched with a kris. A Hindu empire long flourished in Java, where many magnificent ruins still attest its duration and greatness. The Arabs subsequently gained a footing there, as well as in the other islands of the Archipelago, and gradually supplanted the religion and governments of India. The Philippines have become largely Christian. Mahomedan Malays inter without coffin or shroud. Kayan Dyak are idol-worshippers, keep their dead for some days, and inter in a coffin made of the hollowed trunk of a tree. The Javanese give picturesque names to the various places in the island, such as Prosperity, Country of Ghosts, Unlucky, Heroic Difficulty. The Javanese are skilful workers in metals, gold, iron, brass, cutlery, and in carpentry. Their kris has a hundred forms. Javanese and Sumatrans are both of Malay race, but the amok is almost unknown in Java.

Johore Archipelago is formed by the prolongation of the zone of elevation of the Malay Peninsula from Singapore to Billiton. It is so closely connected geographically with Johore as to appear a continuation of it, partially submerged by the sea. These islands (with the exception of a few of the most southerly) formed the insular part of the kingdom of Johore from the 13th century to the British occupation of Singapore in 1818. There are several hundreds of islets, besides the considerable islands of Battam, Bintang, Krimun, Gampang, Gallat, Linga, and Sinkep, and Banka and Billiton may also be considered as included in it. They are geologically and ethnologically, although not geographically the same, thinly inhabited by several interesting tribes. Some of these have been slightly noticed by Dutch writers, but the greater part still remain undescribed. The more important of the tribes are those termed collectively Orang Persukuan, literally the people divided into tribes. They are all vassals of the king. Those of the highest rank, to whom distinct services are appropriated when the king goes to sea or engages in war, are the Bentan under an Ulubaslang; the Singgera under a Batin, the Kopet under a Jinnang, the Bulo, and the Linga. The other tribes, some of the land and some of the creeks or sea, are the Gilam, Bekaka, Sugi, Muro, Tambus, Mantang, Kilong, Timiang, Mnau, Pulo Boya, and Silat. Besides these, there are some wild tribes in the interior of the larger islands.

Mergui Archipelago, on the coast of Tenasserim, extends in a triple line from 8° 30″ to 13° 13″ N. The Seyer islands and King Island are the principal islands. Other islets are known as St. Matthew, Russell, Phipps, Hastings, and Barwell. They are inhabited by the Seling race, a seafaring fisher people, using the trident and bows and arrows in their fishing. Dr. Helfer thought their hair like that of Negroes. St. Matthew rises to 3000 feet. In 1881 the British Indian Government made arrangements for their colonization.

The **Chagos Archipelago**, belonging to Great Britain, between 5° and 7° S., about 72° 30″ E., over the great Chagos bank. They are coral islands, the chief being the Great Chagos. To its N. W. is a group of six islands, and the Peros Banhos group has twenty-seven islands of small extent, their produce being cocoa-nut oil, cotton, salt fish, and tortoiseshell.—*Crawfurd's Malay Grammar; Crawfurd's Ind. Arch.; G. W. Earl's Papuans; Earl's Ind. Arch.; Jour. Ind. Arch.* from 1847 to 1858; *Suppl. to No.* 5, *J. Ind. Arch.*, Dec. 1847, p. 336; *History of Java; Latham's Descriptive Ethnology; Elliot's Magnetic Survey, in Philosophic Transactions*, 1851; *Maury's Physical Geography; Modera's Narrative of the Voyage of the Triton; Sir Edward Belcher's Survey; Quarterly Review*, No. 222; *Sir Rod. Murchison, Ann. Address Geo. Soc.*, 1845; *St. John's Ind. Arch.; A. R. Wallace on the Varieties of Men in the Malay Archipelago; A. R. Wallace in Report of the Society for the Adv. of Science for* 1865, p. 147; *Moor's Archipelago; Walton's State.*

ARCHITECTURE. From the early part of the 19th century, the architectural remains and sculptures left by the races who in bygone times have ruled in India and its neighbouring countries, have been receiving more and more attention from the Government of India, and from Europeans residing there; for the Hindus were a strangely non-recording race, and, prior to the advent of Mahomedan conquerors, the rocks, the temples, the caves, the topes, and the inscriptions on these, furnish almost the sole record of the many Hindu, Buddhist, and Jaina dynasties who held sway. Amongst those who have been thus engaged in their investigation, may be mentioned Colonel Mackenzie, Mr. James Prinsep, Colonel Sykes, Mr. Edward Thomas, Major Gill, General A. Cunningham, Mr. A. Burgess, Mr. Burnell, and pre-eminently Mr. James Fergusson, F.R.S., who has devoted a long life to these researches, travelling the various countries, and publishing the result of his inspections in his—

Rock-cut Temples of India,	1845
Ancient Architecture in Hindustan,	1847
Palaces of Nineveh and Persepolis,	1851
Illustrated Handbook for India,	1855–1859
History of Architecture,	...
Holy Sepulchre,	1865–1871
Study of Indian Architecture,	1867
Tree and Serpent Worship,	1868–1873
Rude Stone Monuments,	1872
Temples of the Jews,	1878
Cave Temples of Western India (jointly with Mr. James Burgess),	1880

Age.—The oldest architectural remains in British India belong to a race who, at the advent of the Aryans, occupied the country between the Himalaya and Vindhya mountains. They consist of square tower-like temples, with a perpendicular base, but having a curvilinear out-

line above. Throughout the north-west of India, the earliest material in use was timber. It was not till after the arrival of Alexander that stone was worked by the Indian architects; and although soon after Alexander's time stone became the material employed, construction long retained the forms which were needed in the employment of wood. The Indians are supposed to have learned from the Bactrian Greeks how to make use of stone; and Mrs. Manning is even inclined to believe that Alexander had left artists in India, B.C. 323, and Dr. Hunter says (p. 267, vol. iv.), what the Buddhists were to the architecture of northern India, that the Greeks were to its sculpture; Greek faces and profiles constantly occur in ancient Buddhist statuary. The purest specimens have been found in the Panjab. Proceeding eastward from the Panjab, purity of outline gives place to lusciousness of form. In the female figures, the artists trust more and more to swelling breasts and towering chignons, and load the neck with constantly accumulating jewels. In Ceylon, the Buddhist temple of Anarajpura seems to have been erected prior to the Christian era. At Rangoon and at Prome are Buddhist temples, grand in their colossal dimensions, but the dwelling-houses and religious buildings generally in Burma are all of wood, and do not permit the display which can be attained with stone, or even with brick and mortar. The architecture and ornamentation of the temples of India are by far the most interesting and complete memorials of the ancient sacerdotal and regal grandeur of India which are in existence, and give a striking impression of the former splendour of the ruling empires. The Dharwar sculptures are the records of Chalukya, Hoi Sala, Bellal, and other dynasties. The Nizam's territories comprehend the seats of some of the greatest and most powerful sovereignties of the Dekhan, such as Kalyan, the capital of the Western Chalukya and Bijala Raya dynasties; Devagiri, or Deoghur, the capital of the Yadava; Warangal that of the Kakateya, and the great Mahomedan principalities of Kulburga, subsequently split into the subordinate powers of the Bijapur Adil Shahi, the Ahmadnaggur Nizam Shahi, Golconda Kutub Shahi, Berar Imad Shahi, and Beder Birud Shahi, etc. The great religious institutions now in the south of India, are Sri Sailam in Cuddapah, Conjeveram, Chellambram, Srirangam, etc. There are also many religious edifices of great architectural merit, very worthy of being depicted and preserved for the beauty of their sculpture and elegance of their design, such as the stone mantapam in the fort at Vellore, latterly used as an arsenal, the temples at Tanjore, Gangondaram, and Tribhuwanam, the pagodas at Leepichi in Bellary, and of Tarpatry in Cuddapah, with many others equally worthy of admiration, in secluded and desert places, little known beyond their immediate neighbourhood.

Materials.—India owes the introduction of stone for architectural purposes to the great Asoka, who reigned from B.C. 272 to 236. In the twelfth year after his consecration, the sixteenth from his inauguration, which was B.C. 255 or 257, he published his rock-cut edicts, in which he mentions his allies, Antiochus and Antigonus, Ptolemy (Philadelphos), Magas of Cyrene, and Alexander of Macedonia. But although the use of stone for sculpture had been general, the date B.C. 250 commences its history for architectural purposes, and for at least five or six centuries after that time all the monuments now known to us are Buddhist. Mr. Fergusson tells us that, in the south of the Peninsula of India, nearly all the finest buildings of early times have been constructed of stone, while the edifices erected within the past 500 years, comprising some of the most stupendous piles at present to be met with, are of brick. In the Dekhan, the most massy structures are carved from greenstone rock, with a delicacy and correctness quite astonishing. The vaults and domes of tombs and temples are commonly bolted with iron from top to bottom, and in many cases, instead of scaffolding, the structure is surrounded with a high wall ten or twenty feet off, the interval between being filled up with earth; a long inclined plane having served for raising the stones. A magnificent structure of this sort, the tomb of one of the Gwalior princes, stood half finished near Poona for some thirty years, and native architecture could there be seen in perfection in all stages of advancement. Since the Indian railroads commenced, with their great spanning bridges, the rocks of all their neighbourhoods have been largely utilized; and structures, formed of the greenstones, granites, blue slates, limestones, and sandstones, are everywhere to be seen. Throughout the great volcanic district of the Dekhan, the various kinds of greenstone have been largely used. Amongst the blue slate formation along the valleys of the Kistna and Tumbudra, and the compact limestone formation on each side of these rivers, houses have ever been constructed of these materials, but the favourite rock for ornamental purposes in the Buddhist and Hindu temples and Mahomedan mosques of peninsular India is the dark greenstone, often, from its polish, being called black marble. The Buddhist caves of Ellora, and the smaller caves at Maiker, Mominabad and Ajunta, are excavated out of the greenstone and greenstone amygdaloid; those at Ellora, about twenty in number, are in the face of the ghat, almost scarped as it falls into the valley of the Godavery; and about a similar number are at Ajunta, in a ravine near the scarped ghats overlooking Kandesh. Those on the right bank of the Irawadi, near Prome, look on the river. In Madras and Calcutta, and in S. India generally, brick is now an ordinary building material. The blue slates and limestones of the valleys of the Godavery and Kistna and their affluents are utilized, and several imposing structures are built of laterite. But in the whole of Burma and the Tenasserim Provinces, the people's houses are built of wooden planks, with shingled roofs. Buddhist and Jaina dynasties were of longer duration, and the vast cave temples, etc., of Prome, Karli, Elephanta, Ellora, and Ajunta testify to the stability and power of their projectors, for some of them must have been in progress for hundreds of years, and their commencement dates from prior to the birth of Christ. Those Indian sovereigns who have longest possessed territories, the Rajput races of Rajputana, and the Solar dynasty of Mewar, have erected numerous magnificent structures in their capitals. The little permanency, since 800 years, of most Indian dynasties, has left the result only of spasmodic efforts of Hindus and Mahomedans, such as still exist at Agra, Bijapur, Aurungabad, Gogi, Golconda, Kulburga, Dowlatabad, and Hyderabad, in the form of tombs, mosques, and Jaina temples Around Dehli red sandstone is largely used.

ARCHITECTURE.

Character.—In architecture and in sculpture, the greatest efforts of the dominant races were directed to the formation of religious structures, many of them objects of wondering amazement, and are greatly in contrast with the humble mud-walled or wattled and thatched cottages in which all the people of India continue to dwell, and sadly to indicate hundreds of years of instability and turmoil. In the 2000 years that intervened between the 8th century before and the 12th century after the Christian era, the religious tenets of the Buddhists, of the Jains, and of the Brahmans alternately prevailed, and many towns have remains of these religionists, and many of their temples have been utilized by the different sects, as they alternately became predominant. Badami, for instance, has both Buddhist and Brahmanical caves; and Buddhist remains are seen at Aiwulli, five or six miles to its north, and at Purudkul or Pittadkul, as far on its south.

Mr. Fergusson (p. 441) supposes that the caves at Ellora were of the following religionists:—

Buddhist, Viswakarma to Das Avatara, A.D. 500–600.
Jaina, Indra, Jaganath, Subhas, etc., A.D. 550–650.
Hindu, Rameswara to Dhumnar Lena, A.D. 600–750.
Dravidian, Kylas, A.D. 725–800.

Khajuraho, in Bundelkhand, has about thirty important temples, all, except the Chao-sat Jogini, of nearly the same age, A.D. 950 to 1050, one-third Jaina, one-third Vaishnava, and the remainder Saiva, the last with indecent figures.

The temples in the south of India, he says (pp. 40–54), are of the same form for Siva or Vishnu worship, the idols or images or emblems worshipped, or the sculptures adorning them, marking the religious sect to which they belong.

The *Vimana* is the principal part, the actual temple itself. It is always square in plan, and surmounted by a pyramidal roof of one or more storeys; it contains the cell in which the image of the god or his emblem is placed.

The *Mantapa* or porches always cover and precede the door leading to the cell.

The *Gopura* are the principal features in the quadrangular enclosures which always surround the Vimana.

The *Choultries*, Chattra, or pillared halls, were used for various purposes, and are invariable accompaniments; there are, besides, tanks or wells for water for sacred purposes or the convenience of the priests, dwellings for all the various grades of the priesthood attached to it, and many other buildings designed for state or convenience.

The *Stambha*, or *Lat*, are pillars common to all the styles of Indian architecture. With the Buddhists they have been employed to bear inscriptions on their shafts, with emblems or animals on their capitals; with the Jains they were generally deepdans or lamp-bearing pillars; with the Vaishnava Hindus they generally bore statues of Garuda or Hanuman; with the Saiva sect they were flagstaffs. But whatever the object of their erection, they were always among the most original, and frequently the most elegant, productions of Indian art. The most noteworthy are the Kutub Minar at Dehli, and the Jaya Stambhas at Coel, Dowlatabad, and Gaur.

Rails are an imposing feature of later Buddhist architecture. Generally they are found surrounding topes; but they are also represented as enclosing sacred trees, temples, pillars, and other objects.

Chaitya, or assembly halls, in Buddhist art correspond in every respect with the churches of the Christian religion; their plans, the position of the altar or relic casket, the aisles, and other peculiarities, are the same in both, and their uses identical.

The *Vihara*, or monastery, like the chaitya, resembles very closely the similar institution among Christians. In the earlier ages they accompanied, but were detached from, the chaityas or churches. In later times they were furnished with chapels and altars, in which the service could be performed independently of the chaitya halls, which may or may not be found in their proximity.

Lats.—The oldest of these with which we are acquainted, are those set up by king Asoka, in the 27th year after his consecration, the 31st of his reign, to bear inscriptions, conveying to his subjects the leading doctrines of the new faith he had adopted. They have shafts averaging twelve diameters in height. The rock-cut edicts of the same king are dated in his twelfth year, and convey in a less condensed form the same information, but inculcating respect to parents and priests, kindness and charity to all men, and, above all, tenderness towards animals. The best known of these lats was re-set up by Firoz Shah at Dehli. A fragment of a second was found lying on the ground near Hindu Rao's house, north of Dehli. Two others exist in Tirhut, Radhia, and Mattiah.

The most complete lat was found in 1837 lying on the ground in the fort at Allahabad, and was then re-erected with a pedestal. In addition to the Asoka inscriptions, it contains one by Samudra Gupta (A.D. 380 to 400), detailing the glories of his reign, and the great deeds of his ancestors. It seems to have been thrown down, but to have been re-erected by Jahangir (A.D. 1605), with a Persian inscription to commemorate his accession. It has lost its crowning ornaments, but the base is 7 feet 7 inches long, and the shaft 33 feet.—*Beng. As. Soc. Jo.* iii. and vi. pp. 794, 969.

There is a shorter pillar at Sankissa in the Doab, with a honeysuckle crowning ornament, and surmounted by an elephant. Half-way between Muttra and Kanouj (Canouj), and at Bettiah in Tirhut, is another pillar of a similar nature, surmounted by a lion. There are two built pillars among the topes of Kābal, and evidently coeval with them. They are known as the Surkh Minar and the Minar Chakri, and are ascribed to the time of Alexander. The lats of Asoka are supposed to have been erected in front of, or in connection with, a stupa or other building since disappeared, and the lats themselves have been moved from their original sites. At Karli there is one surmounted by four lions in front of the great cave, and two in front of the great cave at Kenheri, which is an exact but debased copy of the great Karli cave. The two lats at Erun, and the iron pillar at Dehli, seem certainly to belong to the eras of the Guptas of the 4th or beginning of the 5th centuries of the Christian era, and to be dedicated to the Vaishnava faith. The lat at Pathari may also be of the Gupta time.

Gopura.—Buddhists, Jains, and Hindus have directed an almost equal attention to the Gopura or gateways of their towns and temples. These, both in form and purpose, resemble the pylons of the Egyptian temples; the courts with pillars and cloisters are common to both, and very similar

in arrangement and extent. The great mantapa and halls of 1000 columns reproduce the hypostyle halls, both in purpose and effect, with almost minute accuracy. The absence of any central tower or vimana over the sanctuary is universal in Egypt, and only conspicuously violated in one instance in India; and the mode of aggregation and amount of labour bestowed on them is common to both.

Domes.—The Buddhists in their structural buildings always employed circular roofs, and in all ages built topes with domical forms externally, but never seem to have attempted an internal dome, in stone at least. The dome is essentially a feature of Jain architecture, and almost exclusively so among the northern Indians. It was an essential feature of the Mahomedans before they came to India, and from the Jaina dome they worked out a style of their own. Hindus occasionally tried to imitate the Jaina dome. Many of the domes over the tombs of the Mahomedans who have been dominant in the Dekhan, and those to be seen at Bijapur, Beder, Gogi, Kulburga, Golconda, Ahmadnaggur, and other places, are of great dimensions.

Buddhist Caves.—In western India, the earliest architectural remains are those of the Buddhists, ranging from about B.C. 250 to the 7th or 8th century of the Christian era. They are chiefly in the form of rock-cut temples and monasteries. The best known are at Ajunta, Ellora, Karli, Kanheri, and Junagarh, but there are others in British territory, in the Hyderabad dominions, and along the borders of the two provinces, and in the ghats. The dahgopas, large cylindrical structures, with a domed top surmounted by a capital, and the arched roofs of the chaitya or temple caves, are characteristic of Buddhist caves, so also is the prevalence as an ornament of the chaitya window or arch in the shape of a horseshoe, though this is also found in early Brahmanical buildings and caves. The viharas or monasteries have usually cells around them, often with stone benches or beds inside.

The *Jaina caves* are sometimes so like the later Buddhist caves at Ajunta, as to be difficult to distinguish. Those at Dara-sinha are of this character. Generally the nudity of the images, their snakes, and their ringlets, at once mark them.

The *Brahmanical caves* are fewer than the Buddhist. They range probably between the 5th and 8th centuries of this era. Saiva caves are to be seen in Elephanta and Jogeswari near Bombay, at Ellora, and at Aihole and Badami in the Kaladgi district, and two fine Vaishnava caves, one of them at Badami. So far as yet known, Brahmanical caves consist of halls, with a single cell or shrine, and occasionally, as at Elephanta, with one or two small cells for utensils, etc., but without rooms for monks along their sides. The sect to which a cave belonged is indicated by the sculptures,—the lingam, Ganpati, Siva, Bhairava, Ard-dha-nari, Ravana, Bhavani, Parvati, Maheswari, etc., figuring prominently in Saiva caves; Vishnu, Varaha, Narisinha, Virabhadra, Garuda, etc., are prominent in Vaishnava caves. The sculptures over the entrance and shrine door indicate better than anything else, by, or for, what sect the temple was originally built. Thus, if Ganpati is on the lintel, it may be concluded that the temple was a Saiva one; nine figures (nau graha) in a line, the eighth being a large face only, indicates a Sauriya temple, or one dedicated to the worship of the sun; a winged figure (Garuda) marks a Vaishnava temple; and a sitting figure (Jina), with the legs turned up in front, and the hands resting in the lap, a Jaina shrine. In some instances, where the Saiva sect have appropriated the Jaina shrines, the Jina has been metamorphosed into a Ganpati. Where no change in the dedication of the shrine has taken place, the figure in the shrine will confirm the above. Surya, however, may easily be mistaken for Vishnu, their images being nearly alike, only Surya holds in one or both his hands a large sun-flower. Sometimes he is represented in a chariot drawn by seven horses.

Styles.—The *Dravidian style* of architecture is characterized by its massiveness in walls, pillars, etc. The principal architectural lines in the roofs and shrines are horizontal, making the latter resemble storeyed pyramids; and the vertical breaks in the wall line are of but slight projection, sometimes set off with slender pilasters, with or without sculptures between. In the earlier remains of this style, the pillars are generally very thick, and square or octagonal, with heavy bracket capitals. In the later, they are sometimes round, and generally remarkable for the number of horizontal members on the shafts and bases; the capitals, except the abaci, are circular, with bracket sur-capitals. The remains in this style belong to the period between the 5th and early part of the 13th century. The Kailas temple at Ellora, the seven pagodas at Madras, belong to this style, which prevails in the southern parts of the Bombay Presidency, and in the Hyderabad territory. Only one at Pattadkal has a spire in the Chalukya style.

The *Chalukya style* prevailed between the 9th to the middle of the 14th century, and is characterized generally by more elaborateness of ornament, by balconies and roofings supported by richly carved brackets, by the outer faces of the walls of shrines being broken up into a series of projecting corners, with equal faces, and by pillars square in section with a projecting face on each side, or like a square pillar with a slightly narrower but very thin pilaster added to each side. These latter, however, while the typical section was retained, were liable to great modification, from the large amount of sculpture often lavished on them. The spires are proportionately higher than those of the southern style, with a couple or more of successive projections on each side. The faces and lines of projection are vertical at first, but higher up they fall inwards with a gentle curve towards the summit, which is crowned by a kalas or finial, varying in form and size with the form and age of the building. The walls are often elaborately carved with belts of figures, and the stones are carefully fitted and clamped inside, but without mortar. Some of the finest examples of this style are to be seen in the gates of Jhinjuwada, the gates and Hira temple at Dabhoi, the temple at Mudhera, and Rudra Mala, at Siddhpur in Gujerat, in the Jaina temples at Mount Abu, in the small temple at Amarnath, near Kalyan, and at some shrines at Pattadkal and Aihole in the Kaladgi collectorate. To these two there seems to have succeeded what may be called a *mediæval style*, combining some of the features of each, and covering the period from about A.D. 1150 to 1600. To it belong most of the Jain temples, and the later Hindu temples in Gujerat; and those temples

usually described as Hemadpanti, in Kandesh, Berar, and the Hyderabad dominions, dating from the 12th to about the middle of the 14th century.

In the *Hindu styles* from the 17th century there is considerable variety. The Mahomedan curved arch is often introduced; forms derived from the Dravidian appear, and plaster and mortar take the place of sculpture and careful jointing. In some cases very beautiful wood-carving is introduced, as may be seen in temples in Gujerat.

The *ceilings* and *domes* of Hindu and Jain temples are sometimes of singular excellence of execution. In the western side of India, the cusped arch and the dome characterize the Mahomedan style of architecture; but that of Ahmadabad and that of the Bijapur buildings present points of difference. Perforated stonework occurs in old Hindu buildings; but specimens remarkable for the variety of beautiful design are chiefly to be found in the Mahomedan works of the 15th and following centuries at Ahmadabad and Aurungabad.

Silasasanams, or inscriptions on stones, are the most numerous in the Canarese country.—*J. Burgess, Archæological Surveyor and Reporter, in No. 6, Archæological Survey of Western India, Bombay*, 1877.

Jaina.—Mr. Fergusson tells us that the principal Jain works are in Rajputana, Gwalior, and Bundelkhand. Their sculptures almost entirely are restricted to the representation of their twenty-four hierarchs, whom they call tirthankara, to each of whom a symbol is attached,—generally some animal, fish, or flower, in one instance a crescent, in another a thunderbolt. Some of the Jaina temples are of great beauty. Brahmanical sculptures are countless, and consist of temples, with representations of the Hindu divinities. Jains, says Mr. Fergusson, p. 240, have their shrines on the hills of Palitana, Girnar, Gwalior, Mount Abu, and Parisnath, but also in deep secluded valleys. One of these, at Muktagiri near Gawilghur, is in a deep, well-wooded valley, traversed by a stream with several waterfalls. At Sadri there is a group of temples, the principal one having been erected by Khumbo, rana of Udaipur, in a lonely silent glen, below his fort of Komulmer, dedicated to Adinatha or Reshabdeva, the first and greatest of the Jaina saints. It covers 48,000 square feet. The rock at Gwalior, in Central India, has one remarkable Jaina structure, dedicated to Padmanatha, their sixth tirthankara, and the rock on all sides has a series of caves or rock-cut sculptures, most of them mere niches to contain statues, all of them excavated between 1441 and 1474. One of the figures is 57 feet high. He mentions that in their temples the saint is very numerously represented by images in cells or niches. At Chandravati, a few miles southward from Mount Abu, is a ruined city, with extensive remains of Jaina temples of the same age as those on the mount.

Parisnath is the highest point of the Bengal range of hills south of Rajmahal. It is one of the Jaina pilgrim shrines, and nineteen of their twenty-four tirthankars are said to have died and been buried there; amongst others Parswanath, the last of them but one. The temples on it are numerous. But Jainism, he tells us, p. 254, never seems to have taken a firm place in Bengal; and when the Pala dynasty of Bengal, about A.D. 1203, left Buddhism and accepted the Vaishnava and Saiva superstitions, Jainism seems to have disappeared. There seems also to have been a pause, at least in the north of India; but a revival occurred in the 15th century, especially under Rana Khumbo of Mewar, A.D. 1418-1468, who made his capital at Chitore. Though deficient in the extreme grace and elegance that characterized the earliest examples, those of the middle style are bold and vigorous expressions of the art.

Mount Abu, says Mr. Fergusson, p. 234, rises from the desert as abruptly as an island from the ocean, and presents on almost every side inaccessible scarps up to 5650 feet high, the summit being reached only by ravines that cut into its sides. When the summit is reached, it opens out into a lovely valley six or seven miles long by two or three miles in width, with the little Nakhi Talao or Pearl Lake, and near to it, at Delwara, the Jains selected a site for their pilgrimage or tirth. During Jaina supremacy, it was adorned with several temples, two of which are of white marble. The more modern of these was built by the two brothers Tejpala and Vastupala, who erected a triple temple at Girnar (A.D. 1197–1247), and for minute delicacy of carving and beauty of details it stands almost unrivalled. The other, built also by a merchant, Vimala Sah, about A.D. 1032, is simpler and bolder, and is the oldest and most complete example of a Jaina temple. It is dedicated to Parswanatha, who is seated within.

The slender and elegant pillars, and the richly carved horizontal domes of the Jain structures, he says, pp. 203–8, were easily destroyed or utilised by the Mahomedans. The great mosques of Ajmir, Dehli, Kanouj, Dhar, and Ahmadabad are all reconstructed temples of the Jains.

The *Aiwulli* temple, a few miles north of Badami, has an inscription on its outer gateway mentioning Vikramaditya Chalukya, who began to reign A.D. 650, and died 680. South of Badami is a temple at Pittadkul.

The sacred hill of *Sutrunjya*, near Palitana in Gujerat, about 30 miles from Gogo, illustrates the Jaina custom of grouping their temples. They are in hundreds there, covering over the summits of two extensive hills. The smaller shrines line the streets; the larger temples are enclosed in 'tuks,' or separate enclosures, surrounded by high fortified walls. A few yati or priests and a few servants are there to perform the daily services and keep the place clean, but there are no other residents there. The pilgrim goes up and returns. It is a city of the gods. The shrines are almost all the gifts of single wealthy individuals. Some are as old as the 11th century, but the largest number have been constructed since the early part of the 19th century.

The Chau-mukh, or four-faced temple at Palitana, Mr. Fergusson describes (pp. 253, 274, and 279) as very grand. The temple of Ardishur is the largest single temple on that hill.

Girnar, on the south coast of Gujerat, not far from Somnath Patan, is a sacred hill of the Jains. The hill rises 2500 feet above the sea, and the temples are built on its side. A rock outside the town of *Junagarh*, at its foot, has a copy of the edicts of Asoka (B.C. 250); and on the same rock is an inscription, A.D. 151, by Rudra Dama, the Sah king of Saurashtra, mentioning his victories over the Sat-karni kings of the Dekhan. It contains also a record, A.D. 457, of the repair of a

bridge by Skanda, the last of the Gupta kings. The temple of Neminatha is the oldest of a group of sixteen temples, 600 feet below the summit. Behind it is a triple temple, erected A.D. 1177, by the brothers Tejpala and Vastupala. Not far from Girnar, on the sea-shore, is the temple of Somnath, captured by Mahmud, A.D. 1025.

Khajuraho, the ancient capital of the Chandel dynasty, is about 125 miles W.S.W. of Allahabad, and 150 miles S.E. from Gwalior. It is now deserted, but has in and around it about thirty temples, the most beautiful in form as well as the most elegant in detail of any of the temples now standing in India. They were erected simultaneously in the 11th century, and are nearly equally divided among three religions,—Jaina, Saiva, and Vaishnava. Each group has one shrine greater than the rest, round which the smaller ones are clustered. In the Saiva groups it is the Kandarya Mahadeva; in the Vaishnava it is the Rama Chandra; and in the Jaina group it is the Jinanatha. The Parswanatha Jaina temple has a rich base, the Ganthai, or Bell temple, and Chaonsat Jogini, which has sixty-four cells.

At *Gyraspur*, near Bhilsa, 140 miles S.W. of Khajuraho, is a group of columns, supposed to be Jaina, and there are others in the Mokundra pass. In the Ulwar territory at Bhanghur are some very beautiful Jaina temples. One called Nan Gungi has an image 20 feet in height.

The fragment of a little temple at *Amwah*, near Ajunta, shows it to have been a Jaina shrine of Sri Allat, the twelfth king mentioned in Tod's Rajasthan (i. p. 802).

Chitore.—The elegant Jaina tower dedicated to the first of the Jaina tirthankara, Adinath, was erected about A.D. 896, on the brow of Chitore. It is about 80 feet in height, and is adorned with sculpture and mouldings from base to summit, among which the figure of Adinath is repeated a hundred times. Another tower, of later build, was erected by Khumbo, rana of Mewar, A.D. 1418-1468, as a Jaya Stambha, nine storeys high, as a pillar of his victory over Mahmud of Malwa, A.D. 1439, like that of Trajan at Rome. It is 30 feet wide at its base, and more than 120 feet in height, in nine storeys, and the whole is covered with architectural ornaments and sculptures. The Chinese nine-storeyed towers are almost literal copies of these Jaina towers.

Sonaghur, near Dutteah in Bundelkhand, and Muktagiri, near Gawilghur, in Berar, show the most modern styles of Jain architecture. Sonaghur is a granite hill covered with large loose masses of rock, among which stand 80 to 100 temples of various shapes and sizes. The sikra is rare, and the foliated pointed Mahomedan arch is the usual opening. *Muktagiri* is a deep romantic valley, and its largest group of temples are on a platform at the foot of a waterfall, that thunders down from a height of 60 feet above them. The temples are only remarkable from showing their adoption of the Mahomedan style. At *Dehli* is a Jaina temple of much beauty. The background of the strut of its porch has pierced, foliated tracery, of the most exquisite device. At *Khandagiri*, near Cuttack, are Jaina caves, and there is one at Badami without any inscription. But there are three Brahmanical caves, one of which has the date 500 Saka (A.D. 579). The Indra Subha and Jaganath Subha groups at *Ellora* are supposed to be of the same age as the Badami cave temple. At *Ajmir* the Arhai-din-ka Jompra has been described as a Jaina temple. So also is a great part of the mosque at the Kutub, Dehli.

Some of the *Hoisala Bellala* kings were Jains; but their buildings at Somnathpur, Bellur or Hullabid belong to the Vaishnava or Saiva faiths. The Basti temples of the southern Jains, like the Jaina temples of northern India, always have a tirthankara as the object of worship. The Bettu temples of southern India are open courtyards, containing images of Gomati, who possibly may be Gautama Buddha. There are two hills at the village of Sravana Belgula, 33 miles N. by W. from Seringapatam. On one of these, a mass of syenite 500 feet high, a Jaina image, 70 feet 3 inches high, has been carved out of the solid rock. The expression of its features is pleasing, with curly hair; and at Karkala, the image, 41 feet 5 inches, and weight 80 tons, has been moved to its present site, and was erected A.D. 1432. The third, and supposed oldest, at Yannur, is 35 feet high. They belong to the Digambara sect of the Jains, being entirely naked, but with twigs of the Bo Tree twisted round their legs and arms, with serpents at their feet. In the Jaina cave at Badami, the figure has two snakes twisted around its legs and arms, and the Bo Tree is placed behind. On a shoulder of the other hill at Sravana Belgula, called Chandragiri, are the Basti temples, fifteen in number, all of the Dravidian style, raised into storeys. The Jaina temple at Moodbidri, and all others in Canara, resemble the temples of Nepal, and many of them are built of wood. The interiors are richly and variedly carved, with massive pillars. A large number of the tombs of the priests, some of them five to seven storeys in height, each with a sloping roof, like the temples of Khatmandu, Tibet, and China. The Stambhas, or free standing pillars of the Jainas in Canara, are very graceful.

The *Kashmir* temples are Marttand, Avantipore, Payech, Bhaniyar, and Waniyat. Marttand, 60 feet by 38 feet, is now in ruins. It is 5 miles east of Islamabad, and is built on an elevated plateau that overlooks the valley. Its enclosing courtyard is 220 feet by 142 feet. The enclosure was erected by Lalitaditya, who reigned A.D. 725 to 761. General Cunningham, however, thinks that the temple was erected by Ranaditya, who reigned A.D. 578 to 594. The courtyard of this, and of all the Kashmir temples, was constructed to admit of it being filled with water. The principal Naga figures in the niches have three or five headed snake hoods at the back of their heads. The Avantipore temples were erected by Avantiverma, who was the first king of the Utpala dynasty, and reigned from A.D. 875 to 904. He was a zealous Saiva. The style is rich in detail.

Nepal, at the present day, has three religions—Buddhist, Saiva, and Vaishnava—flourishing side by side. Its three capitals are Patan, Bhatgaon, and Khatmandu; and its religious state resembles the condition of India in the 7th century, when the buddhist and brahmanical religions flourished side by side. By the oldest records, the valley seems to have been occupied by the Kirata, the Bhot, and the Newar races, of Tibetan origin, who had early adopted the buddhist doctrines, and still adhere to them. The oldest and most important monuments in the Nepal valley are

those of Swayambunath, beautifully situated on an eminence about a mile from Khatmandu, and Bouddhama, at Kasachiel, some distance off. Their most beautiful temples possess many storeys, divided with sloping roofs. At Patan is one with Sakya in the basal floor, Amitabha the second storey, a small stone chaitya the third, the Dharmadatu Mandala the fourth, and the fifth or apex of the building is a small Churamani or jewel-headed chaitya. Mention may also be made of the Bhawani temple at Bhatgaon, of Mahadeo and Krishna at Patan.

Temples in Kulu, Kangra, and Kamaon are numerous, and all of wood, usually the timber of the deodar.

Rajputana.—Mr. Fergusson says, p. 473, the palace at Udaipur of the rulers of Mewar, those of Duttiah and Orcha in Bundelkhand, the Gwalior palace, and that at Amber in the Jeypore state, are all worthy of notice; and the palace at Deeg, which is quite a fairy structure, was the work of Suraj Mull, founder of the Bhurtpur dynasty, who began it in the year 1725, though unfinished when he was killed in battle by Najif Khan, A.D. 1763. Every native capital in Rajputana, he tells us, has a cenotaph, or maha sati, where the sovereigns, their wives and nearest relatives, are buried. The most magnificent of these are the hundreds at Udaipur, all crowned by domes; and that of Singram Singh, to twenty-one of his wives, is the finest. He was buried A.D. 1733. He built that of his predecessor, Amera Singh II. The tomb of Bakhtawar Singh at Ulwar, erected in the 19th century, and the tombs of the Bhurtpur rajas at Govardhun, are also noteworthy.

The temples at *Orissa* are more numerous than those of all Hindustan. They were erected between the years A.D. 500 and 1200. That at Bhuvaneswar was A.D. 637; that at Puri was A.D. 1174; and, with the exception of that of Jaganath at Puri, the ancient Dantapura, all were erected under the great Kesari dynasty, or Lion line of kings, who reigned A.D. 473 till 1131, when they were succeeded by the Ganga Vansa, the third of whom built Jaganath. That called Parasuram Eswara is 20 feet square and 38 feet high, and its sculptures are cut with a delicacy seldom surpassed, and of the most elaborate character. It is supposed to have been built A.D. 450 or 500. Those of the Mukt Eswara shrine are even richer and more varied in detail. Bhuvaneswar temple is supposed by Mr. Fergusson (p. 420) to have been built by Lelal Indra Kesari, who reigned A.D. 617 to 657. It is the finest example of a purely Hindu temple in India, 300 feet long and 60 to 75 feet in breadth. Every inch of the surface is covered with carving in the most elaborate manner, and the effect is marvellously beautiful. Its Nat Mandir, or dancing hall, was erected by the wife of Salini, between A.D. 1099 and 1104. Besides this, there are the Raj Rani temple, and many others.

The *Canarac* temple is known to the British as the Black Pagoda. The Jaganath temple at Puri is said to have been erected over an image of Vishnu, which had been concealed from the Yavana. Externally it measures 670 to 640 feet, and is surrounded by a wall 20 to 30 feet high, with four gates. An inner enclosure measures 420 by 315 feet, and is enclosed by a double wall with four openings. Within this last stands the Bara Dewul, and the great tower rises to 192 feet.

Jajpur, in Cuttack, on the Byturni river, was once the capital of the province. It has a pillar which was erected in the 12th or 13th century.

In *Ceylon*, Anaradhapura is a deserted city. It seems to have become the capital of Ceylon about B.C. 400. About B.C. 250 it became one of the principal capitals of buddhism in the east, which it continued to be till about A.D. 750, when the repeated invasions of the Tamil races led to its abandonment for Pollonarua, which continued to be the capital for some centuries. Anaradhapura has within its limits ruins of topes or dagobas, the Lowa Maha Paya, Abhayagiri, Jetawana, Thuparamaya, Lankaramya, Saila, and Ruanwelli. It was erected B.C. 250, to hold the right jawbone of Buddha. Subsequently, at the beginning of the 4th century, a tooth was brought from India, and deposited in a small building erected for the purpose on one of the angles of the platform of this building. The Lowa Maha Paya, or Great Brazen Monastery, was erected B.C. 161, by king Duttagaimuni. It is 225 feet square, and with nine storeys, and 100 cells for priests. In A.D. 285, Mahasena destroyed it, but it was re-erected of five storeys by his son. It never regained its previous fame, and fell into decay, and the 1600 pillars which once supported it alone remain; they are unhewn blocks of granite. The quadrupeds sculptured on the Anaradhapura, also at Hullabid in Mysore, and at Amravati, are the elephant, lion, horse, and bull; the birds are the hansa or sacred goose, or pigeons. Besides these, there is at Anaradhapura a temple called Isurumunya, partly cut in the rock, partly structural. But to Buddhists the most sacred object there is the Bo Tree, which was brought there by Mahindo and Sangamitta, son and daughter of Asoka, who introduced Buddhism into Ceylon.

The Pallonarua temples were mostly built A.D. 1153–1186, by Prakrama Bahu. Its rock-cut structure, called Gal Vihara, has a seated figure of Buddha 16 feet in height, one standing figure 25 feet, and one recumbent 45 feet long, in the conventional attitude of his attaining Nirvan. In front is the Jetawana Rama temple, 170 by 70 feet, with an erect statue of Buddha 58 feet in height. The Rankot Dagoba and the Mahal Prasada are also of interest, the last being a representative of the seven-storeyed temples of Assyria.

In *Cambodia*, the temples of Nakhonwat, Ongcor Thom, and Patenta Phrohm are the most remarkable. The outer enclosure of Nakhonwat measures 570 feet by 650 feet. It is a towered pyramid more than 600 feet in breadth, and rising to 180 feet at the summit of the central tower. It is built of large stones without cement, beautifully fitted. All its 1532 pillars are of the Roman Doric order. Those of Kashmir are the Grecian Doric, with many clothed female figures in alto-relievo. The seven-headed snake god is everywhere figured. It is now a Buddhist temple. The Baion temple is within the city, and Patenta Phrohm (Brahma) is a mile to the east.

Java.—For nearly nine centuries (603–1479) foreign colonists continued to adorn this island with edifices almost unrivalled elsewhere. Boro Buddor is a great Buddhist temple there. It is a Dagoba with five procession paths and 72 small domical buildings, each containing a statue of Buddha, but combining with it the idea of a nine-storeyed vihara. The bas-relief sculptures which

line its galleries extend to nearly 10,000 lineal feet. On the inner face of the second gallery is portrayed, in 120 bas-reliefs, the entire life of Sakya Muni. In the galleries above this are groups of Buddhas, bodhisatwas, and saints, and many crested snakes. The temple at Mendoet, two and a half miles from Boro Buddor, has three colossal figures, supposed to be Buddha, Siva, and Vishnu, with a figure of Lakshmi. The temple of Toempang also merits mention, and that of Pantaram (A.D. 1416) is called the serpent temple, because its base is made up of eight great crested serpents. There are temples at Matjanpontik; and on the Djeing plateau there are five or six small temples, also temples at Suku.—*Ferg.* pp. 637-662.

In *China*, Pailoo are erected as honorific distinctions of eminent men, or of virgins or widows who have remained unmarried. Pekin has the temple of the Great Dragon, a circular pyramid, and a buddhist monastery; the pagoda, and a pavilion in the summer palace, and the Tung Cheu pagoda, all merit notice.

The Buddhists of *Burma*, at Prome and Rangoon, have erected magnificent temples for their worship, with much detail, but with a magnitude of dimensions that prevents the thought of puerility. The great colossal figures of the pagodas at Rangoon and Prome are magnificent structures. That at Rangoon, built on the most elevated part of a great laterite ridge, towers majestically above all surrounding objects. The Chinese joss-houses there are simple structures, but ornamental from their pleasingly contrasted colouring.

The finest architectural remains in Burma are to be seen in the deserted city of Pagan, but many of the most magnificent have been greatly shattered by earthquakes. The bow and the pointed arch, as well as the flat and the circular, have been in use long before their employment in India. Modern buildings are chiefly of wood. Palaces and monasteries, carved with extraordinary richness of detail, and often gilt all over, present an aspect of barbaric splendour. The dagobas, relic chambers, which form at once the objects and the localities of Buddhist worship, are almost the only brick structures now erected, and these are often gilt all over,—£40,000 are said to have been expended on a single temple. The ordinary buildings are chiefly built of bamboo and thatched with grass, and well raised from the ground on piles. In carving, the Burmese artisans give full scope to the working of a luxuriant and whimsical fancy.

Islam.—Races professing Islam have been great builders. The pastoral Arab races from Arabia extended their sway from the banks of the Guadalquivir to those of the Indus. The pastoral Turk and Moghul races, issuing from Balkh, Bokhara, and Samarcand, ruled from Constantinople to Cuttack, and covered the whole intervening space with monuments of every kind. In 1683, the Turks were encamped under the walls of Vienna. In India they adopted some styles of the Hindus, but there are at least fifteen different styles in Mahomedan architecture, of which the most prominent are those of Ghazni of the Pathans, that of the Sharki of Jounpore (Janpur), of Malwa and Bengal, in the north of India; and in the south, that of the Bahmani, Adal Shahi, Kutub Shahi, Moghulai of Baber and Sind, Oudh and Mysore. Some of the mosques, as the Jamma Masjid of Hyderabad and the mosques at Bijapur, are grand imposing structures; but one of the prettiest to be met with is the little Damri Masjid at Ahmadnaggur, built from the farthing or damri deductions made from the wages of those workmen who erected the fort at that place. Of the tombs of Mahomedans, the usual shape is a vast cupola on a square pedestal. These, commonly called Gumbaz, are to be seen wherever Mahomedans have ruled; but those at the fortress of Golconda, of the Kutub dynasty of Hyderabad in the Dekhan, are only surpassed in magnificence by the tombs of the Adal Shahi family of Bijapur. Some of the Adal Shahi kings of Bijapur are buried at Gogi, south of Kulburga; and there is a Langar Khanah near, with arabesques surpassing anything to be seen in the south of India. The tombs of Kulburga are of little merit. The tomb of Aurangzeb's daughter at Aurungabad is said to have been in imitation of that at Agra over the queen of Shah Jahan, Arjamand Banu Begum, Mumtaz Mahal.

The Arch.—Hindus, up to the advent of the Mahomedans, do not appear to have known the arch, nor to have been able to construct vaults or domes otherwise than by successive layers of stone projecting beyond those beneath, as in the Treasury of Atreus in Mycene. Prior to the reign of Akbar (A.D. 1556), the only examples of the arch in Hindu architecture are in some brick buildings of the Pala dynasty at Nalanda in Bengal. In India, flat arches of stone and brick are not uncommon. In Burma, Captain Yule (Embassy, p. 48) discerned two of brick, in windows in the Dhamayangyee temple at Pagan, where no suggestion of European or Indian aid could have helped. There is one flat stone arch in the northern gate of the fort, and another in a tomb, at Kurnul. There is one in the mediæval building of Roslin Castle, and in the magnificent Saracen gateway of Cairo, called Bab-el-Fitoor.

Hindus erect columns and arches, or rather gateways, in honour of victories. There is a highly wrought example of the column at Chitur, 120 feet high. A fine triumphal arch (if that term can be applied to a square opening) has been erected at Barnagar, in the north of Gujerat. It is among the richest specimens of Hindu art. The streets and squares of Chinese cities have monumental arches erected in honour of renowned warriors, illustrious statesmen, distinguished citizens, learned scholars, virtuous women, or dutiful children. They are in the form of a triple arch, the largest in the centre richly sculptured.—*Gray*, p. 11; *Elphinstone*, p. 163. The latter author also tells us, p. 430, that the unfinished mosque near the Kutub Minar presents specimens of the pointed arch, which, besides for their height and the rich ornamental inscriptions with which they are covered, merit mention as early examples of this form of arch. The centre arch appears by the inscription to have been finished in A.D. 1197, A.H. 594. Many of the buildings of the later princes before Akbar have small pointed arches. The mosques are composed of a collection of small cupolas, each resting on four pillars; so that the whole mosque is only a succession of alleys between ranges of pillars, with no clear space of any extent. The Black Mosque at Dehli, however, is in the ancient style, though built in A.D. 1387 under Firoz Taghalaq; and the tomb of Ghaias-ud-Din Taghalaq, who died

in A.D. 1325, is covered with one cupola of considerable magnitude. The arches are different at different times. The early ones are plain Gothic arches; the latest are ogee and horseshoe arches, feathered all round. The domes at first are low and flat; they gradually gain elevation till the time of Jahangir, when they take in considerably more than half a sphere, and are raised upon a cylinder. Through the constant use of the pointed arch, the nature of the tracery and some other particulars create a resemblance between the Gothic and Indian architecture which strikes every one at first sight, yet the frequency and importance of domes, and the prevalence of horizontal lines in the Indian, make an essential difference between the styles. The more ancient buildings, in particular, which in other respects are most like the Gothic, are marked by a bold and unbroken cornice formed of flat stones, projecting very far, and supported by deep brackets or modeleons of the same material.

In the 10th and 11th century, says Mr. Fergusson, p. 506, Mahmud of Ghazni inspired his nobles with a taste for architecture; and Ferishta says his capital was in a short time ornamented with mosques, porches, minars, fountains, aqueducts, reservoirs, and cisterns beyond any eastern city. Of the Turk and Pathan rulers who succeeded to the dominion in India, we have left to us the mosque at old Dehli and that at Ajmir, also the Kutub Minar, the tombs of Ala-ud-Din and his successors, down to the accession of Baber, A.D. 1494.

The *Kutub* at old Dehli was erected from the pillars and other parts of Jaina temples, and many of them retain the sculptured figures. The minar at the Kutub is 48 feet 4 inches in diameter at the base; and in 1794, though its capital was then ruined, it was still 242 feet in height. Its present height is 238 feet 1 inch, deducting the modern pavilion. It has four ornamental balconies, respectively at 97, 148, 188, and 214 feet from the ground, between which are richly sculptured raised belts containing inscriptions. It is lower by 30 feet than the Campanile at Florence. It is a tower of victory, a Jaya Sthamba. The dates of the ruins in old Dehli are from 1196 to 1235. The inner court was enclosed by Shahab-ud-Din. The central range of arches was built by Kutub-ud-Din; the wings by Altamsh, whose tomb is beyond the northern range, and who also built or founded the Kutub Minar. The iron pillar at the Kutub in the centre of its courtyard stands 22 feet above ground, and extends 20 inches under ground; total, 23 feet 8 inches. Its diameter at the base is 16 feet 4 inches, and at the capital it is 12·05 inches. There is no date on it, but Mr. Fergusson says (p. 506) that Mr. Prinsep supposed an inscription on it to be of the 3d or 4th century; Dr. Bhau Daji supposed the 6th century. It is forged iron. An inscription on it says it was dedicated to Vishnu; but its real purpose was a pillar of victory to record the defeat of the Balhikas near the seven mouths of the Sindhu or Indus. Behind the N.W. corner of the mosque is the tomb of Altamsh.

Mosques, Tombs.—The mosque at Ajmir was commenced A.D. 1200, and completed by Altamsh 1210–1236, and is called the Arhai din ka jhompra. It was constructed from a Jaina temple. Its courtyard has a screen of seven inches, on which Cufic and Togra inscriptions are interwoven with architectural decorations. A mere mention must be made of the tomb at Sipri near Gwalior; and that of Sher Shah near Sasseran in Shahabad; at Jaunpore (Jonpur), the Jamma Masjid and Lal Darwaza Masjid; at Ahmadabad, the Jamma Masjid and other mosques; and tombs and mosques at Sirkej and Butwa; the Jamma Masjid at Cambay, erected A.D. 1325, in the time of Mahmud Shah Ghori; the tomb of Mahmud Begurra near Kaira; at Mandu, the great mosque, the Dharmsala, the Jahaz Mahal; in Bengal, the Kadam Rasul mosque, the Minar at Gaur, and the Adinah mosque at Maldah.

In the Dekhan are the mosques and bazar at Kulburga. At Beder, the Madrassa erected by Mahomed Gous, minister of Mahmud II., and the tombs of the Berid Shahi who ruled there 1492 to 1609. At Bijapur are the Jamma Masjid, the tomb of Ibrahim II.,—the whole of the Koran is said to be sculptured on its walls,—the smaller tomb of his successor, Mahmud, and the great Audience Hall. In the vicinity of Tatta, in Sind, are a series of tombs erected during the Moghul dynasty by the great men of the province, from 1572 to 1640. Akbar's reign, 1556–1605, was conspicuous for the many structures he erected. Amongst these are the mausoleum over his father at old Dehli, the old or Red Palace in the fort, built of red sandstone, 249 feet by 260 feet; the palace at Futtehpur Sikri, and the three small pavilions which he erected for his three favourite wives, the daughter of Bir-Bul, the Rumi Sultanah, and the Christian Miriam, and its mosque, hardly surpassed by any in India. He commenced his own tomb at Secundra near Agra, and it was finished in Jahangir's reign.

Wherever Pathan dynasties ruled in India, their architectural remains are of a magnificent character. At Dehli, Agra, Mandu, and Burhanpur, ruins of palaces, mosques, and mausoleums attest the magnificence of their founders, and their noble, scientifically constructed fortifications attest their skill. Of the early Pathans of the Ghori and Khilji dynasties from A.D. 1193 to 1321, there may be noticed the Kutub Minar, of majestic beauty, erected A.D. 1200, and the stern grandeur of Taghalaqabad, A.D. 1321. The style is different of the late Pathan, of the Taghalaq and Saiad dynasties, A.D. 1321 to 1451, the Afghan of the Lodi and Suri dynasties, A.D. 1451 to 1554.

Mr. Fergusson tells us, p. 384, that the notable civil buildings of the rulers of southern India are all of dates subsequent to their occupants coming in contact with Mahomedans. The palaces, the cutcherries, the elephant stables, and the dependencies of the abodes of the rajas at Vijianagar and Madura, rival in extent and splendour the temples themselves, and are not surpassed in magnificence by the Mahomedan structures of Bijapur and Beder. The civil buildings are all in a different style of architecture from the trabeate style employed in the temples. The Swarga-Vilasam, or throne-room of the palace at Madura, is an arcaded octagon covered by a dome 60 feet in diameter and 60 feet in height. The greater part of the buildings of the palace at Tanjore belong to the 18th century, and some to the 19th. The palace buildings at Vijianagar consist of a number of detached pavilions, baths, harems.

The usual form of a Pathan tomb was an

octagonal apartment, surmounted by a dome, the apartments surrounded by an arched verandah, the arches rising from square columns.—*As. Soc. J.* iii. and vi. pp. 794, 969; *Gray's China; Elphinstone's History of India; Fergusson's History of Architecture; Messrs. Fergusson and Burgess, Mr. Fergusson to* p. 236, *and Mr. Burgess to* p. 133; *Gen. A. Cunningham's Report of Archæological Survey of India*, 1871–74; *Gen. Cunningham's Bhilsa Topes; Imperial Gazetteer; Rev. J. Burgess, Arch. Survey of Western India, Bombay*, 1877.

ARCOT, a small town about 65 miles W. from Madras, taking its name from two Tamil words, Aru-Kadu, the six jungles on the river Palar; Sanskrit, Shad Aranya. It is in 12° 55′ 23″ N., and 79° 24′ 14″ E., and 599 feet above the sea. It is the Arkatou Basileon of the Greeks, and the capital of the nomade Sorai (Σωραι), the whole of the neighbouring territory for several centuries after the Christian era having been occupied by shepherd Kurumbars, and then formed the centre of the Chola kingdom. But it must have been a place of great antiquity, by its being taken notice of by Ptolemy as the capital of the Soræ of Soramandalum, from whence corruptly Coromandel. The Kurumbar dynasty was overthrown in the beginning of the 12th century by Adondai, an illegitimate son of Kulottunga Chola. The country, however, again lay waste, until Nala Bomma-Naidu and Timma Naidu built, or rebuilt, the town of Arcot, which was occupied for generations by their successors, who again were put aside by Aurangzeb's general, Zu-ul-Fiqar Khan, who took Ginji A.D. 1698, and settled many of his co-religionists in the country. Their descendants are still numerous. Arcot town, in 1712, was made the seat of government by Saadat Ullah Khan, the first Nawab of Arcot. Clive, in 1751, with a small detachment, took Arcot, but it was immediately invested by a force 10,000 strong, sent by Chanda Sahib. Clive's force consisted of 120 Europeans and 200 sepoys, with four officers, and their food supplies were very scant; yet for fifty days, and though the walls were breached, they withstood every effort of the besiegers. During the Maharram, they repulsed an attempt to storm the place, in which they lost five or six men, but the assailants' loss was 400. The struggle lasted for an hour, and in the night the enemy withdrew. Clive was then reinforced from Madras with 200 British and 700 sepoys. He took the fort of Timmery, effected a junction with a division of Morari Rao's army, and marched against and defeated the French and Chanda Sahib's army; after which Conjeveram surrendered, and the governor of Arnee declared for Muhammad Ali, who assumed the title of Walajah, was recognised as Nawab of Arcot; and until A.D. 1833, the British, at the Madras mint, continued to issue coins as struck at Arcot. The N. Arcot district lies between lat. 12° 21′ and 14° 10′ 45″ N., and long. 78° 14′ 45″ and 80° 13′ E. Area, 7139 square miles; and population, 2,015,278. The Pariah or Mala-Vandlu are 20 per cent., and form the great body of agricultural labourers. The wandering tribes are the Banjara, Lambadi, Sugali, and Durgar; and the forest and hill tribes are the Irular, Yanadi, Yerkala, and Maleali. The two great zamindari estates of Kalastri and Kavetnuggur are in the N. Arcot district; also the Pollam of Kongu-li. The jaghir of Arnee is hereditary in the family of a Mahratta brahman, held under a sunnud from Lord Hobart, dated 10th May 1796. The Chittur poligars claim descent from officers of the Vijianagar government. When that dynasty was overthrown, these officers assumed independence, until Muhammad Ali was firmly seated as nawab. When the British assumed the government in 1801, they again became refractory, and were subdued by a force. Three polliams were forfeited, one was continued, and five were taken under government management until 1826. The principal river is the Palar; smaller rivers are the Poiney, Cheyar, and Surnamukhi. There are about 40,000 tanks, the chief of them being that of Kaveripak, ten miles east of Arcot, the bund of which is four miles long.—*Imp. Gaz.*

ARCOT SOUTH is a Madras district, lying between lat. 11° 10′ 30″ and 12° 38′ 30″ N., and long. 78° 33′ 30″ and 80° 2′ 15″ E., with an area of 4873 square miles, and a population of 1,755,817 souls. South Arcot has been under British administration permanently since the year 1801. Towards the W. are the Cooremboo Gownden and the Jeddya Gownden hills, and on the N.W. the Chengama range, separating the Cullacoorchy taluq from Salem, some parts rising 5000 feet high. Parts of the southern hills are under a poligar, and the Chengama hills are occupied by the Maleali race. The chief river is the Colerun, across which dams have been constructed to obtain water for irrigation. The Vellar river rises S. of the Shevaroy hills, in Salem, and disembogues at Porto Novo. The Pennar rises in Nundidrug, and enters the sea N. of New Town, Cuddalore. The Veeranum tank, in the Manargudi taluq, is one of the largest tanks in S. India, its dam or bund being ten miles long; it is supplied chiefly from the lower dam across the Colerun. The Walajah tank dam is six miles long. Cuddalore has been occupied by the British since 1682. In the strife for supremacy between the British, the French, Tipu Sultan, and Nawab Muhammad Ali, Cuddalore, Port Novo, Ginji, Fort St. David, Pondicherry, Wandiwash, repeatedly changed hands. Hindus, 95·5 per cent.; Mahomedans, 2·5 per cent., with a sprinkling of Christians and Jains. The Valalar are the cultivators; the Vanian are the land-holding cultivators; the Pariah, labourers and menials; and the Chettyar are traders. The Korawa, a predatory race, are swineherds and basket-makers. In the forest tracts are the Irular, Villeyar, and Maleali. The Padyal, a section of the Pariah, are field labourers.

ARCTICTIS BINTURONG, the black bear cat, occurs in India. It is of the sub-family Viverrinæ, family Viverridæ, tribe Digitigrada.

ARCTOCEPHALUS LOBATUS, the Australian sea-bear, is amongst the largest of the seal family. They occasionally congregate in vast numbers on various parts of the coast of Australia. A. ursinus, when full grown, is 8 or 9 feet long, and weighs 800 lbs. When from four to five months old, it has fine black curly hair, and its fur is sold in China at considerable prices. Their favourite summer haunt is the island of St. Paul, one of the Pilibrow group. The hunters of the American Fur Company are Aleuts, and only young males of about four months old are killed. The males are polygamous, with about forty or fifty females.—*Hartwig.*

ARCTOMYDINÆ, a sub-family of mammals; the marmots, of the natural order Rodentia, and family Sciuridæ. Two species of the Arctomys occur in India, A. bobac and A. hemachalanus, the Tibet marmot and the red marmot.

ARDANDA. HIND. Capparis horrida, *Linn.*

ARDASHIR. There were several Persian sovereigns of this name, viz. Ardashir Babegan bin Sasan, Artaxerxes, the first of the Sassanian kings, A.D. 226–240; Ardashir (Artaxerxes) II., the tenth, A.D. 380; Ardashir III., the twenty-fifth Sassanian, in A.D. 629, under whom anarchy prevailed. Ardashir-daraz-dast, or of the long arm, was Kai Bahman, the Artaxerxes Longimanus of the Romans. Ardashir I. was surnamed Babegan, from his father Babek; in A.D. 226, he defeated and slew Artabanus on the plains of Hoormuz, and was proclaimed emperor. He was a religious enthusiast. He caused the sacred books to be translated from Zend to Pehlavi. He used to remark that there can be no power without an army, no army without money, no money without agriculture, and no agriculture without justice.—*Malcolm's History of Persia*, i. p. 73.

ARDAWAL. PANJ. Rhododendron arboreum.

ARDEA, a genus of birds of the family Ardeidæ. A. cinerea, the common grey heron of Europe, Asia, N. and S. Africa, is common in India. The grey heron, in Tamil, Narai, sometimes Pamboo narai, or snake-crane, has a nest built of twigs, containing sometimes two, sometimes three eggs. The young are fledged from January to April, according to the time of depositing their eggs, which some do earlier than others. The eggs are of a light-green colour; they are not so large in circumference as a large-sized hen's egg, but are longer. The purple heron of Europe, Asia, and Africa, A. purpurea, in Tamil the Cumbly narai or blanket-crane, deposits two to three eggs, and seems to rear only two young. The young are fully fledged in April. A. griseus, the Nycticorax griseus, *Linn.*; in Tamil, Wukka; nests contain five eggs; hatches four or five young; eggs the size of a bantam's, and of the same shape. The young are fledged in April. Other species are A. goliath and A. Sumatrana.—*Dr. Shortt.*

ARDEBIL, in lat. 38° 14′ N., and long. 48° 21′ E., 5000 feet above the sea, is a place of shiah pilgrimage. It contains the tombs of shaikh Safi-ud-Din, and of his descendant, Shah Ismail, the founder of the Saffavi dynasty. — *MacGregor, Persia*, p. 26.

ARDELAN, a province of Persia. Wooded mountains, separated by narrow valleys and occasional plains, producing excellent pasture, cover its northern portion, which is a nominal dependency of Persia. The wali of this district is also the principal Kurdish chieftain. He claims to be the lineal descendant from the great Salah-ud-Din (Saladin). He holds his court at Sehnah, his capital, 60 miles from Hamadan, and 77 from Kirmanshah. A serai occupies the summit of a hill, round which is the town, containing about 4000 Sunni, 200 Jews, and 50 Nestorian Catholic families. The Kurdish districts of Ardelan and Kirmanshah occupy the western limits of Persia, in the space between Azerjiban and Luristan, and the space between the Elwand and Zagros ranges. — *MacGregor; Rich's Kurdistan*, i. p. 209; *Euphrates and Tigris, Colonel Chesney*, p. 215.

ARDETTA MINUTA, the Botaurus minutus, is the little bittern of Europe, all Africa, W. Asia, Himalaya, Kashmir; replaced in Lower Bengal by A. Sinensis, and more abundantly by A. cinnamomea, which is common throughout India. Botaurus stellaris is the common bittern of Europe, Asia, all Africa, and is common in India.

ARDHA. SANSK. A half. Dina ardha, half the day; ratri ardha, half the night.

ARDHANARI, also written Arddhanareswara, the androgynous form of Siva, half man, half woman, representing Siva and Parvati. — *Fergusson and Burgess.*

ARDHAWA. HIND. A mixture of gram and barley meals, either in equal proportions, or two to one, as the buyer prefers, used in N. India for feeding horses. Both grains are parched and ground before being mixed together. Ardhawa is thought very fattening food for horses; but, owing to the loss of weight and substance in the parching process, and the extra labour required, it is more expensive than plain gram.

ARDI or Artæi, the name which Herodotus gives to the ancient Persians. Baron de Bode supposes the town of Ardea in Fars, near the mountainous region of Ardekan, to have been one of the chief towns of the ancient Persians.

ARDIBEHEST-JASAN, a festival of the Parsees or Zoroastrians, maintained in honour of Ardibehest Amsaspund, the controlling angel, according to their theology, over their sacred fire. On this day the Parsees crowd their fire-temples to offer up prayers to the Supreme Being.—*The Parsees*, 61.

ARE. TEL. Bauhinia racemosa.

AREALU. MALEAL. Urostigma religiosum.

ARECA, a genus of plants of the natural order Cocoaceæ. A Chinese species, called Chu-pin-lang, yields the Ta-fuh-p'i, a fibrous rind or fine coir-like fibre.

A. Dicksonii, *Roxb.*, is a tree of the Malabar mountains; the poorer people use its nuts as substitutes for the true betel nut.

A. gracilis, *Roxb.*, is a tree of Sikkim, Silhet, Chittagong, and the S. Konkan; the Ban-gua, or wild areca of Bengal.

A. triandra, the Ram gua of Bengal, grows as a tree in Chittagong.

A. oleracea. *Linn.*

Euterpe Caribæa, *Spr.* | Oreodoxa oleracea, *Endl.*

The cabbage palm, a native of the West Indies; the wood used the same as Areca catechu, the bud forming the centre of the leaf-crown being the eatable 'cabbage.' It might be extensively cultivated in India.

A. sapida, the cabbage-tree of New Zealand. Its young unfolded leaves rise perpendicularly in the centre of the crest, and in this state they are used for making brooms; those still unprotruded, and remaining enclosed within the sheaths of the older leaves, form a white mass as thick as a man's arm, and are eaten raw, boiled, or pickled. In a raw state they taste like a nut, and boiled they resemble artichoke bottoms. This palm is of interest as the most southern representative of the palm order.

A. vestiaria is so called from clothing being made of its fibres.—*Roxb.; Voigt; J. Backhouse, Visit to Norfolk Island.*

ARECA CATECHU. *L.* Betel-nut palm.
A. faupel, *Gærtn.*

Fufil, ... ARAB. ?	Supari, . . DUK., HIND.
Banda, ... BALI.	Jombi, ... JAV.
Gua, Kunthi ? . BENG.	Pinang, Kachu, . MALAY.
Bongs, . . BISAYA, TAG.	Adaka, Cavughu, MALEAL.
Rapo, ... BUGIS.	Guaka, ... SANSK.
Kwun, ... BURM.	Puwak, ... SINGH.
Si-chang-tan, . . CHIN.	Paku maram, . . TAM.
Pin-lang-tsze, . . ,,	Kamuga ? Poka, . ,,

A slender, graceful palm, of remarkably erect growth, attaining a height of 30 to 60 feet, with a tuft of feathery leaves at the extreme top. Its cylindrical stem is only a few inches in diameter. It is an object of extensive culture in many parts of tropical Asia, in N. Bengal, Nepal, Malabar, and the S.W. coast of Ceylon; also with the Burmese, and to a smaller extent by the Karens, and in all the islands from Sumatra to the Philippines. It is perhaps the most elegant of all the palms. It is much prized by the natives of Borneo, on account of the delightful fragrance of its flower, which, taken just before opening from the sheath or spathe in which the inflorescence is enveloped, and called myang, is requisite in all their medicines and conjurations for the purpose of healing the sick; it is also used, with other sweet-scented flowers, at bridals and all occasions of festivity. In the arid climate of the central Dekhan, it requires to be protected from the dry winds, either by matting or straw tied round it to prevent it splitting. When this happens, it immediately decays. In gardens, when mixed alternately with the cypress, it presents a very striking appearance. The wood is hard and peculiarly streaked, and might be used in turnery for small ornamental work. In Travancore, it is employed for spear handles and bows, for which it is well suited, being very elastic. This palm yields the betel nut of commerce, which, mixed with lime and the leaf of the piper betel, is largely in use as a masticatory in all the countries of S.E. Asia. The nut is hard and peculiarly streaked, and in request in turnery for small ornamental work. A strong decoction of the nut is used in dyeing. Roasted and powdered, they make an excellent dentifrice. Young nuts are prescribed in decoction in dyspepsia, and they are considered to possess astringent and tonic properties. Their use, with betel leaf and lime, discolours the teeth, but the people imagine that it fastens them and cleans the gums. The nuts yield two astringent preparations known as catechu, respectively called, in Tamil, katha kambu and kash kathi; in Telugu, kansi; and in the Dekhan, khrab katha and acha katha. The katha kambu is chewed with the betel leaf; the kash kathi is used medicinally. The tree will produce fruit at five years, and continue to bear for twenty-five years. Unlike the cocoa-nut palm, it will thrive at high regions, and at a distance from the sea. In the Eastern Islands, the produce of the tree varies from 200 to 1000 nuts annually. The nuts form a considerable article of commerce with the Eastern Islands and China, and are also one of the staple products of Travancore. They are gathered in July and August, though not fully ripe till October. In Travancore, those that are used by families of rank are collected while the fruit is tender. The husk, or the outer pod, is removed; the kernel, a round, fleshy mass, is boiled in water. In the first boiling of the nut, when properly done, the water becomes red, thick, and starch-like, and this is afterwards evaporated into a substance like catechu. The boiled nuts being now removed, sliced, and dried, the catechu-like substance is rubbed on them, and dried again in the sun, when they become of a shining black, ready for use. Whole nuts, without being sliced, are also prepared in the same form for use amongst the higher classes; while ripe nuts, as well as young nuts in a raw state, are used by all classes of people generally, and ripe nuts preserved in water with the pod are also used. For export to other districts, the nuts are sliced and coloured with red catechu, or sent whole in the pods. The average amount of exports of the prepared nuts, from Travancore, is from 2000 to 3000 candies annually, exclusive of the nuts in their ordinary state, great quantities of which are shipped to Bombay and other ports. According to a former survey, there were upwards of a million trees in Travancore. The spathe which stretches over the blossoms of this tree, and which is called Paakmuttay, is a fibrous substance, which the Hindus make into vessels for holding arrack, water, etc.; also into cups, dishes, and small umbrellas. It is so fine that it can be written on with ink. The Malay name gives that of the island Pulo-Penang. The three ingredients of the betel nut, as commonly used, are the sliced nut, the leaf of the betel pepper in which the nut is rolled, and chunam or powdered lime, which is smeared over the leaf. Prof. Johnston calculated that they are chewed by at least 50 millions of the human race, but this is an over-estimate; like smoking and snuff-taking, many S. E. Asiatics do not use it. The tree requires a low, moist situation, with rather a sandy soil, either under the bund of a tank, or in a position otherwise favourable for irrigation. The seeds are put into holes six feet apart. Areca nut, when in bulk as a cargo, generates an excessive heat.—*Fl. Ind.; Heyne's Tracts; Voigt; Mr. Mendis; Dr. Cleg.; Drury, Useful Pl.; Drury's Cochin; M.E. J. R.; Elliott; Mason's Ten. Low's Sar.; Veg. King.; Malcom's Tr.; Ains.; Sim.*

AREESH. PERS., TURK. In Baghdad and Southern Persia, an open room on the roofs of houses, for sleeping in at night in the hot season.

AREKA MARAM. TAM. Bauhinia racemosa.

ARENARIA SERPYLLIFOLIA and A. Neilgherriensis plants occur in India. Roxburgh notices A. flaccida and tufts of A. musciformis, *Wall.;* and allied species were brought by Drs. Hooker and Thomson from exposed rocks 14,000 to 18,000 feet above the sea level in the Himalaya.

AREND, Arandi. HIND. Ricinus communis.

ARENDA OIL of Chittagong, is expressed from the seeds of a bush which is largely used as a hedge, as cattle do not eat it. The seeds, three or four in number, are black and in a black-coloured skin. The bushes answer excellently for fences, with split bamboo tied on each side to keep them straight and together. Jatropha curcas?

ARENGA SACCHARIFERA. *Labill.*

Borassus Gomutus, *Lour.*	Saguerus Rumphii, *Roxb.*
Nawa, Nama, . . AMB.	*The Sap.*
Aren, ... JAV.	Lageu, Barum, Baru ? JAP.
Monchons, . . MACASS.	*The Gossamer.*
Anao, Aonouee, . MALAY.	Karvel, Kawal, . JAV.
Akel, Mandar, . PORT.	*The Hair.*
Sagwan, Sagwire, SP.	Duk, Eju, Gomuti, JAV.
Scho, ... TER.	Anu, . . . SUMATRAN.

This is one of the genus Arenga, five species of which chiefly inhabit the islands of the Eastern Archipelago. They are all handsome trees, their favourite localities being dense shady forests and the neighbourhood of rivers and rivulets. This one was so highly thought of by Dr. Roxburgh, that he introduced it largely into India, where the natives have taken kindly to them. It is growing now near Madras, in Bangalore, at Hyderabad, and largely in the Nuggur division of Mysore. It occurs in abundance in a wild state throughout the islands of the Eastern Archipelago, and yields a horsehair-like substance, which has given the name to the tree. It is the only one of this genus of any commercial importance. It comes into bearing about the seventh year, and continues to flower from two to five years, continuing in blossom all the year through, but flowers only once and dies. In general appearance it much resembles the sago palm, but the pinnæ of the leaves, which are erect in the latter, droop in the former like those of the nibong and many other palms. The gomuti or eju is a black fibrous substance resembling coarse horsehair, which protrudes itself in large tufts from between the corticeous scales of this palm. The length of the fibre runs from one to two feet, and each tuft contains about 6 lbs. of the eju. Eju cable is said to be considerably stronger than coir, and it undergoes a longer exposure to sun and rain alternately without experiencing any effectual damage. It is chiefly used by the Malays about the Straits of Malacca. It is also used as thatch; and a quantity of it is wrapped round the ends of timbers and posts to be put in the ground. Marsden saw a thatch of it fifty years old. Of all vegetable substances, it is the least liable to decay, and is of great service to the Dyaks in their house-building, on account of its durability. This substance is also plaited into ornaments for the arms, legs, and neck, and its deep black and neat appearance render it, to the eye of a European, a much more agreeable ornament than either the brass or beads with which they abundantly adorn their persons. The fibre is considered superior to all others yet made use of for the manufacture of artificial bristles for brushes, imitation horsehair for stuffing, and such-like purposes. The palm wine is extracted from the plant by cutting off the large lateral bunches of fruit. When these are about half-grown, they are severed close to the division of the peduncle or stem, and bamboos are hung to them. A good tree with two incisions will produce about a gallon daily for two months; a fresh surface being constantly kept on the severed part by a thin slice being daily cut off the stem or peduncle, so that at the end of the above-named period it has altogether disappeared. The palm wine is taken from the bamboo twice a day, and when fresh has a very agreeable taste, and is a refreshing drink; the Dyaks, however, always impart a flavour to it by placing a piece of a bitter plant into the bamboos in which it is collected. The tree is mentioned by Marco Polo. The fleshy outer covering of the fruit yields a highly stimulating and corrosive juice, which, when applied to the skin, occasions great pain and inflammation. The inhabitants of the Moluccas were in the practice of using, in their wars, in the defence of posts, a liquor afforded by the maceration of the fruit of the gomuti, which the Dutch appropriately denominated hell water. A tree cut down in the Calcutta Gardens yielded 150 lbs. of good sago meal. Its leaves, when very young, are eaten like the American cabbage palm, Oreodoxa oleracea, *Endl.* The seed, or rather the albumen, when freed from its noxious covering, is made into a sweetmeat by the Chinese. It therefore yields sago, palm wine, gomuti, sugar, and baru. —*Roxb.; Crawf. Dict. Arch.; Seeman on Palms; Royle's Fibrous Plants; Voigt; Veg. King.* 749; *Cat. Cal. Exh.* 1862, pp. 57, 116–118; *New, in literis; Marsden's Hist. of Sumatra*, p. 57, 88; *Faulkner, Com. Dict.; Low's Sarawak*, p. 40; *Walton's State*, p. 116.

AREOI, a Tahiti people, who formerly buried their friends alive, when from their infirmities they became burdensome. A hole was dug in the sand on the sea-beach; then, under pretence of taking their aged or sick relative to bathe, they would carry him on a litter to the spot, and, tumbling him in, instantly heap stones and earth upon him, and trample all down with their feet; or they would rush into his house and spear him. Jenkins describes the Areoi as a sect, institution, or society, in the Pacific Islands, the members of which were allowed to marry; but if children were born, they were required to put them to death.—*Jenkins' American Expedition*, p. 161; *Montgomery*, p. 32.

ARE TIGE. TEL. Dioscorea oppositifolia, *L.*

ARETTI. TEL. Musa sapientum.

AREVALAMATHANA, a king mentioned in a copper plate found at Kaira in Gujerat, of date A.D. 1059; his son was Udaia Ditya, and his grandson Salivahana.

ARGAS PERSICUS. *Fisch.* The argades are arachnida, closely allied to the ticks. The argas of Persia is the bug of Miana, a town in Persia. Its size is about that of the common bug; the body is rough, of a blood-red colour, and covered with some elevated white spots. The bite gives acute pain, even giving rise to consumption and death. —*Moquin Tandon.*

ARGAUM, in Berar. A battle was fought here on the 29th November 1803 (the Imperial Gazetteer says 28th November), in which the army of the Bhonsla raja of Nagpur, commanded by his brother Venkoji, was defeated by General Wellesley. On the 15th December, General Stevenson captured Gawilghur, which led to the treaty of Deogaon on the 19th December.

ARGEMONE MEXICANA. *L.* Mexican poppy.

Buro shial kanta,	BENG.	Bhat mil, Bher band,	HIND.
Balu rakkisa, . .	CAN.	Cardo santo, . .	IT., SP.
Lau-shu-lih, . .	CHIN.	Fico del inferno, . .	,, ,,
Yellow thistle, .	ENG.	Bramha danda, .	SANSK.
Satya nasa, . .	HIND.	Bramhara kash, .	TAM.

This plant, a native of America, grows wild in over-abundant luxuriance in many parts of India, and its large, yellow, thistle-shaped flowers appear January to March. Their seeds and milk-like sap are used in native medicine, but they seem useless. The round corrugated seeds yield a large quantity of pale yellow clear and limpid oil, called Coorakoo, and in Hindi, Faringi datura ka tel, nearly as much as the common mustard-seed. It is readily procurable, and cheap.—*Madras Ex. Jur. Rep.; Cal. Cat. Ex.*, 1862; *Roxb.*

ARGENTAN, the Peh-t'ung of the Chinese, is an alloy, called white copper, made of copper,

zinc, nickel, and arsenic, occasionally silver. The head ornaments of Chinese women and washing-basins are made of it. With Chinese women, a favourite mode of committing suicide is to swallow their head ornaments.

ARGHA or Yoni, in Hindu mythology, is Parvati's especial emblem; properly, the argha is the cup or circle from which the lingam rises, its outer edge or rim being the yoni. The argha of the Hindus is supposed to be identical with the argo of the Greeks, the Egyptian Cymbium; but the subject of the argha has given rise amongst the Hindus to many wildly speculative theories. Much of their ceremonial, as in this instance, has had a physiological origin; and many of their fasts, festival days, and observances are astronomical, astral, and planetary. The argha offering is made to an idol, a brahman, to a bridegroom at the marriage ceremony, or to any venerable person. In farming operations, it consists chiefly of fruit and flowers, or water, or milk and honey; and when the first bundle of corn is brought home from the threshing-floor and deposited, a libation of water is offered between the threshold and the spot where it is so deposited. In marriage and funeral ceremonies, as well as in the Srad'ha, an argha is an indispensable utensil. Argha Patra is a boat-shaped vessel, used in the religious ceremonies of the Hindus to contain the argha or offering made of tila or Sesamum Indicum, cusa-grass, perfumes, flowers, durva-grass, and water. These vessels—the first meaning a boat or vessel, the second a cup or goblet—remind us strongly of the patera of the Romans. Patra is also a leaf, especially when formed into a cup or drinking vessel, as is very commonly done in India; the plantain leaf is easily formed into a convenient cup, and it is retained in that shape by a skewer. Arghanatha, or Lord of the Boat-shaped Vessel, is a title of Iswara or Siva. Arghanatha Iswara appears to have been literally translated by Plutarch as Iris and Osiris, when he asserts that Osiris was commander of the Argo.—*Cole, Myth. Hind.* p. 374. See Arghya.

ARGHAND-AB, a river near Kandahar, in the hills, the Gurgan river, the Venkana of the Vendidad. On its left bank is the famous grotto, the Ghar-i-Jamshid, sixteen miles S.W. of Kandahar. The Panj Bai hills overlook the river. The whole of the roof of the grotto has the appearance of having been beautifully carved.

ARGHAWAN. HIND. Bauhinia variegata, also Edwardsia mollis. An arghawan tree is often mentioned in the verses of Persian poets. The branches and stem in spring are suddenly covered with pink blossom. Botanists have named it Arbor Judæ, or Judas's tree, on account of some very apocryphal tradition, that on a tree of this kind Judas hanged himself. The proper botanical name of this tree is Cercis siliquastrum. Baber mentions two arghawan, quite different plants, the red and the yellow. The yellow is common on all the plains of Central Asia, also on those of Beluchistan and Persia. In the latter region it is named Mahak. It is a shrubby plant, bearing clusters of yellow pea-like flowers, with compound alternate leaves. The red arghawan is a small tree.—*Masson's Journey.*

ARGHEL of Egypt. Solenostemma argel, a native of Syria. The leaves are purgative, and are employed in Egypt to adulterate senna.—*Hogg, Veg. King.* ii. p. 5; *Simmonds.* See Cassia.

ARGHUN, a Sind dynasty from A.D. 1521 to 1554–55, during which Shuja Beg and his son Mirza Shah Husain reigned. This tribe came to Sind in the time of the Summa dynasty, whom they overthrew and succeeded, about A.H. 927, and ruled for thirty-four years, being overthrown by the Tur Khani in A.H. 962. Arghun Nama, also called the Tur Khan Nama, a history named after the Moghul families of Arghun and Tur Khan, by Syud Jamal, son of Mir Jalal ud Din Husaini of Shiraz, who composed this work A.H. 1065, A.D. 1654–5.

ARGHUN KHAN of Persia was Kablai Khan's great nephew. His wife was Zibellina, the Khatun Bulugan, daughter of the Greek emperor Palæologus, a lady of great beauty and ability. She had been married to Abaka, but on his demise, according to the marriage customs of the Mongols, she passed to the Urda of her step-son, Arghun. On her death, A.D. 1286, Arghun sent Marco Polo for another wife out of the Mongol tribe of Bayaut, but Arghun died before the lady Kuka-Chin was brought, and she passed to Ghazan, the nephew of Arghun, for Arghun had been succeeded by Khi-Kafu, his brother.—*Elliott*, p. 498; *Quart. Rev.*, July 1868.

ARGHYA. SANSK. A present or gift, indicative of respect to a superior. It matters not of what it consists, and is often of flowers.—*Hind. Th.* i. p. 312. See Argha.

ARGILA, also Hargila. HIND. The adjutant bird, Leptoptilus argila.

ARGILLACEOUS EARTH.

Hwah-shih,	CHIN.	Fei-hwoh-shi.	CHIN.
Kwang-fen,	,,		

An unctuous friable earth from Kwang-si, Hunan, and Shan-tung, of a pale yellowish colour, used as a chalk for drawing, and internally as an alterative remedy.—*Smith*, p. 22.

ARGON, Argond, or Argoun, mahomedan Kashmir emigrants, or the descendants of such who have settled in Ladakh, Yarkand, Changthan, or in any part of Chinese Tartary, for policy and security. They usually have establishments with agencies at the principal towns and cities they frequent and trade with. Thus the Argoun of Ladakh, besides his original or primary establishment at Ladakh, has another at Yarkand, and also perhaps, according to his means or extent of trade, at Aksu, Ilchi, Turfan, etc.; while the Argouns of Yarkand, as also the Khojas of Andejan, are known to have establishments in many towns and cities of Russian Siberia. They are also described as a mixed race resident at Le, half Kashmiri and half Boti. The same term, in Yarkand, also is applied to half bloods.—*Powell's Handbook*, p. 182, 183.

ARGONAUTA, the argonaut, or paper sailor, a genus of molluscs of the class Cephalopoda, order Dibranchiata, sec. Octopoda, and family Argonautidæ. Several species occur in the seas on the south and east of Asia, viz. A. Argo, cornu, cymbium, gondola, hians, thaustrum, tuberculata, and vitrea. See Mollusca.

ARGUS, analogue of Indra, who is depicted with a thousand eyes, like the Argus of the Greeks, and is hence called the thousand-eyed god.

ARGUS PHEASANT. Lungi, HIND. Ceriornis satyra, *Linn.* In the Malay Peninsula, called Coo-ow by the Malays. It occurs in India, China, Java, and Sumatra. See Phasianidæ; Pheasant.

ARGYREIA BRACTEATA. *Choisy.*
Ipomœa bracteata, *Heyne.* | Samudra patta, SANSK.

A twining shrub growing in Madras and Coromandel, filled with milky juice. Decoctions of the leaves are used by the natives as fomentations in cases of scrofulous enlargement of the joints; the boiled leaves being used as poultices at the same time.—*Wight; Useful Plants.*

ARGYREIA MALABARICA. *Choisy.*
Kattu Kalangu, . MAL. | Paymoostey, . . TAM.

Grows in Mysore, Malabar; common on the ghats. Root cathartic; considered by farriers a good horse medicine.—*Ainslie.*

ARGYREIA SPECIOSA. *Swt.*

Convolvulus speciosus, *L.*	Lettsomia speciosa, *Roxb.*
,, nervosus, *Burm.*	Ipomœa ,, *Pers.*
Lettsomia nervosa, *R.* 488.	
Bich-taruka, . . BENG.	Samudra-patra, . TEL.
Samudra Shoka, . HIND.	Chandra-poda, . ,,
Guli, ... ,,	Kakkita, kokkita, ,,

The Elephant Creeper grows all over India in forests and hedges. It has large deep rose-coloured flowers. Leaves are used by native practitioners in the preparation of emollient poultices, and also in cutaneous complaints, being applied externally to the parts affected,—upper side as a discutient, and the under, white, side as a maturant.—*Roxb.; Voigt; Ainsl., Useful Plants; O'Sh.; Wight, Ic.*

ARHAR. HIND. Cajanus Indicus; pigeon pea.

ARHAT. HIND. A lifting water-wheel.

ARHAT, the highest rank in the buddhist hierarchy; a buddhist saint who has attained to the fourth grade in the scale of perfection, also a perfected Jaina saint. Arhata, religious buddhist counsellors who assembled at Pataliputra with Asoka. After nine months' consultation, they sent out nine teachers, viz., one to Kashmir and Peshawar; a second to the country of the Nerbadda; a third to Mewar and Bundi; a fourth to Northern Sind; a fifth to the Mahratta country; a sixth to the Greek province of Kabal, Arachosia; a seventh to the Himalaya; the eighth to Ava or Siam, that is, the golden land, the aurea regio or the aurea chersonesus; and the ninth to Lanka or Ceylon. Some circumstances of which we are uninformed, must have prepared these regions for the reception of the ascetic doctrines of Sakya Muni, which still prevail throughout Ceylon, Burma, Siam, Tibet, and China, amongst about one-fourth of the human race. See Buddha.

ARHI-PATA. SANSK. Lord of the day; a name of Surya, the sun.

ARI. TEL. Bauhinia racemosa, *Lam.*

ARIA BEPON. MALEAL. Azadirachta Indica.

ARI-ALU. MALEAL. Ficus religiosa, *Linn.*

ARIAMANUS, from Ari, a foe, and Manus, a man, the Ahriman of the Parsees.

ARIANA (Iran) was the general name for the country east of Persia and Media as far as the Indus, and Arian Abakhafasa is supposed to have been an Aryan territory near Kābul and the Paropamisus.

ARIA PALUS, of the ancients, is a lake formed by the accumulation of the waters of the Helmand at the southern extremity of its course, and called the lake of Zarrah by Europeans. This is a contraction of Zarrenj, the ancient capital, and this again represents the Zarangi or Drangi of the Greeks. In old Persian books it is called 'Daria-Reza, or little sea.' The present inhabitants of Seistan call it Meshila-i-Rustum, also Meshila-i-Seistan. The ordinary name of the lake is Hamun, or the expanse.—*Ferrier's Journ.*

ARIA VELA. MALEAL. Cleome viscosa.

ARIGÆUM, a town near the territory of the Siah Posh Kafirs, at which the Greeks in their advance on India established a military colony.

ARIKELU. TEL. Paspalum frumentaceum.

ARI KIRAY. TAM. Marsilea quadrifolia.

ARIKOTA. TEL. Poivrea Roxburghii, *D.C.*

ARIPO, a small town 11 miles S. of Manaar, built on a low sandy beach on the south side of the river, in lat. 8° 46′ 30″ N. and long. 79° 55′ 30″ E. Its chief importance is connected with the pearl fishery.

ARIS. HIND. Adhatoda vasica.

ARISÆMA, a genus of the Araceæ or Arum tribe of plants. A. gracile is mentioned by Dr. Honigberger as occurring abundantly in the Himalaya, on the south side of the Pir Panjal, from the top to the bottom. Its juice very acrid; the roots are considered by the Hakims to be an excellent remedy against every description of animal poison. A. dracontium and A. triphyllum are introduced plants. Dr. Stewart mentions A. curvatum, A. speciosum, and A. tortuosum as Panjab plants. A. triphyllum, *Endl.*, the Pwanhwa of the Chinese, is a very acrid and caustic plant, and, along with species of Pythonium, Pinellia tuberifera, and Arum macrorum, it forms part of the compound for destroying the sensation of parts to be operated on.—*Smith; Honig.; Stewart; Voigt.*

ARISHTA. SANSK. A savage bull killed by Krishna. It approached the place where he was dancing with the Gopin shepherdesses, when he seized it by the horns, one of which he tore off, and with it slew the bull.—*Garrett.*

ARISHTA NEMI, a name of Kasyapa. He was the near kinsman of Krishna, they being the sons of Basdeo and Samudra, the eldest and youngest of ten brothers of the Yadu race.

ARISHTA PHENILA. SANSK. Soap nut.

ARISI. TAM. Husked rice of Oryza sativa.

ARISINA. CAN. Curcuma longa, *Roxb.*

ARISTIDA, a genus of plants growing all over India, in dry, barren, binding soil. A. depressa, *Retz*, and A. setacea, *Retz*, are common in many dry parts of the central and western Panjab and Trans-Indus, and in parts of the outer hills towards the west up to 2500 feet, and said to be a favourite food of cattle. In Madras, A. setacea, Shipur gadi, TEL., the broom grass, is used for brooms and tatties.

ARISTOLOCHIA, a genus of the Birthwort tribe, with about 12 species in India. A. acuminata is in many places cultivated as a flowering plant, for its large dark greenish purple flowers. A. anguicida, odoratissima, labiosa, cymbifera, clematitis, fœtens, and Braziliensis are introduced plants. A. longa and A. rotunda, natives of the south of Europe and Kashmir, are found in the medicine bazars of India, under the names of Zurawund taweel (or daraz, the long), and Zurawund moodaruj (or gird, the round), with Aristolochia as the Greek name. The roots of A. longa are given by the Hakims in diseases of the womb, ulcers and affections of the gums; the latter in itch, leprosy, for drying up sores, destroying lice and intestinal worms, also for promoting the renal and menstrual secretions. A. longa, Zurawund taweel, occurs in whitish twisted pieces, the

size of a finger, and nearly tasteless. It is used both in powder and mixture; employed as a tonic in diseases of the chest and brain, and especially in headache; also in snake-bites. A. rotunda is used in chest and special ailments. In Sikkim, in the valley of the Tista, A. saccata climbs the loftiest trees, bearing its curious pitcher-shaped flowers near the ground only; its leaves are said to be good food for cattle.—*O'Sh.* p. 568; *Hooker*, ii. p. 7; *Cat. Ex.*, 1862.

ARISTOLOCHIA BRACTEATA. *Retz.*

Gundatu, Kira-mar,	DEKH.	Gadide-gadda-pu, .	TEL.
Birthwort, . . .	ENG.	Purugu pallay, . .	,,
Pattra-banga, . .	SANSK.	Gadide gadapara, .	,,
Addatinapale, . .	TAM.	Gardi Gavapu, . .	TULU.

A small creeping plant; flowers nearly all the year; grows on the Coromandel coast in cultivated places, and in Travancore. Every part of this plant is nauseously bitter. In cases of tormina, two of the fresh leaves are rubbed up with water, and given once in 24 hours. Infusion of the dried leaves given as an anthelmintic; fresh bruised and mixed with castor oil, they are considered a valuable remedy in obstinate cases of itch. The fresh leaves applied to the navel of a child are said to have the effect of moving the bowels. The same, fried with castor oil, and made into a ball the size of an orange, relieves horses when suffering from gripes. The leaves beaten up with water are given internally in cases of snake-bites; also, in infusion, in boils and inflammatory attacks.—*Ainsl., Lindl., Useful Plants; Faulk.; O'Sh.; Roxb.; Voigt; Cal. Cat. Ex.*, 1862.

ARISTOLOCHIA CONTORTA. *Smith.* Tu-ts'ing-muh-hiang, of the Chinese. The dried roots are obtained in Shen-si and Hu-peh. They are powerfully purgative, emetic, and anthelmintic; and in snake-bites are used both internally and externally.—*Smith.*

ARISTOLOCHIA INDICA. *Linn.* Birthwort.

Caykhoaica,	COCH.-CHIN.	Hari, Iswari, . .	SANSK.
Sampsun, Isrivel,	DUKH.	Irkamula, Isra-bel,	,,
Ishurmul, Israbel,	HIND.	Saksandar, . . .	SINGH.
Hari, ...	,,	Satasanda, . . .	,,
Wallas, ...	JAV.	Peru-marandu, .	TAM.
Kadalewegam,	MALEAL.	Talashrube, . .	,,
Ishwara-muri, .	,,	Dula-Govila, Govila,	TEL.

A perennial twining plant, growing everywhere in the copses and jungles of India and Ceylon, flowering in the wet season. The root is nauseously bitter, and is given in decoction as an emenagogue, in lues, in paroxysms of gout, in the diarrhœa of children proceeding from dentition. Also criminally used, to procure abortion, and as an antidote to snake-bites.—*Roxb.; Voigt; Cal. Cat. Ex.*, 1862; *O'Sh.*

ARISTOLOCHIA KÆMPFERI. *Smith.* Matau-ling, CHINESE. Its fruit is obtained from Wu-ting-fu in Shan-tung, and its seeds are used in pulmonary ailments.—*Smith.*

ARISTOLOCHIA RECURVILABRA, *Hanee*, the green putchuk of China; a medicinal plant largely exported from China. It is obtainable at Ningpo.

ARISTOTLE, B.C. 384–322, the Aristoun of the Arabs and Mahomedans of Asia, a native of Greece, one of the ablest men in science and philosophy. He was born at Stageira, in Macedonia, B.C. 384; both his parents died while he was young. At the age of seventeen he became a pupil of Plato, and remained in the school till Plato's death, B.C. 347. He became the teacher of Alexander the Great, on whose departure for Asia Aristotle returned to Athens, where he taught and wrote treatises on Natural History, Medicine, Generation, Destruction, Metaphysics, Philosophy, Ethics, Rhetoric, Poetry, Physics, Political, Economical, and Mental Science. He is supposed to have died of a disease of the stomach, at Chalcis, B.C. 322, aged 63. His fame in India is wholly confined to the Mahomedans. His pupils and followers were the historians of India after Alexander's time.—See India; Scylax; Veda.

ARITA. MAHR. Sapindus emarginatus.

ARITHMETIC. The rules of the Hindus are in verse. The question is usually propounded with enigmatical conciseness; the rule for the computation is given in terms somewhat less obscure. But it is not till the example, which comes in the third place, has been studied, that all ambiguity is removed. No demonstration, nor reasoning, either analytical or synthetical, is subjoined; but, on examination, the rules are found not only to be exact, but to be nearly as simple as they can be made even in the present state of analytical investigation. The same observation is applicable to their algebra. In arithmetic and algebra the brahmans attained to a high degree of proficiency. To them we owe the invention of the numerical symbols on the decimal system,—the Indian figures 1 to 9 being abbreviated forms of the initial letters of the numerals themselves; and the zero or 0 representing the first letter of the Sanskrit word sunya, meaning empty.—*Imp. Gaz.; Ed. Rev.* vol. xxix. pp. 147, 151.

ARITI CHETTU, Musa paradisiaca, *L.*

ARIUS ARIUS, *Buch. Ham.*

Pimelodus arius, *Buch. Ham.*

Ikan Saladu, . .	MALAY.	Ikan Surdudu, .	MALAY.

This fish inhabits the Gangetic estuaries near Pondicherry, and the estuaries near Penang, the Malay Peninsula, and Singapore. It is 1 foot 10 in. long, forms an article of food, and more than any other of the Siluridæ contributes to the isinglass of commerce. A. Bookei, of Ceylon, hatches its eggs in its mouth. A. militaris, *Linn.*, 1½ ft. long, inhabits the Coromandel and Malabar coasts, the Ganges, Irawadi, and the seas and estuaries of the Malay Peninsula. Its air-vessel is preserved as isinglass.—*Cantor.*

ARIUS TRUNCATUS. *Cuv. and Val.* This is under a foot in length. It occurs in the seas of Penang and the Malay Peninsula, but is so rare that it furnishes little of the isinglass of commerce.—*Cantor.*

ARIVAN. HIND. With Hindus, the first cuttings of the harvest; they are not taken to the threshing-floor, but are brought home to be presented to the household gods and brahmans, and to be eaten by the family. The grains are taken out of the ear, and eaten with milk and sugar; also called Nawan, from Nawa, new, and Anna, food.—*W.*

ARIVITA. TEL. Eugenia bracteata, *R.*

ARIYAPORIYAN. MAL. Antidesma bunias.

ARJA. HIND. A class of women mendicants in Central India, respected for their knowledge, not their conduct. Women who have adopted the vagrant life which this class pursue, are never allowed any intimate intercourse with families.—*Malcolm's Central India*, ii. p. 193.

ARJAMAND BANU, daughter of the vizir Asof Jah, was the wife of Jamal Khan, but

subsequently married Shah Jahan, emperor of Dehli, and received the title of Mumtaz Mahal. He erected a tomb near Agra over her remains, known to Europeans as the Taj Mahal.

ARJAN, also Arzhan and Arzhanah. PERS. According to Ouseley, this tree is a species of the Badam-i-Kohi, or Badam-i-Talkh, the mountain or bitter almond.—*Ouseley's Travels*, i. p. 306.

ARJANNA. HIND. A tribe of Kunbi cultivators in W. India.—*Wilson.*

ARJUN. BENG. Terminalia glabra, *Roxb.*

ARJUNA, third son of Pandu by his wife Kunti or Pritha. He was skilled in arms, and appeared disguised as a brahman at the swayamvara of Draupadi, whom he won, and she became the wife of the five brothers. She dwelt with each alternately for two days, the arrangement being that no other brother should approach, under pain of banishment. Arjuna broke the agreement, and he was banished for twelve years. During his banishment he visited Hardwar, Manipur, Prabhasa near Dwaraka, where he married Subahdra, sister of Krishna, with whom at the close of his sentence he returned to Indraprastha, and rejoined his brothers. The eldest brother, Yudhishthira, the raja or king, resolved to perform the imperial rite of rajasuya. It was successfully accomplished, but it excited the anger of the Kuru race, and revived the old feud between the Kaurava and the Pandava; and Duryodhana, chief of the Kaurava, engaged the Pandava in a gambling match, in which the Pandava staked their kingdom, and, losing, went into exile. Subsequently Arjuna and his brothers engaged in the great war of the Mahabharata, at Kuru-khet. Arjuna induced Krishna to join the Pandava side, and Krishna promised to drive his chariot in the war. On the first day, Arjuna engaged Bhishma in single combat; on the second day he rallied the Pandava, whom Bhishma had thrown into disorder. He again fought with Bhishma, and rescued his son Abhimanyu from Duryodhana. Subsequently, he mortally wounded Bhishma, defeated Susarma and his brethren; again fought Susarma, but while so engaged his son Abhimanyu was slain by six Kaurava chiefs. Arjuna on this vowed to take the life of Jayadratha, which he accomplished, and shortly after killed Karna with an arrow. After the war he died, with the other Pandava, among the Himalaya mountains. The Bhagvat Gita is a philosophic discourse between Krishna and Arjuna, presumed to be at the time of the great battle; and this epic poem also contains an account of the twelve months' roaming of the white horse let loose by Yudhishthira, before performing the Aswa Medha sacrifice in token of political supremacy. His grandson Parikshita succeeded to the throne of Hastinapura.—*Bunsen*, p. 553; *Wheeler's History of India.*

ARJUNO. BENG. Lagerstræmia reginæ.

ARK. ARAB., HIND., PERS. A citadel, or smaller inner castle constructed within a larger fortress. But as princes in the east generally lived in the Ark, the word from thence often came to be applied to a palace, as the Latin arx, comprising the palace (Dewan-Khana); and that the ancient kings placed their habitation in the arx or citadel for safety, we learn from Servius (in Virg. Æn. iv. 410): 'Regium enim fuit habitare in arcibus propter tutelam.'—*Malcolm's Persia; Ouseley's Travels*, ii. 18; *Fraser's Khorasan*, p. 85.

ARKA, a town in Canara, where brahmans say Sri Yeo, the holy spirit, is worshipped.

ARKA BANDHU, a name of Buddha, meaning the kinsman of the sun.

ARKALU. TEL. Harmala ruta.

AR-KANTA. BENG. Alangium hexapetalum.

ARKATOU BASILEON, of the Greeks, is the present Arcot. See Ara-kadu; Arcot; Kurumbar.

ARKOLA. KASHM. A poisonous tree of Kashmir, which when green blisters the hand. In the Panjab, Rhus acuminata, buckiamela, and vernicifiua.

ARMAGAM, Armagon, or Durguraz-patnam, on the Coromandel coast, was an early settlement (1625) of the English, from which they removed to the present site of the chief city, Madras, in about 1728. It has a lighthouse in 13° 53′ N., 80° 70′ E. Off it is a shoal of the same name, and the still water inside the shoal is called Blackwood's harbour.

ARMAITI, in the seventh strophe of Zoroaster's hymn, is named as the mother of the corporeal world, as coming with power, and with truth, and with purity of heart, to succour this life. Armaiti is known to the Vedas, and is therefore older than Zoroaster. It is the Espendarmad or Sapandomad of the Parsees. But Armaiti came to be regarded as something material, and this was deemed the earth. Armaiti had three companions, viz. Kshathra-Vairya, Pre-eminent Power, from which the Persians have their Shah River; Asha, or Truth, the Parsee Arda Behesht; and Vohumano, good pious mind or Piety, whence the Parsee Bahman.—*Bunsen, God in History*, i. p. 283–5.

ARMAK. HIND. Pandanus odoratissimus.

ARMENIA. The upper Euphrates is nearly in the centre of that great range of territory called by the ancients Armenia, which extended eastward from that river to the Caspian Sea, and again westward over a part of Asia Minor. At the present day, the general limits of this territory will probably be best understood by considering the Euphrates to be its western boundary from Sumeisat until a few miles south of Erzingan, where the boundary quits the river and preserves the direction of Tarabuzun, till it meets the mountains southward of Gumish Khanah. Armenia has now no political existence, and the territory is divided between Turkey, Persia, and Russia. Its lakes are Van, Gokcha, Sevan, and Urumia. The towns are Amadia, Bayazid, Bitlis, Diarbakr, Erivan, Kars, Mush, Nakhshvan, Sart, and Vau. The people are industrious traders, its peasantry powerful and robust. They live in good houses. Their women are on an equality with the men. Armenians adopted christianity in the fourth century. In A.D. 536, they separated from the Greek Church. They have had many martyrs. The catholicus or patriarch resides at the Echmiadzin monastery, 13 miles E. of Erivan, in the valley of the Aras. The old Armenian language is called Haikan; and in A.D. 406, Mesrop Masdoty invented an alphabet of thirty-eight letters, with eight vowels, which is still used along with a modern alphabet. The populations call themselves Haik or Haikan, and their country Haikesthan; the term Armenia is said to be from Aram, the sixth in descent from Haik, a grandson of Japheth. Haik

is said to have been a brother of Belus. Armenians are found in all eastern countries. In their charity to one another, combined with their eager toil for wealth, they have much in common with the Jews. They evince great commercial aptitude, and are bankers and merchants. In Armenia, however, they cultivate the soil. Before their conversion they were fire-worshippers. Many of them now are Nestorians, some are Romanists. The language of the present day has affinities with the Iron, Persian, Arabic, Syrian, and Turk. In the 5th century, the great Mesrob translated the Bible into the Armenian tongue; Moses Vocazer, Chorinazi the historian, and Isaac, are their celebrated writers. In the 11th century, they had the great patriarch Nerses Shnor-Haale, and Archbishop Nerses Lampronazi. General tradition and the formation of language point alike to the mountains of Armenia as the birthplace of the Arab and Canaanitish races; and there is especial native evidence to the same effect as regards Edom, consequently also the Phœnicians.—*Col. Chesney's Euphrates Exped.* p. 94; *Bunsen's Egypt*, iii. p. 431; *Wolff's Bokhara*; *MacGregor's Persia; Palgrave.*

ARMENIACA VULGARIS. *Lam.* Apricot.

Prunus Armeniaca, *Linn.*

Bin-kuk, . . . ARAB.	Barkuk, ... PERS.
Tuffa Armina, . ,,	Bakur-khani, . . ,,
Zard Alu, Chulu, HIND.	Mishmish, . . . ,,
Ari, Khubani, Chinaru, ,,	Juldara, . . . PANJ.

A native of Kaghan, China, and the west of Asia, but grown in the gardens of India. It is found also in the Sutlej valley, between Rampur and Sungnam, at an elevation of 7000 to 13,000 feet, but does not ripen above Shalker. It is there a common article of food and source of wealth. The plantain is last seen below Kotgurh, and the mango near Rampur. The apricot is a staple produce in Kullu, and common article of food. They are small and firm fleshed, so that they dry well. It is common about villages in the Himalayas, and oil of the finest kind is made by expression from the kernels, which are sold separately in the bazars, under the name of Badam kohi, or hill almonds. The oil is clear, of a pale yellow colour, and smells strongly of hydrocyanic acid, of which it contains usually about 4 per cent.—*J. D. Cunningham; O'Sh.; Roxb.; Voigt; Vegetable Kingdom*, 299; *Cleghorn, Panj. Rep.* pp. 65, 80.

ARMENIAN BOLE.

Wu-sih-shih-chi, . CHIN. | Wu-sih-fu, . . . CHIN.

Unctuous earths of various shades of red and other colours.

ARMIES are retained in British India by the British and by the Feudatory sovereigns. That of the British comprises, of Europeans, artillery, cavalry, and infantry, in all, ordinarily about 65,000; and another larger body, raised from the populations under British sway, chiefly Hindus, but about one-third Mahomedans, number about 143,000. The Hindus, including the Sikhs, consist of the Brahman and Rajput and Jat of Hindustan and the Panjab, the Mahratta, Teling, and Tamil races of the peninsulas. The Mahomedans consist of the descendants of the races, Pathan, Moghul, Syud, and Shaikh, who were dominant prior to the British, also largely of the Afghan or Pathan races of the N.W. borders of India. It has been calculated that the strength of the armies and armed retainers of the native States amount to 100,000 men. The Maharaja Sindia of Gwalior, the Maharaja Holkar, the Nizam of the Dekhan, have the largest and best appointed forces. During the revolt and rebellion of 1857–59, both Sindia and Holkar experienced the bitterness of the defection of their troops.

The army of British India, up till the year 1859, when the Queen of Great Britain assumed, from the East India Company, direct control of that country, was composed of European cavalry, detailed from the army of Britain; native cavalry recruited amongst the people of India, and officered and drilled like European regiments by natives of Great Britain, but with fewer officers; and of other regiments of native cavalry, also raised amongst the natives of India, but with still fewer European officers, generally only a commandant and adjutant. The last-named troops were usually styled irregular cavalry; they were contractors, supplying their own horses, horse-furniture, and horse food, and were classed as the sillahdar and bargir, according as they were owners of horses or servants, for certain sillahdars had the privilege of supply of two or more horses and horsemen, styled assami. The artillery, both horse and foot, were wholly servants of the East India Company, the whole of the officers and the soldiers of the European artillery being natives of the United Kingdom of Great Britain and Ireland; but the native artillery, horse and foot, called the kala or black troop, and also golandaz, were recruited from amongst the same classes of natives as supplied the native cavalry and native infantry, and had both European and native officers. The infantry, similarly to the cavalry, were in part the servants of the Company, in part composed of British regiments taking a tour of duty in India; and in greater part they were native regular regiments of foot. These troops were arranged in the three commands of Bengal, Madras, and Bombay, and their numbers in times of peace and war varied between 200,000 and 300,000 armed men, ready for war. In the Bengal native army, there were Mahomedans; but the bulk of the soldiery were Hindus, many of them of the Brahmanical and Kshatriya castes, brave, buoyant, and jaunty, but proud, vain, and conceited. The Madras native cavalry were almost entirely Mahomedans, with a few Mahrattas from around Arcot; the Madras native infantry was about 2-5ths Mahomedans and 3-5ths Hindus, chiefly Teling and Tamil Sudras, with a mere sprinkling of higher or lower castes and Christians; while the Bombay army was recruited partly in Northern India from the same men as the Bengal army, partly from the Mahrattas of Maharashtra, and had a sprinkling of Jews, low caste men, and Christians. The duties of the Bengal and Bombay native armies were chiefly amongst people speaking their own or allied tongues; but the Madras soldiery, besides the Tamil, Teling, and Canarese countries, held Travancore, Hyderabad, and the Central Provinces, and took the entire duties of China, Borneo, Singapore, Malacca, Penang, the Andamans, Nicobars, Moulmein, Rangoon, Prome, Thayet Myo, Tounghoo, and at times held Aden, Khyouk Phyo, Canton, and Hong-Kong, and have come westward to Egypt and Malta. The engineers were officered by natives of Britain, but had under them a large body of native sappers and miners, who, in Madras,

were Tamil and Teling Sudras and Christians, with a few Mahomedans. In 1857, however, the regular native army of Bengal, composed of Hindus and Mahomedans, recruited mostly in the North-West Provinces, revolted, and it took all 1858 and 1859 to subdue the mutineers and restore order, for many chiefs and races rose in succession. A few regiments of the Bombay Presidency also failed, but one of these, the 21st Native Infantry, had formed part of a regiment of the Peshwa, Baji Rao, commanded by Captain Pott, and had come over to the E. I. Company during the middle of the battle that ensued on the attack on the Residency at Poona, and the corps had continued, as in the Peshwa's times, to be recruited in Northern India. From 1858, the entire European soldiery of India were obtained from the British army, amongst whom those previously belonging to the East India Company were enrolled, and great reductions were then made amongst the regiments of native infantry, their organization was changed from the regular to an irregular system, *i.e.* with fewer European officers; and by degrees, nearly all the native artillerymen were eliminated. All the reasons that led the British Indian Government to give so decided a preference to the irregular system are not known, but it has been stated that the principal was the noble and loyal behaviour of the brave Gurkha and Panjab irregular regiments. Other irregular regiments, composed of men of the same caste and country as the rebellious sepoys, such as the Gwalior, Kotah, and other contingents, did mutiny, and join with the men of the regular army in their attempts to throw off the British rule. In 1858, the Panjab Government, acting on the principle of *divide et impera*, ordered that certain regiments about to be raised in that province, should be organized in companies of different races,—Sikh, Panjabi, Dogra, Pathans, and others. The number of officers now attached to irregular regiments is, however, still very nearly as great as the average present with the old regular regiments of the Bengal army. The North-west frontier of British India has been extending to the countries of the mountain tribes on the borders, and including several of them. While this has been in progress, another British Indian army, above 14,000 strong, has been raised. It is called the Panjab Frontier Force, consists of artillery, cavalry, and infantry, about half of them Mahomedans, with a sprinkling of Afghans and tribes from beyond the borders. It has been kept under the orders of the Governor-General and Council.

In Northern and North-West India, the country is occupied by the Bengal Army, the Panjab Frontier Force, 13,957; the Central India Horse, 1007, and the small bodies, 5702, comprising the Bhopal, Erinpura, Deolee, Mhairwara battalions, and the Bhil corps of Malwa and Mewar.

The Bengal native army, 50,451 strong, is almost wholly recruited from the British and Independent States of the Panjab, Oudh, Dehli, N.W. Provinces, Cis Sutlej, and Nepal, only about 2000 of its number being from Bengal and Assam.

The Peninsula of India and Central Provinces have the Madras and Bombay armies located in them, and the Hyderabad Contingent is in the centre of the Peninsula.

The Panjab Frontier Force, 13,957 strong, a famed body, was recruited as under:—

Panjab Proper and Hazara,	7875	Nepal,	853
Cis Sutlej and Independent,	1460	N.W. Provinces, Dehli, Oudh,	1158
N.W. Frontier within British territory,	1615	Derajat,	93
N.W. Fr. beyond do.,	705	Central Provinces,	158
		Lower ,,	40

The Central India Horse, 1007 strong, are of various races, half of them from Oudh, Dehli, and the N.W. Provinces, 244 from Panjab Proper and Hazara, 118 from the British and Independent territories in the N.W. Frontier and Cis Sutlej, and 156 from the Central Provinces. The Bhopal battalion, 902 strong, is almost wholly from Oudh, Panjab, Central Provinces.

The Madras army, 30,448 strong, is composed in almost equal proportions of men from Telingana in the Northern Circars and parts of the Karnatic, about 4000 being from the Ceded Districts and Mysore; and the Nair Brigade and Mysore troops of the allied States of Travancore and Mysore are obtained from the same localities.

The Bombay army is 25,885 strong. It is recruited chiefly from the Konkan and the Dekhan, but also from countries wide apart, viz.:—

Konkan,	10,662	Gujerat,	657
Dekhan,	6,155	N.W. Provinces, Derajat, Cis Sutlej, Nepal within and beyond British territory,	563
Panjab Proper and Hazara,	2,230		
Dehli, N.W. Provinces, Oudh,	4,023	Central Provinces,	124
Sind,	792		

The Hyderabad Contingent, 7498 strong, is provided by the Nizam of Hyderabad under the treaty of 1853; 3550 of their number is from the N.W. Provinces, Rohilkhand, Dehli, and Oudh, and 3414 from the Dekhan. The Contingent comprises six regiments of infantry, four of cavalry, and four batteries of artillery.

The provinces from which, in 1881, the three armies, numbering 138,305, had been recruited, were as under:—

Bengal Provinces, 82,878, viz.—

N.W. Frontier beyond British territory,	1,738	Dehli territories,	6,812
N.W. Frontier and Trans-Ind. within British territory,	3,445	N.W. Provinces, including Rohilkhand,	8,853
Derajat,	808	Oudh,	14,457
Panjab Proper and Hazara,	26,403	Nepal,	5,691
Cis Sutlej, including Independ. States,	6,398	Central Provinces,	1,481
		Lower Provinces,	1,783
		Assam,	378
		Other countries,	4,626

Madras Provinces, 33,737, viz.—

Northern Circars,	12,255	Ceded Districts,	1,174
Central Karnatic,	8,721	Mysore,	4,353
Southern ,,	2,786	Tanjore, Madura, Tinnevelly,	3,582
Baramahal,	866		

Bombay Provinces, 21,690, viz.—

Konkan,	10,662	Gujerat,	657
Dekhan,	9,579	Sind,	792

In the year 1881, the strengths of the native arms of Bengal, Madras, and Bombay were—

Bengal Sappers and Miners, Cavalry and Infantry,		50,451
Panjab Frontier Force, Artillery, Cavalry, and Infantry,		13,957
Central India Horse, two regiments,	1,007	
Bhopal Battalion,	902	
Malwa Bhil Corps,	535	
Erinpura Irregular Force,	856	
Deolee ,, ,,	857	
Mewar Bhil Corps,	699	
Mhairwara Battalion,	849	5,705

Madras Sappers and Miners, Artillery, Cavalry, Infantry,	30,448	
Nair Brigade,	1,434	
Mysore Troops,	2,912	34,794
Bombay Sappers and Miners, Artillery, Cavalry, Infantry,		25,885
Hyderabad Contingent,		7,496

The sects and races in the native army were—

Christians,		3,690
Mahomedans, viz.—		
Hindustan,	25,408	
Panjab and Hazara,	9,328	
Afghan and Border tribes beyond British territory,	1,673	
Peshawar, Yuzufzai and tribes within British territory,	3,101	
Bunnoo, Derajat, and Baluchistan,	735	
Multani Pathans,	269	
Other classes,	2,045	42,559
Sikhs, viz.—		
Jat,	13,972	
Khutree, Allowaleah,	1,050	
Nai, Rangureah,	740	
Ramdasi and Mazhabi,	1,540	
Other classes,	114	17,416
Dogra and Hill men,		3,966
Other Panjab Hindu classes,		1,788
Teling,		10,719
Tamil,		3,210
Hindustan races, viz.—		
Brahman,	6,973	
Rajput,	8,809	
Jat and Mahratta,	17,751	
Ahir and Gujar,	3,641	
Bhat, Kurmi, Kayasth, Baniya,	1,378	
Gurari, Lodh,	545	
Pasi, Dhanuk, Chamar,	821	
Khuteek, Mehtar,	479	
Other classes,	7,191	47,588
N.E. Frontier, viz.—		
Gurkha and Nepalese,		5,846
Kamaoni and Hill men in British territory,		519
Others, viz.—		
Jurwah,	917	
Bombay army—		
Pardesi,	1,894	
Parwari,	2,548	
Mang,	36	
Ramusi,	33	
Bedara,	204	
Jews,	167	5,799

Besides the regular European and native military forces, the Europeans and Eurasians of civil life have formed volunteer regiments. These change from time to time, but recently they numbered twenty-nine, besides four cadet companies, and 311 officers, 736 non-commissioned, and 4971 privates, or 6018 in all were efficients, at Agra, Akyab, Allahabad, Bangalore, Behar, the Berars, Bombay, Calcutta, Cawnpur, Darjiling, Ghazepore, Lucknow, Madras, Moulmein, Mussoori, Nagpur, Naini Tal, Poona, Rangoon, Simla, and Tirhut. The East India Railway Volunteer Rifle Corps mustered 1063; next comes the Great Indian Peninsula Railway Corps, with 963 enrolled, and 813 efficients; then follow the 1st Panjab Corps, with 667 enrolled, and 527 efficients; the Madras Volunteer Guards, 640 and 468; the Bombay Volunteers, 620 and 440; the Agra Volunteers, 385 and 263; the Calcutta Volunteers, 383 and 355; the Bangalore Volunteer Corps, 365 and 181; and the 2d Panjab (or Simla) Volunteers, 233 and 222. The remaining corps number less than 200 members each.

The British Indian forces under the Commander-in-Chief and Viceroy, are—

	Bengal.	Madras.	Bombay.
A. Commander-in-Chief—			
Native Cavalry,	19	4	7
,, Infantry,	49	40	30
Sappers and Miners,	1	1	1
B. Viceroy—			
Panjab Frontier Force,	17	...	...
Central India and Rajputana,	8	...	...
Hyderabad Contingent,	...	10	...

Panjab Frontier Force.	Central India and Rajputana Field Force.	Hyderabad Contingent.
5 regts. of Panjab Cavalry.	2 regts. Central India Horse.	4 Batts. Artillery.
1 Guide Corps.	1 Malwa corps.	4 regts. Cavalry.
4 regts. of Sikh Infantry.	1 Bhopal.	6 ,, Infantry.
6 regts. of Panjab Infantry.	1 Deolee.	Sind Horse, as proposed.
1 Gurkha regt.	1 Erinpura.	3 regts. of Cavalry.
	1 Meyar.	
	1 Mahurwara.	

The annual pay of an infantry regiment of—

Bengal.	Madras.	Bombay.
Rs. 1,51,244.	Rs. 1,70,535.	Rs. 1,62,600.

Bengal Irregular Cavalry Regiment, . Rs. 2,62,158.
Madras Regular ,, ,, . 2,52,545.

The three armies are at all times complete. Most European armies are filled up by conscription of some kind or other. In Britain, voluntary enlistment prevails. But the Indian recruit is merely permitted to enrol himself in the Empress's army, if he is found to be a fit and qualified man, and the vacancies are filled up nearly as they occur. Nor is this due to the fact that the regiments are serving in their own particular districts, where the men in the ranks might tempt brothers and cousins to join them. The army is dispersed over the country, and not one corps in twenty is stationed in the district from which the majority of its men are drawn. Again, there is no complicated recruiting establishment, no bounty to the young soldier on enlistment, nothing for him to expect but his pay and his very remote pension. At the outset of his career, instead of getting a bounty, he incurs a debt to the Government for some articles of his kit, and is under stoppages for a year or so before this is paid off. Altogether the spontaneous eagerness for military service which many races among their native fellow-subjects exhibit is a phenomenon of which the British Indian Government has every reason to be proud.

ARMLETS are worn by Hindus and Mahomedans, by men and women; of gold or silver, ivory, deer-horn, and brass, some in the form of massive carved rings, some as lockets; the more expensive, worn by royalty, are the bazu-band, literally, arm-binder. They have been worn as ornaments since the most ancient times, like earrings (Gen. xxxv. 4; Exod. xxxii. 3, 4; Hosea xi. 13; Judg. viii. 24), the ἐνωτία in aures often of gold, like those of the Ishmaelites. But they are often caskets containing, as with the Mahomedans, their taviz, charms, or, like the Jangam sect of Hindus, the phallic lingam. The last are often worn round the neck, like the golden bulla and leather torum of the Roman youth, or as in Proverbs vi. 21; and most women have frontlet ornaments, such as are alluded to in Deuteronomy vi. 8.

ARMORIAL BEARINGS belong to the east, and were little known till the period of the

crusades. The twelve tribes of Israel were distinguished by the animals on their banners, and the Hebrew writings frequently allude to the 'Lion of Judah.' The peacock was a favourite armorial emblem of the Rajput warrior; it is the bird sacred to their Mars (Kumara), as it was to Juno, his mother, in the west. The feather of the peacock is used to decorate the turban of the Rajput, and the warrior of the crusade adopted it from the Hindu through the Saracens. 'Le paon a toujours été l'emblème de la noblesse. Plusieurs chevaliers ornaient leurs casques des plumes de cet oiseau; un grand nombre de familles nobles le portaient dans leur blazon ou sur leur cimier; quelques-uns n'en portaient que la queue.' Arms or badges and mottoes were early in use by the Arab, Turk, and Moghul races. Timur's arms were three rings, thus, °°°, with the motto, Rusti rasti, *i.e.* justice is strength. They were supposed to be typical of his power, 'encircling three zones,' south, west, and north; but it is more likely that they were borrowed from the heraldry of ancient Iran, for the rings, as symbols of strength and unity, are also to be seen on the tombs of the Sassanides.—*P. Arminius Vambery, Bokhara*, p. 205; *Armoirie Dict. de l'ancien Régime; Tod's Rajasthan*, i. p. 137.

ARMOSIA DASYCARPA. *M'Clell.* This tree, the Thitwajee of the Burmese, is found here and there widely scattered in the Swar and other forests north of Tounghoo. The wood is red, and equivalent to mahogany.—*M'Clelland.*

ARMOUR and ARMS.

Sillah; Aslihat, . ARAB. | Hathiyar; Zirra, HIND.

In S.E. Asia, samples of the armour and arms which have been in use in all ages and in all countries, can every day be seen; chain and scale armour, both for man and horse, helmets and shields, spears, battle-axes, bows and arrows, with daggers in every variety. At the Exhibition of 1851, there was a sword formed of two blades, and another in which pearls were let into the centre of its blade. Among the daggers was one of two daggers, one within another, all of hard steel, with the line of junction so beautifully welded as to be hardly perceptible even with a magnifier; also a dagger most nicely brought into juxtaposition, but which on striking separated into five blades. The twisting of gun-barrels and the damasks of their blades of steel have been imitated in India; and, in 1851, beautiful specimens of armour and arms were sent by the native princes of the north-west of India, from Putteala to Sind, as well as from the central Government of Hyderabad. Near Hyderabad in the Dekhan, valuable sword-blades are made at Kona Samudram; and at the Langar festival of the Nizam, on which occasion all the troops file past, men with bows, and arrows in quivers, with javelins, lances, pistols, muskets, ancient forms of weapons and new, may all be seen, with quilted doublets, chain and steel armour on them, and gold and silver trappings on horse and camel and elephant. No Indian prince or chief is without his sillah khanah, or armoury, and a Rajput prince can pass hours in viewing and arranging his arms. Every favourite weapon, whether sword, matchlock, spear, dagger, or bow, has a distinctive epithet. The Sirohi, a slightly-curved blade, throughout Rajputana is the greatest favourite of all the various sabres. The long cut-and-thrust, like the Andrea Ferrara, is not uncommon; nor is the Khanda, or double-edged sword. The matchlocks, both of Lahore and Rajputana, are often highly polished, and inlaid with mother-of-pearl and gold; those of Boondi are the best. For the shield the rhinoceros hide offers the best resistance, and is often ornamented with animals, beautifully painted, and enamelled in gold and silver. The bow is of buffalo-horn, and the arrows of reed, and barbed in a variety of fashions, as the crescent, the trident, the snake's tongue, and other fanciful forms. The custom of engraving incantations or verses of the Koran on weapons is eastern, thence adopted by the Mahomedans, as well as the use of phylacteries. The name of the goddess guarding the Rajput tribe is often inscribed, and an entire copy of the Bhagvat Gita has been taken from the turban of a Rajput killed in action; in like manner, the Mahomedans place therein the Koran. The devotions of the Rajput are still paid to his arms, as to his horse. He swears 'by the steel,' and prostrates himself before his defensive buckler, his lance, his sword, or his dagger. This worship of the sword (asi) prevailed amongst the Scythic Getæ, and is described exactly by Herodotus. To Dacia and Thrace it was carried by Getic colonies from the Jaxartes, and fostered by these lovers of liberty when their hordes overran Europe. The worship of the sword in the Acropolis of Athens by the Getic Attila, with all the accompaniments of pomp and place, forms an admirable episode in the history of the decline and fall of Rome; and had Gibbon witnessed the worship of the Khanda double-edged sword, by the prince of Mewar and all his chivalry, he might have further embellished his animated account of the adoration of the scimitar, the symbol of Mars.

For protecting the person, the shield has been in use from the most ancient times. In the south and east of Asia, they are made of rhinoceros hide, elephant hide, wood, iron, and steel, many of them with knobs to prevent an opponent's weapon sliding past, and many with beautifully inlaid work of gold. It is a tradition with Arabs, that the prophet David was the first person who manufactured coats of mail. Hence an excellent coat of mail is often called by them 'Daoodee' or Davidean, and this is worn in the desert at the present day. The zara, or zirra, is a finely wove chain armour,—kurta, paijama, and kulla,—coat, leggings, and helmet, the last surmounted by a plume, and protected all round, except over the face, by a curtain of chain-work. The khod, steel helmet, has sliding bars which can be slipped down to protect the nose. The char-ainah, often worn over the zara, are four plates, for the breast, back, and each side, and the armlets also are of steel. These are often beautifully inlaid with gold. Amongst the Arabs the zara is of two sorts, one covering the whole body like a long gown, from the elbow over the shoulders, down to the knees; this is the sirgh. The other, called kembáz, covers the body only to the waist,—the arms, from the elbows downwards, being covered with two pieces of steel, fitted into each other, with iron fingers. Thus clad, the Arab completes his armour by putting on his head an iron cap (taj), which is but rarely adorned with feathers. The coat of mail is sometimes worn within the ordinary outer tunic. Scale armour is another form of the zara, the scales overlapping each other, and in

form like those of the pangolin, Manis pentadactyla.

At the Madras Exhibition of 1855, there was exhibited a coat of mail of steel, the whole riveted together, with the exception of the collar, which was composed of small brass and steel rings, merely looped one into the other; the helmet, also of steel, inlaid with gold, was surrounded with a curtain of brass and steel rings, of a sufficient depth to cover the back of the neck. Also two sets of plate armour of steel, beautifully inlaid with gold, the helmets surrounded with a beautiful fringe of steel and brass rings looped together, and the gauntlets fringed with gold lace. The shield belonging to these two sets of plate armour was composed of fine steel, beautifully inlaid with gold. There was also a shield made of the hide of the rhinoceros, beautifully studded with gems set in gold; gauntlets made of copper, richly chased and perforated, also gilt and fringed with gold lace; plate armour for an elephant, composed of iron plates intermixed with rings of the same material, the plates riveted, but the rings only linked together; plate armour for a horse, composed of small plates of wrought iron, intermixed with small iron rings, linked and riveted together, the whole lined with cotton cloth padded; iron chain armour, composed of small iron rings $\frac{3}{8}$ths of an inch in diameter, riveted together; the turban, of long strips of sheet iron riveted and brazed together; and in front of the turban was a plate of iron to project down as far as the mouth (intended to protect the face from the cut of a sword), and this piece of iron was richly chased.

The sword, in different forms, has been the weapon on which, in all countries, most reliance has been put, as is evidenced by the number of forms and names which the various nations have given to it. The native military officers of India, when calling on a person of rank, gracefully present their sword, as evincing their readiness to obey his orders; and at the darbar of native courts they do not present nazzars, like others, but, partially drawing, receive on the blade a drop of attar. These are pretty sights to see. The need for defensive armour suggested the shield; and the attack has required the blow, the thrust, and the cut. For these, the swords of southern Asia are mostly all curved, either outwardly, or incurvated, sickle-shaped, and with very short handles, to compel the drawing cut and blow, by which great feats are done,—such even as cutting a bullock in two.

The mountain tribes carry weapons for short quarters. The bahbudi (the strong) is the Afghan knife, for cut or thrust; it is straight-backed, broad near the handle, and fining to a point. The kukri of the Gurkha has a short handle, and an incurvated, sickle-shaped blade, widening at the middle, and drawing to a point. The moplah knife also has a short incurvated blade. The Burmese dah is a short, straight weapon, handy for every purpose at home and in battle abroad. Adya katti is the sword of the Coorg mountaineers. For the cutting blow is the abbassi. It is a heavy, broad blade, with an outward curve, and suitable for a mounted soldier. The shamsher or talwar has a slight curve and a side-guard; the shah-bakha has a basket guard; the farangi (European) is for cut and thrust; the kirch also is a straight sword; the gauntleted hata or saif is a long weapon used in athletic exhibitions.

Arabian arms are distinguished by their fine filagrain work, and the absence of gems; those of the Persians by their superb damascening, enamelling, and carving, and the rare employment of gems in their decoration; while the Indian are characterized by the high relief of their elaborately hammered and cut gold-work, and the unsparing use of the precious gems. The sword blades are frequently inlaid all over; but a workman will not spoil the appearance of the water of a fine blade by working it over, and any good inlaying on such is just below the hilt. For the thrust, the dart and the javelin are but little used; but the spear, lance, and pike, the bala and barcha, and the dagger, are to be seen throughout the south and east of Asia. The dagger is worn by all classes of a military or semi-military reputation; and in British India and Persia the blades are often prettily inlaid with gold, in the manner described as koft or koft-gari, and kar-i-tila. The forms of the dagger, each with its own name, are manifold, and the kris of the Malay races is one of the most varied of them. In British India are to be seen the bichwa or scorpion, with a waved blade; the farsi; the jambiya; the katar, a triangular, heavy-bladed dagger, with a peculiar handle of steel; the khanjar has a short blade, and the pesh-kabz with blade straight at the back, sloping to a point in front, its handle the horn of the rhinoceros or bone of some cetacean. It resembles the Afghan knife in form, but is shorter.

At present, the club form of weapons, the gurz or mace, and bladed mace, the tabar or battle-axe, are rarely seen.

The bag-nak'h or wag-nak'h of the Mahrattas is famed because of its use by the great Sivaji, when he treacherously seized with it and slew Afzal Khan.

Of offensive weapons, there were, at the Madras Exhibition of 1855, swords with two edges; the pattah or basket-hilted sword; the goopti or sword-stick, with a shaft of two edges, or four square; also straight and curved swords; the chilta or steel club; spears of kinds; bichu or dagger, with one, two, or three blades; kattar or dagger, with plain or fluted blades; bhala-parasa or battle-axe; the jazal or gingal wall-piece six feet or more in length.

Of curious weapons, there were exhibited the charkh of steel, discs or quoits which are thrown from the hand with a circular swinging motion. Bows with quivers, arrows made of bamboo, gilt, and the quivers of crimson velvet fringed with gold lace, and embroidered all over with gold, the arrows being of light bamboo, tipped with steel; the gopum or sling; the mardoo, two deer's horns tipped with steel spikes, fastened together with the points projecting outwards, and a short dagger in the centre. The vazra-mooti, of some hard wood fixed on the knuckles of boxers. The curious neerarachakrum, or iron discs, made to slip over the hand with a strap behind; in the centre is a steel knife projecting to the front, and round the edges are also placed a number of short knives. Iron claw nails, made to fix on the fingers; they are formed of separate iron rings made to fit each finger, with a steel claw attached to each, and would prove most dangerous weapons in close quarters, though of

no use in any other way. Tiger's claws, the bāg-nak, made to fit on the hand, and disagreeable instruments to come in contact with.

In the Dekhan and Kandesh, three kinds of spears are in use,—the bhala for a horseman, barchi for a footman, and the halda or broad hunting spear. Spears are borne as marks of royalty before the raja of Tringanu. In the ahir sword, the curve commences from the handle. Raja Sivaji's sword Bhawani was a Genoa blade. Besides these are the korah, and the zaffar-takia, the Koolung battle-axe, etc.

Projectiles of the most ancient forms continue in use as weapons. Amongst them the blow-pipe, used with pellets and with blunt and poisoned arrows, is to be seen throughout India and the Malay regions; the boomerang is still thrown in the country of the raja Tondaman Bahadur, around Trichinopoly, where it is made of wood and ivory, and in Gujerat of wood and iron; and the Kamangar and Tirgar, makers of bows and arrows, are in every bazar; the bows, often of great strength, but frequently of bamboo, strung with a bamboo slip, or with the silk of the cocoon, or cord of the bowstring hemp, Sanseviera Zeylanica, and the arrows with barbed heads. Slings are in use in every village. But all these, in the strivings of nations, have been displaced by the cannon, the musket or banduq, the matchlock, banduq toradar, and the rocket or ban, with the jazal or gingal wall-pieces. The earliest mention of the introduction of cannon in India was A.D. 1368, when Mahmud Shah Bahmani I., at the siege of Bijapur, is related to have captured 300 guns and waggons. The agni astra, a fire weapon mentioned in ancient Hindu writings, is not supposed to have been of an explosive material. The races following mahomedanism who have ruled and fought in India since the 14th century, have placed great reliance on their parks of artillery, on their jazal (gingal) or wall pieces, and on the long breech-loader carried by two men in the field. A great cannon, cast at Ahmadnaggur by Rumi Khan, and which is now on the ramparts at Bijapur, permits a full-grown man to crawl into it with ease. There are, at Woolwich Arsenal and the Tower of London, several beautifully cast guns, brought from China. On the summit of Gawilghur hill, the fortress on which was taken by General Stevenson on the 15th December 1803, is a welded gun 27 feet long; and another welded gun, 21 feet long, is on the southern wall of Beder. —*Surgeon-Major Bidie, Lecture; Tod's Rajasthan*, i. p. 616, ii. 638; *Royle, Arts of India*, 469; *Exh. of* 1851; *Lane's Arabian Nights; Burckhardt's Notes on the Bedouins and Wahabys*, iii. p. 55.

ARMUGAM, a son of Siva, largely worshipped by the Hindus and non-Aryan races of Southern India, and used as a name for Hindu men.

ARMURA of Beas, Coriaria Nepalensis, *Wall.*

ARNA. SANSK. A male buffalo; Arni, female.

ARNAKUNDA, or Warangal, a town in ancient Telingana, about 70 miles from Hyderabad. A slab obtained from there had an inscription in Telugu and Uria, with Sanskrit slokas, dated Saka, 1054, or A.D. 1132, being the year Chetrabhanu of the Vrihaspati Chakara, or sixty years' cycle of Jupiter. Ganesha, Saraswati, Siva, Maheswar, are mentioned, also Raja Rudra Deva. The inscription contains a long account of Rudra Deva's genealogy and of his battles. There is no mention of Brahmans. From the mention of Ganesha, his worship must have been used in the 12th century.—*Beng. As. Soc.* vii. p. 901.

ARNA MANOPANDU. TAM. Sida acuta, *Burm.*

ARNAUT, or Aita, largely employed as soldiers by Mahmud Ali of Egypt, and known in Europe as Albanians.

ARNEBIA ECHIOIDES. *A. De. C.* Violet.

Paighambari Phul, HIND.	Gul mumanni, . HIND.
Gul sparlei, . . ,,	

It grows in Central Asia, and is common in the northern Trans-Indus. It is held in veneration by Afghans, as the five dark marks on the corolla are said to be those of Mahomed's fingers, hence its name, Prophet's Flower.—*J. L. Stewart.*

ARNEE, a town in the North Arcot district of the Madras Presidency, celebrated for the muslins it produces, though the first kinds are now only manufactured to order. A piece of the Arnee Sullah for ladies' dresses exhibited at the Madras Exhibition of 1855, priced Rs. 122½, attracted much attention and praise.—*Jur. Rep.*

ARNELLI PALLAM. TAM. Cicca disticha.

ARNI. HIND. Clerodendron siphonanthus.

ARNIYA, a dialect of the Dardu language, spoken by the Dards in Yasan and Chitral.

ARNOTTO. Annatto; Anotto.

Lutkun? . BENG., HIND.	Kurungoo-munga? MAL.
Kisree? . . . . BOM.	Kaha-Gaha, . . SINGH.
Kuppa Manhala? . CAN.	Kuragu-manjal? . TAM.
Gawpurgee, . . . HIND.	Jafra?? . . . . TEL.

The plant producing arnotto, the Bixa orellana, is naturalized in India, Burma, and the Eastern Archipelago, but its native country is Cayenne, from which it has spread into the hottest parts of South America and the West Indies, where it is extensively cultivated on the banks of rivers, likewise to the Hawaiian Islands, Tongataboo, and Zanzibar. The arnotto is a thick extract, obtained, it is said, from the seeds as well as from the soft sticky rind of the plant, and it is met with in commerce of two sorts. Flag or cake arnotto is furnished almost wholly by Cayenne, from which it is brought to Britain. A superior kind, called roll arnotto, is a harder and more concentrated extract. In Burma, dyers obtain a red dye from its fruit. In Britain, dyers obtain the red colour called aurora; and the liquid sold under the name of Nankin dye is a solution of arnotto in potassa and pure water. A solution is also made in alcohol, and used in varnishing and lacquering. In Britain, it is used for giving more or less of an orange cast to the simple yellows, as an ingredient in varnishes. In the Madras Exhibition of 1855, a specimen of cake arnotto, of a thick pasty consistence, prepared by macerating the seeds, gave an orange colouring matter. It is mixed with chocolate, oils, spirits, and varnishes, as a colouring material. It is soluble in alkalies, by which means it is fixed to silk or wool. The colour obtained from fresh pods of the plant is so superior to that of either the flag or cake arnotto, as to lead to the conclusion that the method of preparing these, which is by a great degree of heat and fermentation, is injurious to the colour. It is used to impart a bright orange colour to silk goods. The dry, hard paste is also found to be the best of all ingredients for giving a golden tint to cheese or butter; and a convenient liquid preparation is now sold to dairymen. The Spanish Americans mix it with their

form like those of the pangolin, Manis pentadactyla.

At the Madras Exhibition of 1855, there was exhibited a coat of mail of steel, the whole riveted together, with the exception of the collar, which was composed of small brass and steel rings, merely looped one into the other; the helmet, also of steel, inlaid with gold, was surrounded with a curtain of brass and steel rings, of a sufficient depth to cover the back of the neck. Also two sets of plate armour of steel, beautifully inlaid with gold, the helmets surrounded with a beautiful fringe of steel and brass rings looped together, and the gauntlets fringed with gold lace. The shield belonging to these two sets of plate armour was composed of fine steel, beautifully inlaid with gold. There was also a shield made of the hide of the rhinoceros, beautifully studded with gems set in gold; gauntlets made of copper, richly chased and perforated, also gilt and fringed with gold lace; plate armour for an elephant, composed of iron plates intermixed with rings of the same material, the plates riveted, but the rings only linked together; plate armour for a horse, composed of small plates of wrought iron, intermixed with small iron rings, linked and riveted together, the whole lined with cotton cloth padded; iron chain armour, composed of small iron rings $\frac{3}{8}$ths of an inch in diameter, riveted together; the turban, of long strips of sheet iron riveted and brazed together; and in front of the turban was a plate of iron to project down as far as the mouth (intended to protect the face from the cut of a sword), and this piece of iron was richly chased.

The sword, in different forms, has been the weapon on which, in all countries, most reliance has been put, as is evidenced by the number of forms and names which the various nations have given to it. The native military officers of India, when calling on a person of rank, gracefully present their sword, as evincing their readiness to obey his orders; and at the darbar of native courts they do not present nazzars, like others, but, partially drawing, receive on the blade a drop of attar. These are pretty sights to see. The need for defensive armour suggested the shield; and the attack has required the blow, the thrust, and the cut. For these, the swords of southern Asia are mostly all curved, either outwardly, or incurvated, sickle-shaped, and with very short handles, to compel the drawing cut and blow, by which great feats are done,—such even as cutting a bullock in two.

The mountain tribes carry weapons for short quarters. The bahbudi (the strong) is the Afghan knife, for cut or thrust; it is straight-backed, broad near the handle, and fining to a point. The kukri of the Gurkha has a short handle, and an incurvated, sickle-shaped blade, widening at the middle, and drawing to a point. The moplah knife also has a short incurvated blade. The Burmese dah is a short, straight weapon, handy for every purpose at home and in battle abroad. Adya katti is the sword of the Coorg mountaineers. For the cutting blow is the abbassi. It is a heavy, broad blade, with an outward curve, and suitable for a mounted soldier. The shamsher or talwar has a slight curve and a side-guard; the shah-bakha has a basket guard; the farangi (European) is for cut and thrust; the kirch also is a straight sword; the gauntleted hata or saif is a long weapon used in athletic exhibitions.

Arabian arms are distinguished by their fine filagrain work, and the absence of gems; those of the Persians by their superb damascening, enamelling, and carving, and the rare employment of gems in their decoration; while the Indian are characterized by the high relief of their elaborately hammered and cut gold-work, and the unsparing use of the precious gems. The sword blades are frequently inlaid all over; but a workman will not spoil the appearance of the water of a fine blade by working it over, and any good inlaying on such is just below the hilt. For the thrust, the dart and the javelin are but little used; but the spear, lance, and pike, the bala and barcha, and the dagger, are to be seen throughout the south and east of Asia. The dagger is worn by all classes of a military or semi-military reputation; and in British India and Persia the blades are often prettily inlaid with gold, in the manner described as koft or koft-gari, and kar-i-tila. The forms of the dagger, each with its own name, are manifold, and the kris of the Malay races is one of the most varied of them. In British India are to be seen the bichwa or scorpion, with a waved blade; the farsi; the jambiya; the katar, a triangular, heavy-bladed dagger, with a peculiar handle of steel; the khanjar has a short blade, and the pesh-kabz with blade straight at the back, sloping to a point in front, its handle the horn of the rhinoceros or bone of some cetacean. It resembles the Afghan knife in form, but is shorter.

At present, the club form of weapons, the gurz or mace, and bladed mace, the tabar or battle-axe, are rarely seen.

The bag-nak'h or wag-nak'h of the Mahrattas is famed because of its use by the great Sivaji, when he treacherously seized with it and slew Afzal Khan.

Of offensive weapons, there were, at the Madras Exhibition of 1855, swords with two edges; the pattah or basket-hilted sword; the goopti or sword-stick, with a shaft of two edges, or four square; also straight and curved swords; the chilta or steel club; spears of kinds; bichu or dagger, with one, two, or three blades; kattar or dagger, with plain or fluted blades; bhala-parasa or battle-axe; the jazal or gingal wall-piece six feet or more in length.

Of curious weapons, there were exhibited the charkh of steel, discs or quoits which are thrown from the hand with a circular swinging motion. Bows with quivers, arrows made of bamboo, gilt, and the quivers of crimson velvet fringed with gold lace, and embroidered all over with gold, the arrows being of light bamboo, tipped with steel; the gopum or sling; the mardoo, two deer's horns tipped with steel spikes, fastened together with the points projecting outwards, and a short dagger in the centre. The vazra-mooti, of some hard wood fixed on the knuckles of boxers. The curious neerarachakrum, or iron discs, made to slip over the hand with a strap behind; in the centre is a steel knife projecting to the front, and round the edges are also placed a number of short knives. Iron claw nails, made to fix on the fingers; they are formed of separate iron rings made to fit each finger, with a steel claw attached to each, and would prove most dangerous weapons in close quarters, though of

no use in any other way. Tiger's claws, the bāg-nak, made to fit on the hand, and disagreeable instruments to come in contact with.

In the Dekhan and Kandesh, three kinds of spears are in use,—the bhala for a horseman, barchi for a footman, and the halda or broad hunting spear. Spears are borne as marks of royalty before the raja of Tringanu. In the ahir sword, the curve commences from the handle. Raja Sivaji's sword Bhawani was a Genoa blade. Besides these are the korah, and the zaffar-takia, the Koolung battle-axe, etc.

Projectiles of the most ancient forms continue in use as weapons. Amongst them the blow-pipe, used with pellets and with blunt and poisoned arrows, is to be seen throughout India and the Malay regions; the boomerang is still thrown in the country of the raja Tondaman Bahadur, around Trichinopoly, where it is made of wood and ivory, and in Gujerat of wood and iron; and the Kamangar and Tirgar, makers of bows and arrows, are in every bazar; the bows, often of great strength, but frequently of bamboo, strung with a bamboo slip, or with the silk of the cocoon, or cord of the bowstring hemp, Sanseviera Zeylanica, and the arrows with barbed heads. Slings are in use in every village. But all these, in the strivings of nations, have been displaced by the cannon, the musket or banduq, the matchlock, banduq toradar, and the rocket or ban, with the jazal or gingal wall-pieces. The earliest mention of the introduction of cannon in India was A.D. 1368, when Mahmud Shah Bahmani I., at the siege of Bijapur, is related to have captured 300 guns and waggons. The agni astra, a fire weapon mentioned in ancient Hindu writings, is not supposed to have been of an explosive material. The races following mahomedanism who have ruled and fought in India since the 14th century, have placed great reliance on their parks of artillery, on their jazal (gingal) or wall pieces, and on the long breech-loader carried by two men in the field. A great cannon, cast at Ahmadnaggur by Rumi Khan, and which is now on the ramparts at Bijapur, permits a full-grown man to crawl into it with ease. There are, at Woolwich Arsenal and the Tower of London, several beautifully cast guns, brought from China. On the summit of Gawilghur hill, the fortress on which was taken by General Stevenson on the 15th December 1803, is a welded gun 27 feet long; and another welded gun, 21 feet long, is on the southern wall of Beder. —*Surgeon-Major Bidie, Lecture; Tod's Rajasthan*, i. p. 616, ii. 638; *Royle, Arts of India*, 469; *Exh. of* 1851; *Lane's Arabian Nights; Burckhardt's Notes on the Bedouins and Wahabys*, iii. p. 55.

ARMUGAM, a son of Siva, largely worshipped by the Hindus and non-Aryan races of Southern India, and used as a name for Hindu men.

ARMURA of Beas, Coriaria Nepalensis, *Wall.*

ARNA. SANSK. A male buffalo; Arni, female.

ARNAKUNDA, or Warangal, a town in ancient Telingana, about 70 miles from Hyderabad. A slab obtained from there had an inscription in Telugu and Uria, with Sanskrit slokas, dated Saka, 1054, or A.D. 1132, being the year Chetrabhanu of the Vrihaspati Chakara, or sixty years' cycle of Jupiter. Ganesha, Saraswati, Siva, Maheswar, are mentioned, also Raja Rudra Deva. The inscription contains a long account of Rudra Deva's genealogy and of his battles. There is no mention of Brahmans. From the mention of Ganesha, his worship must have been used in the 12th century.—*Beng. As. Soc.* vii. p. 901.

ARNA MANOPANDU. TAM. Sida acuta, *Burm.*

ARNAUT, or Aita, largely employed as soldiers by Mahmud Ali of Egypt, and known in Europe as Albanians.

ARNEBIA ECHIOIDES. *A. De. C.* Violet.

Paighambari Phul,	HIND.	Gul mumanni, .	HIND.
Gul sparlei, . .	,,		

It grows in Central Asia, and is common in the northern Trans-Indus. It is held in veneration by Afghans, as the five dark marks on the corolla are said to be those of Mahomed's fingers, hence its name, Prophet's Flower.—*J. L. Stewart.*

ARNEE, a town in the North Arcot district of the Madras Presidency, celebrated for the muslins it produces, though the first kinds are now only manufactured to order. A piece of the Arnee Sullah for ladies' dresses exhibited at the Madras Exhibition of 1855, priced Rs. 122½, attracted much attention and praise.—*Jur. Rep.*

ARNELLI PALLAM. TAM. Cicca disticha.

ARNI. HIND. Clerodendron siphonanthus.

ARNIYA, a dialect of the Dardu language, spoken by the Dards in Yasan and Chitral.

ARNOTTO. Annatto; Anotto.

Lutkun? .	BENG., HIND.	Kurungoo-munga?	MAL.
Kisree?	BOM.	Kaha-Gaha, . .	SINGH.
Kuppa Manhala? .	CAN.	Kuragu-manjal? .	TAM.
Gawpurgee, . . .	HIND.	Jafra??	TEL.

The plant producing arnotto, the Bixa orellana, is naturalized in India, Burma, and the Eastern Archipelago, but its native country is Cayenne, from which it has spread into the hottest parts of South America and the West Indies, where it is extensively cultivated on the banks of rivers, likewise to the Hawaiian Islands, Tongataboo, and Zanzibar. The arnotto is a thick extract, obtained, it is said, from the seeds as well as from the soft sticky rind of the plant, and it is met with in commerce of two sorts. Flag or cake arnotto is furnished almost wholly by Cayenne, from which it is brought to Britain. A superior kind, called roll arnotto, is a harder and more concentrated extract. In Burma, dyers obtain a red dye from its fruit. In Britain, dyers obtain the red colour called aurora; and the liquid sold under the name of Nankin dye is a solution of arnotto in potassa and pure water. A solution is also made in alcohol, and used in varnishing and lacquering. In Britain, it is used for giving more or less of an orange cast to the simple yellows, as an ingredient in varnishes. In the Madras Exhibition of 1855, a specimen of cake arnotto, of a thick pasty consistence, prepared by macerating the seeds, gave an orange colouring matter. It is mixed with chocolate, oils, spirits, and varnishes, as a colouring material. It is soluble in alkalies, by which means it is fixed to silk or wool. The colour obtained from fresh pods of the plant is so superior to that of either the flag or cake arnotto, as to lead to the conclusion that the method of preparing these, which is by a great degree of heat and fermentation, is injurious to the colour. It is used to impart a bright orange colour to silk goods. The dry, hard paste is also found to be the best of all ingredients for giving a golden tint to cheese or butter; and a convenient liquid preparation is now sold to dairymen. The Spanish Americans mix it with their

chocolate, to which it gives a beautiful rich hue. The red seeds are attached to the inside of the fruit capsules.—*Mason; Simmonds, M. E. Jur. Reports; Tomlinson; Birdwood's Bombay Products; Poole's Statistics of Commerce.*

AROE, or Are. TEL. Bauhinia parviflora.

AROMATIC BARKS, roots, and seeds, spices and condiments, are found in every bazar in the south and east of Asia, are sold for domestic use, and some of them are largely exported. The following are the better known:—

Allium sativum, ...	Garlic.
Andropogon schœnanthus,	Lemon grass.
Cicca disticha, ...	Long-leaved cicca.
Chavica Roxburghii, . .	Long pepper.
Crocus sativus, ...	Saffron crocus.
Curcuma longa, ...	Turmeric.
Cinnamomum iners, . .	Cinnamon.
Citrus bergamia, ...	Bergamot citron.
Carum carui, ...	Caraway.
Coriandrum sativum, . .	Coriander.
Cuminum cyminum, . .	Cumin.
Capsicum annuum, . . .	Common capsicum.
,, baccatum, . .	Bird pepper.
,, grossum, . . .	Bell pepper.
,, frutescens, . .	Guinea pepper.
,, minimum.	
,, Nepalensis, . .	Nepal chillies.
Fœniculum panmori, . .	Indian fennel seed.
Mentha piperita, . . .	Peppermint.
,, pulegium, . . .	Pennyroyal.
,, sativa, ...	Tall red mint.
,, viridis, ...	Spear-mint.
Moringa pterygosperma, .	Horse-radish tree.
Myristica moschata, . .	Mace and nutmeg.
Narthex asafœtida, . . .	Asafœtida.
Nigella sativa, ...	Small fennel flower.
Ocimum basilicum, . . .	Sweet basil.
Pimpinella anisum, . . .	Anise.
Ptychotis ajowan, . . .	Ajwain.
Phyllanthus emblica, . .	Emblic myrobalan.
Piper nigrum, ...	Black and white pepper.
Rosmarinus officinalis, . .	Rosemary.
Salvia officinalis, ...	Sage.
,, sclarea, ...	Clary.
Satureia hortensis, . . .	Summer savory.
,, montana, . . .	Winter ,,
Sinapis, *sps.*, ...	Mustards.
Trigonella fœnum-græcum,	Fenugreek.
Tamarindus Indica, . . .	Tamarind.
Thymus vulgaris, . . .	Thyme.
,, citriodorus, . .	Lemon thyme.
Vanilla planifolia, . . .	Vanilla.
Zingiber officinalis, . . .	Ginger.

Culitlawang, Massoy, Sintoc, aromatic barks of the Laurineæ, are articles of commerce in the Indian Archipelago.—*M. C. C.* See Condiments.

AROODA. TAM. Rue.

AROON. BENG. Rubia munjistha.

AROONA CHITRACA. SANSK. Plumbago rosea.

AROOSHA, or Chittagong fibre, is prepared in Chittagong from the inner bark of the Callicarpa cana, one of the Verbenaceæ.—*Royle.*

ARORA, a thrifty Hindu race of the Vaisya caste in the Panjab, about Multan, engaged in traffic, money exchanges, and produce, also as farmers. They apply themselves to every pursuit, trade, and agriculture, and fill many of the inferior offices of Government in Sind, being shrewd, industrious, and intelligent. With the thrifty Arora and many other classes, flour steeped in cold water suffices to appease hunger.

ARORE. See Alor.

AROSIS, a river mentioned by Nearchus, supposed to be the Khairabad river, the Ab-i-Shirin of Timur's expedition. See Hindyan.

ARPESI, amongst the Tamil race, the 7th month of the solar year, answering to the Hindu month Kartika, during which the sun is in the sign Tula.—*E. Warren, Kala Sanhita.*

ARPPANA, in Ceylon, a form of buddhism, the superior form of Samadhi restraint.

ARRACK.

Araq, Arq, ... ARAB.	Sura, ... SANSK.
Tsew, ... CHIN.	Saraiam, ... TAM.
Daru, ... HIND.	Sarai, ... TEL.
Saki, Sak, . . . JAP.	Araki, ... TURK.
Arak Api, . . MALAY.	

Like the European words Eau-de-vie, arrack is a term applied in most parts of India and the Indian islands, to designate every sort of spirituous liquor, however obtained. The use of intoxicating fluids and drugs is considered by Mahomedans to be forbidden by the Koran. In chap. ii., Mahomed tells his followers that people 'will ask thee concerning wine, and lots. Answer: In both there is great sin, and also something of use unto men, but their sinfulness is greater than their use.' Also, in chap. xvi., entitled the Bee, Mahomed, giving proofs of the resurrection, says, 'And of the fruit of palm trees, and of grapes, ye obtain an inebriating liquor, and also good nourishment.' The use of spirituous liquors, always affected by the northern races, reached the maximum of excess under the Mongolian rule. Under the Karezmians, drunkenness was common amongst the most distinguished men; and under the Chengizides and Timurides delirium tremens was an ordinary malady. Baber's memoirs give some idea of the large prevalence of this vice in his time. The quantities of alcoholic fluids still used in all eastern countries is great, and there is much open drunkenness. But half of the Asiatic races—Arab, Persian, Hindu, Burman, Malay, Siamese, Buddhists, Christians, Mahomedans, and Hindus — are abstinents. Arrack to a small extent is imported into Britain from Ceylon and Java, in leagers or large casks, holding 150 to 156 gallons, and sells at 1s. 6d. to 2s. the gallon, exclusive of duty. Alcoholic liquor in Europe, when distilled from grape wine, is known as brandy; when from a malt liquor, it is called a corn spirit; when from molasses, as in the West Indies and America, it is a rum. But from Turkey in the west, through all the countries on the south and east, arrack, from the Arabic Araq, is the term applied to all ardent spirits from whatever source obtained, whether from the sorghum, or palms, or cane, from flowers, or fruits, or rice, or barks, or mixtures of all these. Alcoholic liquors are produced from the cow's milk or mare's milk in Tartary; from sheep's milk in Afghanistan; from lamb's flesh in China; and, as formerly in Britain, from honey, where mead was the only strong drink known for centuries. Ardent spirits of various kinds are prepared also by distillation from various gramineæ, as also in the form of liqueurs, with rosebuds, jasmine flowers, orange-peel, and Indian fennel seed. Along all the seaboard of eastern countries, where the various palms most abound, the toddies,—the sap or palm wines of the cocoa-nut (Cocos nucifera), of the date-palm (Phœnix dactylifera and P. sylvestris), the Palmyra (Borassus flabelliformis), the Gomuti or Arenga saccharifera, or the Caryota urens, are the materials chiefly employed for making arrack. These are fermented, distilled, and rectified, and usually yield about an eighth

part of pure spirit. The three principal kinds known in commerce, however, are the arrack of Batavia, Goa, and Colombo. That from Batavia is the strongest, and is distilled from a mixture of 62 parts of molasses, 3 of toddy or palm wine, and 35 of rice. The last of these items Crawfurd states to be boiled, and, after cooling, a quantity of yeast is added and the whole pressed into baskets, in which condition it is placed over tubs and left for eight days, during which time a liquor flows abundantly from the rice. This liquor is distilled, and then mixed with the molasses and toddy, which is all left to ferment for a week in large vats; after the fermentation is over, the arrack is distilled one, or two, or three times, according to the strength required. When toddy is collected for the purpose of making arrack, it is brought from the trees and poured into wooden vats, in which fermentation rapidly advances. If attention be not paid to the fermentation, acetic acid is formed, and this often causes the arrack to take up lead from any portion of that metal with which it may be brought into contact. In many parts of British India, a very intoxicating spirit is prepared from the large Mahwa flower of the Bassia latifolia, the fleshy petals of which contain sugar. This is largely distilled in Bhandoop, about 20 miles from Bombay, as well as at many other places; and the flowers, with the inner bark of the white keekur tree (Acacia leucophlœa), ingredients in the manufacture of the spirit, are sold in every bazar. In Sind, the bark of the Acacia arabica is always an ingredient, and in Upper India that of A. ferruginea. When prepared from jagari and the bark of the Acacia leucophlœa, which is rich in tannin, the tannin combines with the albuminous and nitrogenous substances in the jagari, and decomposes them. In most of the native stills, composed of clay pots or chatties, with bamboo pipes, ten per cent. of the sugar is wasted by the loss of its resulting alcohol. Arrack in Madras is made from the Velvelam pattai or Acacia leucophlœa bark and Palmyra jagari, the quantity required for one still being 1 viss of the bark and 13½ of the sugar, the produce being 4½ gallons. Its cost of manufacture to the Government is 5 annas a gallon, and it is sold to the retail dealers of that city and within the boundary of 10 miles at 3 rupees per gallon, but to all beyond the limits from 1 to 8 rupees per gallon. The jagari is usually imported from Tinnevelly and from the Northern Circars. Pariah arrack is a term employed by Europeans in India to designate a highly pernicious liquor, said to be adulterated with the nux vomica, datura, cannabis sativa, and other intoxicating drugs.—*Capper in As. Soc. Jo.*, 1856; *Dr. Smith in Ed. Phil. Jo.*, 1856; *Faulkner; O'Shaugh.; M. E. J. R.*

ARRAH, in the Shahabad division of Bengal, in lat. 25° 33′ 46″ N., and long. 84° 42′ 22″ E.; population, 39,386. It is the ancient Ekachakra. It was the scene of a brilliant defence in the mutiny of 1857, when a dozen British, with 50 Sikhs, for 8 days (27th July to 3d August) held two houses, until relieved by Major Vincent Eyre.

ARREMENE. SINGH. Cassia Sumatrana.

ARREMUTI. TAM. Pentaptera coriacea.

ARRIAN lived in the times of the emperors Hadrian, Antoninus Pius, and Marcus Aurelius. He was a native of Nicomedia in Bithynia, where he studied. He was born about the end of the first century of the Christian era. He was one of the most eminent disciples of the famous Epictetus the Stoic, graduated to a priest in the temples of Ceres and Proserpine, and distinguished himself as a historian and in philosophy. His account of the expedition of Alexander the Great is based on the lost works of Aristobulus and Ptolemy, the son of Lagus, both of whom accompanied the king during the expedition. He also wrote the Ἰνδικα, a treatise on India in the Ionic dialect, and a Periplus, or voyage round the coasts of the Black Sea. Descriptions of the coasts of the Sea of Azof and of the Red Sea are also ascribed to him, but these are by some supposed to be of a later date. His Ἰνδικα gives the reports of Megasthenes, ambassador from Seleucus at the court of Chandragupta. It is generally supposed that there have been more than one of this name, and the Arrian whom Colonel Tod may be correct in mentioning as the author of the Periplus of the Erythræan Sea, and a commercial agent at Baroach, living in the second century, may be one of them. He says that Arrian, the author of the Periplus, resided at Baroach, or, as he called it, Barugaza, as a commercial agent, in the second century of the Christian era; Baroach was then within the Balhara sovereignty.—*Weber; Ency. Brit.; Tod's Travels*, p. 145.

ARROWROOT.

Pen-bwa, . . . BURM.
Ngau-fen, . . . CHIN.
Kua-ka-nashastah, HIND.
Tikhur, ... HIND.
Jau-irisi, Kua maoo, TAM.

The name was originally applied to the rhizome or root of Maranta arundinacea, in consequence of its supposed efficacy in counteracting the effects of wounds inflicted by poisoned arrows. Of late years, however, the term has been employed to designate almost every fecula or starch which bears any resemblance to the true Maranta arrowroot. In the West Indies, arrowroot is obtained from the Maranta arundinacea, M. allongia, and M. nobilis; also from the Canna glauca and C. coccinea, to both of which the local name of tous les mois, or tulema, is applied. In the East Indies, arrowroot is prepared from the Maranta arundinacea, also from M. ramosissima, a Silhet species. Mahabaleshwar arrowroot is obtained from Curcuma caulina, *Graham.* The fecula of C. angustifolia and of the cassava meal from the Jatropha manihot is likewise sold under that name; and the tubers of C. rubescens, *Roxb.*, also yield an arrowroot in Travancore and Bengal; those of C. leucorrhiza, *Roxb.*, in Behar; and, as tikor, the Hindi term for all such feculæ, that from the tubers of Batatas edulis is sold at Patna and Bhagulpur. Ratnagherry arrowroot is obtained from C. pseudo-montana, *Graham*, as also from Alpinia galanga, *Swartz.* Many households in India make their arrowroot for home consumption from products of their own gardens.

In the Cuttack and Sumbulpur districts, the Palooa, a plant growing abundantly in the jungles, is collected in the cold season by the Sahar race, the tubers pounded and mashed, and the sediment dried in the sun. By these people it is sold for the manufacture of Abhir; also made into cakes, or boiled with milk, and thus used as an article of food. The cultivated arrowroot at Cuttack is of excellent quality. The tubers are taken up in the cold season, washed, put into a large wooden mortar, and mashed. The mash

is then taken out, and well washed in cold water, the water drained off, and set to stand in large flat vessels, in which it deposits a large proportion of the arrowroot flour, which is re-washed in cold water, and set to dry in the sun. A starch sent from Chittagong to the Exhibition of 1862 was prepared from a plant which grows wild everywhere in that district; the yield was estimated at one ounce of starch from one pound of the root. An arrowroot is also made by the Chinese by grating the root of the Lotus, Nelumbium speciosum, called Ngau-ken. It is an article in the food called San-koh-fen, used in rearing infants. A coarse kind of arrowroot, called Matih-fen, is made from the tubers of Eleocharis (scirpus) tuberosus. The edible fern, Pteris esculenta, also yields a farina, called Kiueh-fen; and the Shan-yoh is a starchy fecula from tubers of a species of Dioscorea.—*Smith; Mason; Hassall; M. E. Jur. Reports; Simmonds; Faulkner; Cal. Cat. Exh.*, 1862.

ARROWS.

Sahm, ... ARAB. | Tir, ... HIND.

Arrows are sometimes used in the ordeals of N.W. India as tests of innocence. The opposite ends of two arrows are held by a rattan laid upon the hands by two persons placed opposite to each other; they are parallel to and just sufficiently apart to allow of the suspected person's hand being held between them. The ends of the arrows merely rest upon the fingers. The arrows are supposed to move towards and close upon the guilty hand. See Divination. The arrow is the national emblem of the Ho, and in Singbhum an arrow is passed from village to village as a summons to arm. With the militia of Gumsur it was customary to send an arrow to them as a summons to assemble. There were eighteen districts in Gumsur, each held by militia. Arrows are poisoned with the juice of the Antiaris toxicaria, of the manchineel tree, Hippomane mancinella, and the wurali tree.

ARRUB-us-SALIB. ARAB. Solanum nigrum; S. dulcamara.

ARSACIDÆ. This name was given to the Parthian kings, whose family name was Arsaces. The Arsacidian kings of Armenia, according to Moses of Chorene, reigned from B.C. 130 to A.D. 450, when the Armenian kingdom was extinguished (Thomas' Prinsep, p. 300). But Thomas' Prinsep, ii. p. 76, gives sixty kings from Arsaces I. in B.C. 255 till the succession of Artaxerxes as king of Persia, the first of the Sassanidæ.

Arsaces I., B.C. 254–250, the first of the Arsacidan kings, a native of Balkh, revolted under Antiochus Theos, is supposed to have been killed in action with Ariarathes of Cappadocia about B.C. 220. He is described by some as a native of Sogd, by others as of Bactria, but by Moses of Chorene as of Balkh; and Moses adds that the dynasty was called Balkhavensis or Pahlavian. He used Greek only on his coins, and in his public letters and correspondence, with the head of the sovereign on one side. Only one coin has a lingual inscription.

Arsaces II. (Artabanus?), son of Arsaces I., about B.C. 220, at first extended the Parthian empire, but was afterwards driven into Hyrcania by Antiochus Magnus in B.C. 212; allying himself with the Scythians, he recovered Parthia.

Arsaces III., B.C. 196, called Priapatius, or Phriadatius, son of Arsaces II., reigned fifteen years, left three sons, Phrahates, Mithridates, and Artabanus.

Arsaces Mithridates I., B.C. 177, made Balkh his capital, subdued Media and Persia, and captured Babylon; brought under his dominion Western Bactria, Aria, Seistan, and Arachosia, and made a successful expedition into India.

Arsaces Phrahates II., B.C. 139. In his reign Bactria seems to have been subjugated entirely by Scythians. He was defeated and slain in B.C. 130, when restraining the Parthians from ravaging the country.

Arsaces Artabanus, B.C. 126, uncle of Phrahates, and youngest son of Priapatius, died of a wound received in action from the Tochari Scythians. The Græco-Parthian or Arsacian dynasty ended with Arsaces Artabanus in A.D. 215, who was involved in a war with Rome, but was ultimately slain in battle at Balkh by one of his Parthian officers, Ardeshir Babekan or Artaxerxes, who established his own, that of the Sassanians, in A.D. 235, and it lasted nearly 500 years. The capital in the time of the Cæsars was at Seleucia on the Tigris. The system of government was Asiatic, by satraps, or rulers possessing full power over the persons and properties of all the subjects of the state.—*Thomas' Prinsep*, p. 300.

ARSENIC is a metal resembling steel in colour, crystalline, volatile below a red heat, vapour of a strong garlic odour, readily oxydized. With one equivalent of oxygen, it forms the arsenious, with two equivalents the arsenic, acid; with sulphur it forms the yellow sulphuret, orpiment, and the red, realgar. These are to be obtained in every bazar in India, and the native medical practitioners, painters, etc., considerably employ them. Dr. Helfer reported the existence of ores of arsenic in the Mergui islands, Mr. Piddington found some in the antimony ores, and Professor Mitchell in lead ore that he analyzed. Arsenic is principally employed in trade to produce a peculiarly vivid and showy shade of green, which has superseded the less decided tints, and this dangerous material is often used to colour children's toys and sweetmeats. Papers coloured with this green line fruit-boxes, wrap up confectionery, chocolate; line books, house walls; and it is used for tinting food articles, and colouring articles of dress. The white oxide, Safaid Sambul, has long been used in India for the cure of intermittents. Dioscorides, Pliny, Celsus, and Galen used this substance, in which they were followed by the Arabian physicians, Rhazes, Serapion, and Avicenna. But none of these appear to have employed it in fever; and it was not till the end of the 17th and the commencement of the 18th century that the treatment of intermittents by arsenical preparations became known in European practice. Arsenious acid has real febrifuge properties in intermittents, the product of marsh miasma. It succeeds in tertians better than in quartans and quotidians. The arsenical treatment is less powerful and less sure than quinine.

Red Sulphuret of Arsenic; Realgar.

Zurneik surkh, AR., PERS.	Mansil, ... HIND.
Bi-sulphuret of, . . ENG.	Warangan, . . MALAY.
Sandarach, . . . ,,	Manahsila, . . . SANSK.
Red orpiment, . . ,,	Kudire-pal-pasha-nam, ... TAM.
Lal-sumbul, . . . HIND.	

This is found native in Saxony, Bohemia, China, Persia, and, according to Mr. Elphinstone,

in Balkh. According to Mr. Rohde, a coarse description is common in the bazars of India, and is used as a pigment. Realgar, bi-sulphuret of arsenic, occurs native in brilliant red crystalline masses of a beautiful orange colour. It is used in the preparation of white Indian fire, which consists of 24 parts of saltpetre, 7 of sulphur, and 2 of realgar, finely powdered. This composition burns with a white flame of great brilliancy.

White Oxide of Arsenic; White Arsenic.

Zarnik, ... ARAB.	Sanchya, . . . HIND.
Turab-ul-halil? . . ,,	Acidum arseniosum, LAT.
Sum-ul-Far; Shuk, . ,,	Warangan putih, MALAY.
Tein hpy-so, . . BURM.	Sumbul-far, . . . PERS.
Pi-shih, Peh-sin shih, CHIN.	Sweta pashanam, SANSK.
Arsenious acid, . ENG.	Velle pashanam, . TAM.
White oxide of arsenic, ,,	Tela pashanam, . . TEL.
Sufed sumbul-khar, DUK.	

Arsenious acid, or white oxide of arsenic, is abundant in every bazar in India. It is brought from the Persian Gulf and China, in the latter country being obtained by sublimation from hartal, or native sulphuret of arsenic. Kwang-sin-fu, in Kiang-si, furnishes the greater part of the arsenic of commerce, and gives to this mineral its Chinese name of Sin. It is white, brittle, faintly sweetish in taste, more or less translucent; sometimes it has a yellow, reddish, or bluish tinge, owing to the presence of iron, sulphur, and other impurities. It is used in the manufacture of glass, dyeing, medicine, etc. The arsenic sold by chemists is obtained from England, and is generally in the form of powder.

Yellow Sulphuret of Arsenic; Orpiment.

Ursanikun, . . . ARAB.	Zerneik-zard, . . PERS.
H'say-dan-shwaywa, BURM.	Zarni, Zarna, . . ,,
Pi-hwang, . . . CHIN.	Haritalaka, . . . SANSK.
Ter-sulphuret of Ar., ENG.	Arridaram, yellikud-
Hartal, ... HIND.	pashanam, . . TAM.
Warangan, . . MALAY.	Doddi pashanam, . TEL.

This is found native in S. America, Saxony, Persia, and in China in the Kiang-si province. It generally occurs massive and lamellar of a bright lemon or golden colour, inodorous, and insoluble in water. It is also prepared by the action of sulphuretted hydrogen or hydro-sulphurets in a solution of arsenious acid. It is brought to Bombay from the Persian Gulf, and is an article of trade from China and Burma, where the red is also procured, and from Japan. In China it is sometimes cut into ornamental figures, in the same manner as prehnite and agalmatolite. It is used in Burma in the ornamental work of their lacquered ware, and is much used by the Tamil painters in preparing a pigment of a brilliant yellow colour; also in dyeing and calico printing. The paint called king's yellow is usually adulterated with lime and sulphur. It is now known that arsenic, sulphate of copper, verdigris, and other poisonous minerals, when employed to steep grain previous to sowing, with the view of preventing smut, prove injurious to the health of the sowers and to those who eat the bread made from it. A preparation of sulphate of soda and lime answers with equal effect.—*Ainslie; Tomlinson; Simm.; Faulk.; Williams' Middle Kingdom; Rohde, MSS.; O'Sh.; Ind. Anns. Med. Sci.* 1856; *Mason's Burma.*

ARSENOE, called also Myos Hormos, a port on the Red Sea, the emporium for Indian articles during the time of the Greeks holding Egypt.

ARSHA, one of the eight forms of Hindu marriage described by Manu.

ARSI. HIND. A small mirror worn by Mahomedan women in a thumb-ring.

ARSINA. CAN. Turmeric.

ARTA, according to Herodotus, the town of Herat, whence the term Artæi for the ancient Persians. Arta Bhaga, lord of Herat; in Hindu mythology, one of the rishi. Artachoana, from which Alexander set out to the city of the Zarangæi in pursuit of the murderers of Darius, is also believed to be the modern Herat.

ARTABOTRYS ODORATISSIMUS. *R. Br.*

Uvaria odoratissima, *Roxb.*	Unona esculenta, *D. C.*
,, uncata, *Lour.*	,, uncinata, *D. C.*
Modira Walli? . . MALEAL.	

The peduncle has a curious hook, which lays hold on any support near hand, and assists in bearing up the clusters of fruit. It is a scandent shrub with shining leaves, and very sweet-smelling flowers; grown in gardens as an ornamental plant. A. Burmanicus, *D. C.*, is of Burma and Mergui, A. cadatus, *Wall.*, of Silhet, A. suaveolens, *Blume*, of the Archipelago, and A. Zeylanicus of Ceylon.—*H. f. and T.; Graham's Cat.; Williams' Middle Kingdom; Voigt; Thw.*

ARTAMUS FUSCUS, the toddy shrike; it feeds on the flies and insects that hover near to the luscious juice of the Palmyra palm. It is the Tal-Chatok of Bengal, Assam, Arakan, and in India generally.

ARTAXERXES. This is the Greek and Roman mode of pronouncing Ardeshir. Ardeshir Babekan, the son of Sassan, was an officer of the Parthian king, Arsaces Artabanus V. He murdered his sovereign, and assumed the Persian throne as the first of the Sassanian dynasty in A.D. 226; his successor was the Shapur or Sapor, who captured the emperor Valerian. There were others bearing the name Artaxerxes, the first in A.D. 381, and the second A.D. 629. The Sassanian dynasty ended in A.D. 641, when Yezdejird or Izdejerd III. was overthrown by the Mahomedans.

Artaxerxes Longimanus was the Kai Bahman, or Ardeshir daraz-dast of the Kaianian dynasty of Persian kings.

Artaxerxes Mnemon, a Persian king, B.C. 426, at whose court Ctesias resided for some years. After Scylax, Ctesias was the next historian of India; and in his Indica, cap. iv. p. 190, he mentions that Artaxerxes Mnemon and his mother Parasatys presented him with two iron swords, which, when planted in the earth, averted clouds, hail, and strokes of lightning. This is the first notice of the lightning conductor. The Tee on the tope of every Buddhist pagoda in Burma shows their acquaintance with one means of protecting from lightning.

ARTE. PANJ. Rheum emodi.

ARTEE, a musical bell, borne by Bal Govind.

ARTEMISIA, a genus of plants of the natural order Matricariaceæ; nine species occur in the East Indies, China, and Japan. A. abrotanum, or southernwood, A. Indica, A. vulgaris, and A. grata, are cultivated in India. The European Absinthium, though not growing in India, furnishes part of the (Afsantin) absinth used in Asiatic medicine; and the A. Chinensis of China and Siberia supplies the materials for the moxa. According to Dr. O'Shaughnessy, A. Judaica is the Saheba of Avicenna, and a native of Judea, Arabia, and Cochin China, and is known as the Indian wormseed, or Indian Semen contra,

which, finely powdered and sifted, is a popular worm remedy, especially in the round and long worms of children; the dose is three to ten grains given in honey or milk. A. acetica, a Persian species, is said to have a strong odour of vinegar. A. cina, *Berg*, a plant of Kurdistan, furnishes the genuiue Santonica flowers and fruits, long famed as a vermifuge. A. Maderaspatana and A. Indica are used by the Indian medical practitioners. The flower-heads of A. Sieberi, Lercheana, contra, and pauciflora constitute drugs called Semen contra, or Semen cinæ, which are used as vermifuges. The same part of A. Vahliana yields the Persian wormseed, or Semen cinæ Levanticum; and that of A. cœrulescens, the Semen seriphii or Barbotine. A. santonica, *Woodv.*, maritima, *Linn.*, A. var. b. suaveolens, *Dec.*; Semen santonicum; wormseed. This substance has long been employed as an anthelmintic, being intended for the Αψινδιον σαδδονιο of Dioscorides, the Semen sanctum and santonicum, Sheeh of the Arabs. A. sternutatoria, or sneezewort, is the Nak-Chikni or Hachitti of India, and the Afkar of the Arabs. The powdered plant is used as a sternutatory.

Artemisia abrotanum, Yin-ch'in-hau of China, where the young shoots are made into cakes with meal, and the herb is made into a broth, and given in ague, fevers, catarrh, jaundice, and dysuria.

Artemisia Chinensis, *Smith.*

Ngai, Ki ngai, . CHIN. | I'ts'au, Tsz-ngai, . CHIN.

The down of the plant was formerly largely used in China as the moxa cautery, but has been displaced by the teng-ho or lamp cautery, and the pa-ho-kwan or cupping glass.

Artemisia dracunculus, *Smith*, Tarrágon.

Tarchon, ... ARAB. | T'sing-hau, . . . CHIN.

When green, is eaten in China as a vegetable, and used in skin diseases, worms, fluxes, arthritic ailments.

Artemisia elegans, *Roxb.*; A. scoparia, *W. and A.*

Pila jan, . . . CHEN. | Biur; kingkhak, SUTLEJ.
Jhau; Lasaj, . KANGRA. | Durunga, . . TR. IND.
Churi; Saroj; Danti, PANJ. | Lawange, . . . „

Is uncommonly elegant when in blossom, particularly when young. It is found up to 9000 feet in the Himalaya, and abounds in many parts of the Panjab plains. The odour in brushing through masses of it is at times very powerful, and not unpleasant.

Artemisia indica, *Willd.*, wormwood.

Artemisia grata, *D.C.*

Afsantin, . . . ARAB. | Burun-jasif-i-kohi, PERS.
Kashus-Rumi, . . „ | Artemasaya, . . „
Mustaru, . . . DUK. | Chambra, . . . RAVI.
Duna, Marwa, . HIND. | Damana Suraparna, SANSK.
Machi-parna, . . „ | Walko-Gundo, . SINGH.
Mustaru, Gund-mar, „ | Ubusha, ... SUTLEJ.
Tataur, Banjiru, KANGRA. | Machi-patri, . . TEL.
Tiru-nitri-pach'ha, MALE. | Tartiha, . . . TR. IND.

Common in Indian gardens, and can be substituted for the A. absinthium of Europe. It contains volatile oil and bitter extractive matter. Used as a tonic in fever and debility, in asthma, in diseases of the brain, and also in dyspepsia, and as an antispasmodic in hysteria; also to flavour spirits and essences. That used in India comes via Kābul. The leaves are much used in scents for its strong odour.

Artemisia vulgaris, *Linn.*, wormwood.

Atmisa, Artimisaya, ARAB. | Madi patre, . . HIND.
Mugwort, . . . ENG. | Birun-jasif, . . PERS.
Nagdowna, . . . HIND. | Davanamu, . . TEL.

This is a native of Europe, and, according to Thunberg, of Japan. He says that the Japanese use the woolly part of the leaves for tinder, which is prepared so as to form a brownish-coloured wool. This substance catches fire much quicker than moxa. But Dr. O'Shaughnessy says that the moxa of Japan is prepared with the leaves and stalks of a neighbouring species.—*Roxb., Cat. Ex.*, 1862; *Powell, Handbook*, i. p. 358; *Voigt; O'Sh.; Bombay Products; Smith, Ch. Mat. Med.; Thunb. Travels*, iii. p. 71; *J. L. Stewart, M.D.*

ARTESIAN FIRE-SPRINGS. According to the missionary Imbert, the fire-springs, 'Hotsing,' of the Chinese, which are sunk to obtain a carburetted hydrogen gas for salt-boiling, are very commonly more than 2000 feet deep; and a spring of continued flow was found to be 3197 feet deep. This natural gas has been used in the Chinese province Sech-u'en for several thousand years; and 'portable gas' (in bamboo canes) has for ages been used in the city of Khiung-tchou. —*Cur. of Science.*

ART'HA, a race of fishermen whom Parasu Rama raised to the rank of Brahmans, to occupy a strip of country which he had recovered from the ocean on the Malealam coast. Their conduct displeasing him, he replaced them by a body of pure Brahmans.

ART'HAN-ESWARA. Siva, as Ard'dhanari, is represented with his own form on the right hand, and Parvati on his left.—*Garrett.*

ARTICHOKE, Cynara scolymus.

Kharshuf, ARAB., PERS. | Kanjir, . . HIND., PERS.

Cultivated in some gardens of India; the cultivation is expensive. Jerusalem artichoke, Helianthus tuberosus, is cultivated for the tubers attached to the roots; may be lifted annually, after flowering, and kept like potatoes for three months; or they may be allowed to remain for years in the same situation, if kept clear of weeds, and the ground annually top-dressed with manure.—*Jaf.*

ARTICULATA, a division of the animal kingdom; the following is a classification:—

1. Rotifera, wheel animalcules; examples, animals with ciliated jaws.
2. Cirripedia, cirripeds; examples, barnacles, sea acorns.
3. Crustacea, ten-legged aquatic family; examples, crabs, lobsters, shrimps, prawns.
4. Insecta, six-legged, air breathing, articulate animals; examples, the wasp, the bee, the butterfly, the beetle, the flea.
5. Arachnida, eight-legged, air breathing, articulate animals; examples, mites, spiders, scorpions.

ARTIE, in Madras, timber of various sizes, 12 to 18 feet long, and from 1 to 1½ feet in breadth.

ARTISANS of British India are chiefly Hindus, and classed by Brahmans in the Sudra division. In the Peninsula of India, the goldsmith, ironsmith, coppersmith, carpenter, and stonemason, form a caste or guild, and the goldsmiths claim to be of ancient Brahman descent. A considerable number of Mahomedans are carpet-weavers, blacksmiths, and farriers. A few Parsees are carpenters and carvers. The skilled artisan is now earning monthly from 7½ to 25 rupees. But

the able-bodied agricultural labourer in Salem, in 1875, was only earning 2½ rupees; in Ganjam and Chingleput, 3 to 3½ rupees; in Bellary, Kurnul, N. and S. Arcot, and Trichinopoly, 4 to 4¾ rupees; and the highest earnings were 7½ rupees, in the Kistna, Neilgherry, and S. Canara districts, and Malabar. The artisan guild of Madras assume the title of Acharya, which belongs to the religious teachers of the Hindus, and is also taken by the Madhava Brahmans; they also take the title of puther or puthen. The artisan races of the south of India do not eat together nor intermarry.

ARTOCARPUS, a genus of plants belonging to the Urticaceæ. The Trap tree species supplies the gutta used as bird-lime in the Malay Peninsula, and the fibres of its bark are used for cordage, fishing lines, and nets; the Chowat Kurnat, similar to the above, also the kumut or bark cloth, worn by the Karens when mourning for the dead, from the river Baram; and the Glam tree bark, from Borneo, which gives a paper-like bark, much used in caulking the seams of vessels,—are all of the Malay coast, and supposed by Dr. Royle to be from species of Artocarpus. A. Philippensis, *Lam.*, occurs as a tree in the Philippines; A. polyphema, *Pers.*, is a Penang tree; A. angustifolia, *Roxb.*, is of the Malay Islands, and A. serratus, *Roxb.*, of Travancore. Myauk Sook, *Burm.*, another species, is a tree of Akyab, used in house-building. It grows to a large size, is very plentiful in the province, and the fruit is edible.—*Dr. Brandis in Cat. Ex.*, 1862; *M'Clelland; Mason; Useful Plants; Royle, Fib. Pl.; Hogg's Vegetable Kingdom*, p. 679–680; *Mason's Tenasserim; Voigt; Roxb.*

ARTOCARPUS CHAPLASHA. *Roxb.*

Lesser Jack, . . ENG. | Chaplasha, . . . HIND.
Thorny Jack, . . ,,

This tree grows in Malabar, the eastern frontier of Bengal, Darjiling, Assam, Tipperah, and Chittagong. In some places it attains an immense size; its trunk is straight, and yields a valuable timber, from which the canoes of the Goomti river are made. The wood is said by Dr. Roxburgh to be particularly valuable for work which has to be immersed in water.—*Roxb.; Voigt; Von Mueller.*

ARTOCARPUS ECHINATUS. *Roxb.*

Toung Peing-nai, . BURM. | Mountain Jack, . ENG.
Kanae Kya-tha, . ,, | Tam-poo-ni, . . MALAY.

A moderate-sized tree, with its leaves gashed like some species of oak. It is very common about the Balaghat and Wynad, is found in Burma, and, though not abundant, all over the Tenasserim and Martaban Provinces, in Amherst, Tavoy, and the Mergui Archipelago, and in other places east of the Bay of Bengal,—a large expanse of country. The wood in Burma is deemed a valuable timber by the natives, especially for canoes.—*Mason; M'Ivor; Voigt; Roxb.; Captain Dance.*

ARTOCARPUS HIRSUTUS. *Lam.*

Hebalsu, . . . CAN. | Ran-Fannas, . . MAHR.
Wild Bread-fruit, ENG. | Ainimara, Anjeli, MALEAL.
Pat Fannas, . . MAHR. | Del, Aladel, . . SINGH.

This large, lofty, and handsome tree is well adapted for affording shade. It yields the angely wood of commerce. It is indigenous in Burma, is not found in the northern jungles of the Bombay Presidency, sparingly in those south of the Savitri to the bounds of Sawantwarri, after which it becomes more plentiful, and continues abundant all down the western coast of the Peninsula. It grows on the western, southern, and eastern sides of Ceylon; and its timber, which is there used for fishing boats and in house-building, weighs 40 to 51 lbs. the cubic foot, and is calculated to last from 25 to 70 years. The fruit (9 in. by 3 in.), the size of a large orange, is there boiled and eaten by the natives. The wood is esteemed as a useful timber, which bears exposure under water, and is valuable for canoes, fishing boats, ships' framework, and in house-building. Edye describes it as used for large canoes and snake boats, and if kept oiled, is very durable. Also as used for planks for native vessels, in consequence of its being very tough, and well fitted to hold the yarns where the planks are sewed together, which is the case with all the flat-bottomed boats on the coast, where there is a surf on the beach, as at Madras, for the masula boat; at Mangalore and Calicut, for the manchee boats, etc.; and many of the pattamah are fastened by paddings of coir on the joints of the planks, etc. Its bark is occasionally used in Canara in the preparation of a brown dye, the dye yielded by the jack and champada being yellow. The fruit abounds in a viscid juice, which flows freely from the rough rind if touched. This is manufactured into bird-lime. The pulpy substance which surrounds the seeds is much relished by the natives, being almost as good as the fruit of the jack.—*Mad. Exhib. Juries' Reports; Drs. Wight, Gibson, Mason; Cleghorn in Conservator's Reports; Roxb.; Bombay Products; Mr. Mendis; Edye; Beddome, Useful Plants.*

ARTOCARPUS INCISUS. *Willd.* Breadfruit.

Po-lo-mih, Po-lo-ma, CHIN. | Nang-ka, . . MALAY?
Rima; fruit au pain, FR.

This tree is a native of the South Sea Islands, and has been introduced into Ceylon, in some gardens of the Madras territories, the Bombay Presidency, the Dekhan, Penang, Mergui, Tavoy, and Moulmein, and is extensively cultivated throughout the Eastern Archipelago, as also the variety called A. communis.

Variety *a.* Artocarpus incisus, *Linn. fils.*

Rademachia incisa, *Thunb.* | Soccus granosus, *Rumph.*

This is the variety with muricated fruit full of seeds, and useless for food; and is that commonly seen in the south of India.

Variety *b.* Artocarpus communis, *Forst.*

Soccus lanosus, *Rumph.* | A. incisa, *Willde.*

This is the true bread-fruit tree of Dampier, Anson, Cook, and Ellis, growing in the South Sea Islands, especially Otaheite; also in the Moluccas, Java, Sumatra, at Mergui, in Ceylon, Mauritius, and Bourbon, in the W. Indies, and on the western coast of South America. The fruit is terminal, round, not muricated, but marked with reticulations, whose areolæ are flat or but slightly prominent. It is this seedless variety that has given the name to the tree, and in some islands of the Pacific it is much used.

The fruit has an unpleasant smell. It is often larger than a man's head, and weighs sometimes as much as fifty pounds; is round, greenish, and covered with prominent papillæ, enclosing a white fibrous pulp, which becomes yellow and succulent at maturity. The pulp contains much starch. The natives of the Polynesia islands, before eating the unripe fruit, cut it into quarters and

roast it in the ashes. The ripe fruit requires no preparation. The bark, when stripped, and then beaten and prepared, makes a kind of cloth with which the South Sea islanders clothe themselves. At Tahiti, clothing made of it, and worn chiefly by the common people, was more common than that made from the paper mulberry, though inferior to it in softness and whiteness.—*Crawfurd's Dic.; Riddell; Juries' Reports, M. E.; Royle; Roxb.; Voigt; Mason.*

ARTOCARPUS INTEGRIFOLIUS. *Linn.*

A. heterophylla, *Lam.*	Polyphema Jaca, *Lour.*
Rademachia integra, *Thun.*	Sitodium cauliflorum, *G.*
Kantal, ... BENG.	Tambul, . . . MALAY.
Peing-nai, . . . BURM.	Pilavuh, . . . MALEAL.
Jaka mara, Halasu, CAN.	Daheu, Tiun, . . PANJ.
Jack-fruit tree, . ENG.	Kos, Hirali, . . SINGH.
Ti'u, ... HAZARA.	Wakara, Wæla, . ,,
Pannas, Barral, . HIND.	Chopada, . SUMATRAN.
Fannas, ... MAHR.	Pila maram, . . TAM.
Bua-nan-ka, . . MALAY.	Panasa, Veru panasa, TEL.
Sukun, Kluwi, . ,,	

This valuable fruit and timber tree is found more or less abundantly all over S.E. Asia, growing rapidly to about 2½ feet in diameter. In Ceylon, its fruit, weighing from 50 to 60 lbs., is used in various ways for food, and its timber, which weighs 42 lbs. to the cubic foot, is in general use for building boats, and for all kinds of furniture. Dr. Gibson has seen pillars of it in the interiors of the buildings of the old forts at Severndrug, having four feet on each side. In Burma it occurs abundantly, in Rangoon seemingly indigenous in the forests, and in Moulmein its wood is used to dye the yellow cloths that the Buddhist priests wear. It yields an excellent and valuable timber, at first yellow when cut, but afterwards changing to various shades of brown. When made into tables and well kept, it attains a polish little inferior to mahogany in colour and appearance. It is there used for musical instruments and ornamental work. It is imported into Britain in logs from 3 to 5 feet diameter, and also in planks, and is used for cabinet work, marquetry, and turning, and also along with satinwood for hairbrush backs. In Cuttack, the ghanna or oil mill is made from this wood, and its sp. gr. is 0·750, and cost 1s. the cubic foot. The roots, cut into chips and boiled in water, produce a yellow dye. To strengthen the tint, a little turmeric is mixed with it, and alum to fix it; but as the yellow does not hold well, the operation of steeping and drying has to be frequently repeated. The fruit is not relished by some people, owing to its peculiar strong smell; others are partial to it from its luscious sweetness. It grows direct from the branches and trunk, to which it hangs by a peduncle, and only in aged trees from the roots, where they are detected by the cracking of the soil. The fruit is covered with a very thick, rough green skin, and is full of white kernels the size of a pullet's egg, the fleshy parts around which are eaten both unripe and ripe. The kernels of the ripe fruit, boiled or roasted, resemble in flavour the Spanish chestnuts. The green fruit, after removing the outer rind, is used in curries, and when ripe the pulp and seeds are used similarly. As with all cultivated fruits, there are many varieties. From the juice of the uneatable parts of the fruits and tender parts of the trees, a good bird-lime is prepared. In Travancore, the entire fruit is planted, and when the various seeds germinate and grow up, the shoots are tied together with straw, and they unite into one stem, which bears fruit in about 6 or 7 years. —*Roxb.; W. Ic.; Mason; Crawfurd; Marsden; Thwaites.*

ARTOCARPUS LACOOCHA. *Roxb.*

Dephal, ... BENG.	Kanna-gona-gass, SINGH.
My-ouk-loke, . . BURM.	Kamma-regu, . . TEL.
Lacoocha bread-fr. ENG.	Laku-chamma, . ,,
Lowi, ... MAHR.	Nakka-renu, . . ,,

The Small Jack tree is occasionally grown in gardens or near houses, in S. Canara, Bengal, Burma, and the Tenasserim Provinces; two varieties of it grow in Ceylon, near Ratnapura, and in the south and centre of the island. It occurs in Kamaon also. Its roots are used in dyeing yellow. Dr. Brandis says the wood is used for canoes; a cubic foot weighs 40 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 30 feet, and average girth measured at 6 feet from the ground is 6 feet. The whole tree and unripe fruit contain much tenacious milky juice. The fruit is prized by the Burmese, and is eaten in Bengal. The male spadix is acid and astringent, and eaten by the natives in their curries.—*Roxb.; Th., Zeyl.; Voigt; Royle; M'Clell.; Mason; Wight; Brandis; Useful Plants; Flor. Andh.; Von Mueller.*

ARTOCARPUS MOLLIS, *Wall.*, the tounbein of Burma, is an immense tree; wood used for canoes and cart wheels. On the hills, large trees rather scarce. A cubic foot weighs 30 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 80 feet, and average girth measured at 6 feet from the ground is 12 feet.—*Dr. Brandis.*

ARTOCARPUS NOBILIS, *Thw.*, the del-gas of the Singhalese, is a large tree not uncommon in the southern and central parts of Ceylon, up to an elevation of 2000 feet. It was long confounded with Artocarpus pubescens, *Willde*, but is quite distinct from that, and apparently from any other hitherto described species. Boats are hollowed out of single trees. The wood is of very good quality, but not considered of equal value with that of Artocarpus integrifolia. The seeds toasted are a favourite article of food with the Singhalese.—*Thw. Zeyl.; Beddome, Fl. Sylv.*

ARTS and MANUFACTURES. In several parts of the East Indies, as in British India, Ceylon, Burma, Siam, China, and Japan, the arts, in many of the branches and applications, attained a high position in very early ages; and they have been fostered by generations of diligent men, who from father to son have dedicated their hearts and minds thereto, completing their work with tasteful and fitting details; their colouring, sombre but rich, with blended tints, softened hues, and modulated effect, is relieved with just enough of chastened and harmonious brightness as wins the admiration of all who appreciate the application of true principles to human industry. The great Exhibition of 1851 gave Europe the first opportunity for ascertaining the value of many of the products of India, and numerous articles were then selected for the schools of art of Europe to imitate; and the subsequent exhibitions held in India and in the chief capitals of Europe have still further diffused the knowledge of the arts of those eastern countries.

The artisans of India excel in anything requiring patience or accuracy of detail; their patterns are

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tasteful and original. They are expert in executing elaborate and tasteful designs in stucco or chunam, as solid ornaments for gateways, in alto-relievo for cornices, in perforated tracery for mosques and minarets, in floriated ornament or in the drawing of bold scroll patterns for interior decoration on a flat wall, with a broad continuous line of uniform thickness. This is a branch of art in which the natives of India far surpass European plasterers or decorators; it is confined to a few localities in Southern India, and, like the celebrated old stone sculptures of the Ceded Districts, Mysore, Canara, and the Southern Mahratta country, it is an important branch of the fine arts of which very little is known, and the practice of which is gradually dying out from the want of proper encouragement. In the carving of wood, the chasing of metals, filagree work, weaving and embroidery, they excel; and specimens of these in the Exhibition of 1851 were deemed of sufficient importance to be purchased as models of taste in design, care in execution, skill in the manipulation, and knowledge in the arrangement and harmony of colours. Their drawings on talc are characteristic, though out of proportion. There is considerable talent displayed in their modelling of toy figures of the different castes, and they have long been celebrated for their dexterity in founding bronze images. In the spinning and in the weaving and dyeing of cotton and silk stuffs, of such kinds as are suitable for the clothing that they wear and to their habits, the weavers and dyers of S.E. Asia are not approached by any European race. Though machinery makes cheaper articles, the labour of the hand is much more durable; and their muslins, checks, and ginghams are not only greatly more lasting, but the colours are far more permanent. In field and garden cultivation, in the economy of water, and the utilisation of manures, there are several races skilled in varied degrees, though none excel the Chinese in their acquaintance with these subjects, to their acquisition of which they are stimulated by the example of the imperial family, the emperor annually ploughing the first field, and the empress and her attendants watching the silk-worms and their produce. Every European artificer and artist alike might well take the handicraftsmen of India for an example in the patience, perseverance, and thoroughness which are the ground of their excellency, and by which the inspirations of art are wrought into reality and life. The welfare of the arts is important both to India and to Europe, and the loss of them would be a serious blow to civilisation, and an injury to the pleasure and dignity of life. Reference to the articles on architecture, carpet-weaving, embroidery, enamelling, filagree work, ivory-carving, lacquer ware, pottery, Beder-ware, koft-gari, lapidary work, Bombay work, shawls, and sculpture, will show that the arts of S.E. Asia are indissolubly bound up with the popular institutions of the country; and the patient Hindu handicraftsman's dexterity is a second nature, developed from father to son, working for generations at the same processes and manipulations. The 19th century has seen changes in British India which have greatly affected some branches of its arts and manufactures. While wars were unceasing, the armourer's trade occupied numbers of artisans, and as an art it was carried to a high degree of beauty, but with British supremacy the manufacture of arms has gradually ceased; also the finer cotton goods from America and Great Britain have displaced the fancy muslins of Dacca and Arnee, which, however, only the few wealthy people purchased. Their workmen have taken to the workshops of railways; and although the looms of the villages hold their own, it is the strong, coarse cottons which the labouring classes prefer. Similarly, the introduction of printing, with supplies of cheap paper and the spread of education, have displaced numbers who earned a livelihood by the scriptory work of copying books; while the iron and steel of Europe have shut up many of the smaller furnaces and forges. But other industries have been introduced or extended; and tea, coffee, cotton, indigo, jute, coal and gold mining give employment to thousands. Agriculture is the greatest of all the Indian arts. Other large trades, employing thousands, are those of the tanner, salt maker, the makers of oils from the poppy-seed, sesamum, til, cocoa-nut, and seeds of the palma christi plant; oils of kinds, valued at half a million sterling, are annually exported; and the rose and all other sweet-smelling flowers are made to produce the attar perfumes by distillation or enflowering.

The houses of the people are humble; but the constructive capabilities of the races find opportunities for display in the erection of religious edifices and tombs, wells and tanks, for which woods, limestones, marble, sandstones, and greenstones are utilized. The polished chunam walls of the Madras houses are the admiration of all travellers.

The presents received in India by the Prince of Wales were exhibited in London in 1876. Skilled artistic labour was worthily represented by the gold and silver wares of Trichinopoly and Cuttack, the gold and silver lace of every large town, the brass, copper, tin, and zinc work; their chasings and carvings, their trappings and caparisons; the mother-of-pearl work of Ahmadabad; the inlaid work of Agra, Multan, Sind, and Bombay; the horn and ivory work of Vizagapatam, Ceylon, China, and Japan; the carved horn and tortoiseshell work of these countries; the carpets, pottery, porcelain, and enamels,—all bear comparison with the work of former times.

The porcelain of China has been famed for centuries; but the Japanese egg-shell ware surpasses for transparency any seen in that country; and there are other kinds of porcelain, rarely seen in England, and which are, though perhaps less curious, quite as beautiful as the egg-shell. Among them, the rarest is lacquered porcelain. This branch of manufactures is much neglected in India, owing to the caste views of the Hindu races preventing them using articles of value.

The ivory carvings of the Chinese artisans have never been equalled in Europe; and their lacquer work, their dyeing, their silk fabrics, are all excellent.

The art of enamelling is in the first rank of the handicrafts of the world, and at Jeypore is pursued to the highest degree of perfection yet known. The art there is exclusively Hindu, and the specimens presented to the Prince of Wales were the master art of the enameller.

The lacquer work of Burma, China, and Japan; the marble work of Burma; the lac work of Karnul; the tutanague work of Beder; the wood work of Nirmul and of Hyderabad in Sind; the

shawl and woollen work of Kashmir and the N.W. of India; and the paintings on ivory in Dehli and the Peninsula.

The shawls of Kashmir have for ages been esteemed for their matchless colouring, due in part to the peculiar qualities of the air and water of that wondrous valley, but also to the appropriateness of the peculiar elaboration in the designs. Their art urgently needs encouragement, for European agents have interfered with the Kashmir workmen's designs, only to lose their characteristic loveliness.

Koftgari work, or steel inlaid with gold, was in former days carried on to a considerable extent in various parts of Northern India. It was chiefly used for decorating armour; and among the collections at the 1851 Exhibition, were some very fine specimens of guns, coats of mail, helmets, swords, and sword handles, to which the process of koftgari had been successfully applied. Since the revolt in India of 1857, the manufacture of arms has been generally discouraged, and koftgari work is consequently now chiefly applied to ornamenting a variety of fancy articles, such as jewel-caskets, pen and card trays, paper weights, paper knives, inkstands, etc. The process is exactly the same as that pursued in Europe, and the workman can copy any particular pattern required. The work is of high finish, and remarkable for its cheapness. Koftgari is chiefly carried on in Gujerat and Kotli, in the Sealkote district.

The tutanague work of Beder finds a ready sale, and admirable specimens of inlaid metal work by the native artisans of Bhooj are found in collections of arms.

The inlaid work of ivory, white and dyed, the ebony or coloured woods known as Multan or Bombay work, have become familiar to all Europe by the several exhibitions; and the carved blackwood or rosewood furniture of Bombay is to be seen in many parts of India.

The splendour of Indian jewellers' work, in jewellery proper, and as seen on arms and armour, is due to the free use they make in it of diamonds, rubies, emeralds, and other gems. Their art permits them to use flat gems, mere scales, so light that they will float on water, and rubies and emeralds full of flaws,—stones, in fact, which could only be used for the artistic effect that they produce when combined.

The inferior gems—garnets, chalcedonies, and other silicious minerals—are in extensive use; and lapidaries find work in polishing and engraving them, and in forming potstone, figure-stone, and jades into useful and ornamental articles.

Illustrated Japanese books show much artistic talent. A group of trees, a branch of Japan bamboo, a bunch of leaves, a cottage and turn in a road, and such simple subjects, form, each of them, a perfect study in itself, though appearing to have been drawn with one stroke of the pen. The latter is in fact a brush, but is made quite hard with gum or glue, except at the extremity.

Sir John Davies is of opinion that the art of printing, the composition of gunpowder, and the magnetic compass, which are justly considered in Europe as three of the most important inventions or discoveries of modern times, had their first origin in China. He tells us also that their printing is by a system of stereotype, the types being made from the pear-tree wood, called by them ly mo. Their paper is made from refuse paper, rags of silk and cotton, rice straw, and the liber of a species of morus, but principally of bamboo. In 1880, Mr. C. P. Clarke was sent to India by the Art and Science Department to make purchases of the metal work of Madras and Kashmir, the wood carving of Ahmadabad and Canara, the pottery of Madura and Multan, and the textile fabrics of Masulipatam, Jeypore, Dacca, Lucknow, Dehli, Ahmadabad, Sind, Bangalore, Malabar, and Central India.—*Morrison's Compendious Description; Fortune's Chinese Books; Sir R. Temple's India in* 1880; *Sir George Birdwood's Report on the Paris Exhibition.*

ARU. HIND. Amygdalus Persica; the peach. Mundla-Aru is the nectarine variety. Aru-Bokhara, Prunus domestica; garden plum. Aru, TEL., Bauhinia racemosa. Aru tree of the Archipelago, Casuarina equisetifolia.

ARU ISLANDS extend from lat. 7° 0′ to 5° 52′ S., and in long. 133° 56′ E., and lie between the Timor Laut group and the S.W. coast of New Guinea. They are a closely packed group of very low islands, and about 80 in number, forming a chain 100 miles long from N. to S., and about 50 broad. The population is about 14,000. Trepang or sea-slug are found in great abundance on the banks, which also furnish the large mother-of-pearl shell of commerce, and the smaller shell in which pearls are found. Some of the more eastern islands contain limestone caverns, within which the swallow constructs the edible birds' nests of commerce. The group is a great resort for traders from the western parts of the Archipelago, including natives of Java and Celebes, Chinese, and even Europeans. Vorkay, an island lying exposed to the ocean at the south-eastern extremity of the group, is of great importance from its pearl fishery. At a distance of eight miles to the eastward lie several small islands, between which and Vorkay the trepang banks are situated. At low water, hundreds of men, with their wives and children, may be seen wading from Vorkay towards these isles, carrying a basket at their backs, and having in their hands a stick provided with an iron point, for lifting the trepang. For fishing on the banks situated at a greater distance, the Alfoers use a prahu, constructed for the purpose, in which they embark their entire families. These vessels have great beam, and the stern runs up into a high curve, while two planks project forward from the bows. The family resides in three or four huts composed of atap, or Nipa fruticans leaves, erected within the vessel, and a railing runs entirely round it, apparently to prevent the children from falling overboard. The prahu is propelled by a large sail made of rushes, which folds up like a fan (in a similar manner to the sails of a Chinese junk), set upon a tripod mast of bamboos, while it is steered with two rudders. Two other masts are also erected, for displaying several small flags. The pearl oysters are mostly small and black, in from twenty-four to thirty feet water.

The Aru islanders bear a strong personal resemblance to the aborigines of Port Essington; indeed, on several occasions in which natives from that neighbourhood visited the islands in European vessels, they were considered by the Aruans as belonging to some remote part of their own group. But the Aruans also possess many characteristics

in common with the Outanatas of the opposite coast of New Guinea. They attach much value to elephants' tusks, brass gongs, and huge porcelain dishes. On the death of a man, all the chattels which he has collected during his life, including tusks, gongs, and precious China dishes, are broken in pieces and thrown away; and in the villages may be seen heaps of these fragments of property. In the north-western part of the group, the people are evidently of a mixed race, the natural result of strangers from the west having married and settled among them, during an intercourse which appears to have extended over several centuries. Their hair is usually black and strongly curled. Like the African Somali, they wash it with wood-ashes or lime water, which imparts to it a lightish colour, and causes it to appear rough, both these peculiarities being considered very tasteful by the Alfoeras, as well as by the Papuans. The Aruans are taller and more muscular than the Malays and Bugis of Celebes. The usual height of the men is from five feet four inches to five feet eight inches; and there is a great inclination to slimness about the lower extremities among the taller men, some of whom attain the height of six feet. According to Bikmore, Papuans are said to live in the most easterly island, but the people, he says, resemble those of Haruku, Saparua, and Nusa.

The Halicore dugong visits the Aru waters. Amongst their birds are Monarcha chrysomela, a fly-catcher of black and bright colours; M. telescopthalma, the spectacled fly-catcher; Paradisea regia, the red bird called the Burong raja; also Goby-goby, a very beautiful bird, first described by Linnæus; the great paradise bird, P. apoda, whose call is wawk-wawk, wawk, wok, wok, wok; the black cockatoo, Microglossum aterrimum, which delights in the canari nut; the racquet-tailed kingfisher Tanysiptera hydrocharis; Alcedo dea, the goddess kingfisher.

The great wingless cassawary bush turkeys; the King-hunters, Dacelo gaudichandi; the fly-catching wren, Todopsis; the great crown pigeon, Goura coronata; and the small wood doves, Ptilonopus perlatus, P. aurantiifrons, and P. coronalatus. Amongst mammals are Cuscus maculatus, a true kangaroo, also a small marsupial animal, Perameles doreyanus. The butterflies are numerous, and amongst them Hestia d'Urvillei, the spectre butterfly; Drusilla catops, the pale-winged peacock butterfly; Cocytia d'Urvillei, clear-winged moth; Ornithoptera poseidon, the great bird-wing butterfly, one of the most magnificent insects in the world. Its wings are velvet black and brilliant green, 7 inches across. The blue-winged Papilio Ulysses. Spiders, and particularly the web-spinning and little jumping spiders, are numerous. Lizards very numerous; hermit crabs abundant. Platypus and Tesserocerus are wood-boring insects of the Aru islands. —*Earl's Indian Archipelago and Papuans, Quarterly Review*, No. 222; *Kolff, Voyage of the Dourga in St. John's Indian Archipelago*, ii. p. 89; *Bikmore*, p. 204, 242; *Journ. of the Ind. Arch.*, Dec. 1852, p. 690, 691; *Horsburgh; Wallace, the Malay Archipelago*, ii. p. 141.

ARU KANLA KACHORAM, TEL., meaning 'six eyes,' Curcuma amada, *R.* Shadgrandhika, 'six-jointed,' probably refers to C. Zedoria.

ARUKZYE, an Afghan tribe of the Khaibar pass; herdsmen, who pass the winter in the lower levels of the Kohat and the Tiri hills, and in summer drive their flocks and herds to the mountain-tops.

ARUM, a genus of plants of the natural order Araceæ. Many species are edible on being cooked, and some of them greatly prized; others are poisonous. A. lyratum, *Roxb.*, of the Circars, needs to be carefully dressed to remove its hurtful qualities. A. montanum, *Roxb.*, also, the Kunda rakasi of the Circars, is so poisonous that its root is employed to poison tigers.—*Roxb.; W. Ic.*

ARUM ODORUM. *Roxb.* The fragrant arum, Peing-ma ha-yaw, BURM., has a stem one or two feet high and six inches in diameter, resembling a low palm, with gigantic cabbage leaves, three or four feet long by two or three wide. The flowers are said to be fragrant. The natives cultivate it, not for food, like the other species of arum, but, as they say, for medicine.—*Mason*, 436; *Roxb.* ii. 499.

ARUM PENTAPHYLLUM. *Smith.*

Tien nan sing, . . CHIN. | Nan-sing, Hu-chang, CHIN.

The roots are applied in a local anasthetic ailment.—*Smith.*

ARUN or ARUNA, in the Sabæan system of the Veda, is the charioteer of the sun, driving his six-horsed car, corresponding with the Aurora of the Greeks. The emblem or vahan of Vishnu is Garuda, or the eagle; and the sun-god both of the Egyptians and Hindus is typified with this bird's head. Aruna, in Hindu mythology, the son of Kasyapa and Vinata, is the brother of Garuda, and the charioteer and harbinger of Surya. He is therefore described as the dawn, and pictured as a handsome youth without thighs or legs. His two sons, Sumpati and Jutayoo, attempting in imitation of their father to reach the sun, the wings of the former were burnt, and he fell to the earth; of this the Greeks may have made their fable of Icarus. Aruna's imperfect form has been supposed to be allusive to his partial appearance; his head and body may be seen, but his legs are yet in invisible night, or lost in the blaze of Surya's brilliancy. In the Vedas the dawn is also personified as a lovely maiden, under the names Arjuni, Brisaya, Dahana, Ushas, Sarama, and Saranyu, for whom the Greeks had Argyronis, Briseis, Daphne, Eos, Helen, and Erinys. In the Veda, Panis, a wicked monster, is said to have tempted Sarama to be unfaithful to Indra, and, among the Greeks, Paris tempted Helen.—*Moor*, p. 447; *Cole, Myth. Hind.* p. 374; *Tod's Travels; Taylor's Mackenzie MSS.* See Garuda; Surya; Vahan.

ARUNA. BENG. Rubia cordifolia, *Linn.*

ARUNACHALA, or Aruna Giri, also called Trinomali, is a rocky hill of a reddish colour, about 100 miles S.W. of Madras. According to a legend, it was in this spot that Siva appeared as a fiery linga to Brahma and Vishnu, and desired them to seek his base and summit, which they attempted in vain; in commemoration of which the gods requested Siva to remain in a reduced form as a linga, and here erected the temple. A conical piece of rock on the top of the hill is considered the linga. Once a year it is pretended that a fire is miraculously lighted on the summit. Puranam promises great benefits to be derived for worshipping at the temple.—*Taylor's Cat.* iii. p. 140–4.

ARUNAKIRI NATAR, about the 16th century, was a Saiva ascetic, who spent his life at Trinomalai. His principal works are in praise of Skanda, viz. Tiruvakappu, Tiruppukal, Kantan Alangharam, and Kantan Anaputi. He also wrote a short poem, Udarkurru Vannam, on the stages of human life.

ARUNASALA KAVIRAYAR, born near Tranquebar in 1712 A.D., was the author of the dramatic Ramayana. His minor writings are Asomuki Nadakam, Sirkali Puranam, Sirkali Kovai. He died at Shiyally in 1779.

ARUND. PANJ. Prinsepia utilis.

ARUNDHATI was the daughter of Kardama, and became the wife of Vasishtha, one of the Pleiades. Amongst Brahmans, a newly-married couple have this star pointed out to them by the Purohita or astrologer. She became a resident of Swerga. The devoted sati woman invokes her before mounting the pile. See Sati.

ARUNDINARIA FALCATA. *Nees.*

Kwei, ...	BHOT.	Ningala, . . .	KHAS.
Nirgal; Ringal, .	BIAS.	Nagre, ...	RAVI.
Narri, Kathi, . .	,,	Sping, Gorwa, .	SUTLEJ.
Garri, Gero, . .	,,	Spikso; Pitso, .	,,

—*Dr. J. Stewart, Panjab Plants*, p. 249.

ARUNDINARIA UTILIS. *Cleghorn.*

Hill bamboo, . .	ENG.	Nigala, Ringal, .	PANJ.

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 9000 feet. Used for wicker work, and for lining the roof of houses. Shepherds' pipes, baskets, and mats are made of it.—*Cleg. Panj. Rep.* p. 80.

ARUNDO, a genus of the Gramineæ. Several Indian species are not defined, as the Pyoo, Lai, Phoung, Kyoo, and A-loo of the Burmese. A. bifaria, Patu-eduru, TEL., grows as bushes on the banks of rivulets, lakes, etc. A. Bengalensis, gaba-nul, BENG., grows in ditches and low places in the vicinity of Calcutta, where it blossoms during the months of October and November. A. japonica grows 12 feet high. A. phragmites and other reeds grow on the banks of the Yang-tsze, commencing where the bamboo stops.—*Roxb.; Von Mueller.*

ARUNDO KARKA. *Retz.*

A. donax, *Linn.*	Calamagrostis karka, *Gm.*
A. Roxburghii, *Kth.*	Amphidonax ,, *Lind.*
Trichoon karka, *Roxb.*	

Nal, Nur, . . .	BENG.	Nuda, Nula, . .	SANSK.
Nul, Nultura, . .	HIND.	Sur, ...	SINDI.
Bag-narri, Nalu, .	PANJ.	Drumbi, Dwarena,	TR. IND.

This grows in Bengal, Sind, and the Panjab. Its culms, sur jŏ janee, are made into chairs, and its flower-stalks beaten to form the fibres called Moonyah. These are made into string or twine (Moonyah jo naree), and ropes (Moonyah jo russa). The culms are also made into baskets, and the common door-mats of Calcutta are made of the stalks split open. Ships generally use them as dunnage.—*Roxb.* i. 347; *Royle, Fib. Pl.* p. 32; *Hogg, Veg. Kingdom*, 821.

ARUNELLI. TAM. Cicca disticha, *Linn.*

ARUNG-ANGAMI, a Tibeto-Burman tribe that has intruded on the Bodo and Mikir tribes in Assam. See Angami; India.

ARUN TUTA. PERS.? The inspissated juice of a bulbous plant, supposed to be a species of Colchicum. It is sold at a high price, and is much sought after by the people of the Hazarajat, in Central Asia, being of high repute in diseases of the eye. It is sold in small pieces of a dark brown colour, but is indiscriminately applied, and must often act injuriously.—*Masson's Journey*, ii. p. 338.

ARUS. BENG. Solanum verbascifolium; also Adhatoda vasica.

ARUZ, ARAB., properly Araz, rice.

ARVANUS or Arianus is supposed to be the emperor Valerian (Valerianus); for he is described by Tabari as one of the Roman sovereigns (Malki bud Ariomian), who, having been conquered by Shapur in a fort near Antioch, was led into Susiana, where the Persian monarch, undertaking some extensive structures (at Shushter), obliged his captive to assist in the work, by procuring experienced artists from Rome or Greece, and he promised that liberty should be the reward of this co-operation. The task was performed, and Shapur observed his promise, but first cut off the Roman chieftain's nose, to brand him with an indelible mark of captivity.—*Ouseley's Travels*, i. p. 287.

ARVELA, a caste of Smartha brahmans in Mysore.

ARVI. HIND. Colocasia antiquorum.

ARVI, a town in the Wardha district of the Central Provinces; it contains the shrine of Arvi Teling Rao, who founded it in the 16th century. Hindus and Mahomedans worship at his shrine.

ARWAN. HIND. In Rohilkhand and the upper Doab, used for Newan, the first cuttings of corn, made at a fortunate moment. They are not taken to the threshing-floor, but brought home to be eaten by the family (every member of which tastes it seven times), and presented to the Lares and to Brahmans. In the kharif or autumn crops, the shamakh is used, but in the Rabi crops barley is employed as the grain for the Arwan. It is quite a festival, as beginning the harvest. Phula-phula kyun phiré?—Ghar arwan aya. Jhuka jhuka kyun phiré?—Piyada aya. Why so happy?—Because the Arwan has been brought home. Now, why so downcast?—Because the tax-gatherer has come. It is also called Awasi, Dadri, Kawal, and Kawari.

ARYA, a word supposed to be from the Sanskrit root ri = ar, and to have relation to agriculture and agricultural implements. It has been noticed under 'Ar,' q.v. Er or yer, TAM., in Sanskrit, hala or hara, in Telugu, araka, a plough; Erai or Irai, tax, tribute; Erai-vari or Irai-vari, TAM., dues payable by a tenant to his landlord; Eramate of ASSAM, land abandoned from cultivation; Eri, TAM., a reservoir with water for irrigation; Eru, HIND., manure, in Latin, arare, to plough.

ARYA, in Ceylon Buddhism, the rahatship, the last of the four paths leading to Nirwana.—*Hardy's Eastern Monachism*, p. 433.

ARYA BHATA, a celebrated Hindu astronomer, who, according to Captain Warren, flourished in the 4423d year of the Cali yug, answering to A.D. 1322. He left several mathematical tracts, some particularly relating to the properties of the circle. Another account says he was born about A.D. 476, at Kusumapura, near the modern Patna. His chief work is the Arabhatiya Sutra, which includes two other works, the Dasagiti Sutra and the Aryashta Sutra. He is the earliest known writer on algebra, and if not the inventor, is the improver of that analysis. He composed his first astronomical work at the early

age of twenty-three; his large work, the Arya Siddhanta, was written when older. It is a system of astronomy. The Dasagiti Sutra and the Aryashta Sutra have been edited by Kern. He is possibly the Arjabahar of the Arabs, and Andubarius (Ardu barius) of the Chronicon Paschale. A later astronomer of the same name is called Laghu Arya-bhata.—*Dowson; Captain Edward Warren's Kala Sanhita; Garrett; Elph.* p. 130.

ARYAHICHITA, a learned and pious Dravida Brahman, who lived at Agrahara in the 16th century, of Salivahana. He died at Chillumbrum, at the age of ninety. He is accredited as the author of 84 books in theology, rhetoric, and philosophy.—*Garrett.*

ARYAN, a term restricted by some writers to a family of languages, which includes all the idioms of the ancient Medes and Persians, who named themselves Arii, and their country Eeriene or Iran, and likewise the Sanskrit, with all the Prakrits and the Pali. Thus they have been arranged into two branches, the Iranic and the Indic. In the Iranic branch, there is the Avesta or old Bactrian, with its descendants the Pehlavi, Huzvarash, Pazand or Parsi. Of the Indic branch, there is the Sanskrit in its two forms, the Vedic and the Literary, and the Prakrit dialects—(1) the Pillar Inscriptions; (2) the Dramatic; (3) the Gathas of Nepal; (4) Aprabansi; (5) Sarasvati; (6) Sauraseni; (7) Maharastri; (8) Pysachi; (9) Magadhi, or in other terms, Pali, which again appears to have variations in Ceylon, Burma, Siam, and Cambodia. The Aryan or Bactrian character is that used in the inscriptions at Jalalabad, Manikhyala, and at Kapurdigiri, on topes or tumuli, said to be numerous for about 300 miles around. Later inquirers have agreed upon the contrasted terms, Aryan-Pali, *i.e.* Bactrian, and Indo-Pali, *i.e.* the Asoka Lat and rock inscriptions, or the home-created writing of the Indian continent before Semites or Sanskrit Brahmans approached its soil.

ARYAN, the name given by ethnologists to a family of the human race, also designated Indo-European, Indo-Germanic, Sanskritoid, Japhetic, and Caucasian. There was a time, says Professor Max Müller, when the ancestors of the Celts, the Germans, the Slavonians, the Greeks and Italians, the Persians and Hindus, were living together in the same fences, separate from the ancestors of the Semitic and Turanian races. They separated, and the Hindu was the last to leave the central home of the Aryan family. The researches of Chevalier Bunsen, and Professors Wilson, Haug, and Max Müller, seem to prove that much of the earlier history of two branches of the Aryans is embodied in the Vendidad of the ancient Persians and present Parsees, and in the Vedas of the Hindus. According to Dr. Haug, the opening to the Vendidad, or Code of the Fire-worshippers of Iran, dates from the most ancient times, and its contents are the reminiscences of the passage of the old Aryans into India on the south, and into Persia on the south-west. Major Cunningham also, in his learned work on the Bhilsa Topes (p. 15), uses the term Aryan in allusion to the race of Aryya, whose emigrations are recorded in the Zendavesta; who, starting from Ericene Vaejo, gradually spread to the south into Aryavart'ha or Aryadesa, the northern plains of India, and to the south-west over Iran or Persia. The original meaning of their name is said to have been equivalent to upper noble or dignified, and this is doubtless the origin of the epithet Ἄριοι, which, as we learn from Herodotus (vii. 62), the ancient Medes assumed. And for this designation, again, as a national name, it has been suggested that as the Aryans were originally and essentially an agricultural and therefore a peasant race, in order to distinguish them from the nomadic Turanians, they may have derived their tribal name from their plough; and words relating to agriculture, Ar and its derivatives, are found in several Aryan tongues. Airya, in Zend, means venerable, and was at the same time the name of the people. In the old Sanskrit, in the hymns of the Veda, Arya occurs frequently as a national name, and as a name of honour, comprising the worshippers of the gods of the Brahmans, as opposed to their enemies, who are called in the Veda, Dasyas. It is a Sanskrit word, and in the later Sanskrit it means 'noble of a good family.' It was, however, originally a national name; and we see traces of it as late as the Law-book of the Manavas, where India is still called Aryavart'ha, the abode of the Aryas. To the present day, the districts on the plains of the Ganges in which they are chiefly residing continue to be called after them;

Aryavartahā pūnia bhūmī hī,
Mad'hiam Vindhya Himāva yō hō,

i.e. the Aryan country, the sacred land, lies between the Vindhya and the Himalaya. The investigations of the learned place the primeval seats of the Aryans on the slopes of the Belur Tagh, in the highland of Pamir, between the 40th and 37th degrees of N. latitude, and 86° and 90° of longitude, about the sources of the Oxus and Jaxartes. On this western slope of the Belur Tagh and the Mustagh (the Tian-Shan or Celestial Mountains of the Chinese), the Haro-berezaiti (Albordsh) is to be looked for, which is invoked in the Zendavesta as the principal mountain and the primeval source of the waters. The reason why they left their earliest homes, and the account of their subsequent migrations, are recorded in the opening of the sacred code of the Vendidad, which, Chevalier Bunsen remarks, as certainly contains an historical tradition of the Aryans, as does the 14th chapter of Genesis an historical account of the oldest recorded war between Mesopotamia and Canaan. The Fargard is divided into two great parts, one comprising the immigration from the eastern and north-eastern primeval countries to Bactria, in consequence of a natural catastrophe and climatic changes; the other, the subsequent extension of the Aryan dominions through eastern Central Asia, which terminated in the Panjab. A vast climatic change had taken place in the northern countries, which is attributed in the Bible to the action of water. In the Fargard, the sudden freezing up of rivers is the cause assigned. Both may have resulted from the same cause, the upheaving of the land by volcanic action, elevating portions and depressing into basins, such as the Caspian Sea. The following passage contains a genuine description of the altered climate of the primeval land of the Aryans, Iran proper. 'There Ingromaniyus (Ahriman) the deadly, created a mighty serpent, and snow, the work of Deva; ten months of winter are there, two of summer.' And ten months of winter is now the climate of Western Tibet, Pamir, Belur, the Altai country, and the

district east of the Kuen Lun, the paradise of the Chinese. The fathers of the Aryans, therefore, left the country at the sources of the Oxus and Jaxartes in consequence of a convulsion of nature, by which a great alteration in the climate was caused; and in their course from the primeval country to the Sutlej, they formed, by the conquest of fourteen countries, as many kingdoms in Central Asia and in the country of the Indus and its confluents. In the intervening region, they passed amongst the Turanians (Scythians and Turkomans), and there is evidence that the inhabitants whom they afterwards found in India were likewise Turanians. Professor Max Müller gives, as follows, their successive settlements:—

Sogdiana, in Samarcand, formed the first settlement of the Aryans; Soghda, afterwards spelled Sugdia and commonly Sugdiana, is pre-eminently the country, as being the home of the fire-worshippers. It is in the 38th degree of latitude, where Mara Kanda (Samarcand) is situated, a paradisiacal land, fertilized by the river Sogd, so that Sogd and Paradise are used synonymously by the later writers. The Vendidad (ii. verse 5) says it was created as the second best of the regions and countries.

The second settlement was in Mouru (Merv, Margiana). This is Margiana (from the river Margus), now Marghab (Margus-water), Margush in the cuneiform inscriptions, a fruitful province of Khorasan surrounded by deserts. In the Record (iii. verse 6) it is described as 'the third best land, the mighty and pious (Mouru, Marw) . . . . Ahriman created there wars and marauding expeditions.'

The third settlement was in Bokhdi. It (iv. verse 7) was the fortunate Bokhdi, with the lofty banner. Here Ahriman created buzzing insects and poisonous plants. Bokhdi is certainly Bactria (though Burnouf had doubts about it), the land of the Bactrians. The 'tall plumes' indicate the imperial banner (mentioned also by Firdousi), and refer, consequently, to the time when Bactria was the seat of empire. Up to this time nothing is said about Media, though she conquered Babylon B.C. 1234.

Their fourth settlement was in Nisaya (Northern Parthia). It (v. verse 8) says 'the fifth best land is Nisaya; there Ahriman created unbelief.' This is the Nisaia of Ptolemy, famous for its breed of horses, commonly called Nisa, the renowned district of Northern Parthia, bordering on Hyrcania and Margiana. The city of Nisæ is situated on the upper Oxus. The term 'unbelief' in the Record signifies the apostasy from pure fire-worship. Here, therefore, the first schism takes place.

The fifth settlement in Haroyu (Aria). Haroyu is Herat, of which frequent mention is made subsequently, and the Hariva of the cuneiform inscriptions. Its name comes from the river now called Heri, abounding in water. The Greek district Aria comprises the larger portion of Segestan, and forms part of Southern Khorasan. In the Record (vi. verse 9) it is mentioned that the fifth best land was Haroyu, 'the pourer out of water; here Ahriman created hail and poverty.

The sixth settlement in Vekereta (Segestan). This country is the home of Rustum. Dushak is the capital of Segestan. To the south-east of it is the land of the Parikani, known to the ancients as a part of the Saken country (Sakastene). The greater part of it is now a desert, but it was once cultivated. Here, again, in the words of the Record, there may be allusion to a schism, which in that case would be the second historical one. The Record runs (vii. verse 10), 'Vekereta, in which Duzhaka is situate; there Ahriman created the Pairii ka Khnathaiti' (Herod. iii. 94, comp. Ritter, viii. 59), worship of the Peris (fairies).

The seventh settlement in Urva (Kābul). The Record (in viii. verse 11) alludes to Urva, proved by Haug to be Kabal, the identity of which was previously unknown.

The eighth settlement in Khnenta (Kandahar), (ix. verse 12). 'Khnenta, where Vehrkana is situated.' According to Haug, by this country Kandahar is to be understood. Vehrkana cannot be Hyrcania, as is generally supposed, but is the city now called Urghandab, situated in Kandahar. The curse of Ahriman was pæderastism, a vice known historically to be un-Aryan and Turanian.

The ninth settlement in Haraquaita (Arachosia), (x. verse 13). Haraquaita, denominated the fortunate; the Harauwatis of the cuneiform inscriptions; the Arachosia of the classics. The work of Ahriman here was the burying of the dead,—another apostasy, therefore, from the true faith.

The tenth settlement in Hetumat (district of Helmand), (xi. verse 14). 'Hetumat, the wealthy, the splendid,' is the valley of the present Helmand, the Etymander of the classics. The mischief inflicted here by Ahriman was the sin of sorcery.

The eleventh settlement in Ragha (Northern Media), (xii. verse 16). 'Ragha with the three races is doubtless the Rhagæ of Strabo and Ptolemy, the greatest city in Media,' south of Teheran. This north-eastern portion of Media includes the passes of the Caspian. The possession of these passes was a protection to the other Aryans, and at the same time the key to the whole of Media, and therefore Persia. The district is called also Choana (Qwan). Ahriman established here unbelief in the spiritual supremacy of Zarathustra,—another schism, at all events another portion of ancient Aryan history.

The twelfth settlement in Kakhra (Khorasan), (xiii. verse 17). Kakhra is held by Spiegel and Lassen to be the district of Kihrem mentioned in Firdousi. Haug identifies it with the cities of Karkh in Khorasan. The evil done by Ahriman here was the burning of the dead. This was therefore an illegal practice, like the sin of the Arachosians, who were so profane as to bury their dead. All this implies the organization of an hierarchical power in Sogd and Bactria, although not a sacerdotal caste.

The thirteenth settlement in Varena (Ghilan), (xiv. verse 18). 'Varena with the four corners.' Haug has shown it to be Ghilan. The curse of Ahriman was irregular menstruation.

The fourteenth settlement was in Haptu Hindu (Panjab), (vi. verse 19). The Land of the Seven Hindu, that is, the country between the Indus and Sutlej. In the Vedas the Panjab is also called the land of the Seven Rivers. The traditional Greek names also are seven. The Indus and the Sutlej are each formed by the junction of two arms, which in their earlier course were independent. According to this view, it stands thus:—

1. Kophen (Kubha), . . .	I. Indus.
2. Indus, Upper, ...	
3. Hydaspes (Bidaspes), . .	II. Hydaspes.
4. Akesines (Asikni), . . .	III. Akesines.
5. Hyarotis (Hydraotis, Iravati-Parusni, ...	IV. Hydraotes.
6. Hyphasis (Vipasa), . . .	
7. Saranges (Upper Satadru, Sutlej, Ghara), . . .	V. Hyphasis.

The Vedas show that the Aryans passed the Sutlej at a very late period, and settled in what is now British India. In India, the term Arya as a national name fell into oblivion in later times, and was preserved only in the term Aryavart'ha, the abode of the Aryans. It was more faithfully preserved by the Zoroastrian Aryans who migrated to the N.W., and whose religion has been preserved in the Zendavesta, though in fragments only. In the first chapter of the Vendidad, where Ahuramazda explains to Zarathustra the order in which he created the earth, sixteen countries are mentioned. A line drawn from India along the Paropamisus and Caucasus Indicus in the east, following in the north the direction between the Oxus and Jaxartes, then running along the Caspian Sea, so as to include Hyrcania and Ragha, then turning south-east on the borders of Nisaea, Aria (*i.e.* Haria), and the countries washed by the Etymandrus and Arachotus, would indicate the general horizon of the Zoroastrian world. It would be what is called in the fourth cardé of the yasht of Mithra, 'the whole space of Aria,' vispem airyô̊sayanem (totum Ariæ situm). Opposed to the Aryan, we find in the Zendavesta the non-Aryan countries (anairyao dain-havo); and traces of this name are found in the Ανηριαχαι, a people and town on the frontiers of Hyrcania. Greek geographers use the name of Ariana in a wider sense even than the Zend-avesta. All the country between the Indian Ocean in the south and the Indus in the east, the Hindu Kush and Paropamisus in the north, the Caspian gates, Karamania, and the mouth of the Persian Gulf in the west, is included by Strabo (xv. 2) under the name of Ariana; and Bactria is thus called by him 'the ornament of the whole of Ariana.' As the Zoroastrian religion spread westward, Persia, Elymais, and Media all claimed for themselves the Aryan title. Hellanicus, who wrote before Herodotus, knows of Aria as a name of Persia. Herodotus (vii. 62) attests that the Medians called themselves Arii; and even for Atropatene, the northernmost part of Media, the name of Ariania (not Aria) has been preserved by Stephanus Byzantinus. Manu, speaking of the Palava tribe of Kshatriya, who had neglected to reverence Brahmans, styles them Dasya, whether they speak the language of the M'hlecha or that of the Arya; and the people to whom he there alludes seem to have been Medes occupying the valley of the Indus. The name Elymais had been derived from Ailama, a supposed corruption of Airyama. The Persians, Medians, Bactrians, and Sogdians all spoke, as late as the time of Strabo, nearly the same language; and we may well understand, therefore, that they should have claimed for themselves one common name, in opposition to the hostile tribes of Turan. And when, after years of foreign invasion and occupation, Persia rose again under the sceptre of the Sassanians to be a national kingdom, we find the new national kings the worshippers of Masdanes, calling themselves, in the inscriptions deciphered by De Sacy, 'kings of the Aryan and un-Aryan races,' in Pehlevi Iran va Aniran; in Greek, Αριανων και Ανηριανων. And in the valleys of the Caucasus we meet with an Aryan race speaking an Aryan language, the Os of Ossethi, and they call themselves Iron.

The Aryan type generally is characterized in its purer forms by height, bulk, and symmetry, with an oval face, a prominent and well-shaped nose, devoid of the open nares which characterize the Africo-Semitic type, and with the ridge continued until it passes on to the forehead; the lips and cheekbones are not prominent; the eyes are expressive, and moderately large, with eyebrows arched and the forehead high. The Vedas furnish much information regarding the origin and early state of the East Aryan people, who are now called Hindus. See Hindus. On the northern border, the great range of the Himalaya now separates the Aryan Hindu family of India from the Bhot Buddhist races of Tibet. The tendency of the migration is southwards; and on the south of the chain are some alleged mixed races, such as the people of Lahuli and Kanawar on the west, and the Gurkhani and Bhotani on the east. On the S.W. border, the Lower Indus separates many tribes of Turanian and unknown origin in Beluchistan and the ancient Gedrosia.

Beyond the N.W. frontier, the old indigenous inhabitants of Kashgar, Yarkand, Khoten, Turfan, and the adjacent highlands, are Tajaks, who speak Persian, and who are all agriculturists, as are also all the Tajak of Central Asia and Afghanistan. The people of the Hindu Kush and higher Indus are Aryans of a high and handsome type. Their languages are allied to those of the Hindus, and those hills have no other race. The Aryans seem to be the aborigines; indeed, Sir George Campbell believes those on the hills north of the Panjab to be the purest Aryans in the world. They are extraordinarily handsome, with marvellously acute intellects, are good agriculturists, and skilful artists, but are not very hardy or personally courageous.

The Kashmir people and those near them are the old Aryan stocks. The bulk are now Mahomedans, but they are a Brahman race. Their original name is Kash, Kaush, or Kasha; and we meet it in Kashgar and Hindu Kush, and hence also Caucasus and Caucasian. The Kasha seem to have at one time extended towards the Indus.

It is the commonly received opinion, that south of the Himalaya the Aryans were first in the Panjab and Kashmir, and afterwards in Sind, Guzerat, and Dehli, and that the seat of Vedic power, faith, and learning was between the Jumna and the Indus. It is also admitted that the Vedic Aryans dwelt chiefly on the banks of the Indus and its confluence, as high up as Kashmir, and as low down as Cutch and northern Gujerat. There is nothing in history to show, nor is there in the physical appearance of the races to the east of the Ganges and of the Bay of Bengal anything to warrant the belief, that these Aryan immigrants ever advanced in masses beyond their present locality in the northern parts of India, north of the Vindhya range. It is generally recognised that most of the Brahmans and Kshatriya, some of the Vaisya Hindus, and all the Kayasth tribe, are Aryans; but that many of the Gopa or Ahir, of the Sad-Gopa or Goala, the Gareri shepherds, and

the agricultural Kurmi and Lodha, present forms only approaching the Aryan type. Mr. (Sir George) Campbell (p. 125), however, says that in Hindustan the Aryan element has quite prevailed in feature over the aboriginal type, and the population are almost as Aryan as European, but dark in skin, and usually smaller. He says (*J.E.S.*) that in the lower doab of Hindustan the Aryan are extremely numerous.

In the Cawnpur district the majority of the cultivating ryots are Brahmans; and they largely entered the British armies. North of the Goga they are again numerous, and in Kasi or Benares are still more so. South of Benares the Brahman is called Bamun or Bhaban, and Sir George Campbell supposes an intermixture with the aborigines. In the swampy river-protected country of Bengal, Brahmans are quite the influential race, holding offices and lands; good-looking, intellectual, but darker than the northern or western Brahmans.

There are many Vaisya Hindus in the Peninsula of India, whose almost diminutive form precludes the idea that they can be of the Aryan stock, although in the later Sanskrit writings Arya is applied to a Vaisya or member of the third caste. But, on the other hand, in the northern parts of Telingana are many of the Sudra Hindus with forms of the Aryan type. But Professor Max Müller tells us (Lectures, p. 225) that in the later literature of the Vedic age, the name of Arya is distinctly appropriated to the three first castes,—the Brâhman, Kshatriya, and Vaisya, as opposed to the fourth, or the Sudras. In the Satapatha Brahmana it is laid down distinctly: 'Aryas are only the Brahmans, the Kshatriyas, and Vaisyas; for they are admitted to the sacrifices. They shall not speak with everybody, but only with the Brahman, the Kshatriya, and the Vaisya. If they should fall into a conversation with a Sudra, let them say to another man, "Tell this Sudra so."'

British India, amongst its Aryan tribes, is now largely Brahmanical in its religion. Chevalier Bunsen is of opinion (iii. p. 564) that about B.C. 3100 or 3000 the Aryan power on the Indus appears to have been broken, in consequence of some war with one of the surrounding kingdoms; and from the latter date, India east of the Sutlej, up to the extent of the Aryan conquests, adopted Brahmanism. From that time, the religious views, forms, and habits of Bactria were for ever abandoned by these Aryan immigrants, and between B.C. 3000 to B.C. 1900 they extended their Brahmanical religion from the Sarasvati to the Doab. At a later date, the Brahmans became a learned body; and the higher civilisation of the Brahmanical Hindus is now indicated by the circumstance that in the Hindi, Bengali, Gujerati, Mahrati tongues, and to some extent in Telugu, Canarese, and Tulu, all words relating to science, literature, and mental refinement, all that relate to an advanced civilisation, and all words pertaining to religion, the soul, and the invisible world, are in the language of the Brahmans; whilst all words that relate to the ordinary arts of life, the face of nature, the wants, feelings, and duties of a rude and almost a savage people, are non-Aryan.

At present, in India, the bulk of the Aryans hold to two great religions—Brahmanism and Zoroastrianism; and many followers of the Jain and Sikh beliefs are also of this race. In Persia, Kashmir, and Afghanistan, most have become Mahomedans. In British India, out of its population in 1871 of nearly 200,000,000, the percentage of Hindus was 73·01; of Mahomedans, 21·41; of Buddhists and Jains, 1·48; Sikhs, ·62; and Christians, ·47. Rajputana is still partly Hindu, and in part occupied by non-Aryan races; but in British India there are tribes of Rajput descent who profess the Mahomedan faith.—*Wheeler's Hist. of India; Bunsen's Egypt*, iii. pp. 462, 467, 499–601, and iv. pp. 40, 487, 561; *Prof. Max Müller's Lectures*, pp. 69, 108, 201, 226, 229; *Calcutta Review*, 1859; *Edinburgh Review*. *Sir George Campbell in Journ. Ethn. Soc.; Col. Dalton's Ethn. of Bengal; Statistical Tables*, 1882.

ARYA SIDDHANTA, a treatise on astronomy, composed by Arya Bhatta, of which there is a spurious copy. There is some variation in the copies of this work preserved in Bengal and in the Karnatic, the former making the solar year 365d. 31p. 17c. 6″, the latter 365d. 15g. 31v. 1p.; and lunar synodical month, the former 29d. 31. 50v. 6p. 7s. 84, etc., and the latter 29d. 31g. 50v. 5p. 40s. 21, etc.—*Captain Edward Warren's Kala Sanhita*. See Arya Bhatta; Surya Siddhanta.

ARZ. ARAB. A representation, a petition; aruz, rice; also the earth.

ARZAL. HIND. Low, any inferior object; also applied to humble people; low caste cultivators on lands in northern India.

ARZAN. PERS. Panicum Italicum; millet.

ARZAT. ARAB. Cedar.

ARZAT. PANJ. Boerhaavia diffusa.

ARZ-BEGI. PERS. An aide-de-camp. Arzi, a petition.

ARZRUM, or Erzerum, a pashalik in Asiatic Turkey, extending from lat. 38° 42′ to 41° 7′ N., and long. 39° 10′ to 44° 30′ E. It is a mountainous plateau, and treeless. The town is in lat. 39° 55′ 20″ N. Its population consists of Kurd, Persians, Armenians, Georgians, and Turks, and estimated from 25,000 to 50,000 souls. It was taken by the Russians in 1828.—*MacGregor*.

AS. HIND. Myrtus communis.

ASA. HIND. A club carried by a Musalman devotee.

ASA. HIND. Hope. The Hindu goddess of hope. Asa, pl. Asen, SANSK., according to Bunsen, means 'existent,' 'living ones,' in opposition to Wana, divinities of the air.

ASA AHIR, a noted leader of the Ahir tribe, who in ancient times gave his name to Asirghar.

ASAF. ARAB. Capparis spinosa.

ASAFŒTIDA.

Hiltith, . . .	ARAB.	Angu, ...	MALAY.
Shueng-gah, . .	BURM.	Hingu, Ingu, . .	,,
O'wei, Hing-ku, .	CHIN.	Ha-sih-ni, . .	MONGOL.
Duivels dreck, . .	DUT.	Anguzeh, . . .	PERS.
Assefetide, . . .	FR.	Hinga, Hingu, .	SANSK.
Teufels-drech, . .	GER.	Perangayam, . . .	TAM.
Hing, ...	HIND.	Inguva, ...	TEL.

This gum resin is the product of the Ferula asafœtida, a synonym of the Narthex asafœtida, and has perhaps also the produce of other umbelliferous plants mixed with it. The plant is an annual, and attains a height of 8 or 10 feet. It grows wild in the sandy and gravelly plains of the western parts of Afghanistan, but chiefly in the Anardava and Helmand districts; also in the neighbourhood of Herat, on the Hindu Kush at an elevation of 8000 feet; it is found growing in

the Dandan-Shakoh pass, and in Panji, in the valley high up on the Sutlej river, and in the mountains of Daristan and Beluchistan. Moorcroft tells us that the chief article of the commerce of Sykan beyond Bamian was asafœtida, of which about 200 maunds are gathered annually from plants that grow wild upon the mountains. Sir A. Burnes believed this plant to be the Silphium of Alexander's historians. Four or five weeks after the new leaves have sprouted from the perennial root, which occurs in April, May, and June, many of the Kakarr tribe spread themselves over the country from Kandahar to Herat. The leaves are removed, and a trench 6 inches wide and deep dug round the root; three or four incisions are then made in the top of the root, and repeated every third or fourth day, and while the white milky juice is exuding, which is for a week or so, the root is covered over with dried leaves. According to the size of the root, from a few ounces to two pounds are obtained from each root. The juice turns yellow and hardens, in which state it is put into hair bags and exported, and it is met with in commerce in shapeless masses of a waxy consistence, with small transparent brittle and white tears. The fracture is vitreous, at first white, and passing to red by contact with the air, —a property which distinguishes it from all other gum resins. Its leaves are used as greens in western Afghanistan; and the people eat its white inner stem, which attains 5½ feet of height. Asafœtida is often an ingredient in the curries of the Hindu races of India. It is a powerful carminative and stimulant tonic. It produces a sensation of heat, and increased secretion in the alimentary canal, with eructation; and the urinary and genital organs seem to be sometimes materially excited. —*O'Shaughnessy*, p. 363; *Dr. Mason; Poole's Statistics; Hogg's Veg. King.* p. 387; *Mr. Faulkner; Moorcroft*, ii. p. 395; *Cal. Cat. Exhib.*, 1862; *Ainslie's Mat. Med.* p. 267; *Pottinger's Travels*, p. 109; *MacGregor's Afghanistan*, p. 39. See Ferula; also Narthex.

ASAL. Turk. Honey.

ASAL. Ar., Pers., Hind. Principal, original. Asali Tus, in Kashmir, the under fleece of the Himalayan Ibex, Capra Sibirica. It is woven into the fine cloth called Tusi. No wool is so rich, so soft, or so full. Asal-us-Sus, the root of Glycirrhiza glabra. See Tusi; Ibex.

ASALOO. Hind. A small plant cultivated about Ajmir; the seeds are heating, and promote the secretions; they are also taken in milk to strengthen the body; much used in masalih for camels. To the taste they are bitter, and considered to be heating.—*Irvine, Gen. Med. Top.*

ASAM. Malay. Tamarind fruit.

ASAMI. Hind. A tenant, a hired servant, a cavalry trooper; in the N.W. Provinces, a cultivator; these, in Oudh, are of two kinds, one with the right to till or provide for tillage, and called ch'hapar-band, qadimi, khud-kasht, maurusi, and haqdar; the other, tenants at will, called Kach'ha asami, or pahi kasht.

ASAN. Sansk. Terminalia alata, and T. tomentosa; Mahr., Briedelia spinosa.

ASAN. One of the solar months. See Fasli.

ASAN. Hind. A small pile carpet to kneel on at prayer-time; also a form of the Fatiha prayer. Asana, Sansk., a seat, from As, to sit; the third stage of Yoga.

ASANA PELA MARAM. Tam. Angely wood tree; Artocarpus hirsuta.

ASANYASATTA, in Singhalese Buddhism, an unconscious state of being.—*Hardy's Monachism.*

ASA-PURNA, the Hindu deity Hope.

ASAR. Arab. Relics. Asar-i-mubarak, or Asar-i-sharif, blessed or noble relics; amongst Mahomedans, relics of their prophet, such as the hair of his beard, etc.

ASAR or Athar. Arab. The Ailm-ul-Athar, the knowledge how to trace footsteps in the desert of Arabia; it is the Paggi of the Ramusi.

ASARH, the third Hindu solar month. It is the first month of the rainy season, and consequently of cultivation.

ASARI POOLI MARAM. Tam. Stilago diandra.

ASARUM EUROPÆUM. *L.* Asarabacca.

Asarun, ...	Arab.	Tuckir, Tuggur, .	Hind.
Foal foot, . . .	Eng.	Upana, ...	Sansk.
Cabaret, Assaret, . .	Fr.	Mutricunjayvi, .	Tam.
Haselkraut, . .	Ger.	Cheppu tataku, .	Tel.

The leaves and roots of this European plant are met with in all the bazars of India; 40 to 60 grains of the fresh plant infused in eight ounces of water act as an emetic, in large dozes as cathartic; the powder of the leaves causes violent sneezing. Until the introduction of ipecacuanha into Europe, the Asarum was used for most of the purposes for which the South American drug is now employed, and other virtues are attributed to it. The dried plant is sold in the Indian bazars under the name of Asarun. Royle states, however, that a hill plant, called Tuggur, is generally substituted for it, and the Asarun of the bazars of India is not unusually the roots of the Valeriana Hardwickii, *Wall.* — *O'Sh.* p. 569; *Hogg, Veg. King.; Birdwood's Bombay Products; Royle.*

ASARUR, a village in the Gujranwala district of the Panjab, containing ruins of great antiquity, with two mounds from an ancient stupa identified by General Cunningham as Tse Kia or Ta-Ki of Hiwen Thsang, the capital of an extensive kingdom. Numbers of Indo-Scythic coins are annually washed out of the soil after heavy rains.

ASA-THOR. Skand. The Lord Thor. See Es.

ASAUCH. Hind. Ceremonial uncleanness.

ASAYB-WALA. Hind. An insane person, a demoniac.

AS-BARG, also Aswarg. Hind. Delphinium saniculæfolium; Datisca cannabina; a yellow dye.

ASBESTOS, amianthus, tremolite.

Puh-hwui-muh, .	Chin.	Sang-i-Pamba,	Pers., Panj.
Yang-k'i-shih, . .	,,	,, reshadar,	,, ,,

Common asbestos is found in several parts of India, largely in Salem and Mysore, and indurated asbestos abundantly. It is found in a bed at Putsa Marculpilly, near Rayalcherru, in the Ceded Districts. The tremolite variety is brought from Tsi-nan-fu, in the northern part of Shan-tung, where there is a hill called Yang-k'i-shan. It is supposed by the Chinese to stimulate the uterine system. The silky amianthus is found in Shan-si, Sech-u'en, and Shan-tung, and is used to make lamp wicks, fire-stones, fire-bricks, and crucibles. It occurs in flat beds or veins above the Khost valley. It is said to be twisted into rope by the hill people of those parts. It is also found at Jalalabad. Its most curious property is indestructibility at a red heat. On this account it is utilised in Europe in gas stoves. The long and

silky fibres of amianthus have been employed in the manufacture of a fire-proof cloth. For ordinary paper from this mineral, the present market prices are too high. The ancient Egyptians wrought it into a soft and flexible material to be used as shrouds to burn their dead in. There are several varieties of this fibrous stone.—*Powell's Handbook; Econ. Prod. Panjab*, p. 46; *Smith.*

ASCESINES, one of the rivers of the Panjab as known to the Greeks, now called the Chenab.

ASCETICS, amongst Buddhists, Christians, Hindus, and Jains, have ever been numerous, though under a variety of rules. Siddartha, a prince, a married man with wife and child, forsook all to follow the life which led to his attainment of a Buddha; and with Hindus and Buddhists of the present day such desertions of home and wife and child are continually recurring. All Buddhist monks of Burma, and many Hindu devotees, to obtain their daily food, perambulate the streets, walking rapidly, soliciting from no one. Three centuries after the calling of the apostles, St. Anthony led the first Christian monks to the wilds of the Thebaid; and the next migration was taken by Pacomius to the island of Tabenne. St. Anthony is supposed to have lived to the patriarchal age of 105; and before he died, in Oxymichus alone, within a very few years from the foundation of the monastic community there, an assembly was held at which as many as 10,000 female and 20,000 male ascetics were gathered together. Eunapius ascribes to the monks the overthrow of the ancient gods, and the revolution of religion in Rome and Constantinople. After once this great change was accomplished, the monasteries became training schools for the great statesmen of the empire; and the high places in the state were attained with most facility by those who had served most eagerly in the largest and most ambitious orders.

Amongst the Christian sects, the anachorets or anchorites avoided the intercourse even of those who had renounced the world like themselves. Perpetual silence was added to other miseries which had already been self-imposed; and even independently of the famous Simon, who isolated himself on a pillar, there were soon thousands of zealots who lived for years without opening their lips in speech. Up to the 19th century there continue ascetic sects of Christians living in lone places, as those of St. Catherine on Mount Sinai; and the priests of the Romish persuasion abstain from marrying. Amongst Hindu devotees are several ascetic sects, but the more common are the various sects of the Gosain, Jogi, and Viragi or Sanyasi, who live in monasteries; and the Pandarams, who live in the temples as the pujari or worshipping officials, also are celibates. Since 2000 years, the Buddhists have both monks and nuns; Dr. Campbell gave a list of twelve monasteries at Lhassa, inhabited by 18,500 Lama priests; and in Ladakh there were 12,000 Lamas in a population of 158,000 souls. Amongst the Buddhists, all the young men and all the Phoungye priests live in monasteries. Amongst the Jains, all the teachers are ascetics. Amongst the Mahomedans, some are anchorets, trusting to chance gifts of food; all the fakirs are mendicants, but the Kalendar darvesh or dervis alone practise celibacy. One sect in the Dekhan voluntarily become eunuchs, and dress like women, visiting the houses of Mahomedans on the birth of a son or daughter, and exacting a money dole.

Some of the Hindu ascetics used to carry their austerities to the extremes of bodily torture, sitting for years over a hot fire, or with eyes open looking at the sun, exposed to summer heats and winter colds; naked, and maiming their persons by suspending heavy weights; holding their hands closed until the nails would grow through; holding their arms upright till the joints became fixed, or lying on beds with iron spikes, or with iron collars so placed on their neck as to prevent repose, or making vows that they will not take food till they have accomplished some act of devotion or charity. Under British sway, all such classes are fast disappearing; few Europeans, and few natives even, have seen the more pretentious of them. Yet in 1866, in the Elephant cave of Ellora, a Hindu Viragi was sitting naked, smeared with ashes (vibudhi), who had then so sat for five years. He was in robust health, with a sleek skin; yet the people believed that he abstained from food. Suliman, the Arab traveller, writing A.D. 851, mentions that some Hindu ascetics go about naked, wander in forests and mountains, live solely on herbs and fruits, stand naked with the face turned to the sun, with only a panther's skin as a covering; he mentions having seen a man standing so, and on returning sixteen years afterwards, found him still in the same posture. Col. Tod had seen one of these objects, self-condemned never to lie down during forty years, and there remained but three to complete the term. He had travelled much, was intelligent and learned, but, far from having contracted the moroseness of the recluse, there was a benignity of mien and a suavity and simplicity of manner in him quite enchanting. He talked of his penance with no vainglory, and of its approaching term without any sensation. The resting position of this Druid (vana-purust) was by means of a rope suspended from the bough of a tree, in the manner of a swing, having a cross bar on which he reclined. The first years of this penance, he said, were dreadfully painful,—swollen limbs affected him to that degree that he expected death; but this impression had long since worn off. 'Even in this there is much vanity;' and it would be a nice point to determine whether the homage of man or the approbation of the divinity most sustains the energies under such appalling discipline. Even yet, amongst the Hindu community, the behests of such ascetics are secondary only to those of the divinity, whose organs they are deemed. Like the Druids of the Celts, the vana-purust jogi, from the glades of the forest (vana), or recess in the rocks (gopha), issue their oracles to those whom chance or design may conduct to their solitary dwellings. It is not surprising that the mandate of such beings proves compulsory on the superstitious Rajput. We do not mean those squalid ascetics who wander about India, and are objects disgusting to the eye, but the genuine jogi,—he who, as the term imports, mortifies the flesh till the wants of humanity are restricted merely to what suffices to unite matter with spirit; who has studied and comprehended the mystic works, and pored over the systems of philosophy, until the full influence of maia (illusion) has perhaps unsettled his understanding, or whom the rules of his sect have condemned to penance and

solitude,—a penance so severe, that we remain astonished at the perversity of reason which can submit to it;—to these, the Druids of India, the prince and the chieftain resort for instruction.—*Elliot's Hist. of India; Tod's Rajasthan.* See Aghora; Anthropophagi; Buddhism; Darvesh; Fakir; Hindu; Jogi; Mastani; Sanyasi; Viragi.

ASCHARA. SANSK. According to Menu, the syllable O'M. All rites ordained in the Veda, oblations to fire, and solemn sacrifices, etc., pass away; but that which passeth not away is the syllable O'M, hence called Aschara, since it is the symbol of God, the Lord of created beings. See Gayatri; Hindu; O'M.

ASCIDIADÆ, a family of the mollusca, of the class Tunicata or Tunicaries. The Ascidiadæ have five genera, viz. Molgula, Cynthia, Pelonæa, Chelyosma, and Boltenia. See Mollusca; Tunicata.

ASCLEPIACEÆ. Several genera and many species of this natural order of plants occur in south-eastern Asia, in Arabia, China, Japan. There are upwards of 220 species in India, Ceylon, and the Archipelago, fifty in the Himalaya, the Khassya hills, and Assam. The more important are the Dogbanes,—Pergularia odoratissima, Tweedia, Cryptostegia grandiflora, Cynanchum, Marsdenia tenacissima, Stapelia Buffonia, Gymnema lactiferum; Tylophora asthmatica, Secamone emetica; Calotropis gigantea; Hoya; Sarcolobus; Holostemma, Hemidesmus. The roots of the whole order appear to be acrid and stimulating, and some of them, as Tylophora asthmatica and Secamone emetica, are employed as emetics. The cow-plant of Ceylon, or Kiriaghuna plant, is the Gymnema lactiferum. Species of Cynanchum act as purgatives. The leaves of Solenostemma argel are used in Egypt for adulterating senna. Several species yield caoutchouc, whilst others afford indigo. Many species of the genus asclepias have now been classed by other authors under other genera.

A. acida, *Roxb.*, and A. aphylla, *Roxb.*, syn. of Sarcostemma brevistigma, *Wight.*
A. annularia, *Roxb.*, and A. convolvulacea, *Herb., Heyne*, syns. of Holostemma Rheedii, *Spr.*
A. asthmatica, *Roxb.*, A. pubescens, *Wall.*, and the A. vomitoria, *Koen.*, syn. of Tylophora asthmatica.
A. echinata, *Roxb.*, syn. of Dæmia extensa, *R. Brown.*
A. gigantea, *Willd.*, syn. of Calotropis gigantea, *Brown*, also of C. procera.
A. microphylla, *Roxb.*, syn. of Pentatropis microphylla, *W. and A.*
A. pendula, *Roxb.*, and A. Rheedii, *W. and A.*, syns. of Hoya pendula, *Wight and Arnott.*
A. montana, *Roxb.*, syn. of Gymnema tingens and A. tingens, *Roxb.*
A. pseudosara, var. latifolia, *Roxb.*, syn. of Hemidesmus Indicus, *R. Brown.*
A. tenacissima, *Roxb.*, and A. tomentosa, *Herb., Madi*, syns. of Marsdenia tenacissima, *W. and A.*
A. tunicata, *Roxb.*, syn. of Cynanchum pauciflorum, *R. Brown.*
A. tinctoria, *Roxb.*, syn. of Pentatropis microphylla, *W. and A.*, and of Marsdenia tinctoria, *R. Brown.*
A. geminata, *Roxb.*, syn. of Gymnema sylvestre, *Spr.*, *R. Brown.*

Many of the species possess powerful medicinal properties, and others are handsome border flowers, and worthy of cultivation; the buds of A. stipitacea are eaten by the Arabs. The whole plant of A. aphylla may be eaten. Calotropis gigantea is poisonous. The milky sap of A. lactifera is said to be used as food, while the milky juice of A. laniflora and A. procera is acrid and irritating, and is used with butter and lard as an ointment for itch; while that of A. procera is applied to hides for removing the hair before tanning. As flowering plants, the genus thrives well in any good light soil, requiring room to spread and show their blossoms. They are readily grown from seed, which are produced in abundance. A. Currasavica, *Linn.*, is the wild or bastard ipecacuanha, Indian root or yellow milkweed, and the kakindi of the Hindus. It is a native of the West Indies, but now found in most parts of tropical America and India, and is cultivated in China as a flowering plant; it is a pretty little annual, with a small saffron and orange coloured flower, and is quite common in the Tenasserim Provinces. The root is emetic, and is so used by the Negroes of the West Indies. The juice is made into a syrup, and is used as a vermifuge.—*Williams' Middle Kingdom; Eng. Cyc.; Roxb.; Voigt; Riddell; W. Ic.*

ASEES. HIND. A form of Hindu benediction, only bestowed by women and priests. It is performed by clasping both hands over the person's head, and waving over him a piece of silver or other valuable, which is bestowed in charity. The Tamil people similarly wave a fowl or sheep's head around a sick man. This is a very ancient ceremony, and is called Nachravali. Col. Tod frequently had a large salver filled with silver coin waved over his head, which was handed for distribution amongst his attendants. It is most appropriate from ladies, from whom also he had this performed by their proxies, the family priest or female attendants. It resembles in form the Mahomedan rite called Bulain Lena.—*Rajasthan*, i. 618.

ASFIDAJ. ARAB. White lead.

AS-GANDH. SANSK., DEKH. Physalis somnifera and Adhatoda vasica; roots medicinal.

ASGHUR, a town in the Panjab, on the Indus, where there are gold washings.

ASHAAR, a son of Joktan. See Joktan.

ASHAB. ARAB. Companions of Mahomed. The Astuwanat-ul-Ashab, the Column of the Companions, whose graves are at the El Bakia. Ashab-i-Kuhuf, *i.e.* Companions of the Cave, the Seven Sleepers.—*Burton's Pilgrimage*, pp. 301, 396.

ASHADAH PURVA, SANSK., the 20th, and Ashadah Uttara, the 21st, lunar mansions, also the 4th lunar month. Also the 3d solar month, Hindu denomination, when the sun is in the sign Midhuna II., answering to the Tamil month Audi.

Ashadi Ekadasi is the eleventh of the light half of the month Ashad, and is dedicated to Vishnu. It falls about the 12th July, and refers to the summer solstice, and on this feast day commences the night of the god Vishnu, during which he reposes for four months on the serpent Sesha.—*Warren's Kala Sanhita.*

ASHAKA-BASH. See Youkharee-bash.

ASHAR. ARAB. The tenth or tithe. By Mahomedan law, land is liable only to two imposts, viz. the Ashr or tithe, a poor rate due only on the actual produce of the soil; and the Khiraj or tribute, generally imposed on land within reach of running water or means of irrigation. A land can be subject both to Ashr and Khiraj at the same time. See Khiraj.

ASHARA, from Arabic 'ashr,' a tenth part, meaning the first ten days of the Maharram, or the ceremonies observed during that part of the month. Houses are appropriated, in which the Mahomedans of India set up ālams, Taboots, Shah-nasheens, Booraq's, etc., and some-

times screens made of mica. These places are called the Ashar Khana (ten-day house); Tazeea Khana (the house of mourning); and Astana (a threshold or fakir's residence). In Upper Hindustan, opulent Mahomedans erect an Imambara, and the Shiah Mahomedans generally follow a similar practice. They are dedicated to the commemoration of the deaths of Ali and his sons.

The Ashar Khana, or the Ten-Day House, is called by the Shiah sect the Imambara, the Imam place. It is a building in which the Shiah sect dig a pit and kindle fires in it. At night the people fence across the fire with sticks and swords, and circle round it, calling out, 'Oh, Ali! noble Hasan! noble Husain! bridegroom! alas! friend! stay, stay!' etc. They form themselves in circles, and beat themselves with chains in the most frantic manner. The women repeat a funeral eulogium, and the mulvis read the Rouzat-us-Shahādaa. The bier, the banners and insignia, used at the Maharram, are lodged in it.—*Herklots.*

ASHARHA. SANSK. This Hindu month is named from the stellar mansion Asharha.

ASHARY or Achary, in Malabar, the carpenter caste, who, in common with the brass-founder, gold and iron smiths, continue the practice of polyandry, but in civil inheritance follow from father to son, and not the old Italian practice of maternal descent, descensus ab utero. The elder brother marries, and the wife is common to all the brothers. If a junior wish to marry, he must live apart and set up business apart; but if any of his younger brothers reside with him, his wife is common to them. See Polyandry.

ASHAZAI, a section of the Iliazai Yusufzai, who inhabit a portion of the plain of Buner, west of the Daulatzai.—*MacGr.* I. i. 108; *N.W. Fr.*

ASHBUTCHEGAN. ARAB. Castor; civet.

ASHES.

Rakh, ... HIND.	Sambool, ... TAM.
Bhasmuam, . . SANSK.	Boodida, Vibudi, . TEL.
Tiroonoot Oondi, . TAM.	

Wood ashes are useful for cleaning metals; enclosed in a bag, and dusted through it by striking it on a knife-board, it is a good substitute for bath-brick for cleaning knives. Balls of cowdung ashes are sold in the bazars of British India for cleaning military appointments and brass mountings of harness, etc. In commerce, the term applies to such vegetables as the alkaline salts are extracted from.—*Mr. Rohde, MSS.*

A-SHET. BURM. Shame, sensitiveness of their honour. Burmese often commit suicide for trifling causes; for this, Burmese girls disappointed in love use opium.

ASHKAL-ul-BILAD, a geographical book by Ibn Haukal. It was also called Kitabu-l-Masalik wa-l-Mamalik. The author's name was Mahomed Abu-l-Kasim. He was a native of Baghdad, which he left A.H. 331, A.D. 943, and, after travelling through all the existing Mahomedan countries, he returned to it A.H. 358, or A.D. 968, and went to Africa 976.—*H. Elliot.*

ASHKANIAN, written also Ashganian, a name given by the Persians to a number of petty kings who followed after Alexander. They are the Arsacidæ of the Greeks, and are also described as the Muluk-ul-Tawaif. See Arsacidæ; Persian Kings.

ASHLESHA, in Hindu astronomy, the asterism of the serpent.

ASHOK. SANSK. Jonesia asoca, TAM. Terminalia longifolia; T. tomentosa.

ASHOO-KUCHOO. BENG. Colocasia antiquorum.

ASHPHUL. MALAY. Longan, Nephelium longan, or Scytalia longan.

ASHR. ARAB. Calotropis gigantea; C. procera.

ASHRAF. This poet dates his history of Sekander or Alexander, entitled Zaffar Namah, the Book of Victories, A.H. 848 (A.D. 1444).—*Ouseley's Travels*, ii. p. 391.

ASHRAF. ARAB., HIND., PERS. Noble. In Behar and Hindustan, cultivators, both Hindu and Mahomedan, who consider themselves soldiers and gentlemen, and are averse to manual labour.

ASHRAFFI, a gold coin of India, no longer current, value 15 and 16 rupees, called a gold mohur. See Silver Coinage.

ASHRE. A grove; the groves in which the ancient Sabæans worshipped.—*De Bode.*

ASH-SHORA. —? Limonia pentaphylla? BENG., Glycosmis pentaphylla.

ASH-SHUFAAH, AR., the Mahomedan 'right of pre-emption,' is a survival of the early stage of society known as the village community. The early village was simply an association of persons—usually blood-relatives—banded together for mutual assistance. Out of this arose various privileges and duties, and among the former the 'right of pre-emption.' In Germany the right is shown by Von Maurer, in his Dorfverfassung, to have extended not only to houses and lands, but to the produce of the soil. In India, village property cannot be divided without the consent of all the members of the family, and, in some places, of all the village heritors. The right of pre-emption was exercised by the Hebrew next of kin, or 'goel;' and the feeling that prompts the rule is indicated in Burckhardt's remark, that in Arabia a man usually marries his deceased brother's wife in order to keep the family property together.

ASHTA. SANSK. Eight. Ashta Dika, the eight points of the compass, including the cardinal.

Ashta, the bones of the Agareah tribe of Hindu cultivators, exhumed and taken by their near relatives to the Ganges. See Agareah.

Ashta-bhogam, in Hindu law, the eight products to be enjoyed of an estate, viz. the Siddhi, land cultivated; Sadhya, the produce of such land; Pashana, uncultivated land, rocks, minerals, etc.; Nikshepa, property deposited on land; Nidhi, treasure trove; Jalamritam, waters and their products; Akshini, actual privileges; and Agami, prospective rights and privileges.—*Wilson.*

Ashta-bhuja Devi, the eight-handed goddess, represented as standing on the back of Nandi.

Ashtadasha-bhuja Devi, the eighteen-handed goddess who destroyed Mahesha.

Ashta Lakshmi, the eight forms of Lakshmi.

Ashtamatrika, according to the Tantra, eight divine mothers. They are represented each with a child on her lap.

Ashtanga Danda; Dandawat, a Hindu reverential salutation, consisting of the prostration of the body, with the application of eight parts—the forehead, breast, hands, knees, and insteps of the feet—to the ground.

Ashta Sahariska, a book on Buddhism. See Prajna.

Ashta Vasu, the eight Vasu chiefs among the Devas.

Ashtaka, a book or chapter of the Vedas, a series of which forms a Sakta. See Aryan ; Veda.

ASHTAGRAM, a revenue division of the Mysore Kingdom, comprising the districts of Mysore and Hassan.

ASHTI, in the Dekhan, 30 miles S.E. of Ahmadnaggur, the site of the battle with the last Baji Rao, 20th February 1818. The mean height of the village is 1460 feet.

ASHTOLA, also Sungadeep island, is a small desolate island on the Mekran coast, in lat. 25° 7′ N. and long. 63° 40″, called Karnina? by Nearchus; the Asthæ of Ptolemy, Asthi-lal of the Arabs, and called by the Indians Satadwip or Sata island, also Astula and Kali. It is a breeding place of the turtle. It was much resorted to by the Juasmi pirates.—*MacGregor.*

ASHTORETH, Αστάρτη, was the principal female divinity of the Phœnicians, as Baal was their principal male divinity. Her worship seems to have gone with the Phœnicians to all their colonies. Astarte of the Syrians, Ishtar of the Babylonians, Ken of the Egyptians, Hera of the Assyrians, Venus of the Greeks and Romans, the Myletta of the Arabs, and Durga of the Hindus, are all one and the same divinity, with modifications to suit the views of the different nations who followed the worship of the female generative principle. The worship was based on a physiological theory. The Hindu Durga stands erect upon a lion and holds a serpent in her hand, as does Ken in the Egyptian tablet, or Hera in the Assyrian bas-reliefs. See Astarte ; Mother.

ASH TREE.

Aran, ...	Arab.	Oren, ...	Heb.
Ch'u, ...	Chin.	Ornus, ...	Lat.

The genus Fraxinus; two species grow in the Western Himalaya,—F. floribunda, or large ash, and F. xanthyloides, or crab ash. In the Mehra forest, near Abhotaband, Hazara, and in the valley of the Sutlej, there is abundance of yew and olive, and a considerable quantity of box and ash, the ash and olive near the river, but the box and yew on the higher slopes, 2000 feet or more above the Sutlej. The larger ash and yew are much esteemed for jampan poles, hefts, and tool handles, etc.; and the larger, in colour, grain, and toughness, resembles the English ash, and makes good walking-sticks. Some species of ash are remarkable, like the sugar maples, to which in some respects they are allied, for the sweetness of their sap, which, on concreting by exposure to the sun, is known as manna. To the two species, F. rotundifolia and F. florifera, and probably also to other species, we owe the manna of the European druggists. The wood of the common ash, Fraxinus excelsior, *L.*, is the toughest and most elastic British timber, greatly valued by the cart and wheel wright, cooper, machine framework and agricultural implement makers, and was in request in olden time for spears. Ornus florifera, the flowering ash tree, grows in the mountains of the south of France, and F. rotundifolia (Ornus rotundifolia), the round-leaved manna ash tree, is a native of Calabria and Sicily. The wax insect tree of China, Mr. Fortune found, is a species of ash; it grows abundantly on the banks of ponds and canals in the province of Che-kiang. Mr. M'Cartee of Ningpo gave him some beautiful specimens of the fresh insect upon the branches of this tree. This insect, Ch'u of the Chinese, has been named Coccus pela by Mr. Westwood. When fully developed on the trees, they seem as if covered with flakes of snow. The wax is an article of great value in Chinese commerce, and a small portion is exported. It is an excellent timber tree.—*Fortune's Residence*, p. 146 ; *Cal. Cat. Ex.*, 1862 ; *Cleghorn*, *Panjab Report* ; *Royle*, *Him. Bot.* p. 266 ; *O'Shaughnessy*, p. 434 ; *Smith.*

ASHWA GANDHA. Beng. Physalis somnifera, var. P. flexuosa, *Nees.*

ASHWERTHA, Beng., also Ashwuth, Urostigma religiosum, *Mig.*

ASI was the term applied to the Gete, Yeut, Yuti, or Jut, when they invaded Scandinavia and founded Jutland. The Asi seem to have been a northern race with several divisions, some of which appear to have been conquered by the Egyptian king, Seti III. Colonel Tod considers that Scandinavia was occupied by a tribe of the Asi. He says that the Suevi or Sivones erected the celebrated temple of Upsala, in which they placed the statues of Thor, Woden, and Friya, the triple divinity of the Scandinavian Asi. He regards the Asi and the Hindu race of Aswa as the same, and to have been descendants of Deomida and Bajaswa, who spread over the countries on both sides of the Indus, and probably gave their name to Asia. Asi is said by Remusat to have been applied by the Chinese almost promiscuously to the nations between the Jaxartes and Oxus, as far south as Samarcand, and in one of his quotations it is applied to a people of Khojand, and in another to people of Bokhara. Mr. Prinsep considers the Asii or Asiani nomades who took Bactria from the Greeks, to have been Scythians of Azes, who overpowered the Greek dynasties in Sogdiana and Northern Bactria between 140 and 130 B.C.

ASIA. The southern and eastern portion of that part of the Old World which may be noticed in this Cyclopædia, may be indicated as lying S. of Siberia. Travelling from the E. of Bengal to Herat, we find S. Asia everywhere bounded on the N. by a chain of mountains, which is covered with perpetual snow for almost the whole of that extent, and from which all its great rivers appear to issue. This chain commences near the Brahmaputra, and runs nearly N.W. as far as Kashmir. During this part of its course it is called the Himalaya, from Hima, the Sanskrit for snow, and alaya, abode. From Kashmir its general direction is a little to the S.W., as far as the high snowy peak of Hindu Kush, nearly N. of Kābal. From this peak its height diminishes, it no longer wears perpetual snow, and is soon after lost in a group of mountains, which stretch in length from Kābal almost to Herat, and occupy more than two degrees of latitude in their breadth. Some ranges issue from this mass on the W., and extend so far into Persia as to justify, if not completely to establish, the opinion of the ancients, which connected this range with Mount Caucasus on the W. of the Caspian Sea. From Kashmir to the Hindu Kush the whole range is known by the name of that peak. From thence to the meridian of Herat the mountains have no general name among the natives, but that of Paropamisus was long applied to them by European geographers. The principal range of the Indian Caucasus is conspicuous from Bactria and the borders of India, and is seen from places far off in Tartary.

Elphinstone says that the ridge of Imaus or Himalaya is seen from a distance of 150 and even 250 miles. The Paropamisan chain, which bounds the Kohistan on the W., extends 350 miles from E. to W. and 200 from N. to S. The whole of this space is a maze of mountains; and though it affords a habitation to the Aimak and to Hazara tribes, it is so difficult of access and so little frequented, that no precise accounts of its geography are to be obtained. It is certain, however, that the Hindu Kush range is there no longer so lofty as to be conspicuous among the mountains by which it is surrounded, and that no continued line of perpetual snow can any more be traced. The eastern half of this elevated region is inhabited by the Hazara, and is cold, rugged, and barren; the level spots are little cultivated, and the hills are naked and abrupt. The western part, which belongs to the Aimak, though it has wider valleys and is better cultivated, is still a wild and poor country. The northern face of these mountains has a sudden descent into the province of Balkh; their acclivity is less on their other extremities, except perhaps on the W. or S.W. On the N.W. they seem to sink gradually into the plain which borders on the desert. The slope of the whole tract is towards the W. To the N. of this, extending eastwardly and to the W., are the elevated plains of Tartary, the Asiatic dominions of Russia, Chinese Tartary, and China, and the regions occupied by several Turkoman nations; to the S.E. is India, with its two peninsulas and its archipelagos on the E., with the dominions of Persia, of Turkey in Asia, also Asia Minor, and the peninsula of Arabia, on the W. See India.

ASIATIC SOCIETIES are found in almost every country of Europe, and in each of the presidency towns of India. Most of them publish journals. That of Bengal in Calcutta was instituted by Sir William Jones on the 15th January 1784, during the administration of Warren Hastings, who became its patron, with Sir William Jones and Charles Wilkins on the committee. Their Researches concluded with its 20th volume in 1839, but were continued in the Journal of the same society. Since the formation of this society, every Governor-General of India has held this office, with the exception of several years when the Governors-General were the presidents of the society. Even Warren Hastings was for a few meetings president of the association. The Royal Asiatic Society of London was founded by retired members of the Asiatic Society of Bengal, and it founded, in its turn, the branches at Bombay and, in 1843, in Ceylon. In 1819 the Madras branch was affiliated, and produced Transactions and a Journal.

ASIL. HIND. A female servant amongst Mahomedans; a free woman.

ASIL-DURGAH or Asilghar, supposed by Prinsep to be the town of Junaghur, q.v.

ASINUS, the ass. A genus of quadrupeds, one species of which has been domesticated (see Ass). The wild ass of Cutch, the Gorkhar, is known to exist in those western parts of India (see Equus onager), and another in Tibet (Equus hemionus, *Pallas*), the kiang. A third, Asinus hemippus, *Is. Geof.*, inhabits Syria, Mesopotamia, N. Arabia, and is the wild ass of the Hebrew Bible. In Africa, the wild asses are known as the zebras and quaggas. Asinus quagga, the quagga of the Cape of Good Hope; A. Burchelli, *Gray*.

ASIO BRACHYOTUS or Otus brachyotus, short-eared owl, of Europe, Asia, Africa, N. and S. America, is migratory, and common in India. A. otus, Otus vulgaris, long-eared owl, of Europe, N. Africa, Asia Minor, N. Asia, N. America; in India, confined to the Himalaya.

ASIR, an Arab tribe, of whom the Berekede are a branch. The Berekede are said to allow strangers to visit their wives, like the Jakuri Hazara.

ASIRGARH, a strong fortress situated on an isolated hill in the Satpura range, height 850 feet from the base and 2300 feet above the sea level, in lat. 21° 28′ 19″ N., long. 76° 20′ E. It was a stronghold of a Shepherd race, from one of whom, Asa Ahir, it obtained its name. It was occupied afterwards by Rajputs, and is frequently mentioned in the poetry of that race, but Ala-ud-Din took it from the Chauhan tribe, A.D. 1295. It fell into the hands of the Faruki princes of Kandesh about A.D. 1400, and was by them greatly strengthened, the lower fort called Malaigarh having been entirely constructed by Adil Khan I., the fourth of the dynasty. Asirgarh was frequently the safe retreat of the Faruki princes when their territory was invaded by the different independent Mahomedan kings of Gujerat and the Dekhan. It remained in their possession for 200 years, till, in A.D. 1600, Akbar, emperor of Dehli, conquered Malwa and Kandesh, taking the last of the Farukis, Bahadur Khan, in Asirgarh, after a siege. It fell into the hands of the Mahrattas, but in 1803 it yielded to the British.

ASKA, a town in India, in lat. 84° 42′ E. and long. 19° 36′ N. It is in the district of Ganjam, and sugar is its chief product.

ASKALANDA, a town mentioned by the ancient Arabic writers; has been supposed to be the Alexandria built at the confluence of the Acesines with the Indus. But it was also called Askalanda Usa, and may be the Uchh of modern times.—*Elliot*.

ASKALON lies to the westward of the road to Gaza, and near the sea. It was once a satrapy of the lords of the Philistines, but at the present day is without a single inhabitant within its walls. Askalon was taken by the crusaders, who strengthened the fortifications, but it was subsequently retaken by Salah-ud-Din, who destroyed the works made by the Christians.—*Robinson's Travels*, i. p. 22.

ASKHAR. ARAB. Jatamansi; lemon grass.

ASKUTA. PANJ. Ribes leptostachium.

ASLESHA. SANSK. The mansion, sign, or asterism of the serpent, called also Sarpa.

ASMAN. PERS. The sky, the seven firmaments of Mahomedan belief.

ASNEA. MAHR. Felis pardus, *Linn.*; the larger panther.

ASOF JAH, a title of the founder of the present dynasty of Hyderabad in the Dekhan, hence their title Asof-Jahi; another of their titles is Nizam of the Dekhan. His name was Chin Kilich Khan, son of Ghazi-ud-Din Khan, of a respectable Turk family. Father and son both served as officers of Aurangzeb, and distinguished themselves; and Chin Kilich Khan subsequently served under Jahandar Shah, Bahadur Shah, Ferokhsir, and Muhammad Shah. He was viceroy of the Dekhan,

from which, during the reign of Muhammad Shah, he was removed to be governor of Malwa, where he revolted April 1720, and seized Asirgarh. At Aurungabad he defeated Dilawar Khan, a Syud of Barr'h, who had been sent against him from Hindustan; and at Ballapur, in Berar, he defeated Alam Ali, another Syud, who fell in the action. In January 1722, he returned to Dehli to take up the office of vizir. After a few months, he was sent against Haidar Kuli, governor of Gujerat, of which he took possession, and again returned to Dehli; but in October 1723 (Maharram 1136) he resigned his office and marched off to the Dekhan, and, after defeating Mubaraz Khan, who fell in battle, he resumed possession of his Dekhan territory (October 1724), from which time he was virtually independent of Dehli. He was with his troops at the battle of Karnul (A.D. 13th February 1739), in which Nadir Shah totally routed the imperial troops, but Asof Jah took no part in the action, alleging want of orders. A story became current that the invasion of Nadir Shah was on the invitation of Asof Jah and Saadat Khan, and that the loss of the battle was concerted between these chiefs. Asof Jah was sent by Muhammad Shah, after the battle, to tender submission and arrange terms. Asof Jah was recalled from Dehli A.D. 1741, by the revolt of his second son, Nasir Jung; and when that was suppressed, he was involved in disturbances, in the subordinate government of Arcot, till his death, in June 1748 (A.H. Jamadi-us-Sani 1161). His death led to contentions among his sons, chiefly occasioned by the French and British in their strivings for supremacy in S. India.—*Elphinstone*, pp. 639, 645.

ASOJ. The last day of this Hindu month ushers in the Hindu winter (sard rit). On this day nothing but white vestments and silver (chandi) ornaments are worn, in honour of the moon (Chandra), who gives his name to the

'Pale and common drudge
'Tween man and man.'

An intercalary month is the mode followed by Hindus to adjust the annual seasons, their ordinary calculations being by lunar months, and such are called lunar. At Udaipur, on the Asoj, there is a procession of all the Rajput chiefs to the Chougan, and on their return a full court is held in the great hall, which breaks up with 'obeisance to the lamp' (jote ka moojra), whose light each reverences. When the candles are lit at home on this day, every Rajput, from the prince to the owner of a 'skin (charsa) of land,' seated on a white linen cloth, should worship his tutelary divinity, and feed the priests with sugar and milk. —*Tod's History of Rajasthan.*

ASOK, TAM., in the south of India, is the name of the Guatteria longifolia.

ASOKA, SANSK., from a, not, and soka, sorrow, is the Jonesia asoka, *Roxb.*, which yields a beautiful flower diversified with orange, scarlet, and bright yellow tints, and is consecrated to Siva, as the lotus flower, called kamala or padma, is to Vishnu and his wife Lakshmi; a sweet-scented jasmine (J. undulatum) to Vishnu and Mariamma, the goddess of the Pariah race; the superb crimson, Ixora bandhuca, is offered at the shrines of Vishnu and Siva; and the Nauclea cadamba, a stately tree, yields, in Hindu belief, the holiest flower in India. Sir W. Jones observes that the vegetable world scarcely exhibits a richer sight than an Asoka tree in full bloom. It is about as high as an ordinary cherry tree. The flowers are very large, and beautifully diversified with tints of pale yellow and of bright orange, which form a variety of shades according to the age of the blossom. In spring, it bears beautiful red blossoms. The Asoka being sacred to Siva, it is planted near his temple. It grows abundantly in Ceylon. In some places in India it is more esteemed than at others. Women bathe in some holy streams with the blossoms floating in it. Hindus say that the contact of the stem of the Asoka tree with the foot of a woman of superior beauty, makes it blossom. This tree is often alluded to in the drama of the Hindus. In the Toy Cart, Maitreya, describing a garden, says, 'Here the Asoka tree, with its rich crimson blossom, shines like a young warrior bathed in the sanguine shower of the furious fight.' Captain D. L. Richardson (Flowers and Flower Gardens, p. 189) says the flower is eaten by young Hindu women as a medicine. The colour of the flowers changes during development. When they first expand, they are of a beautiful orange colour, gradually changing to red, forming a variety of beautiful shades. Coleman says that men and women of all classes ought to bathe, on a particular day, in some holy stream, especially the Brahmaputra, and drink water with buds of the Asoka floating in it. Sita is said to have been confined in a grove of it while in captivity by Ravana; other legends say she was confined in a place, or house, called Asokwan. — *Coleman's Mythology; Lady Faulkland's Chow-Chow; Roxb.* ii. 218; *Richardson's Flowers and Flower Gardens; Williams' Story of Nala*, p. 117.

ASOKA, grandson of Chandragupta, or Sandracottus, began to reign B.C. 255–6, and for the next few years he was styled the 'Furious.' Immediately on his father's demise, he seized the government, and gave orders for the slaughter of all his brothers save Tishya, who was born of the same mother, and immediately applied his whole energies to the achievement of military glory. In the short space of four years, he reduced the whole of N. India from the mountains of Kashmir to the banks of the Nerbadda, and from the mouth of the Indus to the Bay of Bengal. He afterwards became a convert to the Buddhist religion. His conversion occurred B.C. 257, and thenceforward he was known as the 'Pious;' but in his conversion he carried his fiery character into his new faith, and in four years compelled the whole of N. India, from the mountains of Kashmir to the banks of the Nerbadda, and from the mouths of the Indus to the Bay of Bengal, to receive his own Buddhist views. He distributed throughout the chief cities of India the relics of Sakya, which had been collected by Ajatasatra and deposited in one large stupa at Rajagriha, and he erected a great number of Vihara, or Buddhist monasteries. He also issued numerous edicts, which he engraved on massive rocks and stone pillars or columns, evidently in imitation of Egyptian obelisks, in which Buddhist doctrines are earnestly inculcated. The oldest of them are found at Dhauli in Cuttack, at Girnar in Gujerat, and at Kapurdigiri near Peshawar, and in all these he styles himself Priyadarsi, 'the beloved of the Devas.' Professor Wilson, however, doubted

this identity of Asoka with the Priyadarsi who published the edict. The name is also read Piyadasi, or 'Loving-minded.' Asoka defeated Antiochus, and graved in the Pracrita on certain rocks an account of his victory. His conversion from the Brahmanical to the Buddhist religion seems to have been effected by the son of his brother, whom he had murdered. He is said to have erected 84,000 Buddhist sanctuaries or chaitya, partly temples and partly tumuli, called stupa or topes, which to the present day continue to be the greatest monuments of the Buddhism of Central and W. India and Hindustan. In B.C. 244, he held a third Buddhist council at Pataliputra (Palimbrotha). In his rescript to the council he mentions a collection of several hymns or gatha of Buddha, as also of aphorisms. Asoka died B.C. 223, after a long and prosperous reign. The Asoka era has been ascertained to be B.C. 250. Asoka was contemporary of Seleucus Nicator. He sent ambassadors to the rulers in Egypt, Cyrene, Syria, and Macedonia. He was to Buddhism what Constantine was to Christianity. He removed the royal residence from Rajagriha in the S. to Pataliputra. He was succeeded by his eldest son, Bhadrasena, and his nine brothers in succession. But immediately after his death, the Magadha dominions were broken up, and anarchy followed. The Chinese Pilgrims make mention of many pillars that bore records of Asoka,—six have inscriptions, five of which present the text of a series of six edicts that were promulgated by Asoka in the 27th year of his reign, or B.C. 236, viz. (1) at Dehli, three edicts, now known as Firoz Shah's lat, brought by Firoz Taghalaq from Topur Suk in the Siwalik country; (2) at Dehli, brought from Mirat by Firoz Shah; (3) at Allahabad, inside the fort, three edicts; (4) at Lauriya, 27 miles N. of Patna, near the temple of Araraj Mahadeva; (5) at Lauriya, 15 miles N.N.W. of Bettia, and 10 miles E. of the Ganduk river, near the lofty ruined fort of Nonadgarh or Navandgarh. Asoka was a contemporary of five Greek princes, whose names are entered in the edicts, viz., Antiochus II. (Theos of Syria), B.C. 263–246; Ptolemy II. (Philadelphos of Egypt), B.C. 285–246; Antigonus Gonnatas of Macedonia, B.C. 276–243; Magas of Cyrene, B.C. 258; Alexander II. of Epirus, B.C. 272–254.

General Cunningham has enumerated 13 rock inscriptions, 17 cave inscriptions, and 10 inscribed pillars.

The 13 rock inscriptions are at—

1. Shahbazgarhi, in the Yusufzai country, 40 miles E.N.E. of Peshawar.
2. Khalsi, on the W. bank of the Jumna.
3. Girnar, in Kattyawar, 40 miles N. of Somnath.

4 to 7. Dhauli, in Cuttack, midway between Cuttack and Puri and Jangada, in Ganjam district, 18 miles N.N.W. of Berhampur,—two inscriptions at each, virtually identical.

8. Sasseram, at the N.E. end of the Kaimur range, 70 miles S.E. of Benares.
9. Rupnath, a famous place of pilgrimage, 35 miles N. of Jubbulpur.

10 and 11. Bairat, 41 miles N. of Jaipur.

12. The Khandgiri hill, near Dhauli, in Cuttack.
13. Deo tek, 50 miles S.E. of Nagpur.

The 17 cave inscriptions are—

1, 2, and 3. Barabar; and 4, 5, 6. In Nagarjuni hills, —both places 15 miles N. of Gaya.

7 to 15. In Khandgiri hill, in Cuttack.

16 and 17. In Ramgarh, in Sirguja.

The 10 inscribed pillars are—

1. The Dehli Siwalik at Dehli.
2. The Dehli Meerut at Dehli.
3. The Allahabad.
4. The Lauriya-Araraj at Lauriya, 77 miles N. of Patna.
5. The Lauriya Navandgarh at Lauriya, 17 miles N.N.W. of Bettia.

6 and 7. Two additional edicts on the Dehli Siwalik not found on any other pillar.

8 and 9. Two short additional edicts on the Allahabad pillar, peculiar to itself.

10. A short mutilated record on a fragment of a pillar at Sanchi, near Bhilsa.

The following have been given as the principal events of Asoka's reign :—

B.C.		A.D.	Regnal Years.
478	Nirvana of Buddha Sakya Muni, .	1	—
316	Chandragupta Maurya, 24 years, .	163	—
292	Binddusara, 28 years, . . .	187	—
277	,, Asoka, Governor of Ujain,	203	—
276	,, birth of Mahindo, . .	204	—
264	Asoka, struggle with brothers, 4 yrs.,	215	—
260	,, inauguration, ...	219	1
257	,, conversion to Buddhism, .	222	4
256	,, treaty with Antiochus, . .	223	5
255	,, Mahindo ordained, . .	224	6
251	,, earliest date of rock edicts, .	228	10
249	,, second ,, ,, .	230	12
248	,, Arsakes rebels in Parthia, .	231	13
246	,, Diodatus rebels in Bactria, .	233	15
244	,, 3d Synod under Mogaliputra,	235	17
243	,, Mahindo goes to Ceylon, .	236	19
242	,, Barabar cave inscriptions,	237	19
234	,, pillar edicts issued, . .	245	27
231	,, Queen Asandhimitta dies, .	248	30
228	,, second queen married, . .	251	33
226	,, her attempt to destroy the Bodhi tree, ...	253	35
225	,, Asoka becomes an ascetic, .	254	36
224	,, issues Rupnath and Sahasaram edicts, ...	255	37
223	,, dies, ...	256	38
215	Dasarathas cave inscription, Nagarjuni, ...	264	—

His 1st edict prohibits the sacrifice of animals for food or in sacrifice, and enjoins Buddhistic virtues. The 2d edict provides medical aid throughout his dominions; orders planting of trees, and wells to be dug, along the sides of roads. The 3d edict is in the twelfth year of Piyadasi's inauguration, and enjoins a quinquennial humiliation. The 4th edict of the twelfth year of Piyadasi compares the past condition of his country with that then existing. The 5th edict records the appointments of ministers of religion or missionaries. The 6th edict appoints pativedaka, custodes morum, also criminal magistrates. The 7th edict contains the king's desire to obliterate diversities of religious opinions. The 8th edict contrasts the carnal enjoyments of former rajas with the harmless amusements of the king,—visits to holy people, almsgiving, respect to elders, etc. The 9th edict continues the thread of a moral discourse, the Dharma Mangalam, happiness of virtue, benevolence, reverence, charity. The 10th edict comments on Yaso va Kiti va, the glory of renown, founded on the vain and transitory deeds of this world, and the higher objects of life. The 11th edict, at Dhauli and Girnar, upholds that the imparting of Dharma is the chiefest of charitable donations. The 12th edict is addressed to all unbelievers with entreaty. The 13th is imperfect. The 14th edict is summary of the preceding, and is complete in itself.

The inscription at Kapurdigiri is in the Bactrian Pali character, and written from right to left; all the others are in the Indian Pali character, and written from left to right. The name Asoka does not occur in them. One passage refers to the Greek king Antiochus, calling him and three others, Turamayo, Antakana, Mako, and Alikasunari, which represent Ptolemy, Antigonus, Magas, and Alexander. Dr. Burnell says the characters used in the Kapurdigiri inscription are of Phœnician origin, and exhibit the system of marking the vowels used in the other, and which is also used in the old Tamil character.—*Fergusson*, p. 18; *Bunsen*, *Egypt*, iii. 542, 544; *Thomas' Prinsep's Ind. Antiquities; Cunningham's Bhilsa Topes*, p. 87–91; *Cunningham's Inscriptions of Asoka; Burnell; Dowson; Elphinstone*, p. 208; *Journ. Roy. As. Soc.* iii. xvii.; *Tod, Rajasthan; Cal. Review; Mr. Robert Cust; Imp. Gaz.*

ASOK-ASHTAMI. SANSK. The 8th day of the light fortnight of the month Chaitra (April—May), when a festival in honour of Vishnu is observed, and water with Asok buds in it is drunk. In the south of India, this is the festival of Asoka Saptami, celebrated by Hindu women on the 7th of the waxing moon, in the month Chaitra. In the Ramayana, Sita is described to have been confined in an Asoka grove (Jonesia asoka), and there subjected to great oppression and harshness, to compel her to yield to the wishes of Ravana. Hindu women accordingly associate the idea of constancy and chastity with the Asoka tree, eating its blossoms and offering it adoration.—*Garrett.*

ASO-PURA-MATA has a square shrine on the very summit of a hill near Gumli.

ASP, Boten of the Arabs, and Peten of the Hebrews, is mentioned repeatedly in the Hebrew Bible, but naturalists have not determined the particular reptile alluded to. The word is probably very ancient, and is possibly the 'Oub' serpent worshipped in Chaldæa and Egypt; and Obion is still used in Egypt, as Ifa is in Arabia, to designate a snake, and the Greek has the term *οφις*. Perhaps the English Oaf and Scotch Ouf are also connected. The asp of the ancients, celebrated as having caused the death of Cleopatra, is supposed to be the Naja haje, *Schlegel*, Coluber haje, *Linn.* See Serpent.

ASPA or Aswa, a race of Indo-Scythic origin, aspa being the Persian and aswa the Sanskrit term for 'horse.' It was a habit amongst the old tribes of Central Asia of assuming the names of quadrupeds. Thus, besides the Aspa or 'horse,' we have the Noomri or 'foxes,' a great branch of the Getæ or Jit of Transoxiana, and the Varaha or 'hog' of Multan and the Upper Indus. Besides the horse, fox, and hog tribes of the Indus and Oxus, we have the hare, Seesodia, properly Sussodia, the Cuchwaha or tortoise, with many others. In the Scythian names, Aspabata, Aspakara, and Asparatha, we recognise the same element. Even the name of the Aspasian mountains, placed by Ptolemy in Scythia, indicates a similar origin.—*Müller's Lectures*, p. 231.

ASPALATHUM WOOD is supposed to proceed from the Aquilaria in a state of decomposition, but of this nothing is known with certainty. Rhodes wood, from one of Convolvulaceæ, has also been called Aspalath.—*O'Sh.* p. 314.

ASPARAGUS. Of this genus of the Liliaceæ, eleven species are known in India. A. acerosus, *Roxb.*, Sheet-ma-tet, BURM., is a charming shrub, a native of the interior of Bengal and the Tenasserim provinces. It produces a passable substitute for the English vegetable, to which, however, it is much inferior. It bears a sweet-smelling flower, and is deserving of cultivation as an ornamental plant.—*Mason; Roxb.* ii. 150.

ASPARAGUS ADSCENDENS. *Roxb.*

Asparagus sarmentosus, *Willd.*

Saffaid-musli, . . DUK.	Shadaveli, . . MALEAL.
Chrimbroy Asparagus, ... ENG.	Shatawi, . . ,,
Seta-ver, HIND., LAHORE.	Sheta-vurri, . . SANSK.
Safed-musli, HIND., DUK.	Tannir-vittang Kelangu, ... TAM.
Shatawari, . . . MALAY.	Tsalla-gadda, . . TEL.

A climbing shrub, found in Rohilkhand, Travancore, and the Peninsula. The root, which is long, white, and fleshy, is bruised and soaked in water, and the latter, if drunk, is said by the natives to be a remedy in preventing small-pox from running into the confluent kind. In Ceylon, the root is mixed with milk and eaten (Ainsl.); and by the Chinese it is made into a preserve, and also candied. Dr. Honigberger (p. 237) says that the stalks he procured at the bazar at Lahore were as long as a finger, and as thick as a quill, rather spiral, and longitudinally indented, of a horny yellow semi-transparent appearance, of a mucilaginous, sweet, and astringent taste. They are used as a substitute for salep.—*Roxb.* ii. 153; *Honigb.* p. 237; *Voigt*, 674; *Hogg*, 735.

ASPARAGUS BEAN, Dolichos Sinensis.

ASPARAGUS FILICINUS. *Ham.*

Asparagus curillus, *Roxb.*

Alli palli, . . KASHM.	Sitawar, . . . SUTLEJ.
Sans paur, . . . RAVI.	Satzarra, . . . ,,
Sensar pal, . . SUTLEJ.	Musli sufed, . . ,,

Though nowhere common, occurs frequently in the Panjab Himalaya from 3000 to 8500 feet. Its root is exported from Kanawar to the plains. It is considered tonic and astringent, and thought to resemble salep (see Eulophea) in its effects. In Kanawar, a sprig of this (or of A. Panjabensis) is put in the hand of small-pox patients as a curative measure.—*J. L. Stewart, Panjab Plants.*

ASPARAGUS OFFICINALIS. *Willde.*

Halyun, Yeramya, ARAB.	Akarparsi, . . MALAY.
Common asparagus, ENG.	Margeah, ? . . PERS.
Nakdoun, . . . HIND.	Mar-Chobeh, . . . ,,

Of all the species, this one only is cultivated for use, raising the plants from seed, either by sowing broadcast, in beds of six feet square, or in long beds of about two feet broad, where they are to remain. It is a very expensive vegetable to grow in any country. Dr. Honigberger mentions that the hakims use the seeds in debility of the stomach, in liver, spleen, and renal disorders; they also attribute to them diuretic and aphrodisiac properties. They believe that the cultivated is more effective than the wild plant. The 'country asparagus' or 'country greens' of the British in India, are the stalks of the Amarantus oleraceus. —*Roxb.; Voigt; Honig.; Jaffrey's Hints; Hogg.*

ASPARAGUS PANJABENSIS. *Stewart.*

Sensar pal, . . SUTLEJ.	Banatha, SALT RANGE.
Chuti, . . . ,,	Sitawar patti, ,,
Kuchan, . SALT RANGE.	Warchechunai, TR. IND.
Churi Saroch, ,,	Chanjan wale, . ,,
Duz, Soa grandal, ,,	Lashte, . . . ,,

This plant has slender acicular leaves, and resembles A. officinalis. It is common in parts of the plains of the Panjab, east to the Sutlej, and

apparently occasionally to Thanesar, as well as in the Salt Range, and on the Sutlej to 5500 feet. It is frequent in Trans-Indus. Dr. Bellew mentions a species growing high near the Safed Koh, which is there eaten as a vegetable; and in some parts of the plains the young shoots are thus employed. In the Salt Range the twigs are used for scrubbing metallic vessels; and on the Sutlej a sprig of it is put in the hand of small-pox patients. The leaves are officinal at Lahore.—*Dr. J. L. Stewart.*

ASPARAGUS RACEMOSUS. *Willde.*

Sensa fai, . . . BEAS.	Phut-Kanda, SALT RANGE.
Suta muli, BENG., SANSK.	Lashori, . . . SUTLEJ.
Sansapaur, CHENAB, RAVI.	Ch'hota-kelu, . . ,,
Shakakul, . . . DUK.	Jari Kandiah, . . ,,
Sada bori, Bozidan, HIND.	Shadavari, . . . TAM.
Sabuni, . . . JHELUM.	Tannir Muttan, . ,,
Sejpan, . . . KASHM.	Challa, Pillitoga, TEL.
Akarparsi, . . MALAY.	Pilli pi-chara, . ,,
Shatavali, Wari, MALEAL.	Sata vari, . . . ,,
Satawar, . . . PANJ.	Sitrawal, . . AMBALA.
Vinjanhora, SALT RANGE.	

A shrubby straggling climbing plant, a native of various parts of India and of Ceylon. It is furnished with small spines; it is common in parts of the Salt Range, Siwalik tract, and outer hills, up to 5000 feet. The root boiled in milk is given in bilious affections. It is necessary to remove the bark previous to administering it, as it is considered poisonous. The leaves boiled and mixed with ghi are applied externally to promote suppuration in boils and tumours. Dr. Stewart thinks it supplies part of the officinal sitawar (see Asparagus filicinus) as well as the bozidan. Its flowering time is the cold season, when it perfumes the air to a considerable distance with the delightful fragrance of its flowers; seeds ripe in March.—*Roxb., Ainsl., Useful Plants; J. L. Stewart.*

ASPATI. SANSK. An emperor, meaning perhaps Aswapati, 'lord of steeds.'—*Tod's Rajasthan.*

ASPERGILLUM, a genus of curious molluscs; A. Javanum occurs in the Indian Ocean, and A. vaginiferum in the Red Sea.

ASPERUCK. HIND. Melilotus officinalis, *Linn.*

ASPHALTE, Bitumen, Maltha.

Hajar ul Musa, . ARAB.	Mineral pitch, . . ENG.
Jews' pitch, . . . ENG.	Momiai, ... PERS.

Asphalte is found on the shores of the Dead Sea, at Arlona in Albania, at Coxitambo in Cuenca in South America, and abounds in Barbadoes and Trinidad, forming on the leeward side of the latter island a lake or plain, called the Tar lake, and by the French Le Brai, from its resemblance to, and answering the purposes of, ship pitch. It is found near ancient Babylon; and the cement used for the walls of that city, as also for the temple of Solomon, was a preparation of asphalte. Herodotus mentions that it was heated and mixed with reeds, and so used. It is supposed to be the substance translated in the Bible as pitch; and it seems to be the substance known in Central Asia and in the north of Persia under the name of Momiai. See Petroleum.

ASPHODELUS CLAVATUS. *Roxb.* A native of the interior parts of Bengal, where it appears to blossom and ripen its seed during the cold season. A. fistulosus furnishes the seed Bhangarbij of the Panjab.—*Roxb. Fl. Ind.* ii. p. 148.

ASPHOTA. BENG. Jasminum sambac; jasmine. Also, HIND., Clitorea ternatea.

ASPIDIUM. *Linn.* This genus of ferns is of the order Polypodiaceæ. Several species are known in India,—the A. splendens, and A. parasiticum, described by Mr. Graham, the A. unitum and A. flagelliferum in Voigt's Catalogue; and Dr. Hooker mentions that both in Sikkim and Nepal the watery tubers of an Aspidium are abundantly eaten. Aspidium baromez, the Kan tsih of the Chinese, is the Scythian or Tartarian lamb. The tufts of this fern simulate the form of animals. It has long been celebrated in China, where the ingenuity of Chinese gardeners, taking advantage of the natural habits of the plant, form it into shapes resembling sheep or other objects. The Chinese name indicates resemblance to a dog. It is there deemed a tonic, and to act on the reno-spermatic functions. The Tartarian lamb is enthusiastically described by Darwin in his Botanic Garden.—*Williams' Middle King.* p. 275; *Smith; Hooker, Him. Jour.* i. p. 292; *Voigt*, 734.

ASPLENIUM, a genus of ferns of the Polypodiaceæ. A. nidus, *Linn.*, is a native of Amboyna. A. lucidum, of Australasia, is regarded by the New Zealanders as a sacred plant; the priest, when he is praying over a sick person, and endeavouring to avert the anger of the gods, waves a frond of this fern over the patient, and, should it happen to break, it is regarded as a fatal omen. It is also used as a badge of mourning; when a wife mourns for her husband, she sits wailing in her hut, with a frond of this fern bound as a fillet around her head.—*Dr. Bennett, Australasia.*

ASR. ARAB. Noontide; a time for Mahomedan prayer. Owing to the Mahomedan divisions of time into watches of the day and night, apportioning the whole day and the whole night into stated watches, all the periods of the day change with the varying length of the time that the sun is above the horizon, the Asr or noonday watch excepted, it being always when the sun is at the meridian; other prayer times are—Zohr, Sūbah, or Fiqa, or Bamdad, morning.

ASRAMA. SANSK. A condition or order of life among Hindus, of which four should be passed through in succession, viz. Brahmachari or student, Grihastha or householder, Vanaprastha or hermit, and Bhikshuka or Sanyasi, religious mendicant. Asrama is the fourth or mendicant stage of life, into which the Hindu should enter after passing through the previous stages of student, householder, and hermit. Asrama is a name borne by the Dandi sect. See Dandi.

ASRAYA, in the Buddhism of Ceylon, four modes of evils so called.—*Hardy.*

ASROENE, called also Sarug, towards which Terah, father of Abraham, journeyed in his route from Ur of the Chaldees towards Horan (Karra) on his way to Canaan. See Terah.

ASS, Donkey, Jack Ass, Jenny Ass.

Khamar, . . . ARAB.	Gadda, ... HIND.
Æhmir, . . . ETHIOP.	Hymar, ... TURK.
Athon (she-ass), . . HEB.	Kalda, ... TAM.
Chamor (he-ass), . . ,,	Gardhi, ... TEL.

The domesticated ass is descended from the Asinus tœniopus of Abyssinia. In Syria are four domestic breeds,—a light, graceful animal, with a pleasant action, used by ladies; an Arab breed, kept for the saddle; a stouter animal, for ploughing and other purposes; and the large Damascus breed, with a peculiarly long body and ears. The ass can with ease be greatly improved in size and strength. The ass is occasionally striped or barred, as in the parent form, A. tœnio-

pus; that on the shoulder is the most constant, sometimes even triple-barred, but bars also occur on the legs. Albino asses are occasionally seen. It is a patient, steady-going, sure-footed beast of burden, and easy-tempered, and has been domesticated from ancient times. In ancient Jerusalem the ass was the favourite of the upper classes and the priests. Deborah describes the greatest men in Israel as those who rode on white asses; and we are told that Abdona, a judge of Israel, had forty sons and thirty grandsons who rode on seventy asses. Nevertheless the ancient Israelites considered the ass unclean, and to yoke an ass with an ox in the same team was an offence against the law of Moses. The ancient Egyptians even entertained a fierce hatred towards the ass, and regarded it as a symbol of all kinds of misfortune. They were the first to symbolize a stupid person by the head and ears of an ass. In British India, the washermen, the vagrant Yerkala, and other wandering tribes alone use the ass, and the breed is small and unfit for the saddle. The Dhobi purposely cripple the hind legs to prevent them straying, and their nostrils are often slit up. The ass has a large head, and a large body on very slim and somewhat short legs, unsuited, therefore, to move rapidly. Its hoof has exceedingly sharp rims, with a hollow in its centre, to fit it for travelling on slippery ground, and for ascending the precipitous sides of hills. The ass is a beast of burden for the mountain, as the camel is for the sandy desert, the elephant for the jungle, and the horse for the level plain. He will carry a reasonable burden without a murmur, and he will trudge on for miles over the roughest roads, patiently and steadily, without showing any signs of fatigue. Niebuhr mentions the smaller or lazy ass of Arabia, being as little esteemed there as in Europe; and a larger and high-spirited breed, much valued, and sold at a high price, and which he thought fitter for a journey than horses are. In Oman they are large, well made, and endure great fatigue. The Arabs take considerable care of them; and some of the better kind fetch from forty to fifty dollars. Those which traverse the Jabl Akhdar, in point of size, sturdiness, and sureness of step, are almost equal to mules, crossing the most difficult passes, over a smooth limestone rock, without a single false step. A great many asses are shipped from Oman to the Isle of France, where they are highly valued. Some seen by Burton (iii. 339) resembled mules in size and speed. He considers that Pliny is certainly right about this useful quadruped and its congeners, the zebra and the wild ass, in describing it as 'animal frigoris maxime impatiens,' for he says that it degenerates in cold regions, unless, as in Afghanistan and Barbary, there be a long, hot, and dry summer. Aden, Cutch, and Baghdad have fine breeds, whereas those of India and south-eastern Africa are poor and weak. The best and the highest-priced come from the Maghrab, and second to them ranks the Egyptian race. At Mecca, careful feeding and kind usage transform the dull slave into an active and symmetrical friend of man; he knows his owner's kind voice, and if one of the two fast, it is generally the biped. The asses of the Holy City are tall and plump, with sleek coats, generally ash or grey coloured, the eyes of deer, heads gracefully carried, an ambling gait, and extremely sure-footed. They are equal to great fatigue. The stallions have been known, in their ferocity, to kill the groom. The price varies from 25 to 150 dollars. —*Burton's Mecca; All the Year Round*, September 1864; *Playfair's Yemen; Niebuhr's Travels; Darwin*, p. 63; *Animals and Plants*. See Asinus.

ASSALIA. HIND. Lepidium sativum.

ASSAM, a province in the N.E. frontier of British India, comprises the districts of Cachar, the Khassya, and Jaintia hills, Durrung, Goalpara, Kamrup, Luckimpur, Naogong, Sibsagar, Silhet, and the Naga and Garo hills. In 1873, it was formed into a chief commissionership, with part of Koch-Behar added to it. It comprises the valleys of the Brahmaputra and of the Barak or Surma, together with the mountainous watershed that separates these rivers. It is situated between lat. 23° 58′ 30″ and 28° 17′ N., and long. 89° 46′ and 97° 5′ E. The area is 55,384 square miles, and the population 4,815,157 in 1881. It is bounded on the north by the eastern section of the great Himalayan range, the frontier tribes from W. to E. being successively the Bhutia, Aka, Daphla, Miri, Abar, and Mishmi; on the north-east by the Mishmi hills, which sweep round the head of the Brahmaputra valley; on the east by the unexplored mountains which mark the Burma frontier, by the hills of the independent Naga tribes and the Manipur dominions; on the south by the hills occupied by the Kuki or Lushai, by the State of Hill Tipperah and the Bengal Tipperah district; and on the west by the Bengal districts of Maimansinh and Rangpur, the Koch-Behar territory, and Jalpaiguri district. The districts of the Naga, the Khassya, Jaintia and Garo hills are in a central hill tract, a long projecting outwork of the mountain system that intervenes between the watersheds of the Brahmaputra and Irawadi in a series of ridges and plateaux, the highest point of the Naga hills being 10,000 feet, of the Khassya hills 6449 feet, and of the Garo hills 4700 feet. At Cherrapunji in the Khassya hills in 1861, 805 inches of rain fell, 366 inches of it in July. In 1876 it was 368 inches.

Assam was long held by the Ahom race, who gave it its name; afterwards, by the Burmese. But by the treaty of Yandaboo, 24th February 1826, it was ceded to the British. The valley is continuous at its western extremity with the plains of Bengal, but gradually contracts to the eastward, till the mountains at last approach so close together that no level country remains between them. The width of the lower valley is about 30 miles. It is in general level, with a gentle uniform slope, but low ranges of hills project occasionally from both sides, almost to the Brahmaputra; and isolated granite hillocks, of no considerable mean elevation, occur scattered here and there over the surface. The atmosphere is very humid, and dense fogs are frequent in winter. The rainfall ranges from 69 to 159 inches, and earthquakes are frequent, and those of 1869 and 1875 were severe. In Upper Assam there is but little cultivation, and much forest, which is often almost impervious from rank underwood. It is the ancient Kamrup, and its history ('Assam Buranji') has been written by Huliram Dhaikiyal Phukan of Gohati, who, after bringing down the genealogies to the Kshatriya dynasty of Dravir (Dharmapala), says Dravir invited Brahmans

from Gaur to his court north of the Brahmaputra, and he gives the following dynasties:—

a. Brahmaputra dynasty, reigned 240 years. After A.D. 1478, Assam was divided into twelve petty states, and in 1498 was invaded by Dulal Ghazi, son of Husain Shah.

b. The Indrayansa (Indu) dynasty reigned from A.D. 1330 to 1780, with an interregnum caused by the invasion of Husain Shah. Chukapa became independent in 1230, and spread conquests, and was named Asama (unequalled), hence Assam.

This is to be regarded as a history of the invasions from Bengal.

Population.—The valley and its bordering hills are remarkable for the variety of populations which they contain. Captain Butler (Travels, p. 1) gave the following as names of the tribes in and adjoining the valley, viz. Abor and Bor Abor; Aka of the Hazari Khawa and Kappas Chor tribes; Angami, Arung, Assamese, the Bhot, the Bhutia, viz. the Sath Bhutia Rajas, the Char Dooar Raja, and Thebingia Bhutias; Bodo or Borro of Assam and Cachar; the Changlo; Dofla; Dooaniah, Garo; Jili; Khamti and Bor Khamti; Khari; Khassya; Koreng; Kuki; Latu; Lota; Luhup or Lushai, Maram; Mechoo; Mikir; Miri, Mishmi, Moria, Mulung; Mu-thun; Muttuk, Naga; Namsang; Singpho, Tang-Khol, Ta-blung, and Tang-Khol. The most numerous are the Naga, Khassya, Garo, Mikir, and the Cachari, the last identified with the Mech of the E. and W. Dwara; the Ahom (128,980); the Chutia (51,482); part of the Koch or Rajbansi; Chandal (122,457); Kaibarti (128,525); Kolita (179,000); Khamti on the frontiers of Lakhimpur. See India.

Half the population is Hindu, and a fourth part are Mahomedans. The Hindu religionists of Assam, including races of mixed descent and proselytes, now consist of Brahman, Ganak, and Kayasth, all of comparatively modern importation; Kolita, who appear to be the only remnant in it of the early Aryan colonists; Keot, who are partly of Hindu extraction, and partly proselytes raised to that position; Dom, who are boatmen and fishermen; the Hari, low caste immigrants; and converted Ahom, Chutia, Lalong, Koch, Mech, and Cachari. The Shan people became proselytes to Hinduism at an early period, and, having adopted the language and customs of Hindus, they have now nothing but their features to mark them as of different origin. Indeed, it is stated that the Shans brought no women with them into the country. The principal tribes on the frontier of Upper Assam are the Muttuk, the Khamti, and the Singpho. At the eastern end, near Saddiya, the tribes are very much mixed, and numbers of them are gradually coming lower and lower down; many Mishmi now actually live in the plains. There seems to be a pressure on the people from the Burmese side of the Patkoi, which is forcing the Mishmi down, and which will perhaps bring them within the British boundary, the nominal boundary being the crest of the Patkoi. It is from the Ahom branch of the Shan or Tai or Thai race that Assam (Asam) received its name. This powerful race are the people of Siam, called by the Burmese Shan-gyai, or eldest branch of the Shan. The first to assume the title of Ahom, or peerless, is said to have been Chu-ku-pha, A.D. 1228, in the kingdom of Pong, which touched Tipperah, Yunnan, and Siam. The Pong kingdom was finally broken up by king Alompra of Burma, in the middle of the 18th century. Before the incursions of the Burmese, Assam had its roads, bridges, cities, and civilisation. The Mahomedans found its people hardy and courageous in Upper Assam, but towards the middle of the 19th century they had become apathetic and unambitious, though those of Kamrup were less so.

The first British treaty with any of the Assam chiefs was a commercial agreement made in 1783 with Raja Surgy Deo. But the Indian Government never ratified or published it, on the ground that the raja's government was not sufficiently strong to ensure its observance. The country subsequently relapsed into anarchy, and fell under the Burmese. It was invaded by the British when the first Burmese war broke out, 1824–26, and the province was annexed to British India, 31st July 1829. In 1833, Upper Assam was granted to raja Poorunder Singh, with whom a treaty was made. The Bur Senaputtee, or chief of the Muttuk, entered into an engagement, in May 1826, whereby he acknowledged the supremacy of the British, and bound himself to supply 300 soldiers in time of war. The management of the country was left in his own hands, except as regards capital offences. In January 1835, the obligation to supply troops was commuted to a money payment of Rs. 1800 a year. In 1826, similar agreements were made with the Khamti chief of Saddiya; but in 1839 the Khamti attacked the town of Saddiya, and many persons, as also Colonel White, the Political Agent, were slain. Agreements were also made in May 1836 with the Singpho. These tribes were implicated in the Khamti rising in 1839, but they were allowed to surrender under conditions. Many of the Singpho clans have become extinct, and the main body left Assam for Hukong, in Upper Burma.

The Phaki or Phakial race on the Dihing river, the Kamjang of Saddiya, and the numerous settlements of the Khamti race, are all Shan colonies, and retain the customs, costume, and religion that they brought with them into the valley. Of these the Khamti are the most numerous and important. They immigrated into Assam since the middle of the 18th century from the country known to the British as Bor-Khamti, which they had occupied for many centuries. When Captain Wilcox visited them in 1826, two great clans had been at feud for fifty years, and, owing to these dissensions, horde after horde flowed into Assam. After their rebellion against the British in 1839, they were expelled Saddiya, but later on were permitted to re-occupy lands near their former sites. They are Buddhists, and have a literature.

The hills of Assam possess coal, gold, iron, lime, petroleum, tea, caoutchouc, rice, jute, lac, and ivory. Its two principal indigenous varieties of silk are the muga and the eri. Of its woods, thirty-six species, applicable to various useful purposes, were described by Major Hannay as belonging to Upper Assam. Most of them are light, strong, and durable; while not a few combine with these qualities a fine grain, which renders them well adapted for articles of furniture. The spices of the country comprise, in addition to such as are commonly cultivated in Bengal, black pepper, long pepper, cardamoms,

tejpatra or malabathrum leaf, and jubrang, the capsule of a species of xanthoxylum, peculiar to the country, and described as aromatic, fragrant, and highly pungent. It is a very fertile province. The whole population, from the baby at the breast to the very few old men, used opium, and in 1864–5 the population consumed £143,543 worth of that drug; but the Government introduced stringent prohibitions, and tea cultivation has since greatly added to their wealth. Among its wild animals are the elephant, rhinoceros, tiger, leopard, bear, buffalo, deer, and wild cow.—*Yule's Cathay; Hamilton's E. Indies; Taylor, in Reports on Great Exhibition of* 1851, p. 141; *Butler's Travels; M'Culloch's Report; Schlagentweit's India*, ii. pp. 95–98; *Prinsep's Antiquities by Thomas*, p. 273; *Dalton's Ethnol.; Aitcheson's Treaties*, p. 127.

ASSARA REWAND. ARAB. Hebradendron gambogioides, *Graham;* Gamboge.

ASSARHADDON, king of Babylon, was the son of Sennacherib. The latter resided at Nineveh, the capital of Assyria; Sennacherib displaced the satraps, and invested his son as king of Babylon, B.C. 675.—*Ch. Bunsen*, iii. See Assyria.

ASSASSIN, a term applied in Europe to the Al Hasani, a heterodox Mahomedan sect, whose successors now believe that the deity is incarnate in their chief. The first of the sect who arrogated these divine pretensions was Hasan Saba, a man of domineering passions, consummate subtility, and persevering spirit of enterprise. He lived about the year 1090, and by various intrigues, a singular mysterious deportment, as well as an invincible courage, he attained to great power. Christians, Jews, Mahomedans of the Sunni or Shiah sects, all were alike the objects of his excommunication; and he sold his dagger, or rather that of his followers, to whatever party were vile enough to buy the blood of their enemies. Al Jabal, literally, the mountain, was the old Arabic name for the whole of the very mountainous quarter of Irak-i-Ajam, which lies between Hamadan and Kirmanshah. It stretches far to the south-west of the Caspian range, and comprises Mount Elwund, the Orontes of the ancients, this branch also bearing the appellation Elburz; and the chief was designated Shaikh-ul-Jabal, rendered the Old Man of the Mountain. For about 200 years the sect held Milice, amongst the Elburz mountains, about 20 miles north of Kasvin, but they were destroyed by Hulaku A.D. 1260. A colony, under the leading of one of Hasan's representatives, settled themselves amongst the heights of Lebanon, and have been variously called Ismāili, Bātāni, and ăl-Hăsăni, or the Ismailans, Batenians, and Assassins; during the crusades, one of Hasan's successors was known to the Europeans as the Old Man of the Mountain. A chief of the Ismaili for many years resided at Bombay, and in 1865 or 1866 instituted a civil suit in H.M. High Court for some matter connected with his faith. The term Assassin has also been derived from Hashishin, a person given to the intoxication of hemp (Hashish, AR.), but the accepted derivation is from Al Hasani.—*Porter's Travels*, i. p. 286–288. See Alamut; Hasan-ibn-Saba; Maghrab; Shaikh-ul-Jabal.

ASSAYE, a small hamlet in long. 75° 56′ 15″ E., and lat. 20° 15′ 15″ N., on the borders of Kandesh. A battle was fought here on the 23d September 1803, by the Indian army under Sir Arthur Wellesley, against the confederate Mahrattas. Colonel Wellesley, with 4500 troops, of whom 2000 were British, defeated the combined forces, 50,000 strong, of the Mahratta chief Sindia and the raja of Berar, and they had 1600 infantry under French officers. One in three of the British forces was killed. Sindia's artillery rested on the right bank of the rivulet. In 1868, the potail of the village, who was a lad at the time of the battle, and a subahdar, Papadu, of the 21st M. N. I., who was a soldier present in the battle, were still alive, the former at Assaye, the latter at Secunderabad. The hamlet is built near the bank of the rivulet; and the spirit of one of the French officers who fell in the battle has been deified, and at his tomb worship is performed by the Mahrattas of the village and neighbourhood.

ASSAY MASTER. An officer with this designation is in each of the Indian mints, at Calcutta and Bombay. He conducts the chemical analysis of the precious metals brought for sale, and determines the quantity of gold or silver in any mixture with the baser metals. He also examines the pix coins prior to issue, to ascertain that they are up to the standard. The process was formerly by cupellation, but latterly the humid mode has been followed.

ASSES' GLUE, the O-kiau of the Chinese, a gelatinous substance obtained by boiling down the waters of a celebrated well, situated sixty li to the N.E. of the district city of Yang-kuh, in Kwan-chau-fu (Shantung), but Yun-chinghien in Ts'au-chau-fu is also said to supply this substance. It is sold in flat rectangular cakes, and the best is clear amber coloured, free from damp or smell. It has all the properties of, and is used as, glue. The well water probably resembles that of Barèges in France.—*Smith*, p. 28.

ASSIA, a range of hills in the Cuttack district, containing interesting Buddhist, Hindu, and Mahomedan remains of ancient temples, caves, sculptures, and forts. Udayagiri hill has two large figures of Buddha, and extensive Buddhist ruins, as also has Achāla. Basanta Naltigiri has an elephant cave, and Amravati hill two beautiful images of Indrani.—*Imp. Gaz.*

ASSU. PANJ. Brassica eruca.

ASSUR, in Hindu tradition, giants who made war on the children of the Diti. In these Assur possibly are typified the Assyrian conquerors. But it has also been surmised that the Assur of the Mahabharata may be the Hasaures or Asii of Indo-Germanic history. See Asur.

ASSYRIA, an ancient sovereignty in the upper part of Mesopotamia. The heart of the country was a district on either side of the Tigris, between lat. 35° and 37° N. Its people were, however, a race with martial proclivities; and about 650 B.C. their dominion attained its highest limit. Herodotus, Pliny, and Strabo included within its bounds countries over which their sway had at times extended, such as the whole of Babylonia, all Mesopotamia, a portion of Mount Zagros (the modern Kurdistan), and all Syria as far as Cilicia, Judea, and Phœnicia. During the 7th century B.C., it had Lydia, Cyprus, and Egypt on the west, Elam and part of Media on the east, with Babylonia and part of Arabia on the south. Portions of it are named in the Hebrew Scriptures as Padan-aram, Aram Nahrain, Gozan, and Halah.

On the west of Assyria proper are the Karajah

Dagh (the Mount Masius of Strabo), and on the east the Jabal Tur. The Sinjar, a solitary limestone ridge, divides western Assyria into a northern and southern portion. Its more important rivers are the Kurnib or Eastern Khabour, the greater Zab, which washes the ruins of Nimrud, the lesser Zab, the Adhem, and the Diyaleh. There were many large towns, but Ninua, Calah, Asshur, and Bit Sargina were seats of government during the flourishing period of the empire. About 607 B.C., Assyria lost its independence, and in the subsequent revolutions its cities and palaces were destroyed, so that till lately a knowledge of their sites even was lost. The most extensive of the Assyrian ruins are opposite Mosul on the east bank of the Tigris, and are without doubt those of Nineveh. Since the middle of the 19th century, learned men — Layard, Botta, Henry Rawlinson, George Rawlinson, George Smith, Professor Sayce, Mr. Rassam—have been searching the mounds for remains of the ancient cities, their sculptures, their libraries and works of art, in the region around Mosul, and towards Baghdad, Calah or Kalah being 20 miles south of Nineveh, and Assur, the modern Sherghat, is 60 miles south of Mosul. George Smith discovered there a Chaldæan legend of the flood; he recovered the cosmogonic legends of the priests of Babylonia; gave histories of Sennacherib and Assur-Bani-pal; and the most important of the documents relating to the reigns of Esarhaddon, son of Sennacherib, have been found and translated.

The physical type of the Assur people, their moral characteristics, and their languages, all belonged to the Semitic family. Their writing was in the cuneiform character; and in the more simplified form of later times, the wedge was almost the sole element of the writing. In 1851, Sir Henry Rawlinson gave a list of 246 characters and 120 variants. Since then, M. Oppert has given 318 as the number of the forms in more frequent use. The Assyrians had many gods, but Assur was their chief deity through all their history, and was called by them Sadi-Matati, or Mountain of the World. Nebo, with his consort Urmitu, the gods of Kalah and Nineveh, presided over learning; Shamas and Sin were the sun and moon gods; Merodach, also styled Bel, and his consort Zirrat-Banit, or Succoth-Benoth, emanated from Babylon; Ishtar, the analogue of Venus, was a favourite of Nineveh and Arbela; Nergal and Ninip were gods of war and the chase; Vul, the storm deity; Anu, the king of heaven; and Hea, the lord of hell; with many minor gods. They were a literary people, and gave great encouragement to the arts. Libraries of clay tablets were formed in each of the large cities; and art developed itself on the side of architecture and sculpture. They were skilled in metallurgy, workers in iron, copper, and bronze, and they excelled in printing, painting, weaving, and dyeing. Their knowledge of metallurgy was derived from the Akkadians, from whom also, in common with the Hebrews, they obtained their poetry.

George Smith, in his 'Assyria from the Earliest Times till the Fall of Nineveh,' gives a list of the Assyrian kings, with their approximate dates. The following portion of it is from 1450 to 607 B.C., and enumerates 37 rulers:—

Assur-Bel-nisisu,	B.C. 1450	Vul-nirari II.,	913
Buzur-Assur,	1420	Tugulti Ninip II.,	891
Assur-ubalid,	1400	Assur-nazir-pal,	885
Bel-nirari,	1370	Shalmaneser II.,	860
Budil,	1350	Assur-dain-pal (rebel king),	827
Vul-nirari I.,	1330	Samsi Vul IV.,	825
Shalmaneser I.,	1300	Vul-nirari III.,	812
Tugulti Ninip I.,	1271	Shalmaneser III.,	783
Bel-kudur-uzur,	1240	Assur-dan III.,	773
Ninip-pal-esar,	1220	Assur-nirari II.,	755
Assur-dan I.,	1200	Tiglath-Pileser II.,	745
Muttagil-nusku,	1170	Shalmaneser IV.,	727
Assur risilim,	1150	Sargon,	722
Tiglath-Pileser I.,	1120	Sennacherib,	705
Asser-Bel-kala,	1100	Esarhaddon,	681
Samsi Vul III.,	1080	Assur-Bani-pal,	668
Assur-rab-amar or Assur-rabur, about	1050	Bel-Zakir-iskum,	626
Assur-nimiti, „	1000	Assur-ebil-ili,	620, 607
Assur-dan II.,	930		

Sargon, who formed a great library at Calah, was murdered 705 B.C. His successor, Sennacherib, was also murdered by two of his sons, but his youngest son, Esarhaddon, defeated these brothers, and succeeded to the throne. In 670, he raised his son Assur-Bani-pal, or Sardanapalus, to be co-regent. At this time, Nabopolassar, viceroy of Babylon, B.C. 625, declared for independence. In B.C. 605, Nabopolassar sent his son Nebuchadnezzar, who expelled Necho of Egypt from it. His son Nebuchadnezzar ruled there from 604 to 561 B.C., and Babylon for a brief period became mistress of the world. Nabu Nahid was defeated in Borsippa, 555 B.C. Babylon city was taken by Cyrus, and Nabu Nahid died in Carmania. The succeeding dynasty was that of the Medes. For 200 years they had been partially under the Assyrians; Shalmaneser II., Vul-Nirari III., Tiglath-Pileser II., Sargon, Esarhaddon, and other Assyrian monarchs had compelled them to pay tribute. But, after the death of Assur-Bani-pal, Dejoices, son of Phraortes, invaded Assyria, but was driven back, and fell in battle on the plain of Rhages. His son Vakistar, the Cyaxares of the Greeks, subsequently made an inroad on Assyria, but had to return to his own dominions to meet an inroad of the Saci Scythians, who overran Media, Assyria, and Syria up to Askelon; but Vakistar (Cyaxares) recovered his authority, and combined with Necho of Egypt, Nabopolassar of Babylon, and the king of Armenia. They overran the country, and sat down for two years before Nineveh. A heavy flood broke down a part of its wall, and the Assyrian monarch gathered his wives and all his valuables in the palace, and set the building in flames.—*Smith's Ancient History; Assyria; Layard's Nineveh; Rawlinson's Ancient Monarchies.* See Babylonia.

AST, in N. India, is the west or setting sun. Ude ast tak tumhra rāj ho,—May your rule extend from east to west,—a Hindu form of benediction.

ASTA, or Patoo, a bast in use in Birbhum.

ASTACUS, a genus of long-tailed crustaceans, including the common lobster. A. fluviatilis is the craw fish.

ASTAK. HIND. Dried apricots with the kernels. Astak-be-maghz are without the kernels.

ASTARAK. ARAB. Storax.

ASTARKHI. ARAB. Red orpiment.

ASTARLAB. ARAB. An astrolabe.

ASTARTA, the Ashtaroth of the Bible, and Astarte of Greek authors, according to Chevalier Bunsen, is derived from the Egyptian word Hestoreth, the throne or seat of the Cow, *i.e.* the

Queen of Heaven, and it meant originally Nature, the divine Kosmos. But after the year B.C. 2500 or B.C. 2000, Astarta signified the polar star, which was dedicated to that primeval goddess. Astarte was the great divinity of the Phœnicians, the female power or Sacti of Baal whom the Greeks changed into Baaltis or Belthes. She was the chief deity of Sidon, but her worship was extended to the E. of the Jordan. Physically, she represented the moon. The name may be from the Babylonian Ishtar, the analogue of Venus.—*Ch. Bunsen*, iv. 350–352.

ASTEH, a surname of Arsaces, supposed to have been a descendant of the ancient Persian kings.

ASTER, a genus of plants belonging to the natural order Matricariaceæ. These are named from Aster, a star, and furnish nearly every variety of colour.

ASTERABAD, a province of Persia between lat. 36° 20′ and 38° N., and long. 53° 40′ and 57° 55′ E., bounded N. by the desert of Khiva, S. by the Elburz range, W. by the Caspian, and E. by the river Ashor. The province is sometimes included in Mazenderan, which it resembles in appearance, climate, and productions. This is the ancient Hyrcania, and is the paternal estate of the present king of Persia as chief of the Kajar tribe, who have entire possession of the province. Asterabad, the capital, is near the mouth of the river Ester, on a bay of the Caspian Sea. It is eighteen days' journey to Herat, and from thence, passing through the hilly country of the Hazara, you arrive at Kābūl on the eleventh.—*Mohun Lal's Travels*, p. 320; *Malcolm's Persia*, ii. p. 126; *MacGregor's Persia.*

ASTERACANTHA LONGIFOLIA. *Nees.*

Ruellia longifolia, *Roxb.* | Barleria longifolia, *Linn.*

Kanta-koolika,	BENG.	Gokantaka,	SANSK.
Bahel Shulli,	CAN.	Ikshugandha,	,,
Gokiura, Gokshura,	HIND.	Katu-iriki,	SINGH.
Talmakana, Ikshura,	,,	Nir-mulli,	TAM.
Phul Makhana,	,,	Nirugobbi, Gobbi,	TEL.
Wahel Shulli,	MALEAL.		

Grows in wet places all over India, and is a valuable mucilaginous diuretic in urinary diseases and dropsies, and cases of gravel.—*Ainslie; Powell*, i. p. 368; *Roxb.; Birdw. Bombay Products; Voigt.*

ASTERIA, of Pliny, the star rubies of the moderns, are found at Ratnapura in Ceylon.

ASTERIASTIGMA MACROCARPA. *Bedd.* This very fine tree grows on the ghats (2500 feet elevation) leading up to Peermede in the Travancore hills from Cottyam; it flowers in March. The fruit and leaves, except that the latter are entire, are exactly those of Hydnocarpus, but Colonel Beddome thinks it differs too much to authorize its being referred to that genus; it may, however, be co-generic with the little known Taraktogenos of Hasck.—*Bedd. Fl. Sylv.* p. 266.

ASTHAN, Astana. HIND. A threshold, a fakir's residence. Astāna-dār, a place-holder, a holy man.

ASTHENOSOMA. *Grobe.* A sea urchin of the Philippines. Its short spines are tubular, and when penetrating the flesh produce a sharp, stinging pain.

ASTHI SINCHANA, lit. bone sprinkling. The Hindu ceremony of sprinkling the bones with water a few days after burning.—*W.* See Ashta.

ASTMABAYDA. SANSK. Illecebrum lanatum.

ASTOR, a mountainous district on the borders of Little Tibet, to the west of Ladakh. The people speak a dialect of the Dardu language.

ASTRACAN. Hindus practising their faith extend to Astracan and the eastern parts of the Russian empire.

ASTRAGALUS, a genus of plants belonging to the natural order Fabaceæ. Among its species are A. Aristatus, A. Creticus, A. Dicksonii, A. Gummifer, A. Verus, and A. Strobilifera, of Mount Lebanon, Crete, Ionia, and the Peloponnesus, producing the gum-tragacanth of commerce, which is used as an ingredient in dye-stuffs, as a glaze for calico and silk, and in medicine as a styptic powder, and in lozenges. Its price in England is 4s. to 8s. the pound. It is largely produced in Persia, and exported to Baghdad, Bassora, and India. Two species in Kaghan are called Bachmal and Kenchirunga, and the Hindi term Makhmal is given to A. spinosus, but none of these have been ascertained to yield tragacanth. A. Hamosus, *Linn.*,—the plant, Taj badshahi; the pods, Aqlil-ul-Malik, ARAB.,—is a plant of the Panjab. A. Spinosus, Atnil, HIND., has a hard, tabulated root-stock, with numerous long, thin, spinous branches.—*Powell, Handbook; Voigt; O'Shaughnessy; Hogg, Veg. King.; Poole; Von Mueller.* See Tragacanth.

ASTRAGALUS MULTICEPS. *Wall.*

Kandei, Kandiara,	CHEN.	Didani, Tinani,	RAVI.
Much kanta gagar-kand, Lad-pisar,	,,	Jandi,	,,
Buta-i-Miswak,	HIND.	Spinaghzai,	TR. IND.
Atnil, Kiutu,	PANJ.	Sarmul, Pishkan,	,,
		Bizu-da, khan,	,,

A very spinous plant, with yellow flowers, somewhat resembling gorse.

ASTRAK. HIND. Gum ammoniac.

ASTRANG. HIND. Atropa acuminata, *Royle.*

ASTROLOGY, the Fann-u-Tanjim of the Arabs, is largely believed in throughout Asia; but even some of Cardinal Richelieu's journeys were determined by astrologers; and an astrological almanac, bearing the name of Zadkiel, is still published in London. Astrologers are largely consulted by Hindus on questions relating to the ordinary affairs of life,—whether an article bought for sale will produce profit or not; whether a child to be born will be a boy or a girl; will a wife bear children or not? will a wife keep a man in health or not? or a Hindu of position lives in concubinage but abstaining from marriage, having been warned by an astrologer that he would die if he entered on matrimony. Stellar astrology is of the most ancient date amongst the Hindus. The ancient Aryans, with Agni, Vayu, Indra, Varuna, etc., worshipped the sun, the moon, the graha or planets. The moon, Chandra, was the object of divine honours, and the centre of numerous legends, and the Sankara-vijaya, ch. xliv., mentions a sect of moon-worshippers. The worship of the stars is described at length in the Yajnavalkya, and to the present day Surya, the sun, and groups of stars, particularly the Nakshatra, continue objects of worship from Vedic times, as the sun and moon were gods of the Babylonians. At the present day, there are *dies fasti* and *dies nefasti* with the Hindus, and the astrologer plies his trade even in the smallest village. The bondage in which the Tamil races are held by astrology is the occasion of never-ending expenses, and the fruitful source of unceasing anxieties to all classes. The horoscopes

of all, except the very lowest, are written out, and consulted on occasions of any importance. Before setting out on a journey, or commencing to plough, sow, etc., the astrologer is asked about a lucky time. Hence favourable opportunities are often lost. Indeed, never does a Hindu take any step of importance without first consulting the stars. This is usually done by reference either to a Brahman astrologer or to the astrological almanac. When business will not admit of delay, a Hindu will consult either the Sivagyanmut, or 'advices of Siva,' or the Cuchuns, or 'sayings' of Khona, the wife of Varahamihira, the great astronomer, who was one of the nine gems in the court of Vikramaditya, the great monarch of Malwa. The planets are invoked in the Vedic books, and their worship is prescribed in the Gajnaralkya. Chand, the moon, was from the time of the Brahmans the centre of numerous legends and the object of divine honours. In Ceylon, the preparation of the ephemeris predicting the weather, and other particulars of the forthcoming year, appears to have undergone little or no change since this custom of the inhabitants of India was described by Arrian and Strabo. But in later times the Brahmans and the Buddhists have superadded to that occupation the casting of nativities, and the composition of horoscopes for individuals, from which the sophistæ described by Arrian abstained. It is practised alike by the highest and most humble castes of Singhalese and Buddhists, from the Vellala, or agricultural aristocracy, to the beaters of tom-toms, who have thus acquired the title of 'Nakatiya,' or astrologer. The attendance on particular ceremonies, however, called Bali, which are connected with divination, belongs exclusively to the latter class. The Mahomedans of British India keep their calendar or Jantri, and the Hindu Joshi calculates the ephemeris. The Hindus also have their calendar or panjangam; but they all practise divination from books, for which the Chintamani pastakam is in use in the south of India.—*Tennant's Christianity in Ceylon*, p. 184; *Trav. of a Hind.* i. xxi. See Almanac; Divination; Ordeal.

ASTRONOMY, the Jyoti Sastra of the Hindus, and Naj'm of the Arabs, is supposed to have been first known to the Chaldæans. It has, however, been attributed to the Egyptians, who probably derived their knowledge from a more ancient nation. The Chinese have no right; and when the claims are investigated of the Indians, Persians, and Babylonians, it is found that their systems of astronomy belong to a latitude considerably higher than Benares, Persepolis, or Babylon, but somewhere between 35° and 55° N. Brahmanical books teach that the longest day in summer is twice as long as the shortest day in winter, which is not the case in any part of India. Zoroaster taught the Persians similarly; and Ptolemy obtained ancient Babylonian records of star risings, belonging to latitudes not lower than the 40° parallel. Cassini, Bailly, and Playfair have stated that observations taken by Hindu astronomers, upwards of 3000 years before Christ, are still extant, and prove a considerable degree of progress already made at that period; but La Place and De Lambre deny the authenticity of the observations, and consequently the validity of the conclusion. Yet all astronomers admit the great antiquity of the Hindu observations. The astronomical rule relating to the calendar was drawn up in the 14th century before Christ; and Parasara, the first writer on astronomy of whose writings any portion remains, appears to have flourished about the same time.

The astronomical symbols of the planets have been derived, in all probability, from Chaldæan and Assyrian sources. The symbol of the planet Mercury (☿) is the Caduceus, which, like the Petasus, is an emblem of eastern origin. The symbol of Mars (♂) represents a round shield and spear. The symbols of Jupiter and Saturn (♃ and ♄) are doubtful, but are probably the Syro-Arabic forms of the numbers 4 and 5, indicating the position of these bodies in the planetary five. The symbol of the earth (♁) is the inverted emblem of life, and probably bears some reference to terrestrial corruption and decay. The astronomical systems of the old Arabian authors are founded on those of Hipparchus and Ptolemy. The Arab prince Albategnius stated the procession of the equinoxes to be 1° in 66 years.

The *Divisions of Time* of all nations are astronomical. From the remotest times, amongst the Chaldæans, Egyptians, Arabians, Hindus, Greeks, and the natives of northern Europe, there has been a hebdomadary division of the month. In this, the days are commenced with the day of the sun, followed by that of the moon, and the five planets, Mars, Mercury, Jupiter, Venus, and Saturn. The Hindus also reckon by the light and dark halves of the moon, which they designate Kista paksham and Sakla paksham.

The divisions of the day times have been various among the nations of antiquity, and there are still variations in these modes in the modern world. The manner of reckoning the days by the ancient Jews, and which subsists amongst that people at the present time, is to commence the day at a certain hour of the evening, and to finish it on the next evening at the same hour. Thus their Sabbath begins on the afternoon of Friday, and is completed on the afternoon of Saturday. The Roman Catholic Church also commences its festivals in the evening; and this custom is retained amongst the British in some of their popular observances, such as the eve of St. John and Christmas eve. The civil day of Britain commences at twelve o'clock at midnight, and lasts till the same hour of the following night. The astronomical day begins at noon, and is counted up to twenty-four hours, terminating at the succeeding noon. In parts of Italy and of Germany, the day is held to commence about sunset, and the hours are counted on till the next sunset.

The division of the day among Mahomedans is chiefly subservient to the stated times of performing their devotions, and is not generally very accurate. They begin their account at sunset, reckoning twelve hours from thence to sunrise, whether the night be long or short; from sunrise to sunset they also reckon twelve hours, and consequently a night hour is longer in the winter than an hour of the day, and in summer the hours of the day are longer than those of the night. At the equinoxes alone, all the hours are of equal length, and then they coincide with those adopted by the British in commencement and duration, differing, of course, six hours in

enumeration, so that the British six o'clock is their twelve, and the British seven is their one, etc.

The Chinese begin the day an hour before midnight, and divide the twenty-four hours into twelve parts of two hours each. Instead of numbering their hours, they give a different name to each period of two hours. The names and corresponding time, according to the British mode, are as follows:—

Tsze,	11	to	1 morning.	Woo,	11	to	1	afternoon.
Chow,	1	,,	3 ,,	We,	1	,,	3	,,
Yiu,	3	,,	5 ,,	Shin,	3	,,	5	,,
Maou,	5	,,	7 ,,	Yew,	5	,,	7	,,
Shin,	7	,,	9 ,,	Seo,	7	,,	9	,,
Sze,	9	,,	11 ,,	Hae,	9	,,	11	,,

The word Keaou is added when the first hour of each period is intended, and Ching for the last. Thus, Keaou tsze is eleven at night, and Ching tsze, twelve at night; Keaou Chow, one in the morning; Ching Chow, two, etc. The word K'hih, 'quarter,' is used after the hour with the numerals yih 1, urh 2, or sau 3, to subdivide the hours into quarters, which is the smallest division commonly employed. Example—Ching maou yih k'hih, a quarter-past six; Keaou woo urh k'hih, half-past eleven.

Both the Hindu and the Mahomedan of India divide the day into four watches, and the night into the same number, the day being considered to extend from sunrise to sunset. The watches are again divided into ghuree, which are 24 minutes each in length. As in the summer the days are longer than the nights, each day watch will then be longer than any watch of the night, though, from the necessity of each watch comprising an exact number of ghuree, there will generally be the difference of 1 ghuree between two watches of the same day. There is much variation in this respect, and although, in the latitudes of India, the difference is not so great as it would be in a country more towards the north, it is still so inconvenient that the natives of India rarely understand their own method of dividing the day, and readily adopt the British mode.

A mode of denoting time has been adopted by the Hindu, which is not without ingenuity. They provide a thin metal cup, a clepsydra, through the bottom of which a small hole is drilled. This cup swims on the surface of a vessel of water, until the water, running gradually through the hole, fills the cup, which then sinks. The hole is made of such a size, that the water rising sinks it in 24 minutes. A sort of gong, or shallow bell-metal pan, called a ghurial, is hung up near the vessel to be struck at the expiration of each ghuree, which is known by the sinking of the cup. A man, who is employed to watch the sinking of the cup, and to strike on the bell, is called a ghuriali. For the complete establishment of a ghuree, six or eight servants are necessary, who keep watch in turns. Such an expense can of course be afforded only by the wealthy; but the right or title to use a ghuree is regal, or granted by the rulers, and the sound of a gong is usually loud enough for a whole village, and serves the purpose of a church clock.

Monthly Division.—Almost all nations have regulated their months and weeks in a great degree by the revolution of the moon. Some have endeavoured to unite this division with the annual course of the sun by an augmentation of days at the end of each year, or by adding a thirteenth month at the end of every third year. The Jews and the Athenians followed this latter method; the Macedonians and some nations of Asia assigned their months 30 and 31 days; the Turks and the Arabs have 29 and 30 days.

Yearly Division.—A considerable variation prevailed generally amongst the nations of antiquity, and still partially prevails with regard to the commencement of the year. The Jews dated the beginning of the sacred year in the month of March; the Athenians in the month of June; the Macedonians on the 24th September; the Christians of Egypt and Ethiopia, on the 29th or 30th of August; and the Persians and Armenians, on the 11th of August. The Jewish civil year begins on the first day of the month Tisri, which year corresponds with the British 9th of September; that of the Mahomedans begins on the first day of the month Maharram, which goes round the year with the lunar months. Nearly all the nations of the Christian world now commence the year on the 1st of January; but, so recently as 1752, even in Britain, the year did not legally and generally commence till the 25th of March. In Scotland, at that period, the year began on the 1st of January. The difference caused great practical inconvenience, and January and February, and part of March, sometimes bore two dates, as we often find in old records, as 1711–12.

The year, properly so called, is the solar year, or the period of time in which the sun passes through the twelve signs of the Zodiac. The period comprises 365 days, 5 hours, and 48 minutes, 51 seconds, 6 decimals, and is called the astronomical year.

The Calendar, the Jantri of the Hindus, is a table of the days of the year arranged to assist the distribution of time, and to indicate remarkable days connected with devotion or business.

The Romans called the first days of each month Calends, from a word which signified 'called,' because the pontiffs, on those days, called the people together to apprise them of the days of festival in that month. Hence we derive the name of Calendar.

The Roman Calendar, which has in great part been adopted by almost all nations, is stated to have been introduced by Romulus, the founder of this city.

Many of the festival days of nations relate to the sun, and those of the Hindus will be found under that heading. Suffice it here to mention Makar Sakranti, on the sun entering Makar or Capricorn; the Shoondooh tiny ship festival, on its turning back from Capricorn; the Basant Pachami, and Rath Saptami, and Holi, in honour of the spring and vernal equinox; the Ashadi Ekadasi and the Kartik Ekadasi, relating to the beginning and ending of the S.W. monsoon, as also the Shravan and Dasara, the ending of the monsoons.

Jai Sing, II. raja of Jaipur, was a celebrated astronomer. He erected observatories at Jeypore, Dehli, Benares, Muttra, and Ujjain, and he was able to correct the astronomical tables of De la Hire, published in 1702, before the French accepted the Newtonian astronomy. His observatory at Benares still exists. He left behind him lists of stars collated by himself, the Tij Muhammad Shahi, so named because at the request of Muhammad Shah he had undertaken the reformation of the Indian

calendar.—*Elphinstone's India; Proctor's Saturn*, p. 197; *Barth's Religions of India; Imp. Gaz.* p. 218. See Aswini.

ASTRUC, a brave officer commanding the French army when it was attacked on the 10th May 1753, by Major Lawrence, in the island of Sri Rangam. He was defeated at the battle of the Golden Rock, and again defeated and taken prisoner on the 21st September 1753, at the battle of the Sugar Loaf Rock.—*Orme.*

ASTRŪK. GUJ., HIND. Gum ammoniac.

ASTUR TRIVIRGATUS. TEMM. Goshawk of Nepal, India, and the Malay countries. The other Indian goshawk is A. palumbarius, a native of Europe and Asia; in India it is confined to the sub-Himalaya.

ASTYAGES or Apanda, a Persian king of the Kaianian dynasty. He was son of Isfandiar.

ASUBHA CHAWANA, in Singhalese Buddhism, the meditation of misfortune.—*Hardy.*

ASUL, also Atul. HIND. Tamarix orientalis.

ASUR. SANSK. A demon, an enemy of the gods; an order of beings who reside under Maha-Meru. Asura, demoniacal, is a form of marriage recognised by Hindu law, in which the bridegroom gives as much wealth as he can afford to the bride, her parents and relations. It is also a term in general use in Hindu writings, to indicate a demon, a giant, an enemy of the gods, supposed to be derived from a, privative, and sura, light; also from as, to be, and ura, living, spiritual. Dowson says it is the same as Ahura of the Zoroastrians. In the oldest parts of the Rig Veda it is used for the supreme spirit; in the later parts it means a demon, and the Brahmanas relate many battles between the Asura and the gods. It is an epithet frequently applied to the ancient Nag or serpent race in the sacred writings of the Hindus. Colonel Tod (i. 559) believes it to have been applied to the Assyrians. In practice it seems to have been used to designate any of the enemies opposing the advancing Aryans. It is a term much employed in Hindu legends from a very early period down to the time of Krishna. But Daitya, Danava, Dasya, Rakshasa, are other names applied by the intruding Aryans to the races whom they found in occupation of India.—*Eastern Monachism*, p. 434; *Tod; Garrett; Wilson; Dowson; Taylor.*

ASURA DHRUVA, the South Pole, its inhabitants, opposed to the Sura of the North Pole.

ASWA or Asi, an Indu or Lunar race, the descendants of Deomida and Bajaswa, who were spread over the countries on both sides the Indus, and probably gave their names to the region now called Asia. Aswa and Hya, synonymous Sanskrit terms for horse, the asp of the Persians, was applied by the prophet Ezekiel to the Getic invasion of Scythia, B.C. 603,—'the sons of Togarmah riding on horses;' and described by Diodorus, the period the same as the Takshak invasion of India. Amongst the Scythians, the horse was sacred to the sun, and in India, Sept-Aswa is the seven-headed horse of Surya, the sun. The Assa-seni, the Ari-aspi of Alexander's historians, and Aspasiana, to whom Arsaces fled from Seleucus, and whom Strabo terms a Getic race, have the same origin, hence Asi-garh, the fortress of the Asi (erroneously termed Hansi), and Asgard were the first settlements of the Getic Asi. Alexander received the homage of all these Getic races, at the mother of cities, Balkh, seat of Cat'h-haian Khan, according to Marco Polo, from whom Milton took his geography.

Hi, Hya, Hywor, and Aswa denote the steed in Sanskrit and its dialects. In Gothic, hyrsa; Teutonic, hors; Saxon, horse. Of the three great branches of the Indu (Lunar), Aswa bore the epithet of Mida (pronounced mede), viz. Pooramede, Uja-mede, and Deo-mede. The Aswa invaders of Assyria and Media, the sons of Bajaswa, are expressly stated to have multiplied in the countries west of the Indus, emigrating from their paternal seats in Panchalica.—*Tod's Rajasthan.*

ASWAD. El-Aswad-ibn-Kaab, of the time of Mahomed, was the chief of the tribes of Ans, in Arabia, and a man of eloquence; he embraced Mahomedanism, and again seceded to set up a religion of his own. He was slain on the instigation of Mahomed, shortly before the demise of the latter.

ASWAGANDHI. TEL. Physalis somnifera.

ASWALAYANA, pupil of Saunaka, lived about B.C. 350, and was the predecessor of Katyayana. He was the author of the Srauta Sutras, Grihya Sutras, and other ritualistic works; he was also a founder of a Sakha of the Rig Veda, the Aswalayana Sutra, which contains the enumeration of the Gotras and their subdivisions, but in a very involved and unintelligible style.—*Dowson; Garrett.*

ASWA MEDHA, the sacrifice of the horse (Medha, SANSK., signifies to kill). It was practised in India on the Ganges and Sarjoo, by the Solar princes, 1200 years before Christ, but its occurrence within any recent period is not known. It seems to have been a Scythic rite, where often the horse, after certain ceremonies, was liberated, in fulfilment of a vow, and sacrificed on the deaths of chiefs. Up to the present day, in India, cows and bulls are let loose in fulfilment of vows, but the liberation of a horse is not now known. Col. Tod surmises that at the grand solstitial festival, the Aswa Medha, or sacrifice of the horse (the type of the sun), which was practised by the children of Vaivaswata, the 'sun-born,' was most probably simultaneously introduced from Scythia into the plains of India, and west by the sons of Odin, Woden, or Boodha, into Scandinavia, where it became the Hi-el or Hi-ul, the festival of the winter solstice, the grand jubilee of northern nations; and in the first ages of Christianity, being so near the epoch of its rise, gladly used by the first fathers of the church to perpetuate that event. It was practised, he adds (*Rajasthan*, i. p. 63) by the Getes in the time of Cyrus; deeming it right, says Herodotus, to offer the swiftest of created to the chief of uncreated beings; and this worship and sacrifice of the horse has been handed down to the Rajput of the present day. The sanguinary part of this ceremony would, according to Mr. Colebrooke, appear, like that of the parushamedha, or human sacrifice, to be merely nominal, the horse, after certain ceremonies, being let loose. Mr. Ward, however, states that he was liberated only for a twelvemonth, when he was again taken, and, being magnificently caparisoned, was, after various preliminary proceedings, slain by the hota or priest. 'He who offers a hundred sacrifices of a horse is entitled to the throne of Indra.'—*Cole. Myth. Hind.* p. 374. And in the Rig Veda are two hymns describing the sacrifice of the horse, which leaves no doubt that the early ritual of Hinduism did authorize this

sacrifice as a burnt-offering to the gods. As, however, these two, in all the body of hymns in the Rig Veda, alone relate to it, it may be inferred that even then the rite was falling, or had already fallen, into disuse. As described in the Rig Veda, it appears that the horse was immolated, and afterwards cut up into fragments, part of which were eaten by the assisting priests, and part offered as burnt-offering to the gods. This sacrifice is described in the Puranas as one of the highest order, insomuch that if it be performed a hundred times it elevates the sacrificer to the throne of Swarga, and thereby effects the deposal of Indra himself. In the Rig Veda, however, the object of this rite seems to be nothing more than the acquiring of wealth and posterity; and even in the Ramayana it is merely performed by king Dasaratha as the means of obtaining a son by a universal monarch. It was also performed by kings in celebration of auspicious events, especially after marriage, in the hope of securing issue, when largesses were distributed to the Brahmans and officiating priests. It seems also to have been performed by kings in assumption of supremacy, on which occasion their tributary sovereigns were the officiating priests. On this point Col. Tod mentions that when Yudishtra was firmly seated on his throne, he resolved to signalise his reign and paramount sovereignty by the solemn rites of Aswa Medha and Raja-Su, in which princes alone officiate, every duty, down to that of porter, being performed by royalty. The 'steed of sacrifice' was liberated under Arjuna's care. He wandered whither he listed for twelve months; and none daring to accept this challenge of supremacy, he was reconducted to Indraprestha, where, in the meanwhile, the hall of sacrifice was prepared, and all the princes of the land were summoned to attend. The hearts of the Kuru burned with envy at the assumption of supremacy by the Pandu, for the prince of Hastinapur's office was to serve out the sacred food. Animate creatures and inanimate things have been objects of adoration amongst most of the nations of the earth; the sun, the moon, and all the host of heaven; the sword, the serpent, and the horse; and the last seems to have been worshipped as a type of the sun by all the Scythic races. The last Aswa Medha was undertaken by the celebrated Sowai Jey Singh of Amber, but the milk-white steed of the sun was not turned out.—*Williams' Story of Nala*, pp. 119-209; *Tod's Rajasthan*, i. p. 63.

ASWA-PATI. SANSK. A title formerly borne by some of the ancient rulers of the south of India. It means lord of the horse.—*W.*

ASWATHAMU. TEL. Ficus religiosa, *L.*

ASWATTHAMAN, a son of Drona and Kripa who fought in the Kaurava ranks at Kurukshetra. After the last day's fight, he, Kripa, and Kritavarman alone survived. These entered the Pandava camp at night, found Dhrishta Dyumna asleep, and Aswatthaman trampled him to death as he lay; he also killed Sikhandin, the other son of Draupada, also the five young sons of the Pandava, and carried their heads to the dying Duryodhana.—*Dowson.*

ASWICULAPA, in Hindu mythology, genii.

ASWINA, the first month of the Hindu lunar year. According to Warren, the 6th solar Hindu month, when the sun is in the sign Canya, answering to the Tamil month Paratasi. According to Ward, this word is named from the stellar mansion Aswini, the name of a mare. During the dark half of the moon in the month Aswin, when the sun is in Virgo, September and October, obsequial rites are daily celebrated.—*Wilson, Gloss.*

ASWINI, the Gemini of the Hindu Zodiac. In Hindu mythology, a form of Parvati, or the earth goddess, as a mare, into which Surya, the sun, breathed, producing the Aswini Kumara.

ASWINI KUMARA, according to one legend, were two sons of Surya by Sangnya, who taught the art of medicine.—*Taylor.* In Hindu mythology, the physicians of the gods. Among the inferior deities, the Marut, or winds, hold the first place; and next to them, or nearly on the same level, the Aswini. These are apparently twins or brothers, and sons of the sea (Sindhu). But sometimes, as Dr. Wilson notices, they seem to be the precursive rays of the sun; at other times, perhaps the sun and moon as rising out of the sea; so that the Vedic Hindus evidently had settlements on the sea-coast or on some water which they called a sea. The Aswini are almost invariably represented as having a triangular car with three wheels, drawn by asses; while their name appears to be derived from Aswa, a horse, which would seem to identify them with the two horses of the sun. Altogether, they are a perplexing pair; and the sakta addressed to them are richest of all in legend. Their connection with Indra (Jupiter), their patronage of mariners, their twin brotherhood, the two horses and stars found on their coins, identify them with the Grecian Dioscuri, Castor and Pollux.

ASYLUMS.

Asyle, Refuge, . . FR. | Bast, ... PERS.
Asilo, refugio, . . IT., SP. |

Refuge places, or sanctuaries, are known in Persia as Bast. The custom prevailing in the Mahomedan east, of having places of asylum, owes its origin probably to the Mosaic law concerning the six cities of refuge, which were allotted to such as had slain any person at unawares. 'Then shall ye appoint you cities to be cities of refuge for you; that the slayer may flee thither, which killeth any person at unawares. And they shall be unto you cities for refuge from the avenger; that the manslayer die not, until he stand before the congregation in judgment,' etc. (Numbers xxxv. 11, 12). See likewise Joshua xx. 1-9 for the names of the six cities of refuge, and the rules laid down for them. A place of refuge, somewhat similar to the Persian 'Bast,' existed formerly in the city of London, where debtors could not be molested by their creditors, and were out of reach of pursuit. This place bore the name of Alsatia, and embraced the space between Blackfriars Bridge and Temple Bar, leading to the water-side. A similar place existed in Liverpool, and Holyrood precincts in Edinburgh were similarly free.

There was an ancient law of Athens analogous to the Mosaic, by which he who committed 'chance-medley' could fly the country for a year, during which his relatives made satisfaction to the relatives of the deceased. The Greeks had asyla for every description of criminals, which could not be violated without infamy. Gibbon gives a memorable instance of disregard to the sanctuary of St. Julian, in Auvergne, by the soldiers of the Frank king Theodoric, who divided the spoils of the altar, and

made the priests captives,—an impiety not only unsanctioned by the son of Clovis, but punished by the death of the offenders, the restoration of the plunder, and the extension of the right of sanctuary five miles around the sepulchre of the holy martyr. Asylums exist in China for aged men and women, for the blind, and for lepers. For the aged of both sexes, it is only those who have no relations, or whose relations are really so poor as to be incapable of maintaining them, who seek admittance. There is an asylum in Bombay for animals, and another in Surat, called Pinjrapol.—*Frere, Antipodes*, p. 242; *Tod's Rajasthan*, i. p. 527; *Baron C. A. De Bode's Travels.*

ASYSTASIA COROMANDELIANA. *Nees.*

Ruellia Zeylanica, *Roxb.*	R. secunda, *Vahl.*
R. intrusa, *Vahl.*	
Midde-kire, . . TAM.	Tappeta, . . . TEL.
Mukku mungera, TEL.	Venna Katte-tige, ,,

One of the Acanthaceæ, a common weed in hedges; flowers either lilac or white; the leaves are used mixed with others as greens. A. Formosa abounds on the Coromandel coast; the flowers are purple, and it is readily grown from seed.—*Riddell; Jaffrey.*

AT, and Ata-chika, HIND. Anona squamosa, custard apple; also Anona discolor.

ATA. HIND. Wheat-flour. See Farina.

ATABEG, also Atabek, in ancient Persia, an officer or petty prince, a ruler of a province. Luristan seems to have been the latest Persian territory so occupied, until Chengiz Khan, with his destructive hordes of Tartar and Moghul, overwhelmed the land, spreading fire, slaughter, and pillage in every quarter. It was the title borne by various powerful Amirs at the court of the Seleucidæ, which they retained after becoming independent in different provinces of Irak, Azarbijan, etc. The title means 'the prince's father.' It was held at the court of Dehli under the translated form Khan Baba, and was given by Akbar to Bahram Khan, who had been an officer of Humayun, and was Akbar's confidential minister. —*Elph. Hist. of India*, ii. 216.

ATADI. SINGH. Chiretta.

ATAI, Aute, Fara, Fata, Paiori, Tiere, and Tou, trees of Tahiti; their timbers are used for house and ship carpentry.

ATAK, a village and fort 56 miles from Rawal Pindi, known to Europe as Attock. See Attock.

ATAKA-MAMIDI. TEL. Boerhaavia erecta, *L.*; B. recumbens.

ATALANTIA MONOPHYLLA. *D.C.*

Limonia monophylla, *L.*	Turræa virens, *Koen.*
Limonia pumila, *Burm.*	Trichilia? spinosa, *Willde.*
Wild-lime, . . . ENG.	Kat-elle-micha, . TAM.
Makhur limbo, . . MAHR.	Adivi nimma, . . TEL.
Malvaregam, . MALEAL.	Konda nimma, . . ,,

This small-sized tree is found on the Malabar and Coromandel coasts, and is one of the most common trees in the greenwood jungles or 'raees' about the ghats of the Bombay Presidency, and at Mahabaleshwar; it is less common below and inland. Its hard, heavy wood is white or pale yellow, and is very fine or close-grained; it is, however, not procurable in pieces which would square more than four inches, and but for this it would be suitable for cabinet purposes. Wight also figures A. floribunda; and Voigt, with a note of interrogation, names A.? pubigera as a shrub of Assam.—*Jur. Reports, Mad. Exhib.; Dr. Wight; Dr. Gibson; Hogg, Veg. King.; Voigt.*

AT-ALARI. TAM. Polygonum barbatum.

ATALIK is literally 'one who fills the place of a father.' It was in the earliest times among the Turko-Tartars the title of those nobles of the country who acted as counsellers of the princes. It has also the meaning of guardian, tutor, and instructor, and it is only in modern times that it is found in the sense of vizir or minister. The Sheibanides and Ashtarkhanides had several ataliks, one forming part of the suite of each prince. The present Khan of Khiva has a definite number of ataliks. The rulers of Bokhara and Khokand confer it as a title of distinction. Atalik Ghazi was a title granted after the middle of the 19th century by the Amir of Bokhara, to Yakub Beg, who united Khokand and Yarkand and Kashgar under his rule.—*P. Arminius Vambery, Bokhara*, p. 330.

ATANDAY. TAM. Capparis horrida, *L.*

ATANGO, a Japanese deity whose temple is at the top of the Atango-yama hill. 'Yama' is the Japanese for mountain or hill, as 'Fusi-yama,' 'O-yama,' etc.—*Frere, Antipodes*, p. 425.

ATAP. MALAY. Leaves of Nipa fruticans, used as thatch. This palm grows very abundantly in Tenasserim, the Malay Peninsula, and Eastern Archipelago. The thatch is made of the fringe of this palm's leaves, doubled down and sewed on sticks or lathes of bamboo.

ATARI, a ruined fort in the Multan division of the Panjab, identified with the Brahman city taken by Alexander.

ATASH. PERS. Fire. Atash bahram, a fire temple of the Parsees or Gabr sect, or Zoroastrians. Six of these are in India. It is also known in Hindi as Atash-kada or Atash-khana. Pottinger says that at Yezd, styled Dar-ul-Ibadat, or seat of religion, the Guebres (Gabr) had an Atash-kada (which they assert has had the sacred fire in it since the days of Zoroaster) in their own compartment of the city, but for this indulgence the Persian government taxed them at twenty-five rupees each man.—*Wilson; Pottinger's Tr.*, p. 127.

ATASH BAZI. HIND. Fireworks.

ATASHI GULABI RANG. HIND. Amongst dyers, a bright rose colour, from atash, fire.

ATASH KHOR. PERS. Tetrao rufus, *Linn.* The two Persian words signify fire-eater. It is the chakor partridge of India.

ATASI. SANSK. Linum usitatissimum, *L.*; flax.

ATAVI DEVI, the Hindu Diana, Saraswati.

ATCHA-MARAM. TAM. Bauhinia racemosa. Diospyros ebenaster; any of the ebony woods.

ATCHAR. HIND. Pickles.

ATCHEMPETTA, a town belonging to the Kalleri race, 12 miles west of Tanjore.

AT-DEMMATA. SINGH. Gmelina arborea.

ATEES. HIND. The root of Aconitum heterophyllum forms the true medicinal Atees of the Indian bazars, employed as a tonic in fevers. But the substance sold under that name in the south of India, perhaps over India generally, is quite inert, for two drams as a dose have been given. O'Shaughnessy mentions that the spurious Atees roots are the dry tubers of Asparagus sarmentosus; but the same term, in the south of India, is applied to linseed, also known as Alsi, Tisi, and Mashina. According to Ainslie, Atees is the Hindustani name of the bark of a species of Betula, used in the northern parts of India for dyeing chintz red, and which is sometimes, though

rarely, brought to the Coromandel coast. The root of Aconitum heterophyllum, the true Atees, has long been celebrated as a tonic and valuable febrifuge; it is intensely bitter and slightly astringent, with an abundance of farina. The true, intensely bitter Atees yields to water 18 per cent., to alcohol 32. In any trial of this medicine, prescriptions should invariably give the vernacular name, to prevent confusion with the formidable aconite.—*Royle, Cat. Ex.*, 1862; *Ind. Ann. Med. Sci.* April 1856; *O'Shaughnessy, Bengal Dispr.; Ainslie's Mat. Med.; H. f. et T. O.*

ATENEE PROMACHOS. At a meeting of the Bengal Asiatic Society, there was exhibited an engraved figure of Atenee Promachos on red cornelian, of Greek execution, from the N.W. of India, being, according to Colonel Cunningham, a copy of the celebrated statue by Phidias in the Parthenon.

A'TERAN. HIND. A frame for winding off thread previous to forming skeins.

ATETI, the female power of Wak, the supreme being of the Galla race of Shoa.

ATEUCHUS SACER, the sacred beetle of the Egyptians, found in Egypt and western Asia.

AT'H. HIND. Eight. See At'h-Bhaia; At'h-Cowrie.

ATHABOO, near Tinnevelly, 3200 feet above the sea, with a rainfall of 40 inches. Tea trees grow luxuriantly.

ATHAIL. PANJ. Astragalus multiceps.

ATHALE, also Addale. TAM. Jatropha glauca.

ATHAMANTA MACEDONICA, a plant used in the east as a perfume for clothes. It is for Europeans over penetrating.—*Hogg, Veg. King.* p. 378.

ATHAMBINANA, seven great unburnt relics of Sakya, viz. 4 canine teeth, 2 collar bones, and the frontal bone. Princes erected pagodas and relic-temples (tzedee) over them.

ATHANASIUS NIKITIN. A citizen of Tver, who, about the year 1470, in the time of Ivan III., visited the kingdoms of the Dekhan and Golconda, but is reported to have died on his return, before he reached Smolensk. The record of his voyage was written by himself, and delivered to the Diak, a kind of secretary of state to the Grand Duke.—*India in the 15th Cent.*

ATHARAVA, the fourth book of the Vedas. It comprehends the whole science of Hindu theology, metaphysics, and philosophy. It was arranged by Vyasa, and it was taught by the sage Sumanta to his pupil Kabandha.

ATHARVAN. SANSK. A class of priests descended from a man named Atharvan, who seems to have been the first to institute the worship of fire before the E. and W. Iranians separated.—*Monier Williams.*

AT'H-BHAIA. HIND. A branch of the Bazigar, athletes and tumblers.

AT'H-COWRIE, in Bengal, the distribution of eight kinds of parched peas, rice, sweetmeats, with cowries and pice, amongst the children of a Hindu house, on the eighth day after a child is born in the family.

ATHENE, a genus of birds of the family Strigidæ, and sub-family Atheninæ; several species occur in S.E. Asia.

ATHEREOSPERMA MOSCHATA, of the order Atherospermaceæ, *Lindl.*, a plant of Australia, where its bark is infused and partaken of as tea.—*Hogg, Veg. King.* p. 667.

ATHERINA. Of this genus of fishes, several Indian species are known, A. Australis, A. Brownii, and A. Japonica. A. Brownii is the Clupea of authors. A. Forskali, *Russell*, is the whitebait of Malabar. Engraulis Russellii, *Bleeker*, is also so called.

ATHERURA, a genus of mammals of the family Hystricidæ, and sub-family Hystricinæ. Only one species of Atherura is known in India.

ATHI. BURM. Fruit.

AT'HI-KURUTHI, a subdivision of the Nair race.

ATHI THRIPELI. MALEAL. Pothos officinalis.

ATH-MALIK, a tributary state in Orissa, with a chief with the title of raja. Its population, 14,536 in number, consists of the Gond, Khand, Pan, Chasa, Goala, Darnal Goala, Sud, and Mahomedans.—*Imp. Gaz.*

AT'H-MAS. HIND. Lands repeatedly ploughed for eight months, from Asbagh to Magh, for sugarcane.

ATH'R or Asr. ARAB. Footstep or footprint. Similarly to the Pag of Gujerat, the Arab traces thieves by the Ath'r.

ATHUN, the chief town of the Mair or Mera race, mountaineers of Rajputana; the country is styled Mairwara, or 'the region of hills.'

ATHUR, the ruined city near the mouth of the Upper Zab, now usually known by the name of Nimrud, and called Ashur by the Arabic geographers; and in Athur we recognise the old name of Assyria, which Dio Cassius writes Atyria, remarking that the barbarians changed the Sigma into Tau.—*Müller's Lectures*, p. 233.

A-THU-YA, in the Buddhism of the Burmese, a fallen nat, a spirit.

ATHY, a goddess of the Assyrians. See Ken.

ATIBALA CHETTU. TEL. Sida rhomboidea.

ATI MADHURAMU. SANSK. Liquorice. If imported, it is the root of Glycyrrhiza glabra; if indigenous, it is obtained from the root of Abrus precatorius.

ATI-MARAM. TAM. Ficus racemosa, *Linn.* Ati-Meralu, Ficus excelsa, *Wall.*

ATI MUKTAMU. SANSK. Hiptage madablota, *Gaertn.*, also Dalbergia Oojainensis, *B.*

ATI-NAR. TAM. Fibre of Bauhinia tomentosa.

ATI-PALA. HIND. Abutilon Indicum.

ATI-SINGIA-BISH. NEP. Aconitum ferox.

ATIT. HIND. A Hindu religious mendicant, usually of the Vaishnava sect; a monastic order of Hindus. Jhaloca, one of their monasteries, is near Bhynsror, and was founded by the Bhynsror chiefs. Colonel Tod mentions that their monastery, in his time, was an isolated dwelling, on the terraced roof of which he found a party of the fraternity squatted round a fire, enjoying the warmth of the morning sun. Their wild appearance; their matted hair and beard had never known a comb; their bodies were smeared with ashes (bhaboot); and a shred of cloth round the loins seemed the sole indication that they belonged to a class possessing human feelings. Their lives were passed in a perpetual routine of adoration of Chaturbhujah, the 'four-armed' divinity, and they subsisted on the produce of a few patches of land, with which the chiefs of Bhynsror had endowed this abode of wild ascetics, or with what their patrons or the town's people and passengers made up to them. The head of the establishment came forth to bestow his blessing on Colonel Tod, and to beg something for his

order. He, however, in the first place, elected Colonel Tod one of his chela or disciples, by marking his forehead with a tika of bhaboot, which he took from a platter made of dhak leaves. —*Tod's Travels.* See Ashes.

ATI-TIPLI. TAM. Scindapsus officinalis, *Schott.*

ATIVIRA RAMA, a Pandiyan king who reigned at Madura about the 12th century A.D. The principal work attributed to him is the Naidatam. He is said also to have been the author of the Kassi kantam, Linga Puranam, Kurma Puranam; three antati in praise of the Saiva temple at Karuvur, and an ethical treatise, Vettiverkai. It is supposed by some that he was merely the patron to whom the works were dedicated.

ATI-VISA. TEL. Aconitum ferox, *Wall.* The Sanskrit Ati visha is from ati, very, and visha, poison. The Telugu word is always understood as designating an active poison, which is the character of the Vish, Bish, or Bikh of upper India.—*O'Sh.* 155.

ATKALA DESA, Cuttack or Orissa.

A'TKARI, a caste of silk-weavers in the Dekhan.

ATKE-KULAY. BENG. Arachis hypogea.

ATMA. SANSK. The soul. Paramatma, the supreme soul, God. Atma-bhu, self-existent, from atma, self, and bhu, existence. Atma-devata, from atma, and devata, a god, a guardian deity.

ATMAGUPTA, SANSK.; also Atmagupta-murkuti, BENG. Mucuna prurita; Cowhage.

ATMAN. SANSK. Life, animal life.

ATMISA. ARAB. Artemisia vulgaris, *L.*

ATNAMUS. AR. Anthemis nobilis, the plant.

ATNIL. HIND. Astragalus spinosus.

ATOLL. An atoll differs from an encircling barrier reef only in the absence of land within its central expanse; and a barrier reef differs from a fringeing reef, in being placed at a much greater distance from the land, with reference to the probable inclination of its sub-marine foundation, and in the presence of a deep water lagoon-like space or moat within the reef. The polypes that make these are chiefly Antipathes glaberrima, Madrepora corymbosa, M. pocillifera, Gorgonia tuberculata, two species of Astrea, Leiopathes glaberrima, and L. Lamarckii. Atolls sometimes constitute a great circular chain enclosing a deep basin, but opening by one or more deep breaches into the sea. Sometimes they surround a little island by a girdle of reefs, or form the immediate edging or border of an island or continent. Atolls occur in the Pacific, in the Chinese seas, and the Marianne and Philippine islands, Maldives and Laccadives, and Sunda group, the Keeling, the Low Archipelago, Marshall Archipelago, and Caroline have atolls. The Maldive island atolls are the Addu, the Addu-mat, Ari, Malcolm, Collomandu, Horsburgh, Heawandu, Pholo, Moluk, Nillandu, Phaidi-Pholo, Ross, and Sua-divah.—*Figuier, Ocean World; Darwin, Coral Reefs; Macgillivray, Voyage.* See Coral; Polype.

ATR, ARAB., written Attar, Otto, and Ottar, a perfume, or essence of flowers; by Europeans the term is confined to that from roses. An Atr-dan contains the Atr, and the perfumer, druggist, or distiller is called Attār. The perfumes sold under the name of Atr are as various as are the fragrant flowers from which they are extracted; and the term Atr has the same extent in India as the word scent in English; and, like the European fancy names, the Indians have similar appellations, as Majmuah, all the fragrances; Rāhat i Rūh, heartsease. Perfumes of flowers are usually obtained in India by enfleurage or inflowering, less frequently by distillation. Oils are used, into which successive batches of flowers are placed, until the oil becomes impregnated with the aroma. Butter, grease, animal fat or oil, might all be used, by spreading it on the inside of a dish, and, after filling this with fragrant blossoms, placing over it another dish, also greased inside. After a day the grease has become fragrant, and the living flowers continue to give out their odour. To remove the odour from the fat, it is scraped off the plates and put into alcohol, which takes up the odour and becomes scent, and the grease again becomes odourless. The rose, orange, acacia, violet, jasmine, tuberose, and jonquil are treated in this way by the French flower farmers of the Var. Under distillation, a ton of rose flowers will yield about 40 ounces of Atr or Otto, worth £200 sterling; and the residuary water, highly saturated with odour, another £10. The Atr or Otto of roses is a highly valuable and delightful perfume. It is an essential oil, prepared in several countries in the East, and has this remarkable composition, that it is a compound of two oils, one liquid and the other solid, and inodorous. At Ghazipur in Bengal, the Atr is always made at the beginning of the season, when the nights are cool. To procure the oil, the roses are put into the still, and the water passes over gradually as in the rose-water process. After the whole has come over, the rose-water is put into a large metal basin, which is covered with wetted muslin, tied over to prevent insects or dust getting into it, and, being let about two feet into the ground, which has been previously wetted with water, it is allowed to remain quiet during the whole night. In the morning early, the little film of Atr which is found on the surface of the rose-water during the night is removed by means of a feather, and carefully placed in a phial. Day after day, as the collection is made, it is placed for a short period in the sun, and after a sufficient quantity has been procured, it is poured off clear, and of the colour of amber, into small phials. Pure Atr has at first a pale greenish hue, but in a few weeks it becomes of a pale yellow. It is generally calculated that 100,000 roses will produce 180 grains of Atr, and the price of 100,000 roses varies from 40 to 70 rupees; and the tola, 180 grains, of the Atr is sold at 80 and 90 rupees. At this price, as may be supposed, it is rarely if ever used even by the wealthiest of natives, and the native courts employ the Atrs or perfumed oils prepared by their own distillers from the jasmine (J. sambac and J. grandiflora), and bela, and lemon grass (Andropogon schœnanthus), the roosa oil, the oil of Nemaur (Andropogon iwaranchusa), Atr of khuskhus. Newar oil, *A. Martini*, a volatile oil, erroneously called oil of spikenard, is met with in the shops, and obtained from a plant named by Dr. Royle, Andropogon calamus aromaticus.

ATRACTYLODES ALBA. *Smith.*

Peh-shuh, Yu-shuh, . . CHIN.

A plant of Ngan-hwui and Kiang-su, from the shoots of which a tea is made. Its root is strongly aromatic, and is made into a tincture, or given in powder or in pills as a warm stomachic in catarrh, chronic dysentery, general dropsy, rheumatism, and profuse sweatings.—*Smith.*

ATRACTYLODES RUBRA. *Smith.*
Tsang-shuh, . . CHIN. | Ch'ih-shuh, . . . CHIN.

Its root is met with in finger-shaped pieces, and is used like that of A. alba.—*Smith*, p. 28.

ATRAK or Atrek, a river which rises in Khorasan to the north of Burjnurd, and flows west to the Caspian. Since 1881 it forms part of the boundary between Persia and Russian Turkestan. It gives Russia the command of the passes leading from the Akhal country into Khorasan. The country is occupied by the Tekke Turkomans.

ATRAPHAXIS SPINOSA, a polygonaceous shrub of China; is said to yield a manna called Kih-poh-lo.

ATREYA, B.C. 1200? famed in Hindu legend as having imparted the knowledge of the Ayur-Veda to Agnibesa and others; and Agnibesa's work was corrected by Charaka, and received his name. Charaka's work is in the form of dialogues. It follows the division of the eight parts of the Ayur-Veda.—*Garrett.*

ATRI, a rishi of the Hindus, a mind-born son of Brahma. He was married to Anusuya (Charity), one of the 24 daughters of Daksha.

ATRIPLEX HETERANTHA. Thoyah keeray, TAM. A common weed; the leaves, used as greens, make an excellent vegetable; found in abundance in southern India; also cultivated.—*Jaffrey.*

ATRIPLEX HORTENSIS, the garden orache, or red creeping spinach, occurs in Tartary, and its seeds are described as emetic. One species is known in Sind as the Juree.—*O'Sh.* p. 466.

ATROPA ACUMINATA. *Royle.*

Astrang, . . .	ARAB.	Mardam-i-Giah, .	PERS.
Tufa-us-Shaitan, . .	,,	Yabruj, . . .	,,
Lakmuna, Lakmuni,	HIND.	Kat-juti, . . .	TAM.
Lufahat, . . .	MALAY.		

These names are of very doubtful correctness; grows on the northern face of the Himalayas.—*O'Sh.* p. 466.

ATROPA MANDRAGORA. *Linn.* The mandragora, or mandrake, the root of which was so celebrated in the magic rites and toxicology of the ancients, is known in the bazars of Central Asia and the north of India. Its properties are identical in nature with those of A. belladonna, but weaker, in consequence of drying and decomposition of the atropia.—*O'Sh.* p. 466; *Hogg's Veg. Kingdom*, 552.

ATSU. PANJ. Rheum emodi.

ATTA. GUJ., HIND. Meal, wheaten flour. When sifted, maida is the finer part of wheaten flour, and sooji the harder. In India, the unsorted wheaten flour, the Atta, does not readily leaven into wheaten bread, and the sifted sooji is used almost solely for that. The natives who eat wheat use the Atta or unsorted flour. See Farina.

ATTA, a genus of ants, A. destructor, dissimilis, domicola, floricola, occur in the Peninsula of India. The A. destructor prefer animal to vegetable substances, destroying dead insects, bird skins, etc., but also feed greedily on sugar. They are common in all parts of India. A. rufa lives in holes under ground, about gravel walks, mud walls, and often appears in houses, coming through a hole or crevice in the floor or wall. From a colony of them, every now and then, vast numbers of the winged females (and males) issue forth just before sunset, attended as far as the window by swarms of the neuters of both kinds. Its favourite food is dead insects and other matter, but it also carries off seeds like the Ocodoma, chaff, etc. It stings very severely, leaving a burning pain that lasts for several minutes.

ATTACUS RICINI, *Jones*, and A. cynthia, *Drury*, silk moths of Bengal and Sub-Himalaya.

ATTA-JAM. BENG. Olea dioica.

ATTALEA FUNIFERA. *Seeman.* A valuable palm of the maritime provinces of Brazil. A coarse black fibre is obtained from the dilated base of the petioles, and partly used for home consumption, partly exported to Europe, tied up in bundles of several feet in length, and sold in London under the name of Piassaba fibre at about £14 the ton. It is manufactured into cordage in its native countries; and as it is light, cables made of it do not sink in the water. It yields the coquilla nuts of commerce, and might advantageously be introduced into southern Asia. These are excessively hard, beautifully mottled with dark and light brown, and capable of taking a very high polish; they are extensively used for turnery work, especially in making the handles of bell-pulls, small tops, the knobs of walking-sticks, umbrellas, and other articles. In 1850, about 250,000 nuts were imported into England, and sold at 30s. to 40s. the 1000. It should be grown in India.—*Seeman; Holtzappfel; Poole's Stat. of Com.*

ATTA PATTI. HIND. Mimosa pudica.

ATTAR. HIND. A druggist, a perfumer, a distiller. Atr-dān, a casket of gold or silver, fitted with vases for holding Atr or perfume essences. See Atr.

ATTARAN, a narrow, deep, and sluggish river in the Amherst district of British Burma, which joins the Salween river at Moulmein. There are several hot springs on its banks.—*Imp. Gaz.*

ATTAVEESY, a district in the west of India largely occupied by Koli. See Koli.

ATTHAKATHA or Atuwawa, a commentary on the sacred writings of the Buddhists.—*Hardy.*

ATTICA MAMMADI. TEL. Boerhaavia diandria, B. tuberosa.

ATTILA. Etzel, known to Europe as Attila, was the leader of the Hiong-nu, a pastoral tribe, who had been expelled from the borders of China by the powerful dynasty of Han. They formed one of those pastoral tribes who roam in the lands from the Altai to the walls of China. The Hiong-nu, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes from the same regions, under Togral Beg, Seljuk, Mahmud, Chengiz, Timur, and Othman, overwhelmed the khalifat and the empires of China, of Byzantium, and Hindustan; and lineal descendants of the Shepherds of High Asia still sit on the throne of Cyrus, and on that of the great Constantine.

ATTOCK is a small town with a fortress in the Rawal Pindi district in the Panjab, and gives its name to a district lying along the left bank of the Indus. The town is in lat. 33° 53′ 15″ N., and long. 72° 16′ 45″ E. The meaning and origin of Attock are both doubtful. We learn from the Tabaqat-i-Akbari, the Tarikh-i-Murassa, and other native works, and even from Hindus at the present day, that Atok was formerly called Atok-Benares. The name is said to be derived from At'k, a

barrier; and it was said that Hindus formerly hesitated to go by the west of the Indus, lest they lost caste. But Hindus from the most ancient times have been spread westward, as now, even to Russia in Europe, and to Africa. According to Fraser, Attock in desert tracts in Khorasan means the skirt or foot of the hills, and commencement of the desert, and it is commonly used for the desert itself in these parts. The fortress is built on a precipitous slope of bare and rugged hills overlooking the Indus river, close to the left bank on the road from the Panjab to Kābal. The Indus, when in flood, runs below in an impetuous torrent, foaming in whirls around the jutting rocks called Tel-Jalalia and Tel-Kamalia, from the names of two of the Raushanai sect who were flung from the summits during the reign of Akbar. At this place the Kābal river joins the Indus river. It is 56 miles from Rawal Pindi, and 45 miles from Peshawar. A tunnel 1505 feet long, under the Indus, was completed in June 1868, after eight years' labour. The level of the Indus, about 18 miles above Attock, is 1049 feet above the sea. —*N. W. Fr. I.*

ATTU KARAN. TAM. A shepherd, goatherd.

ATTUKEDASA. MALEAL. Attu Natte, TAM. Æschynomene aspera.

ATTUN, the national dance of the Daurani.

ATULGAN. PANJ. Myrsine Africana.

ATUR, a taluq in the Salem district of the Madras Presidency, with a population of 164,000 souls. Great beds of magnetic iron ore occur in the hills. Kari Raman, a pagoda in the Periya Kalrayan, is a shrine of great sanctity.—*Imp. Gaz.*

ATVI. SANSK. Forest, grove, wilderness.

ATWEN-WOON, Burmese privy councillors, of whom there are four. They are inferior in rank to the Woon-gyi, but between them and the Woon-dook precedence is disputed.—*Yule.*

AUBER, PETER, author of Analysis of the Constitution of the East India Company, with Supplement, 1826-28; Rise and Progress of the British Power in India, 1837; China: an Outline of its Government, Laws, and Policy, and of the British and Foreign Embassies and Intercourse with that Empire, 1834.

AUCHOO. BENG. Raspberry, Rubus pauciflorus.

AUCKLAND, EARL OF, was Governor-General of India from the 4th March 1836 to 28th February 1842. India had never been in a more tranquil state than at the time of his arrival in 1836; but on the 1st October 1838 he declared war against Dost Muhammad Khan, ruler of Kābal. The grounds stated for the war were that Dost Muhammad had attacked the ruler of the Panjab, Ranjit Singh, an ally of the British; that his military preparations indicated intended hostile attempts against India; and that Shah Shuja, then under British protection in India, was the rightful chief of the Afghans. The war with Afghanistan lasted until 1842, and though at first and at last successful, it was the most disastrous that the British had ever experienced in those regions. Shah Shuja was put on the throne; Jalalabad, Kābal, Ghazni, and Kandahar were taken; but the Kābal division of the army was driven out, and all but a few hostages and prisoners, and one officer, Surgeon William Bryden, were destroyed.

AUCKLANDIA COSTUS. *Falconar.*
Aplotaxis auriculata, *De C.*

Kust, ...	ARAB.	Kust-i-Arabi, . .	PERS.
Pachak, ...	BENG.	Kustak, ...	,,
Muh-hiang, . .	CHIN.	Koostum, .	SANSK., TAM.
Nan ,, ,, . . .	,,	Koot,	SANSK., GUJ., HIND.
Kwang ,, ,, . .	,,	Ooplate, . . . ,,	,,
Kostos, ...	GR.	Patchak, . . .	,,
Pacha, Sepuddy,	MALAY.	Godu Mahanel, .	SINGH.
Kust-i-Hindi, . .	PERS.	Kooshta, ...	SYR.
,, bahri, . . .	,,	Changla, ...	TEL.
Kust-shirin, . . .	,,		

This annual plant grows on the southern slopes of the Himalaya, up to 15,000 feet, in the basins of the Jhelum, Beas, Chenab, and is of general occurrence about Kaghan and every part of that district. It yields a fragrant root, the Costus of the Greeks and Romans, which in Kashmir is employed to preserve clothes, and is largely exported to China, where it is reduced to powder and burnt in the temples. In passing loads of it, the aromatic odour is distinctly perceptible. It sells for 2 rupees the maund. In China, the root is recommended to wean from opium-smoking.—*Smith; Cleghorn's Panjab Report*, p. 177; *Royle, Productive Resources; Simmonds' Commercial Products; M'Clelland; Royle's Him. Bot.* p. 360; *Hogg's Veg. King.* p. 461; *Birdwood's Bom. Prod.; Stewart's Panjab Plants.*

AUCUBA JAPONICA, a bush of Japan, with a spotted leaf. The brilliant scarlet berries are matured in winter and spring.

A-UD, in Muttra, twice annually, jars of water set on a little masonry platform, near a village, to lay the ghost of some childless person. —*Growse*, p. 512.

AUDI, the 4th solar month, Tamil denomination, answering to the Hindu Sravana, when the sun is in the sign Carcata.—*E. Warren, Kala Sanhita.* See Varsha.

AUDI CAREI or Adhi Kari, TAM., also called Palabhogam, one of the three kinds of tenure in which land is held in the Tamil provinces. In this the occupant holds a defined portion of the village lands, which he can let or sell, his other rights and privileges, which he holds in common with other proprietors, being transferable along with the land.

AUGURIES. Divination by lots, auguries and omens by flights of birds, as practised by the Getic nations described by Herodotus, and amongst the Germans by Tacitus, are still found amongst all Hindus. Their books on this subject could supply the whole of the augurs and auspices, German or Roman. The Mahomedans in India often cast lots; and in Sind is a practice similar to that of the mountaineers of Scotland; it was called Sleinanachd, or, 'reading the speal-bone,' or the blade-bone of a shoulder of mutton. The poet Drayton alludes to the practice of this 'divination strange' amongst the 'Dutch-made English' settled about Pembrokeshire, in his Polyalbion, Song 5. Camden notices the same superstition in Ireland.—*Burton's Scinde*, p. 404; *Tod's Rajasthan.* See Divination; Omen.

AUGUSTUS, emperor of Rome, when at Antioch received an embassy with letters from king Pandyon of ancient Dravira. The embassy gave valuable and curious presents, amongst others a man without arms, a serpent ten cubits long. In the letter, the king described himself as holding sway over six hundred kings, and asking the friendship of Augustus. In the embassy was an Indian named Zarmanochegus, from Baragoza

or Baroach, who accompanied Augustus to Athens, and there, as Calanos had done, committed self-immolation before the emperor. His tomb, known as the Indian's tomb, was to be seen as late as Plutarch's time. See Pandiya.

AULANTHA. MALEAL. Calosanthes Indica.

A. U. M., three letters which, when combined, form the syllable O'm, held sacred by Hindus. Monier Williams supposes them to be the initial letters of the trinity of gods of fire, wind or air, and sun (Agni, Vayu or Varuna or Indra, and Mitra).—*Monier Williams.* See O'm.

AUMOO. HINDI of Bannoo. A desert soil.

AUMOOKEERA. TAM. Physalis somnifera.

AUNGA-ARULI, also Aungra, also Aunwera. HIND. Emblica officinalis, *Gært.*

AUNG KHAN of the Keraite Mongols, celebrated in Europe under the name of Prester John. He was a contemporary of Chengiz Khan, whom, at the instigation of jealous enemies, he attempted, but failed, to destroy.—*Elliot*, p. 498.

AUN-LASAR. HIND. Vitreous sulphur.

AUNTHULUPABAY. TAM. Momordica dioica.

AUNY. TAM. Odina wodier.

AURANGABAD, in long. 19° 54′ N. and long. 75° 22′ E., in the Dekhan, a large city, greatly decayed, and a military station. The mean height of the station is 1885 feet above Bombay, at Colabah. It may now have about 15,000 people. It is in the dominions of the nawab of Hyderabad, and has several times, for short periods, been resided in by his predecessors. The daughter of Aurangzeb is buried there; her monument is of white marble, in which elegant arabesques and flowers are carved with great skill, and the doors are ornamented with plates of metal, in which also are flowers and ornaments. Near the mosque is a handsome marble hall, and round it a neglected garden.

AURANGZEB, emperor of India, was the youngest of four sons of the emperor Shah Jahan. Shah Jahan fell sick when advanced in years, and each of his sons raised an army to seize the throne. Dara Shikoh, the eldest, was open-hearted, but impetuous and rash even to folly. Shuja and Murad were bold, ambitious leaders; Aurangzeb, the youngest, was of a remarkably mild temper, but cautious, designing, and a perfect master of dissimulation. He pretended to waive his claim to the throne in favour of Murad, and these two, uniting their forces, defeated Dara and Shuja in succession. Aurangzeb afterwards imprisoned Murad in the fortress of Gwalior until his death. Dara fled to Gujerat, meeting Bernier on his way, then on to Cutch and Sind, when an Afghan took him prisoner and sent him to Dehli, where he was killed by the order of Aurangzeb. Aurangzeb, taking advantage of his father's advanced age, compelled the emperor to sign his own abdication, and he remained till his death a prisoner in a palace. The eldest brother, Shikoh, fled westward, and his death was never ascertained.

Aurangzeb gained but an imperfect success over Afghanistan, and his wars in the Dekhan were protracted. In his habits and manners he was remarkably simple. He was an author and voluminous writer of letters, which almost invariably include some poetic quotation or some verse from the Koran. His system of government was a continual mistrust; he was cold-hearted, and evinced no generosity. He excluded the Hindus from office, their fairs and religious meetings were forbidden, and their temples insulted and even destroyed. Yet he laid out no money on mosques or endowments of the Mahomedan faith, showed no sign of being under the influence of the teachers of his own religion, and often expressed his contempt of the fakir or darvesh sects. He detested the Hindus, who detested him. Both his declared heir, Shah Alam, and Azim, as well as his favourite grandson, were the offspring of Rajputnis; but his bigotry outweighed his policy, and he visited the Rajputs with an unrelenting and unwise persecution. Nevertheless this bigotry of Aurangzeb endeared him far more to his Mahomedan co-religionists than did the liberality of Akbar; and even to the present day the memory of Aurangzeb the persecutor is honoured by them far more that that of Akbar the beneficent. Early in his reign he adopted harsh measures towards his Hindu subjects. Later on he renewed the capitation tax which Akbar had abolished, and he issued edicts against public dancers and singers, poets and astrologers. Subsequently he took prisoner the widow and son of the Rana of Udaipur as she was returning from Kabal, where her husband had died, but the Rani escaped; on which he sent a force to overrun Ajmir, to burn the villages, destroy the crops, and seize the women and children as slaves. His principal residence in the latter part of his long reign, was in the Dekhan, and he died at Ahmadnaggur, where he was embalmed, and the body removed to the plateau of the hill overlooking Ellora. Europe was made more particularly acquainted with Aurangzeb by Bernier's mention of him in his Travels. The Moghul empire attained its utmost extent in Aurangzeb's reign. His authority reached from the 10th to the 25th degree of latitude, and nearly the same in longitude; and his revenue exceeded thirty millions of pounds sterling, in a country where the products of the earth are four times as cheap as in England. Most Asiatic princes of the Mahomedan faith profess a trade. The great Aurangzeb was a capmaker, and sold them to such advantage on the 'ninth day' fairs, that his funeral expenses were by his own express command defrayed from the privy purse, the accumulation of his personal labour. His son, Mahomed Mazum, took the title of Bahadur Shah, and reigned about six years.—*Elph.*

AURANTIACEÆ, the Citraceæ order of plants.

AURASA PUTRA. SANSK. A begotten son.

AURASIUS. Mount Aurasius is behind Tunis and Algiers. The native kabyle on that mountain are fair, red-haired men, and have been conjectured to be descendants of the ancient Vandals.

AUREA CHERSONESUS. The country thus named by the ancient geographer Ptolemy, has been supposed by d'Anville to be the Malay Peninsula, and his Sin-Hoa the western part of Cochin-China; Pegu also has been named; others have pointed to Galle and other places.—*India in the 15th Cent.* See Galle.

AURICULA. A genus of shells or molluscs, Auricula auris Midæ, which occurs in the Moluccas, has been transferred to the genus Voluta.

AURORA. Phæton in the Greek mythology was the son of Cephalus and Aurora. The former answers to Aruna, the Hindu bird-headed messenger of the sun. The Greeks have given the dawn a female character.

AUS. HIND., MALEAL. Rice sown in Chaitra

or Vaisakh (February—March), and ripening in Sravana or Bhadra (August—September).—*W.*

AUSENA MARAM. Tam. Pterocarpus, *sp.*

AUSJENI. Maleal. Artocarpus hirsutus.

AUSNEH. Panj. Parmelia Kamtschadalia.

AUSTIN de BOURDEAUX, an artist, who erected the Taj at Agra, A.D. 1627–1658.

AUSTRALIA. The continent of Australia, including Tasmania, extends from lat. 10° to 45° S., and from long. 112° to 154° E. It is about 3000 miles in length, and somewhat less in breadth, and in altitude it ranges in places up to 7000 feet. It comprehends, therefore, almost every climate, from the tropical to that of the colder countries of Europe. The continent has been partially colonized by people from the British Isles; but small uncivilised tribes of aborigines, of a Mongolian race, wander about. Their origin is obscure, and observers have differed in describing them. When Australia was first settled, there must have been about 150,000 natives; now there are only 70,000 to 80,000. The Tasmanian natives were superior to the Australians in capacity. Unfortunately, rough settlers and escaped convicts persecuted and degraded them, and the race gradually shrank from 7000 to one old woman, who died in 1876. Circumcision is performed at fourteen, and at twenty the youth is gashed over the back and chest. On the Murray River, girls have the whole back cut with flints in horizontal bands of gashes. In most cases, however, the girls voluntarily submit to it, because the scarred back is greatly admired. Women are speared for the slightest offence, even for the husband's disappointment in the chase. A girl who has left her husband, even involuntarily, is cruelly disfigured. In physical appearance the Australian is prepossessing. The eye is full and expressive, the head and body erect, and the chest well thrown forward. All the men have thick beards and hair. This is a distinctive feature, and is not shared generally by the Mongolian, Negro, Malay, or the natives of the Celebes, the last of whom may be presumed to have enjoyed facilities for effecting an intermixture with the Australians. Native Australian women are met with, whose hair is comparatively soft, the head being covered with a profusion of loose natural curls. While possessing the wide-spreading nose, receding forehead, and rapid eye of the African, the thin and muscular limbs of the Zulu, and the long silky hair of the western Malay, with not a little of the latter's skill and daring,—and to these types respectively the natives of north and north-west Australia approach nearer than to any other,—they bear no further resemblance in their broad characteristics, in their language, or their weapons. The instruments of warfare in general use by the two contiguous races vary no less than their respective customs, language, and physique. The most remarkable weapon of the Australian, the boomerang, is entirely unknown to the Papuan, who in fighting use the bow and arrow. In many features of their superstitions they assimilate to the North American Indians, and to some of the tribes of the Pacific, strongly resembling the latter in their interments, and in the practice of piercing the septum of the nose.

From the period of the earliest discovery by Europeans, the Chinese, the Malay, and the Celebians have visited the south-eastern islands of the Indian Ocean, and had their stations on the Australian coast, trading with the inhabitants, and conveying from thence cargoes of trepang, shells, etc. Since the 17th century, it has been gradually taken possession of by the British, and since 1841 many brave efforts have been made to explore the country. Plains, forests, and rivers alike abound, with creatures of strange form. Each of its floral regions has a zoology peculiarly its own. The Banksiæ are everywhere tenanted by true meliphagous birds, the Eucalypti by the Trichoglossi and Ptiloti, the towering figs by the regent and satin birds, the palms by the Carpophagæ or fruit-eating pigeons, and the grassy plains by the ground pigeons and grass parakeets. The birds represent many of the tribes found in Europe; but the Australian continent possesses genera exclusively its own, many of which are nocturnal, and many of them breeding three or four times in a season. About fifteen families of birds are confined to the Australian region, amongst which are the paradise birds, honey-suckers, lyre-birds, brush-tongued lories, mound-makers, and cassowaries. The mammalia are different from all those met with in other parts of the globe; the Marsupiala extensively prevail; and the Kangaroos, Wombat, Koala, Ornithorhynchus, Echiana, the Thalycone or Devil peculiar to Tasmania, Phalangers and flying opossums (Belideus), constitute a fauna as interesting as remarkable. The only mammals of Australia and New Guinea are marsupials, the monotremes and mice. The marsupials are very numerous and varied, constituting six families and 33 genera, with about 120 known species. The seaweeds, about a thousand in number, have proved a fertile field of research, with many beautiful molluscs. Its economic plants are numerous species of Acacia, Albizzia, Casuarina, Eucalyptus, Ficus, Panicum, Phaseolus, and many others yielding timber, gums, resins, tanning substances, and medicines.

AUSTRALIAN MOSS, Eucheuma speciosum.

AUTEUIL, M. d', a French officer who commanded the French forces at the battle of Ambur, and gained the battle. Anwar-ud-Din fell in that battle, at nearly 100 years of age.

AUTHOONDAY. Tam. Capparis brevispina.

AUTMORA. Beng. Isora corylifolia.

AUVAIYAR is the most noted Tamil poetess. This name simply signifies 'the matron.' She is said to have been exposed by her mother, and brought up by a minstrel; but many fables are related of her. Tamil writers call her the sister of Tiruvalluvar. She is said to have continued unmarried all her life. The Rev. H. Bower remarks, 'She sang like Sappho; yet not of love, but of virtue.' Five books of moral aphorisms, much used in schools, are attributed to her, viz. Attisudi, Konrai ventan, Muturai, Nalvali, and Kalviyolukkam. The genuineness of the Muturai is considered doubtful by Dr. Caldwell. Other books attributed to her are the Vettriverkai, Avve-Kerao, Avve-Kool, Pilaiyar-Agaval, and Ganapathi-Asiria-Virutam, and a number of detached verses. The Muturai is also styled the Vakkundan. Her collection of brief moral aphorisms is unrivalled. She is called Kullukkupadi, *i.e.* she who sang for rice water. The Muturai is a collection of fine similes. Her works are read by every Tamil person, are greatly and deservedly esteemed, and are among the first books put into

the hands of children in every Tamil school. One tradition alleges that Auvaiyar was the daughter of a Brahman, who married an inferior caste woman, of whose low birth he was not aware. Auvaiyar was their second female child, and was deserted by them, and brought up amongst the Panar bards. Auvaiyar seems to have lived about A.D. 900, during the reigns of three celebrated kings of the Pandyan, Seran, and Sorghan kingdoms.—*Tamil Authors; Garrett.*

AVA or Ayn-wa, a town in Burma, in long. 96° 1′ E. and lat. 21° 52′ N., on the bank of the Irawadi, at one time the capital. Its state name was Ratnapura, or Gem-city. It is alleged to have been founded in A.D. 1364, by Thadomen-bya, prince of Tagoung, who mastered the kingdoms of Panya and Sagain, into which the country was then divided. The first mention made of Ava by any European traveller, is that by Nicolo di Conti, who was there about 1440 (Ramusio, i. 340). It continued usually to be the royal residence, with some intervals, till the end of the eighteenth century. In 1526, the Shans of Monyin and Mogoung took the city and overran the country, of which they held possession till 1554. In that year, the Tounghoo king of Pegu, Tshen-byoo-mya-yen (lord of many white elephants) conquered Ava and destroyed the city. The king Nyoung-men-ta-ra, who re-established the city and kingdom after the fall of Pegu in 1601, appears to have been a natural son of the conqueror. Ava was taken by the Peguers during their resumption of independence in 1752. They were speedily expelled by Alompra, but he always resided at Mout-sho-bo. In 1763, on the accession of Tshen-byoo-yen, Ava again became the seat of royalty. It was, however, abandoned on the founding of Amarapura in 1783, but reoccupied in 1823 by the king and queen, who entered in great state, accompanied by the white elephant, and by all the dignitaries of the court, only to be again deserted in 1837 by Tharawadi, who had vowed to make it a heap of ruins.—*Yule's Embassy.*

AVA. Tel. Sponia Wightii, *Planch.*

AVA, a drink of the South Sea islanders, prepared from the Macropiper methysticum. It was chewed, spat in a bowl, and allowed to ferment, and drank. In the Samoan islands, the large ava-bowl is made from the tamanu, Calophyllum inophyllum, and occupies a conspicuous place. Ava in Tahiti is a general name for ardent spirits. Ava is also a plant of Tahiti; its bark made into cloth.—*Capt. Elphinstone Erskine, Islands of the Western Pacific*, p. 46.

AVA ARDUI SUR JASAN. A Parsee festival held in honour of Ava, the angel, in their theology, who presides over the sea. On this day Parsees should approach the sea-shore or any stream of water, and chant prayers from the Zend; but these religionists now generally mix with their prayer several Hindu rites, such as offering flowers, sugar, cocoa-nuts, etc. In Bombay, a fair is held on the esplanade on this day.—*Parsees.*

AVADHUTA. Sansk. In the south of India, a religious ascetic mendicant of the Saiva sect, who, similarly to the Virakta Vairagi, has subdued the passions and estranged himself from the interests and emotions of mankind, abandoning religious observances and worldly restraints.—*Wilson.* See Hindu; Sanyasi; Vairagi.

AVA GEM-SAND comes from the neighbourhood of Ava, and is sometimes one of the Shan articles of merchandise. It consists of small fragments of nearly all the precious stones found in the country; but garnet, beryl, and spinelle are its principal constituents, more especially the last, which seems to constitute nearly three-fourths of the whole mass. A single handful will contain specimens of every shade,—black, blue, violet, scarlet, rose, orange, amber, yellow, wine yellow, and white.—*Mason.*

AVAGOODA. Tel. Trichosanthes palmata.

AVALAMBANA, in China and Ceylon, a sacrifice among Buddhists for the dead in the 15th day of the 7th month; till redeemed, they are suspended by their heels, head downwards, from a tree in the inferior regions.

AVALU. Tel. Mustard seed.

AVAL VULLI. Tam. Janipha manihot.

AVANAK. Maleal. Ricinus communis, *Linn.*

AVANEJANA. Sansk. Washing, ablution; a Hindu ceremony prior to offering the funeral cake. It consists in pouring water, in which flowers and sandal paste are immersed, upon the bed of Kusa grass placed to receive the cake.—*W.*

AVANI AVATTAM. Tam. With Brahmans, a festival at which the sacred thread is renewed; it occurs during the Hindu month Avani, which falls in with August. During the Utharayanan, or northern solstice, all devout Hindus are supposed to devote themselves to the study of the Vedas, and during the Thatchanayanantham, or southern solstice, they are allowed a relaxation of their religious studies, or, as some eminent divines among them are of opinion, they are forbidden to open the Vedas. During the northern solstice, *i.e.* from Avani (August) to Thi (January), marriages and other auspicious rites are performed; all acts done are supposed to have some virtuous effect, and in some manner benefit the persons performing them. But during the southern solstice, which extends from Masi (February) to Adi (July), everything done, though virtuous in itself, is unprofitable in its effects. During this period sin is supposed to abound, in consequence of the months being 'bad months;' and when this period is past, and the month of Avani ushers in the 'good months,' the occasion is regarded a fitting one for the ceremony in which the Hindu is invested with the sacred thread, with multiform ceremonial rites. Into a hole which is dug and consecrated for the purpose, the Vedakni, or the three kinds of sacred fire, are cast, and over these the wood of the Arasu, or Ala-maram or Athi-maram. Incense and the Navathaniam, or nine kinds of sacred grain, follow, and then the necessary quantity of ghi completes the ceremony. The sacred thread costs some Hindus a large sum, but to the poorer classes the Brahman priests sell the strings at reduced prices.—*Madras Mail*, 21st Aug. 1872.

AVANI-MULA. Hind. A fast observed in honour of Siva.

AVANTARA. Sansk. In the Brahmanical religion, a descent of the deity in the shape of a mortal; it is an incarnation of an inferior kind, intended to answer a purpose of less moment.

AVANTI, the ancient name of the modern Oujein; also called Ujjayani, Visala, and Pushpa-Karandini. This city is noticed in the Meghaduta, verses 28 and 31.—*Williams' Story of Nala*, p. 116; *Captain Edward Warren.*

AVANZOAR, the name given in western

Europe to the two physicians called Ibn Zohar, A.D. 1072.

AVARAI. TAM. Cassia auriculata.

AVARO of Tahiti, fruit of Melastoma Malabathrica, used as a blue dye for Tapa cloth.

AVA-SARPINI, among the Jaina, one division of time; the other is Uta-sarpini.

AVATAR. HIND. From the Sanskrit, Avatara, a descent or incarnation, a term employed by the Hindus to designate the incarnations of Vishnu, usually arranged and named—1. Matsya, or fish; 2. Kurma, or tortoise; 3. Varaha, or boar; 4. Narasingha, or man-lion; 5. Vamana, or dwarf; 6. Parasu Rama, the name of a favoured person in whom the deity became incarnate; 7. Rama, the same; 8. Krishna, the same; 9. Budha, the same; 10. Kalki, or horse. Of these, nine are past, the tenth is yet to come.

When the Hindus speak of the deity having been thus incarnate, we must understand it with some qualification; for, in fact, there is perhaps scarcely one point in their mythological religion that the whole race of Hindus have faith in. There are sectaries and schismatics without end, who will believe only certain points that others abjure; individuals of those sects dissent from the doctrine believed by the majority; other philosophical sceptics will scarcely believe anything, in opposition to their easy-faithed brethren, who disbelieve nothing. Thus, some Saiva, or followers of Siva, admit the sacredness of the Avataras of Vishnu, but in different degrees of potency and sanctity. They generally admit the personified interposition of the preserving attribute of the deity in the affairs of the world, without yielding the point of supremacy in the prototype. And some zealous Vaishnava, or followers of Vishnu, giving themselves up to his adoration in some incarnation, Krishna or Rama, for instance, reject all further application of divine terms. Hence may in part be discerned the liability under which inquirers labour, of being misled by sectaries into receiving schism as orthodoxy, and of forming general conclusions from individual or partial information.

1. The Matsya or Fish Avatara has been supposed to have immediate reference to the general deluge, and to be the same history, disguised in oriental fiction, of that event as is related in the Scriptures. Sir W. Jones (As. Res. vol. i.) assents to the opinion of Bochart, that the fable of Saturn was raised on the true history of Noah; he shows that the seventh Menu, Satyavrata, corresponds in station and character. In his reign, the Hindus believed the whole earth to have been destroyed by a flood, including all mankind, who had become corrupt, except the pious prince himself, the seven rishi, and their several wives, who, by command of Vishnu, entered a 'bahitra,' or spacious vessel, accompanied by pairs of all animals. Vishnu, assuming the form of a fish, commanded the ark to be fastened by a cable, formed of a vast serpent, to his stupendous horn, secured thereby until the flood subsided; when he and Brahma slew a monster named Hyagriva, who, while Brahma was reposing at the end of a kalpa, stole the Vedas, and mankind had consequently fallen into the depths of ignorance and impiety. This mighty demon is called the prince of Danavas; his name means horse-necked. The Vedas having been recovered, the world was progressively re-peopled with pious inhabitants, descendants of the devout Satyavrata and his favoured companions. The history of this Avatara is the subject of the first Purana, or sacred poem, consisting of 14,000 stanzas, and is concisely told in the eighth book of the Sri Bhagavata, or life of Krishna.

2. The Kurma or Tortoise.—The second grand Avatara of Vishnu, in the form of a tortoise, evidently refers also to the flood. For the purpose of restoring to man some of the comforts and conveniences that were lost in this flood, Vishnu is fabled to have become incarnate again in the form of a tortoise, in which shape he sustained mountain Mandara, placed on his back to serve as an axis, whereon the gods and Asura, the vast serpent Vasoky serving as a rope, churned the ocean for the recovery of the Amrita, or beverage of immortality. Fourteen articles, usually called fourteen gems or chaterdesa ratana, in common language, chowda ratni, were obtained, viz.:—1. The moon, Chandra; 2. Sri or Lakshmi, the goddess of fortune and beauty; 3. Sura, wine, or Suradevi, the goddess of wine; 4. Oochisrava, an eight-headed horse; 5. Kustubha, a jewel of inestimable value; 6. Parijata, a tree that spontaneously yielded everything desired; 7. Surabhi, a cow similarly bountiful; 8. Dhanwantara, a physician; 9. Iravat, the elephant of Indra, with three probosci; 10. Shank or Sanku, a shell conferring victory on whoever should sound it; 11. Danusha, an unerring bow; 12. Bikh, poison or drugs; 13. Rhemba, the Apsara, a beautiful and amiable woman; 14. Amrita, the beverage of immortality.

3. Varaha or the Boar Avatara.—In this Vishnu is generally represented four-handed, armed as usual, and with the head of a boar, on whose tusks rests a crescent, containing in its concavity an epitome of the earth, which had been immerged in the ocean as a punishment for its iniquities. So that this, as well as the two former Avatara, seems to be a repetition of the story of the deluge. The second combines with it a portion of astronomical allegory; and none of the other of the ten Avatara have any apparent reference to the universal catastrophe, so pointedly indicated by the three first, which are understood to have occurred in the earliest ages of Hindu history, if such a chaotic mass as their fabulous records may be dignified by such a term. There are many fables accounting for the shape thus assumed by Vishnu on this occasion; and the boar is in Hindu legends, as well as in the mythological romances of Greece and Egypt, an animal very frequently introduced. In an ancient legend relating to the destruction of the city of Mahabalipoorum, and the seven pagodas, on the coast of Coromandel, by an earthquake and inundation during an early period of Hindu history, it is stated that Hirancheren, a gigantic prince or demon, rolled up the earth into a shapeless mass and carried it down to the abyss, whither Vishnu followed him in the shape of a hog, killed him with his tusks, and replaced the earth in its original position.

4. Nara-Singh or Man-Lion Avatar.—In this Avatar, Vishnu took the form of another monster, to punish the wickedness of Hiranya Kasipa, a profane and unbelieving monarch, the brother of the gigantic demon mentioned in the third Avatar, and his successor on the throne, who also refused

to do homage to Vishnu. Quarrelling with his son Pralhand, the king boasted that he himself was lord of the universe, and asked wherein Vishnu was greater than himself. Pralhand replied that Vishnu was supreme over all, and was everywhere. 'Is he,' cried Hiranya Kasipa, 'in this pillar?' striking it at the same moment with his sceptre. 'If he be, let him appear.' In an instant the magnificent column was rent in twain, and Vishnu, in the form of a man with the head of a lion, issued from it and tore Hiranya Kasipa in pieces.

5. Vamana or the Dwarf.—The first four Avataras are said to have occurred in the earliest or Sataya age of the Hindus, corresponding in character with the golden or virtuous age of the fabulists of other regions. The fifth happened in the second or Tirtyayug. Maha Bali, a virtuous monarch, was still so elated by his grandeur, that he omitted essential ceremonies and offerings to the deities; and Vishnu, finding it necessary to check the influence of such an example, resolved to mortify and punish the arrogant ruler. He therefore condescended to become the son of Kasyapa and Aditi, and the younger brother of Indra, and assumed the form of a wretched Brahman dwarf; appearing before the king, he asked a boon, which, being promised, he demanded as much land as he could pace in three steps; nor would he desire further, although urged by Bali to demand something more worthy of him to give. Vishnu, on obtaining the king's promise, required a ratification of it, which is performed by pouring water on the hand of the applicants. As soon as the holy stream had reached his hand, the form of the dwarf began to expand itself, and at length became so enormous that it appeared to extend itself up to heaven, then with one stride he compassed the earth, with another, heaven, and with the third was about to obtain patala, when Maha Bali, convinced that the pretended dwarf was no other than the god himself, fell prostrate in adoration before him, and yielded it up. From this incident of Vamanu, Vishnu is also called Trivikrum, or three-stepper. It is maintained by some Vaishnavas that the ratifying stream, poured on the hand of Vishnu in this Avatara, was the river Ganga, which, falling from the hand of the miraculous dwarf, descended thence upon his, now Vishnu's foot, whence, gushing as a mighty river, it was received on the head of Siva. In M. le Gentil's Voyage aux Indes, a rough map or plan is given, from a native original, of the course of the Ganges, which is there made to issue from the foot of Vishnu, and, falling on the head of Siva, flows in the style commonly seen through the cow's mouth. This is the only instance recollected of the source of the river being delineated as proceeding directly from Vishnu.

6. Rama or Parasu Rama.—Among the Avataras of Vishnu are recorded three favoured personages in whom the deity became incarnate, all named Rama. They are distinguished by the names of Bala Rama, usually called Balaram, Parasu Rama or Parasram, and Rama Chandra, and are all famed as great warriors, and as youths of perfect beauty. The first-named, Bala Rama, was elder brother to Krishna, and greatly assisted him in his wars; so that, in this instance, Vishnu seems to have duplicated himself, as indeed may be also said of the others, for Parasu Rama and Rama Chandra, otherwise called patronymically Dasrat Rama, were contemporaries. But it has been made a question whether they be not three representations of one person, or three different ways of relating the same history; and whether any or all of them mean Rama, the son of Kush, Sir W. Jones (As. Res. ii. p. 132) says he leaves others to determine. He deems Rama to be the same as the Grecian Dionysos, who is said to have conquered India with an army of Satyrs, commanded by Pan; and Rama was also a mighty conqueror, and had an army of large monkeys or Satyrs, the general or prince of whom was Hanuman, a name said by this author to mean, with high cheek-bones; others translate it, with bloated cheeks, alluding to his fabled origin from Pavan, regent of the wind. Rama is also found to resemble the Indian Bacchus; he is a descendant of the sun, and the husband of Sita; and it is very remarkable that the Peruvians, whose Incas boasted of the same descent, styled their greatest festival Ramasitoa. See As. Res. i. p. 426, iii. p. 68.

Krishna, describing himself to Arjun as the first of all things, says, 'Among those who carry arms, I am Rama.'—*Gita*, p. 86. Of Parasu Rama it is related that he was born near Agra, in the Tirtya yug, or second age. His parents were Jamadagni, whose name appears as one of the rishis, and Runeka.

7. Rama Chandra.—In this Avatar, Vishnu appears in the person of a courageous and virtuous prince, the son of the powerful sovereign of India (whose capital, Ayodhya, is said to have extended over a space of forty miles), to punish a monstrous giant, Ravan, who then reigned over Lanka, or the island of Ceylon. The Ramayana contains the heroic description of the battles and lives of all three Ramas, although it more particularly details the exploits of Rama Chandra, or Dasrat Rama, so distinguished from his royal father, Dasarat'ha. The name of this heroic monarch means, he whose car had borne him to ten regions, that is, to the eight cardinal and intermediate points, the zenith, and nadir. He was a descendant from Surya, or Heli, which is a name of the sun in Greek and Sanskrit; and one of his ancestors, the great Raghu, had conquered the seven Dwipas, or the whole earth. But we cannot explain why a Suryavansa, or descendant of the sun, should be styled Rama Chandra, the latter patronymic referring contradistinguishingly to the descendant of the moon, Chandravansa. In the Hindu mythology, however, everything seems, directly or indirectly, to merge in, radiate from, or amalgamate with, the sun, or Surya, in one or other of his names or prototypes. All sects and tribes of Vaishnavas (excepting such deistical philosophers as sceptically deny the personal existence of inferior deities, attributes, or avataras) agree in stating that, with the exception of Krishna, the potentiality of the preserving power of the deity was never exhibited in such plenitude as in this avatara of Rama. In popularity, and in dramatic, historic, and poetic shapes, it rivals the avatara of Krishna. And as the Gocalastha sect adore Krishna as the deity himself, and draw rules for their religious and moral conduct from the Sri Bhagavata, so the sect called Ramanuj similarly clothe Rama in almighty attributes, and deem the Ramayana a complete body of ethics and morality.

8. Krishna.—In this Avatara, Vishnu is said by his sectaries to have manifested himself in a degree of power and glory far exceeding any other of his former, in which he assumed only an ansa, or portion of his divinity, while Krishna was Vishnu himself in mortal mould. Other sects of Hindus call Krishna an impious wretch, a merciless tyrant, an incarnate demon, now expiating his crimes in hell. His mortal parents were Vasudeva (meaning the giver of wealth) and Devaky. A miraculous escape of the infant over the Yamuna is represented, conveyed by his father, and protected by Sesha, or immortality. The guards placed by Kansa over his pregnant sister having failed in their vigilance, Kansa, enraged, ordered all newly-born infants to be slain; but Krishna escaped his various snares, one of which was sending a woman, named Patnia, with a poisoned nipple, to nurse him. He was fostered by an honest herdsman, named Ananda, or happy.

9. Budh or Buddha. See Buddha.

10. Kalki.—This Avatar has not yet appeared. But Vishnu is to appear in this avatar in the form of a white horse.—*Moor's Pantheon.*

AVATENGA TIGE. TEL. Dioscorea oppositifolia, *L.*

AVELAGA. TEL. Capparis, *sp.*, like C. divaricata, but the leaves are emarginate.

AVE-MAVO. TAM. Careya arborea, *Roxb.*

AVENA FATUA. *L.* Wild oats.

Gozang, Kasamm, CHENAB.	Ganer, Gandal, . PANJ.
Bromos, ... GR.	Jei (Hi), . . . ,,
Upwa, Yupo, . . LADAK.	

This is cultivated in Bengal, the Dekhan, and Gujerat, and the Panjab. It is common as a field weed in cereal crops throughout the Panjab plains, and in many places in the Himalaya, up to 9500 feet at Lahoul, and to 11,500 feet at least in Ladakh. — *Dr. J. Stewart, Panjab Plants*, p. 250.

AVENUES lined with trees are, in tropical countries, of much importance for shade. Portia and banyan branches should be straight, neatly trimmed, and of a uniform size, and planted perpendicularly. A neat fence will be required to protect them from cattle. After the branches begin to throw out young shoots, they should be carefully pruned, selecting two or three of the strongest near the top as leading shoots, to form the future tree. The young trees require water regularly in the hot and dry weather; care should be taken that they do not get loosened at the roots; this will prevent the trees leaning to one side. When a Portia tree raised from seed is grown up, it will last for ages, whereas a tree grown from a large branch is always in a state of decay after a few years from the time it is planted, and it is useless as a timber tree. The natural habits of the banyan make it an exception to this rule. The whole of the Ficus tribe grow well from large branches, and they are not so apt to decay as other trees. The planting of young seedling trees requires more care and attention than the branches. A large pit should be made 3+3, and filled with good earth mixed with rotten manure. They will require to be fenced and watered regularly, and the earth should be dug up and kept clear of weeds, to keep it from getting hard and sour. In forming new avenues, the trees should be planted 30 feet apart, and when the space will admit of it, a double avenue should be planted; it looks well, and forms a shady path for pedestrians.

Ficus Indica, the banyan, is the largest and perhaps the most shady of all the avenue trees.

Ficus religiosa. Poplar-leaved fig-tree. A large and handsome tree, commonly distributed over India. It is frequently to be met with near pagodas, house and other buildings.

Ficus t'siela. Jovi or Pedda Jovi, TEL. A large and very handsome tree, it is generally planted by the road-sides for the sake of its shade, and from its not sending down roots from the branches, is in so far superior to either Ficus Indica (banyan tree) or F. Benjamina, the pendulous roots of which are often dangerous impediments on a road.

Ficus nitida. Chinese banyan tree. A very handsome tree, native of China.

Guatteria longifolia. Mast tree. A highly ornamental tree.

Tamarindus Indica, Tamarind tree, is one of the largest in India, with a very extensive large shady head.

Casuarina muricata. Casuarina tree or Tinian pine makes very pretty avenues, especially in narrow roads.

Casuarina equisitifolia. Similar to the above.

Bignonia suberosa. Indian cork tree. A good tree for planting in avenues. The flowers are pure white, and very fragrant.

Parkia biglandulosa. This large and elegant tree was introduced into India from Africa. It is one of the best trees for avenues. It requires care and water regularly.

Poinciana regia is very pretty, and should be planted in mixed avenues.

Adenanthera pavonina. Red-wood tree, large and handsome.

Azadirachta Indica. A good avenue tree.

Sterculia fœtida. A good avenue tree.

Bombax Malabaricum. Red-cotton tree.

Thespesia populnea. Portia tree.

Acacia speciosa. A large and handsome tree of rapid growth. There are many other trees suitable for avenues, when they are merely planted as ornamental trees, and not for shade. The palm trees are also very pretty when planted in avenues.

AVERAY KAI. TAM. Lablab vulgare.

AVERHOES, a philosopher and physician of great eminence, whose name was Abul Wahid Muhammad.

AVERRHOA BILIMBI. *Willde.* Bilimbi.

Blimbingun teres, *Rumph.*

Anvulla, . . BOMBAY.	Blimbing-basi, . MALAY.
Cucumber tree, . ENG.	Wilumpi, . . MALEAL.
Kamaranga, HIND., SANS.	Bilin, ... SINGH.

A pretty little tree, about eight feet high, with timber of doubtful value, growing generally in gardens in S.E. Asia, and producing a beautiful green, smooth, fleshy fruit, about the size of a small cucumber. In Burma it bears profusely. The unripe fruit is intensely acid, and cannot be eaten raw; but the acidity becomes less as it ripens. Amongst the Malays, it is used like the citron, the gooseberry, the cucumber, and the caper in Europe, but can be candied or made into pickles or preserves; a syrup is prepared with the juice, and a conserve with the flowers, or preserved in sugar. Its acid juice is useful in removing iron mould.—*Birdwood's Bombay Prod.; O'Sh.; Ainslie;*

Mason; Mr. Jaffrey; Useful Plants; Vegetable Kingdom; Voigt; Roxburgh; Beddome, Fl. Syl.

AVERRHOA CARAMBOLA. *L.* Carambola.

Zoung yah, . . . BURM.	Kam-ruk, . . . HIND.
Wu-lien-ts'ze, . . CHIN.	Karmal, ... ,,
Yang tau, . . . ,,	Blim-bing manis, MALAY.
Chinese Gooseberry, ENG.	Tamara-Tonga, MALEAL.
Gooseberry Tree, . ,,	Tamartam maram, TAM.
Kamaranga, . . . HIND.	Tamarta chettu, . TEL.

Acid variety, A. acida, Kamaranga.

Sweet variety, A. dulcis, Mitha Kamaranga.

This beautiful but small tree, about 14 feet high, with a spreading head, is supposed to be a native of the Moluccas, from which it has been introduced into China, Ceylon, India, the Burmese Provinces, and South America, where it is now quite naturalized. In Burma, Pegu, and the Tenasserim Provinces it is not abundant, being often only found near towns, and in India, in gardens. It bears, and in some places profusely, from three to fifty years, and three times a year, a fruit about the size of a hen's egg, with five acute angles, and a yellowish, thin, smooth rind. The fruits of the acid Kamaranga, when ripe, are cooling, and contain an acid, watery pulp, and are candied, made into pickles or tarts. They make an agreeable dish, when cut in pieces and cooked with sugar and wine, or with skimmed milk. In Burma, where the fruit is highly prized as a wholesome dish, it is used, like other green fruits, in curries. The fruit contains a large quantity of quadroxalate of potash. The juice of the acid variety is useful in removing iron moulds from linen. The acid leaves are a good substitute for sorrel. Rheede tells us that the root, leaves, and fruit are used medicinally, and the fruit in dyeing. The five-cornered fruit of the A. dulcis, the Mitha kamaranga, when ripe, is rather bigger than a hen's egg; has a sweet, pleasant flavour.—*Vegetable Kingdom; Useful Plants; Elliot; Ainslie; O'Sh.; Voigt; Roxb.; Mason; M'Clelland.*

AVERTUNNIA. SANSK. Helicteres isora.

AVESTA. A part of the Vendidad. This is the religious book of the Parsees; but the first part of the book is of very ancient date, and is the groundwork of the present Vendidad, though all of it almost is post-Zertushtrian. The works of Zoroaster seem to have been reduced to writing prior to the conquest of Alexander. The language of the Avesta is the Old Bactrian, and its descendants have been the Pehlavi, Huzvaresh, and Pazan or Parsee.

AVICENNA, properly Bu-Ali-Sina, a celebrated physician, who was born near Bokhara, A.D. 980. He was a very voluminous writer, author of about a hundred books, several of them on medicine; but though esteemed for perspicuity, he did not contribute anything of great importance to the knowledge of his profession.

AVICENNIA OFFICINALIS. *Linn.* A sea-coast plant of South Asia, South Africa, all Australia, and New Zealand. Useful for consolidating muddy tidal shores.

AVICENNIA TOMENTOSA. *L.* Mangrove.

A. resinifera, *Forst.*	Sceura marina, *Forst.*
A. oepata, *Buch., Herb.*	Mangium album, *Rumph.*
A. Africana, *Palisot.*	Oepata, *Rheede.*
Bontia germinans, *Linn.*	
Bina, Binahe, . . BENG.	Timmer, ... SINDI.
Pata, ... CAN.	Nalla mada chettu, TEL.
Oepata, Pata, . MALEAL.	

This shrub or tree grows within the tropics all over the world, and is common in India in low places near the mouths of rivers, where the spring tides rise. In some places it raises its crown to the height of 70 feet, and, like the mangrove, stands on arching roots. It has small dingy yellow flowers. In the Sunderbuns it is of large size, and its wood is used for various purposes. The washermen make a preparation from the wood ashes which is used in washing and cleaning cotton cloths, and which painters mix with their colours, to give them adhesive properties. The kernels are bitter, but edible. The green fruit, mixed with butter and boiled, is made into a plaster, which is employed for softening and maturing tumours, and to induce granulation in ulcers resulting from small-pox. In Rio Janeiro, its bark is used for tanning.—*Voigt; Roxb.; Hogg's Veg. Kingdom; Rohde, MSS.; Flor. Andh.; Useful Plants.*

AVIRAMI PADDAR, a Brahman of Tirukadavur, who seems to have belonged to the Sakta sect, worshipping Parvati, the female energy of Siva, under the name of Avirami. Probable era, 17th century. He wrote a centum of hymns addressed to Avirami.

AVIRI. TEL. Indigofera tinctoria. MALEAL. Cassia auriculata.

AVISI. TEL. Avitta, TAM. Agati grandiflorum, *Desv.*

AVITABILE, GENERAL, an Italian who served in the army of Ranjit Singh. He caused Wazirabad to be rebuilt in European style. It is three miles from the left or east bank of the river Chenab.

AVOCADO, or alligator pear, Persea gratissima, *Gært.*, a member of the laurel family, of tropical American origin, now cultivated generally in the tropics for the sake of its succulent pear-shaped fruit.

AVUL COONDUR. DUK.? Olibanum?

AVURDI. ARAB. Emblica officinalis.

AVURTUNNI. SANSK. Helicteres isora, *Linn.*

AVURU GADDI. TEL. Andropogon muricatus, *Retz.*

AVVA GUDA. TEL. Trichosanthes palmata.

AWAK. HIND. Insurance. In Western India, Respondentia; an advance of money to a merchant upon the goods or merchandise of a ship before sailing, under the condition that if the voyage be profitable the loan is to be repaid with an extra rate of interest or percentage.—*Wilson.*

AWAL. HIND. Malaria.

AWAL-ul-ANBIA. AR. The first of the prophets. The designation of Adam by Mahomed.

AWAN, a numerous frontier tribe, settled in thirteen large agricultural communities on the 'Chuch' plain, on the eastern side of the Indus, and in smaller bodies further east, on the Jhelum, Gujerat, and Sealkote districts. They are good soldiers. There is no better people in India.—*Campbell*, p. 96.

AWANGILLI. HIND. A form of torturing, in which a man was made to stand on each foot on an inverted earthen vessel, the shape and position of which render him liable to fall, and if he fell a chaprassi standing near flogged him.—*W.*

AWANI-BUTAY. HIND. Ballota limbata.

AWASTHI. HIND. Kanouj Brahmans.

AWATUM. TEL. Spondias mangifera.

AWICHI, in Singhalese Buddhism, a hell.

AWLA or Aunla. DUK. Officinalis emblica.

AWMIA, of Sutlej and Ravi, Zizyphus vulgaris, *Lam.*

AWNY KARAI. Tam. Odina woodier.

AWRI KEERAY. Tam. Marsilea, *sp.*

AWUR. Hind. A stockade. Peshawur, the frontier fort, etc. The Aornos of the Greeks has been supposed to be the same word, with a Greek termination. Sir Alexander Burnes supposed Aornos to be the rock of Noagi in Bajawur. Mr. Vigne supposes it to be south of Attok, in the Waziri country. See Aornos.

AWUSADAN NELLI. Singh. Emblic myrobalan.

AW-WAL. Hind.? A shark.

AXE STONE. See Ceraunite; Jade; Nephrite.

AXIS, a genus of mammals of the family Cervidæ, known from the markings on their skin as the spotted deer. The species are three or four in number,—A. maculatus, the cheetul or spotted deer of India; A. oryzeus, the spotted deer of Ceylon; and A. porcinus, the hog deer of Indian sportsmen. The cheetul is often domesticated. Mr. Hodgson mentions A. medius and A. minor. See Cervidæ.

AY or Ayu, also Indu, the moon. The Tartars claimed descent from Ayu, the moon; hence with them, as with the German tribes, the moon was always a male deity. Ayu had a son Juldus, whose son was Hya, and from Hya came the first of the kings of China. The Ay of the Tartars, the Yu of the Chinese, and the Ayu of the Poorans, according to Colonel Tod, indicate the great Indu (or Lunar) projector of the three Lunar races of India, the Hya, the Aswa or Asi, and the Yadu, who peopled all the regions from Tartary to the Indus, and spread a common language over all western Asia. He tells us that the annals of the Yadu of Jessulmer state that long anterior to Vikrama they held dominion from Ghazni to Samarcand; that they established themselves in those regions after the Mahabharata, or great war; and were again impelled, on the rise of Mahomedanism, within the Indus. As Yadu of the race of Sham or Sam (a title of Krishna), they would be Sama-Yadus, in like manner as the B'hatti tribe are called Shama-b'hatti, the Ashambetti of Abul Fazl. The race of Joud was existing near the Indus in the emperor Baber's time, who describes them as occupying the mountainous range in the first doab, the very spot mentioned in the annals of the Yadu as their place of halt on quitting India, twelve centuries before Christ, and thence called Jadu or Yadu-ka-dang, the 'hills of Jadu or Yadu.'—*Tod's Rajasthan*, i. pp. 71, 529.

AYAH. Anglo-Indian. (Qu. Iyer or Aya, Sansk.) Used by the British in India to designate a lady's maid or child's maid. It is possibly derived from the expression Aya or Ayer, which a Hindu wife or husband employs to attract the attention of one another; and Ayer is doubtless the Sanskrit Aryar, a noble. See Ayar.

AYAING. Burm. Wild; any wild tribe or thing; an independent tribe.

AYALUOGI. Arab. Ayal-urchi, Pers. Aquilaria agallocha, *Roxb.*

AYA MARAM. Tam. Ulmus integrifolius.

AYA-MATA. Vern. The universal earth mother; the Ayi or Ai of the Mahratta predial races, and the Amma or Ammun of the races of the Peninsula. This goddess is worshipped by all the non-Aryan tribes of the south of India. Colonel Tod describes a lofty three-peaked mountain, on which is a temple dedicated to Aya-Mata, also called Isani, the tutelary divinity of the Koli. This and the effigy of the horse are the only objects of adoration among this aboriginal race. Isani, from Isa, 'goddess,' and Anani, 'earth,' the universal nurse mother (aya-mata). He tells us of Oodi Singh, who died thirteen years after his inauguration on the cushion of Joda, and thirty-three after the death of Maldeo, that, about A.D. 1645, when he was returning home from court, he beheld the daughter of a Brahman, an 'Aya-punti,' or votary of Aya-Mata, whose shrine is at Bai-Bhilara. These sectarians of Maroo, he says, are very different from the abstinent Brahmans of Bengal. They eat flesh, drink wine, and share in all the common enjoyments of life with the martial spirits around them. And as there was no other course by which the father could save her from pollution but by her death, on that he resolved. He dug a sacrificial pit, and, having slain his daughter, cut her into fragments, and, mingling therewith pieces of flesh from his own person, made the 'Homa' or burnt sacrifice to Aya-Mata, and as the smoke and flames ascended, he pronounced an imprecation on the raja: 'Let peace be a stranger to him! and in three pahar, three days and three years, let me have revenge.' Then exclaiming, 'My future dwelling is the Dabi Baori,' sprang into the flaming pit. The horrid tale was related to the raja, whose imagination was haunted by the shade of the Brahman, and he expired at the assigned period, a prey to unceasing remorse.—*Tod's Rajasthan*, ii. 35, 36. See Kol; Mother.

AYAMMA. Hind. A grant of land to religious persons at a small quit-rent.

AYANA. Sansk. A place of motion. In Menu, ch. i. 10, the waters are called Nara, and as these were the first production of Nala, or the spirit of God, he is thence named Narayana.

AYANA, in Hindu astronomy, a term applied to the equinoctial and solstitial points,—Mesha Ayana, Tula Ayana, the vernal and autumnal equinoxes; Uttara and Dakshan Ayana, the northern and southern solstices; Ayana Bhagas (vide Ayanansa); Ayana Kala, the time from one equinox to the ensuing one. Ayanansa is the arc between the vernal equinoctial point and the beginning of the solar, sidereal, or fixed zodiac (or the first point in the solar sign Meshar), being one of the most important elements of Hindu astronomy, as it refers the sidereal to the tropical zodiac (*Ed. Warren*). Another writer says Uttara Ayana is the apparent course of the sun through the northern signs; Dakshan Ayana the southerly course; hence the northern and southern hemispheres seem to correspond with the two Ayana, and Ayana has come to mean a hemisphere.

AYANA or Ayanar, in peninsular India, south of the Palar, a Hindu deity, worshipped in small fanes, with plaster horses and grooms outside of gigantic size. Women desirous of offspring place pottery images near, as votive offerings. Ayana is said to have been born of Mohini by Siva, Mohini being the female form assumed by Vishnu when churning the milk sea.—*Taylor.*

AYANA-GOSHA. Sansk. The husband of Radha, the favourite mistress of Krishna.—*Ward.*

AYAPANA. Beng. Eupatorium ayapana; E. repandum. The dried leaves and twigs used in medicine. An infusion is a very agreeable diaphoretic and mild tonic. Dose, two fluid ounces

thrice daily; is a favourite remedy among the native practitioners.—*Beng. Phar.*

AYAR. HIND. Andromeda ovalifolia.

AYAR, also Ayar-tawar. MALAY. Water.

AYAR or Ayargar. TAM. Pronounced Eiyar. An instructor, a father; a title added to the names of Brahmans of the Ramanuja or Sri Vaishnava sect in the south of India; an honorific or respectful word applied to superiors. It is often applied to Europeans of rank. It is the Aryar, from Arya; it may be rendered 'lord,' and is the title given to Esvara's image in the Hindu pagodas.

AYAR-AYAR. MALAY. Lansium, *sp.* Duku.

AYASRA. AMBOIN. Sandal wood.

AYATTA. PANJ. Andromeda ovalifolia.

AYEN. MAL. Artocarpus hirsutus.

AYEN ANAS. Hot springs in Naning.

AYER-i-NOSH, a place in Persia with naphtha springs.

AYER-MADDOO. MAL. Honey.

AYESTREE. BENG. A married Hindu woman, a femme couvert. She wears the balla bangle, which may be of gold, or iron, or even a red thread.

AYIN-i-AKBARI, the regulations of the emperor Akbar, by his minister, Abul Fazl. These contain a minute description of the establishment and regulations of every department of Akbar's government, from the mint and treasury, down to the fruit, perfumery, and flower offices, the kitchen and the kennel. The whole presents an astonishing picture of magnificence and good order, where unwieldy numbers are managed without disturbance, and economy is attended to in the midst of profusion.—*Elphin.* p. 480.

AYLMA, a Hindu race in Khammumet and Warangal, well made, tall, and rather good-looking. They are gallant soldiers, and dangerous enemies.

AYMAUDUM. CAN. Bishops' weed.

AYNI of N. Canara. Terminalia coriacea, *W.*

AYODHYA or Ajodhya, or the invincible, an ancient town on the right or south bank of the river Gogra (Ghagra) or Sarayu, adjacent to Fyzabad, in lat. 26° 48′ 20″ N., and long. 82° 14′ 40″ E. It is now a small town of 7518 inhabitants; but it is celebrated in all Hindu poetry as founded by Ikshwaku, the first king of the Solar dynasty. Making every allowance for exaggeration, it must have attained great splendour long anterior to Rama; and it was for many years the seat of sovereignty of the princes of the Solar line. Overgrown greatness characterized all the ancient Asiatic capitals, and that of Ayodhya was immense. In the Ramayana (book i. chap. v.) it is thus described: 'On the banks of the Sarayu (Sarju) is a large country called Kosala, gay and happy, abounding with cattle, corn, and wealth. In that country was a famous city called Ayodhya, built formerly by Manu, the lord of men. A great city, twelve yojanas in extent, the houses at which stood in triple and long-extended rows. It was rich, and perpetually adorned with new improvements. The streets were well disposed and well watered. It was filled with merchants of various descriptions, and adorned with abundance of jewels; crowded with houses, beautified with gardens and groves of mango trees, surrounded by a deep and impregnable moat, and completely furnished with arms.' In the Sakuntala (Act vi.) Ayodhya is called Saketala. The country of which Ayodhya (now Oudh) was the capital, and Rama the monarch, is termed, in the geographical writings of the Hindus, Kosala, doubtless from the mother of Rama, whose name was Koshula. Rama was born here. The first royal emigrant from the north is styled, in the Rana's archives, Koshulaputra, son of Koshula.

The identity of Saketa and Ayodhya has, in General Cunningham's belief, always been admitted. At the present day, the people point to Ram Ghat and Guptar Ghat as the eastern and western boundaries of the old city; and the southern boundary they extend to Bharatkund, near Bhadarsa, a distance of 6 cos. There are mounds of ruins, broken statues, and sculptured pillars, such as mark the sites of other ancient cities, but only a low irregular mass of rubbish heaps, from which all the bricks have been excavated for the houses of the neighbouring city of Fyzabad. Kosala is famous as the early home of Buddhism and Jainism, and claims to be the birthplace of the founder of both these faiths. When visited by Hiwen Thsang in the 7th century, it had twenty Buddhist temples, with 3000 monks, among a large Brahmanical population.—*Tod, Rajasthan*, i. 215; *Williams' Nala*, 114; *Imp. Gaz.*

AYOTHIA, the old capital of Siam. It was founded A.D. 1351, but was devastated by the Burmese in 1751, and Bangkok became the royal residence. The native name of Ayothia was Sijon Thejan, meaning terrestrial paradise.—*Bowring.*

AYUB, of the family of the Ayubi, the ancestor of Abul Fada, sovereign prince of Syria. Ayubi is the tribal name of the family to which Salah-ud-Din (Saladin) belonged. See Abul Fada.

AYUL. For nine or ten months, this disease renders the Terai dangerous to man, so deadly are its effects even to the natives of the country. —*Oliphant, Journey*, p. 39.

AYUN MUSA, ARAB., the Wells of Moses, are eight miles down the Red Sea from Suez on the eastern shore. Ain (Ayun, pl.) means a natural spring, and differs from the Ber or Bir, ARAB., a cistern to hold rain-water. Jacob's well, Beer Yakub, or Bir us Samariah, is 9 feet broad and more than 70 feet deep. In 1855 it still had the stone over its mouth (John iv.).

AYUR VEDA, the oldest known medical book of the Hindus. Its date is supposed to be about that of Menu Code, or B.C. 900? The author is unknown, and only fragments have come down to us. Amongst Hindus it is regarded as one of the Upa-Vedas or Supplemental Veda, and in their mythology is said to have been produced by Brahma or from Siva. Its name is derived from 'Ayus,' signifying the period of living, and 'ved,' to know, intended to teach the proper manner of living in this world, by preventing and curing diseases. It is said to have consisted of 1000 sections, of 100 stanzas each, or a lakh of verses (Sloka), but Brahma abridged and arranged it into eight parts (tantra):—

1. Salya, surgery.
2. Salakya, external ailments above the clavicles; diseases of eyes, nose, mouth, ears.
3. Kaya chikitsa, diseases affecting the whole body —the practice of physic—as fevers, dysentery, mania, diabetes.
4. Bhutavidya, mental ailments, demoniacal possession, to be removed by prayers, offerings, medicines.
5. Kaumara bhritya, infantile ailments and nursing.
6. Agada tantra, antidotes for poisons.

7. Rasayana tantra, chemistry, alchemy, medicines to cure diseases in general, and restore youth.
8. Vaji-karana tantra, reproduction — disease of organs of generation—local diseases.

AYUSH, the Veda descriptive of the art of music. See Vidya. Ayudha-Puja, instrument worship. Ayugma Chadda, also Ayugma Parma, Sansk., Alstonia scholaris, *R. Br.*

AYYAM. Arab. Season, period. Ayyam-i-nahr, season of sacrifice. Ayyam-i-gur, day of rest.

AYYAN-KERE, also called Dodda Madaga Kere, an artificial lake studded with islands, and 7 miles in circumference, at the eastern base of the Baba Budan hills, said to have been formed by Rukmangada Raya, about the 13th century.—*Imp. Gaz.*

AZAD. Arab. Solitary or free. A class of Mahomedan devotees.

AZADIRACHTA INDICA. *Ad., Juss.* Margosa.

Melia azadirachta, *Linn.*

Them-bau-ma, . .	Burm.	Weppa, . . .	Maleal.
Ka-ma-kha, . . .	,,	Aria Bepon, . . .	,,
Ka-ma-a-pæ, . .	,,	Nimba, . . .	Sansk.
Ku-lien-shu, . .	Chin.	Telkohomba, . .	Singh.
Ash-leaved bead tree,	Eng.	Vepam maram, .	Tam.
Indian lilac, . . .	,,	Vepa, Yepa, . .	Tel.
Nim, ...	Hind.	Nimbamu, . . .	,,

This beautiful tree is found in Ceylon, throughout India and Burma, and in some localities attains a large size. It yields a compact, hard, heavy, durable wood; when old, difficult to work, but beautifully mottled, and deserving attention for ornamental purposes. It is well fitted for ship-building and carts. Some samples exhibited by Mr. Rohde at the Madras Exhibition equalled the best fancy woods, and some of the finest furniture he had seen was from an old margosa tree. It is used for cart wheels, and in bare districts of the Bombay Presidency, for building and agricultural purposes. It would be of importance to increase this tree throughout the country. It comes into full foliage in the very midst of the hot weather. Every part of the tree is bitter; and its leaves, bark, seeds, and the oil from its seeds (Karwa tel or bitter oil) are largely used in native medicine. Its leaves are applied to leech bites and blisters; also to promote the flow of the breast milk. The bitter oil of the fruit is a valuable anthelmintic; the seeds are used in the destruction of insects. The leaves, beaten into a pulp, and thus externally applied, act as a charm in removing the most intractable forms of psora and other pustular eruptions. A decoction of the leaves is used for cleaning foul ulcers, and leaves are used for making poultices. The oil from the seed is used to kill vermin in the hair, and, mixed with illupu oil, it forms a hard vegetable wax. The bark has been recommended in fevers, but is only a bitter tonic. The tree is venerated by the Hindu people, who, regarding the small-pox as a goddess, employ the leaves in that disease, and, as with the shrew ash tree in England, it is often resorted to by the friends of the insane, who pass the sick person through a cleft of the tree, or through a stem which, having parted and reunited, forms a circular opening.—*Roxb.; Voigt; Wight; Mr. Rohde; Cornish; Gibson; Elliott; Cat. Ex.*, 1862; *Royle; Clegh.*

AZALEA, a genus of plants yielding fragrant flowers. They are much cultivated in China, where A. alba, Indica, lateritia, Phœnicea, the yellow Azalea Sinensis, and A. variegata, cover the hill-sides, at least 1500 feet above the level of the sea. Few can form any idea of the gorgeous and striking beauty of these azalea-clad mountains, where, on every side, as far as the vision extends, the eye rests on masses of flowers of dazzling brightness and surpassing beauty. Nor is it the azalea alone which claims our admiration; clematises, wild roses, honeysuckles, the Glycine, and a hundred others, mingle their flowers with them. High up on the gorgeously painted hill-side grows the lovely Azalea Sinensis, with its colours far more brilliant, and its trusses of yellow flowers much larger, than they are ever seen in any exhibition in Europe.

A. aurantiaca has a great abundance of white, orange, purple, scarlet, and variegated flowers.

A. Indica, *Linn.*, is a bush two to six feet high, with drooping branches and purple and variegated flowers.

A. ledifolia, *Hooker*, has two varieties, the royal purple and the Phœnicean.

A. obtusa is highly prized by the Chinese for its brilliant, dazzling flowers.

A. amœna, *Fortune*, has a profusion of small semi-double pink flowers.

A. ovata, *Lindley*, covers the hill-sides of China up to 1500 feet.

A. procumbens grows profusely on the hills in Hu-peh and Kiang-si, and is called Lau-hu-hwa or Gan-chih-chuh.

A. pontica, called Hwang-tu-kiuen, is very poisonous, and the smell of its fresh flowers injurious.—*Fortune's Residence; Fortune's Wanderings; Eng. Cyc.; Riddell.*

AZAMGARH, a revenue district in the Benares division, of 2565 square miles, and a population of 1,531,482 souls. It is well cultivated, but with many usar or reh patches. Its principal river is the Gogra (Ghagra), called also the Sarju or Sarayu, and the Debha or Debwa. The aboriginal inhabitants are the Rajbhar, Siur, Sengaria, and Charu. But Rajputs wrested it from the Bhar; a race known as the Bhuinhar followed, and supplanted the Rajputs. The Dehli emperors then took possession, but were expelled by the Gautama Rajputs. It again became Dehli and Oudh territory, and finally British in 1801. The people are Brahmans, Kshatriya called Thakur, Bhuinhar, the Kurmi, Kachi, and Lodha agricultural peasantry, with Arakh, Chamar, Dom, and Pasi.

AZAN. Arab. The Mahomedan summons to prayer, proclaimed by the Muazzan. It is differently pronounced, though similarly worded, by every orthodox Mahomedan nation. The Muazzan, with his face to Mecca, for the five daily prayers says—

1. Allah ho akbar (four times).—God is great.
2. Ash'-had-do-an, la-illaha il-lul-la-ho (twice).—I bear witness there is no deity but God.
3. Wa ash'-had-do-an, Mahomed-ur-Rasul ool lahi (twice).—And I bear witness that Mahomed is the messenger of God.
4. Hy ul as-salwat (twice).—Come enliven your prayers.
5. Hy al ul Fallah (twice).—Come for refuge to the asylum. (Come to salvation.)
6. Us-sal-la-to khyrun min nun-nown (twice in the morning prayer).—Prayer is better than sleep.
7. Allah ho akbar, La-illaha-il-lul-la-ho (once).—God is great. There is no deity but God.

The Azan is proclaimed from the minaret or

madnah of mosques by the Muazzan. When Mahomed was at Medina, the means of calling his followers together for prayer were discussed. Flags were rejected because they had been defiled by war, bells were rejected because used by Christians, trumpets had long been used by Jews, and fire was an object of idolatry to the Persians; but a revelation to Abdullah ibn-Zeid Abderzi prescribed the human voice. The Muazzan is required to speak evenly and distinctly, slowly and gravely. In the morning call, the Muazzan adds, Prayer is better than sleep. The Muazzan stands with a finger in each ear, and with his face towards Mecca, till he comes to the words, Come to prayer, come to the temple of salvation. He then turns his face right and left, as if addressing all nations of the world. The Shiah sect, at the summons six, add, Come to good works; and they repeat the last sentence twice. The effect is very pleasing and solemn, when, as is mostly the case, the Muazzan has a clear and sonorous voice.—*Pottinger's Travels; Lane.*

AZAREH. HIND. Achyranthes aspera.

AZERBIJAN, the chief commercial city of Persia. It owes its flourishing state to its position on the long-established route by which the wares of Great Britain and Europe are conveyed from the Euxine port of Trebizond, through Turkish Armenia by way of Erzerum, to supply Persia and Central Asia.

AZES, B.C. 130, one of the conquering Scythian kings, on whose coins are bilingual inscriptions, with plain, distinct Greek characters. In Arian, Maharajasa Raja Rajasa Mahatasa Ayasa. The figures on the coins are various. Professor Wilson thinks he was an Indian Buddhist king, about B.C. 50. Professor Lassen regards him as a Saci Scythian, who conquered the Kābul valley in the time of the second Mithridates, and finally destroyed the kingdom of Menander and Hermæus in about B.C. 120. He considers he was succeeded by Azilises, B.C. 115, who reigned with the same titles as Azes. On one coin the name of Azes is on the Greek obverse, and that of Azilises on the Bactrian reverse.

AZFUR ZUKKUM. AR. Euphorbia tortilis.

AZHDAHA. PERS. A dragon. A rock in the valley of the Logar river, in the Hazarajat of Afghanistan, supposed to represent a petrified dragon slain by Ali.

AZIM. ARAB. Great. The word is part of the Arabic verb 'azm,' he was great; other parts of this verb are frequently met with wherever Mahomedans are spread, in the names of towns, of individuals, and in titles, such as Azim-ghur, Azim-pur, Azim Jah, Moazzam-ud-Dowla, literally the Honoured of the State. Azim-us-Shan, splendid; Azim-ud-Dowla Bahadur.

AZIZ, the takhallus or literary name of Khan-i-Azim, a man of great learning and a poet at the court of the emperor Akbar. He was the foster-brother of Akbar, and one of his best generals. He had been long absent from court, in the government of Gujerat, and his mother prevailed on Akbar to invite him to court, but he excused himself, and it appeared that his real objection was to shaving his beard and to perform the prostration. Akbar wrote a good-humoured remonstrance, but Aziz persevering, Akbar sent him a positive order to come to the capital, on which Aziz threw up his government, and, after writing an insolent and reproachful letter, in which he asked Akbar if he had received a book from heaven, or if he could work miracles like Mahomed, that he presumed to introduce a new religion, warned Akbar that he was on the way to eternal perdition, and concluded with a prayer to God to bring him back into the path of salvation; he embarked for Mecca without leave or notice. In a short time, however, he found his situation in that country irksome, and returned to India, where he made his submission, and was restored at once to his former place in the emperor's favour and confidence.—*Elph.* pp. 468-473.

AZKHAR. HIND. Andropogon iwarancusa.

AZMA. GUJ. Ajwain seed.

AZMEI. PANJ. Erva bovii.

AZORELLA SELAGO, one of the Umbelliferæ of the islands of the South Pacific. It forms hummocks.

AZRAIL. ARAB. The angel of death.

AZUN. MAHR. Terminalia arjuna.

AZURE STONE, or lapis-lazuli, is said to be found massive with iron pyrites amongst the Ajmir hills, especially the Na-puhar range. This stone is sold by all 'attars,' both as a medicine and a pigment. The native name in Ajmir is 'lajwurd.'—*Gen. Med. Top.*

B

B. This consonant has letters with corresponding sounds in Arabic, Persian, Urdu, Sanskrit, Hindi, Mahratti, Gujrati, Bengali, Urya, Telugu, Karnata, Tamil, and Malealam; and in all but the Tamil tongue the English bh is also represented. In the languages of different races, b, u, v, w are interchangeable letters; in Bengali, for instance, Valayat, a foreign country, becomes Balat; and the b of the Arabic and Persian is changed to f or ph in several of the Indian tongues.

BA. PERS. With, possessing; thus, ba-aulád, with offspring.

BAAL and Astarte, the two chief divinities of Phœnicia, were unquestionably the sun and moon, which are still worshipped by all Hindus; and the minor deities appear to have represented objects of astral worship. Baal was Baal semen, lord of the heavens or sun. Bel, the chief god of the Babylonians, was also the sun. Baal, Bel, Belus, the sun, or lord of the heavens, almost assimilates in character and attributes with Kronos, Ouranos, Moloch. But, in time, Baal began to be regarded as the supreme lord, and the sun, in its physical character (2 Kings xxiii. 5), was worshipped separately; the Jews and the Israelites paid homage to the sun. The sect of the Essenians every day saluted the rising sun, and invoked him in the morning to appear. The Bible expressly forbids this idolatry, and commanded those who were found guilty of adoring the sun and the moon to be stoned (Deut. xvii. xviii.). In the book of Kings, chap. ii., this idolatry is related as the principal cause of the ruin of the kingdom of the Jews. Plutarch endeavoured to destroy this worship among the Greeks. He says, in his book of Isis and Osiris, that the elements are not to be adored, neither the sun nor the moon, because they are only mirrors in which may be seen some trace of

the infinite wisdom of the Creator, who has made them so brilliant and beautiful. The Brahmans and Hindus of India to this day address prayers to the sun every morning. Many explanations and interpretations are given of the meaning of the celebrated Gaitri Mantram, the text of the Veda used when initiating a young Brahman into the order, but that it is addressed to the sun, under the name of Savitri, there is no doubt; and much of the Hindu worship has an astral origin; and there are many ancient and modern sun temples. Every day, too, the whole Parsee race worship this luminary.—*Bunsen, Egypt*, iv. 350; *Sonnerat's Voyage*, pp. 76–77.

BAALBEC, the Ba-alith of Scripture, the Heliopolis of the Greeks, the City of the Sun, now a small Arab hamlet, but famed for its ruins. The place is built on the lower slopes of the Anti-Libanus, 43 miles N.W. of Damascus, in lat. 34° 1′ 30″ N., and long. 36° 11′ E. The date of its origin is unknown, but Antoninus Pius built one great temple. The city passed successively beneath the rule of the Persians, Greeks, and Romans, and was plundered by the Arabs in A.D. 748; suffered under various assailants during the crusades, and was sacked and dismantled by the Tartars under Tamerlane A.D. 1400. But its name is handed down in the labour catches of the Madras Mahomedans; 'Ya, Ali! ya, Baalbec! ya, Rasul Allah!' are still heard. The temples of Baalbec stood upon an elevated platform raised 30 feet above the plain, having immense vaults underneath. Three of the stones in this foundation are each 63 feet long by 15 wide, and 13 deep. On the platform stood three temples,—the temple of the Sun, the temple of Jupiter, and the Circular Temple. The largest of these, the temple of the Sun, was 290 feet long by 160 feet broad, surrounded by fifty-four Corinthian columns 75 feet high, and 7 feet 3 inches in diameter at the base. A few only of these immense columns now remain. The space covered by these ruins is only 900 feet long by 500 feet wide. The magnificence and magnitude of the columns and the Cyclopean masonry have been the wonder of the world.

BAALTIS, *i.e.* mistress, queen; the wife of the Egyptian Adonis. Identical with the Greek Hastoreth, Astarte.

BAALUT. ARAB. An acorn.

BAATOO. MALAY. Black trepang.

BAB. ARAB. A door. Bab Allah, 'the gate of God;' one of the gates of Damascus, so called from being that through which the Haj or pilgrim caravan passes on starting for Mecca. Bab-al-Ali, the sublime door or porte; the chief office of the Ottoman government; the respectful mode of designating the emperor of Turkey.

BAB. ARAB. A section, a chapter of a book; a heading of accounts. Babat, an item of account. Babati, revenue, a cess.

BABA, a title applied to Sikh ascetics. Both this and the titular designation Shah (king) were frequently employed by the Sikh historians when speaking of their founder. They even style him Nanuk Narinkur, or Nanuk the Omnipresent. —*Malcolm; MacGregor's Sikhs.*

BABA, a term applied to the descendants of Oody Singh, raja of Mewar. He lived for four years after the loss of Chitore, and expired at Gegoonda, aged forty-two. He left a numerous issue of twenty-five legitimate sons, whose descendants, all styled Ranawut, pushed aside the more ancient stock, and form that extensive clan distinctively termed the Baba, or 'infants' of Mewar, whether Ranawut, Purawut, or Kanawat. His last act was to entail with a barren sceptre contention upon his children, by setting aside the laws of primogeniture, and proclaiming his favourite son Jugmal his successor.—*Tod.*

BABA or Babber, 60 miles W. of Timur, is in lat. 8° 2′ S. The people scarp the hills, and dwell on terraces, in oblong, barn-shaped houses, with wooden walls and palm-leaf thatch.—*Horsb.*

BABA-BOODEN, or Chandra Drona, a range of hills in the N.W. part of Mysore, about 15 miles long, and attaining a height of 5000 to 6317 feet above the sea. The hill-sides have been found favourable to the growth of tea and coffee. Fevers of a severe type have occasionally occurred. The Jager valley is unhealthy. Magnetic iron ore and chrome ore are abundant. The range is named after a Mahomedan holy man or darvesh, Baba-Booden, alias Hyat Qalandar or Hyat-ul-Bahar, who resided there, and introduced the coffee plant from Arabia. His tomb is in a cave on the southern slopes, and is venerated by Hindus, who regard it as the throne of Dattatreya. The place is famous for a colossal Jain figure. The rainfall is about 70 inches.

BABA GOORGOOR, near Kerkook, is supposed to be the Korkura of Ptolemy, and is about 2 miles to the N. of Baghdad. In a little circular plain, white with naphtha, flames of fire issue from many places. See Kerkook.

BABAI. HIND. Ocimum pilosum; ciliated basil. The leaves have a very fragrant smell, exactly like verbena. The plant is used to prevent the approach of insects, especially of bugs; the seeds are mucilaginous.—*Irvine, Ajmir*, p. 180.

BABA LAL, a Hindu who dwelt at Dhianpur, in the province of Lahore, the founder of a sect called Baba Lali. He held frequent conversations on the subject of religion with Dara Shikoh, eldest son of Shah Jahan, and brother of Aurangzeb, which have been published in a Persian work by Chandarbhan Shah Jahani. Oblations are offered at his shrine. Baba Lal was a Malwa Kshatriya, and was born about the reign of Jahangir. He was a disciple of Chetana Swami. He settled at Dhianpur, near Sirhind, where he erected a math.

BABAR. ARAB. A weight of 16 maunds, computed in the Moluccas at about 590 lbs.

BABAR, also called Allow or Bichoo, a stinging nettle. Thread is prepared from its fibres. It grows in all the valleys about Simla and Subhathoo. —*Royle*, p. 376.

BABARCHI, also Bawarchi. HIND. A cook. Bawarchi-khana, a cook-room.

BABAT. PERS. An item in an account.

BABA YADGAR, one of the seven persons, or Haft Tan, who in the early days of Mahomedanism were worshipped as the deity in several parts of Kurdistan. His tomb is in the pass of Zardah, and is the holy place of the Ali-Allahi sectarians, who believe in upwards of a thousand incarnations of the godhead. At the time of the Arab invasion of Persia, the Zardah pass was regarded as the abode of Elias. See Ali Allahi.

BABBAR SHER. PERS., HIND. The lion; Felis leo, *Linn.*

BABBASA. TEL. Hydrocotyle rotundifolia.

BABCHI. HIND. Psoralea corylifolia. Its aromatic and slightly bitter seeds are used by the natives as a stomachic and deobstruent, and also in cases of leprosy.

BABEER, the papyrus antiquorum; it grows in the marshes of Egypt, and in the stagnant waters of the Nile.—*Hogg's Veg. King.* p. 806.

BABEGAN, the surname of Ardeshir.

BABEL of Scripture is the Babiru of the cuneiform characters, and the Beber of the Egyptians. Its age is uncertain, but, according to Genesis, it is older than Assur and Nineveh (Gen. xi.). The tower was a watch-tower, a fortified observatory or rallying place, in the midst of a great plain; and there can be no doubt that there was a tower of Nimrud in the early times before the Chaldee period. This tower is connected with the decline of the kingdom of Nimrud, and the dispersion of nations.—*Bunsen's Egypt*, iii. pp. 132, 451, iv. pp. 373, 414. See Babylon; Kesra.

BABER was born at Farghana, on the Jaxartes, A.D. 1482. His name was Zahir-ud-Din Muhammad. He was, on his father's side, sixth in descent from Timur, and his mother was a Moghulani. His father, Umar Shaikh Mirza, a Chaghatai Turk, was the fourth son of Abu Said, whose extensive dominions were shared amongst his sons. He died A.D. 1494, when Baber was only 12 years old. In 1497, Baber, after more than once failing, conquered Samarcand, only to lose it again after a reign of 100 days, and he was driven also from his native kingdom. In 1499 he again recovered Samarcand and Farghana, only again to lose both of them, and he took refuge in the inaccessible mountains to the south of Farghana. From this, with 240 men, he set out for Samarcand, scaled the walls at night, and took the city, and all Sogdiana then declared for him. But he was again totally defeated and driven within the walls of Samarcand, by Shaibani Khan Uzbak; and, after sustaining a four months' siege, during which many of the inhabitants perished from famine, and the soldiers deserted, Baber evacuated the town. He passed nearly two years in the utmost poverty and distress, but again recovered Farghana, again to be driven from it by the Uzbaks; he was made prisoner, and with the utmost difficulty recovered his freedom. The whole of Transoxiana, except that annexed to Bactria, fell into the hands of the Uzbaks, and Baber bade a last farewell to Farghana, and set out to try his fortune beyond the range of the Hindu Kush. After all that he had done and suffered, Baber was yet only in his twenty-third year; adventurers gathered round him, and at the head of a well-equipped army he advanced on Kâbul, of which he took possession, A.D. 1504, without opposition. The next years were passed in the conquest of Kandahar, in expeditions into the mountainous regions of the Afghans and Hazara, and in a dangerous journey to Herat, to concert measures with that branch of the house of Timur for their common defence against the Uzbaks. On these occasions he underwent the usual risks, and more than the usual hardships of war, and had once nearly perished in the snow during a winter march through the mountains of the Hazaras. In A.D. 1506, his brother Jahangir revolted, was subdued and pardoned; next year, 1507, the Moghul troops set up one of his cousins as king, and he also was defeated and pardoned. In 1508, he had to meet a conspiracy amongst the Moghuls, who planned to seize Baber, and raise Abdur Razak to the throne; but Baber by his personal courage and exertions retrieved his affairs. And when Shaibani Khan, in 1510, was defeated and slain by Shah Ismail Saffavi, king of Persia, Baber made an alliance with Shah Ismail, retook Bokhara and Samarcand, only to be again defeated; and in 1514 he had lost all his possessions but Bactria, and he now turned his attention to India, claiming the Panjab as part of the conquests of Timur.

He was reigning at Kâbul when Daria Khan Lodi was proclaimed king, but Daulat Khan Lodi, governor of the Panjab, revolted, and called Baber to his aid. Baber totally defeated a combination of Afghans near Lahore, and that city was reduced to ashes, A.D. 1524, A.H. 930; Dibalpur was stormed, and the garrison put to the sword. Daulat Khan joined here, but afterwards revolted, and Ala-ud-Din fled to Kâbul, while Baber was defending Balkh against the Uzbaks, and he sent Ala-ud-Din to India with orders to his own chiefs to assist him. Ala-ud-Din advanced to Dehli with 40,000 men, but was totally defeated. Baber by this time had settled Balkh, and had returned to Lahore. He followed Daulat Khan into the hills, and obtained his submission, and then continued his route through the hills to Ropur on the Sutlej, above Ludhiana, and moved from thence nearly by the direct road to Dehli. At Panipat he was met by Ibrahim Khan Lodi with a force of 100,000 men and 1000 elephants. The Indian troops fell into disorder, were completely routed, and Ibrahim was killed. Baber estimated that 15,000 or 16,000 lay dead on the field; and the Indians reported that not less than 40,000 perished in the battle and pursuit (21st April 1526). Dehli surrendered (10th May 1526), and Baber advanced and took possession of Agra. After taking Agra, he distributed the captured treasures to his adherents. He gave his son Humayun a diamond, which was esteemed the finest in the world; and he sent a present of one Shah-Rukhi to each man, woman, and child, slave or free, in the country of Kâbul. He occupied the district to the N.W. of Dehli, with a narrow tract along the Jumna to Agra, and Humayun subdued all the provinces ever possessed by the house of Lodi, including the former kingdom of Juanpur. The last places that submitted were Biana, Dholpur on the Chambal, and Gwalior beyond that river (July to October 1526, A.H. 932). He next subdued the combined forces under raja Sanga of Mewar, and fought and won the battle of Sikri on the 16th March 1527, A.H. 13, Jamadi-us-Sani 933, and afterwards reduced Mewat. About the beginning of 1528 (A.H. 934), he marched against Medni Rai, the Rajput chief of Chanderi. On the second day of the siege, the garrison gave up all for lost; they put their women to death, and rushed forth naked, not to conquer, but to die. They drove the Mahomedans before them, leaped over the ramparts, and continued their charge till destroyed; 200 or 300 had remained to defend Medni Rai's house, most of whom slew each other, each contending who should be the first victim (20th January 1528). During this siege he heard of a rebellion amongst Afghans in Oudh, and he seems to have driven

them into Bengal, taken Behar, and obtained the cession of the fort of Rintambor from the second son of raja Sanga. He subsequently moved against Sultan Mahmud, king of Bengal, who vainly attempted to defend the passage of the Gogra, and he sent a force in pursuit of a body of Afghans, who were destroyed in Bundelkhand. As Baber's health had been on the decline, intrigues were got up as to the succession. Humayun left his government of Badakhshan without leave, but was affectionately received by Baber. Humayun, however, fell very sick, and Baber carried out the superstitious custom of taking the ailment on himself as a self-sacrifice, by walking three times round his son's bed. This he did solemnly, then knelt in earnest prayer, and rose exclaiming, 'I have borne it away, I have borne it away;' and so powerful was the impression on his own and his son's minds, that the son began to mend, while Baber declined. In the midst of intrigues, he died at Agra, 26th December 1530, A.H. 937, in the 50th year of his age. Baber's body was buried, by his own desire, at Kābul, in a spot about a mile from the city, selected by himself, to him the choicest in his wide dominions. It is a brick building. A running and clear stream yet waters the fragrant flowers of the cemetery, which is the great holiday resort of the people of Kābul. In the front of the grave is a small but chaste mosque of white marble; and overlooking the tomb is a hill from which is a noble prospect. He was the most admirable, though not the most powerful, prince that ever reigned in Asia. He kept a diary in the purest Turki tongue, the Tuzak-i-Babari, or Wakiat-i-Babari, which has been translated by Mr. Erskine and Dr. Leyden; and his memoirs contain a minute account of his life. The unsettled nature of his life is shown by his observing, near the end of it, that since he was eleven years old he had never kept the fast of the Ramzan twice in any one place; yet he found time to compose many elegant Persian poems, and a collection of Turki compositions are mentioned as giving him a high rank among the poets of his own country. He left four sons, — Humayun, Kamran, Hindal, and Mirza Askari.

Baber's army, when invading India, had a large number of the Kipchak from Andijan. The Kipchak are part of a family scattered all over Central Asia; and there are Kipchaks amongst the Uzbak and Kara Kirghiz. Their country lies between the Naryn and the Kara-darya. They have ever been a brave race.

Baber spoke and wrote in the Chaghatai Turki, and that language continued in use at court until a late period. There were, however, two races, two languages, and two sorts of religionists, in that court, — the nobles of Turan and of Iran, of Tartary and of Persia. The former were of the Sunni sect, and spoke Turki; the latter of the Shiah sect, and spoke Persian. And in the later days of the empire the contentions between these two sects were a cause of its weakness. He founded the long line of kings under whom India, in the 17th and the 18th centuries, rose to greatness. His reflections on success evince it was his due. 'Not to me, O God! but to thee be the victory!' says the chivalrous Baber. He obtained a translation of the Christian Scriptures; and his grandson Akbar, who in A.D. 1556, at the age of fourteen, ascended the throne, invited a party of Christian missionaries to his court. Amongst the princes from the Jaxartes are historians, poets, astronomers, founders of systems of government and religion, warriors and great captains, who claim our respect and admiration. Were we to contrast the literary acquirements of the Chaghatai princes with those of their contemporaries of Europe, the balance of lore would be found on the side of the Asiatics, even though Elizabeth and Henry IV. of France were in the scale. When not at war, he was travelling or hunting. On his last journey, when his health was failing, he rode 160 miles in two days, from Calpi to Agra, and swam across all the rivers in his route. He occupied himself largely in making roads, reservoirs, and aqueducts, and paid great attention to the introduction of new fruits. He was a poet, a historian, and a musician; elegant yet free in his manners, easy of access to his subjects, and fond of social enjoyments. He was an enthusiastic admirer of nature; and his memory dwelt on his native land in the lovely valley of Farghana, which the Uzbak Tartars had seized.— *Elph.; Baber's Memoirs; Burnes' Travels; Elliot's Hist. of India; Briggs' Ferishta; Tod's Rajasthan.*

BABI, a sect founded by Syud, or Mirza, Ali Muhammad. He was born at Shiraz. His father was a merchant, who sent his son, when fifteen years of age, to study theology at Najaf. He settled for a short time at Abushahr as a merchant, but discontinued that and became a darvesh, and settled at Kazamin, near Baghdad, where he claimed to be a prophet, and assumed the title of Bab-ud-Din. Many people became his followers, and he was repeatedly imprisoned, and finally was shot at Tabreez about A.D. 1850, and the sect largely destroyed. His doctrines were atheistic, under the guise of pantheism. Many Mulla and Mushtahid joined him. The title of Bab-ud-Din (door, porte, of the faith) was assumed to imply that he or his doctrines were the way or gate to heaven. There are many of this sect in Baluchistan, settled at Kalat and Shal for purposes of traffic. Pottinger says of these: 'The appearance of the Babi merchants is rather prepossessing; stout, well-made men, with good features.' —*Pottinger's Travels; Shiel, quoted by MacGregor.*

BABI, an Afghan tribe.

BABI. MALAY. Hog. Babi-Alu, Tapirus Malayanus, *Raffles.* Babirussa alfurus, the Babirussa hog of the islands of the Archipelago; its eastern limit is Buru.

BABIRU, of the cuneiform characters, is the Babel of Scripture.

BABI-RUNG. BENG. Embelia ribes.

BABISARN. MALAY. Morus Indica.

BABLAH, also Neb-Neb. ARAB. The rind of the fruit of the Acacia ferruginea. It is used as a substitute for the more expensive dye-stuffs, and for communicating shades of drab to cotton. Also A. Arabica in Bengal.—*Faulkner.*

BABOO, amongst the Hindus, a respectful appellation equivalent to the English 'esquire,' —your worship, or 'your reverence,'—or to the Mahomedan hazrat. It is still not infrequently applied to Europeans when addressed by a Hindu. In Calcutta, a baboo is a Hindu engaged in mercantile business, a native clerk who writes English; in Gorakhpur, any man of family or influence; in Benares, the near relatives of rajas.

BABOON.

Babouin magot, . .	Fr.	Babbuino, ...	It.
Pavian, ...	Ger.	Cino-cephilo, . . .	Sp.
Bandar, ...	Hind.		

Quadrumanous mammals of the sub-family Papioninæ. One has received its Latin name, Cynocephalus, from the dog-like shape of its head; also species of the genera Papio and Cereopithecus.

BABRA, three marches from Jeypore, on the road to Dehli, has one of the edicts of Asoka on a block of rock on a hill, in old Pali, and of date B.C. 309. It is in the oldest Lat character. It differs somewhat in style and language from the pillar and rock edicts. The subject is the Buddhist commandment forbidding the sacrifice of four-footed animals. The Vedas are alluded to, but not named, and condemned as 'mean and false in their doctrine, and not to be obeyed.' The Scriptures of the Muni (which must be the Vedas) are spoken of as directing blood-offerings and the sacrifice of animals. Priests and priestesses, religious men and religious women, amongst the Buddhists, are commanded to obey the edict, and bear it in their hearts.—*Jl. B. A. S.* ix. p. 617.

BABRI. Hind. A kind of peach.

BABRIA, a tribe of Hindu cultivators in Kattyawar, giving their name to Babriawar. They have 72 divisions. It is one of the five southern districts of Kattyawar; its people, the Babria, are said to be the offspring of an Ahir with a Koli woman. See Kattyawar; India.

BABUAR. Sansk. Cordia myxa.

BABUI-TULSI. Beng. Ocimum basilicum.

BABUL or Babool, a Hindi word, applied as a generic term to some species of Acacia. The Babul proper, A. Arabica, in Sind is very abundant, grows to a large size, and is exceedingly hard and weighty. For agricultural implements and all native purposes, it is excellent. It was much used by the Indus Flotilla for paddle flats, rudders, stanchions, and boats' knees—in fact, for every purpose to which good wood can be applied. Its bark is employed in tanning, its pods form a valuable food for cattle; its young branches are the favourite food of camels and goats, its bark yields gum and lac; and for all these articles—wood, bark, pods, gum, and lac—a sale is always found. Drs. Gibson and Cleghorn have strongly advocated the extension of this tree by plantations; and sites indicated as suitable are the banks of the Indus in Sind, the Tumbudra, Bhima and Moota Moole, the Bellary, Nuggur, Ahmadnaggur, Sattarah, Kutch, and Kattyawar districts. Babul gum, largely produced, and well known in commerce, is the produce of the Acacia arabica. It is largely used in India as a substitute for the true gum arabic, the produce of the Acacia vera.—*M. E. Jur. Rep.*

BAB-ul-MANDAB, a strait at the entrance of the Red Sea, between Africa and Arabia, formed by Ras Sejan on the Abyssinian shore, and Ras Bab-el-Mandeb on the Arabian shore, the distance from point to point being 14½ geographical miles, but divided into north and south parts by the island of Perim. The north or small strait is 1½ mile in breadth, and it is formed by Perim and Pilot Island, a small rocky islet half a mile distant from Ras Bab-el-Mandeb, the soundings being 8 to 16 fathoms. The south strait is formed between the south point of Perim and Ras Sejan, and is 11¼ miles in breadth, with soundings in mid channel at 100 to 185 fathoms. On the N.E. side of the entrance to the Red Sea, a prominent headland, with low land behind it, has the appearance of an island. Quoin Hill, Jabal Mia Ally, is 865 feet high, and slopes towards the sea. Bab-el-Mandab is an Arabic term, meaning the gate of affliction, supposed with reference to the dangers which were anciently encountered in its navigation. It is the limit of the Turkish possessions to the south.—*Findlay; Horsb.; Playfair.*

BABUNAH. Pers. Anthemis nobilis; chamomile. Its root, under the name of Babuna-Surkh, is taken as an aphrodisiac and general tonic; sells at 1 rupee a seer.—*Gen. Med. Top. of Ajmir*, p. 128.

BABU-PHALLI. Hind. Species of Corchorus; C. olitorius, depressus, acutangula.

BABURI. Jhelum. Mentha Royleana, *Benth.*

BABYLONIA. This ancient sovereignty comprehended a narrow tract along the river Euphrates, extending from the neighbourhood of Erech, the modern Warka, or from about the modern town of Seikh-ul-Shuyukh, to Babel, a distance of about 154 miles in a direction westward of north, and continuing from thence 287 miles further in the same direction to Kalneh, the modern Niffer, on the Khabur. The dominion extended eastward till it joined Assyria, including Akkad, and two other cities no less remarkable. One of them bears the name of El Kush, extensive ruins about 11 miles E.S.E. of Felujah; and the other is the supposed site of antediluvian Sippara, Siferah of the Arabs (Lieut. Lynch), which is within the Medina wall, near the southern extremity. The greater part of what was called Mesopotamia in latter times, constituted, therefore, the territory of ancient Babel, the Aram Naharain, or Syria between the rivers, of Gen. xxiv. 10; Deut. xxiii. 4. The same tract also bore the name of Padan-aram (Gen. xxviii. 2), or Champagne Syria, both of which designations agreed with the description given of the country by Strabo. Babylonia is the modern Iraq-i-Ajam. Much light is being thrown on the history of this ancient and ruined city, its dominions, and its rulers, by the researches of learned men, who have been deciphering the cuneiform inscriptions found in the ruins of Nineveh. But the beginning of Chaldæan history is lost in fabulous antiquity. Ten kings, whose reigns are stated to have occupied 432,000 years, are enumerated as existing before the flood; while in the ages that succeeded that event, a maritime race, described as strange composite creatures, half men, half fish, are made to ascend from the ocean to teach the tribes of Babylonia the rudiments of civilised life. Later legends, too, brought the instructors of Chaldæa, in art and science and writing, from the waters of the Persian Gulf. At a very early epoch, the occupants of Chaldæa, the 'Sumirians,' were conquered by the Akkadai, 'highlanders,' their kinsmen in speech, from the mountains of Elam, and the country became divided between the new-comers in the south, and the old population in the north. And it is probable that to the Akkadians is due the invention of the picture writing out of which the cuneiform characters were to spring.

The earliest historical princes, however, whose inscriptions have come down to us, are those of Ur, on the western bank of the Euphrates. Here was the seat of the first monarchs of all Chaldæa,

who assumed the imperial title of 'kings of Sumir and Akkad.' The fall of the supremacy of Ur, and the final overthrow of Akkadian rule, seems to have been the result of a Semitic invasion. Assyria had become an independent monarchy in the 17th century B.C. About 1270 B.C., Tiglath-Adar captured Babylon, and founded there the dynasty which Berosus, the Chaldæan historian, called Assyrian, and for a time Assyria and Babylonia were under the sway of one sceptre. Tiglath-Pileser I., whose date is fixed by later inscriptions at B.C. 1120–1100, is depicted as having made many conquests, and left a model for all future Assyrian kings to follow. The empire was handed down in succession from father to son, and established by the conquests of Assur-Nazir-pal and Shalmaneser II. in the 9th century B.C. But it was an empire of mere military occupation. No attempt was made to amalgamate the countries that had been subdued; and so soon as disorder broke out in Assyria, or when the monarch ceased to be a man of action, the empire was contracted to the neighbourhood of Nineveh itself.

The second Assyrian empire owed its origin to Tiglath-Pileser II., who seized the throne in B.C. 745, and inaugurated that system of satrapies which was afterwards perfected by the Persian Darius. Founded by a usurper, it was perpetuated by usurpation and murder. Its first three rulers, Tiglath-Pileser, Shalmaneser, and Sargon, were all successful generals unrelated one to the other. Tiglath-Pileser as well as Shalmaneser were probably assassinated; the inscriptions show that such was the fate of both Sargon and Sennacherib. Esar-Haddon ended by abdicating; while it was under his successor, Assur-Banipal, that the great revolt broke out which ushered in the decline of the Assyrian empire that had extended from the borders of India to Lydia and Nubia, had penetrated into the heart of Arabia and the Caucasus, and had made the ancient kingdoms of Babylonia and Egypt tributary provinces. Some interesting fragments of tables appear to relate to the closing period of the Assyrian empire. It was attacked by a great coalition of tribes from the north, its armies defeated, the frontier cities taken by storm, Nineveh itself fell, and its king, Esar-Haddon, the Saracus of the Greek writers, perished, if we may trust classical tradition, on the funeral pile of his own palace. With him fell the second Assyrian empire, after an existence of less than a century and a half.

George Smith gives from the inscriptions the following lists of the Babylonian kings after the deluge:—

(*a*) For a mythical period.
(*b*) Kings of Ur, ... B.C. 3000 to 2000
(*c*) Viceroys.
(*d*) Elamite kings in Babylonia, ... 2280
(*e*) Kings of Larsa.
(*f*) Kings of Karrak, ... 2000 to 1700
(*g*) Kings of Erech.
(*h*) Kings of Agane.
(*i*) Kings of Babylon.
(*j*) 1st Cassite dynasty.
(*k*) Kings of Babylon, 2d Cassite dynasty, 1700 to 1300

The first with an approximate date was—

Cara-indas, about B.C.	1450	Curi-galzu II., . B.C.	1380
Burna-buryas II., . .	1430	Melisipak II., . . .	1350
Cara Murudas, . .	1410	Merodach Baladan I.,	1325
Nazi-bugas, ...	1400	Nazi Murudas II., .	1300

(*l*) Assyrian dynasty, Tiglath Adar, . B.C. 1270
Rimmon.....bi, ... 1230
Zamama Zaciridin, ... 1200
(*m*) Chaldæan kings.
Nabu-Cudura-Yutsur (Nebuchadrezzar), . . 1150
Cara buryas, ... 1120
Merodach-Nadin-akhi, ... 1100
Merodach Sapik Zurat, ... 1097
..... Sadua, ... 1080
Summas Sipak, the son of Irba-Sin, reigned 17 years.
Hea-mucin-Ziri, son of Cutmar (a usurper), for 3 months.
Cassu Nadin-akhi, son of Sappai, for 6 years.
(*n*) Dynasty from the Persian Gulf—
Ulbar-surci-idina, son of Bazi, for 15 years.
Nebuchadrezzar II., son of Bazi, for 2 years.
..... Sukamuna, son of Bazi, for 3 months.
After these an Elamite for 6 years.
.....
Rimmon-palidina.
.....
Nebo Zacira-iscun.
.....
Irba Merodach.
Merodach Baladan II., his son.
.....
Rimmon-sacira-yutsur.
.....
Sibir invaded South Assyria.
.....

Nebo-Baladan, . B.C.	880	Suzub, . . . B.C.	693
Merodach-Zacira-iscur,	853	Esar-Haddon of Assyria, ...	681
Merodach-balasu-ikbu,	820	Saul-mucinu, . . .	668
.....		Assur-Bani-pal, . .	648
Nabu-natsir, . . .	747	Bel Zacira-iscun, . .	626
Nabu-Yusapsi, . . .	733	Nabo-Palassar, . . .	626
Ucin-Ziru, ...	731	Nebuchadrezzar III., .	605
Tiglath-Pileser (Porus) of Assyria, . . .	729	Amil Merodach, . .	562
Yagina, chief of the Caldai, ...	726	Nergal sarra Yutsur,	560
Merodach-Baladan III., his son, ...	721	Nabu-nahid, . . .	556
Sargon of Assyria, .	709	Merodach sarra Yutsur,	541
Merodach - Baladan restored, ...	704	Bel sar uzur (Belshazzar), ...	546
Bel ibni, ...	703	Cyrus, ...	538
Assur nadin sumi, . .	700	Darius, son of Hystaspes, ...	522

George Smith says Babylon is first mentioned in the inscription of Izdubar, probably the Nimrud of the Semitic races, at the time when the Babylonian monarchy was being formed by the uniting of a number of little states. The great block of buildings in it consisted of the temples of Merodach and Zirat-banit, and the accompanying Ziggurat or tower. The date of their erection is lost, but they were first restored by king Agu or Agu-Kak-Rimi, and afterwards by king Hammurabi, who made Babylon the capital of the whole of the country somewhere in the 16th century B.C. Babylon was captured by the Assyrians under Tugulti-Ninip I., B.C. 1271, and again by Tiglath-Pileser, B.C. 1110. In the 9th century B.C. it was considered a great sanctuary, and Shalmaneser II., king of Assyria, came to Babylon to offer sacrifice to Bel, B.C. 851. Babylon was taken by Tiglath-Pileser II., king of Assyria, B.C. 731, who made himself king of the country, and performed a great festival to Bel B.C. 729-8. The city was captured B.C. 722 by Merodach-Baladan, the Chaldæan, who held it twelve years, until expelled by Sargon, who in turn ruled the city. On the assassination of Sargon, the city passed through various revolutions, and was several times captured by the Assyrians, when, at the close of the last war between Sennacherib and the Babylonians, B.C. 694, the Assyrian monarch captured the city, and destroyed it. It was restored and rebuilt by

Esar-Haddon, son of Sennacherib, but was once more besieged and captured by Assur-Bani-pal, king of Assyria, B.C. 648. Again the city revolted, and fell before the Assyrians B.C. 626. In this year, Nabu-pal-uzur, the Nabo-Polassar of the Greeks, who commanded the army in this war, was appointed king of Babylon, and at once commenced the restoration of the country. Some time later, he sent and made an alliance with the Medes, and, having revolted against Assyria, took Nineveh in combination with the Medes, and towards the close of his reign sent his son Nebuchadnezzar to conquer Syria. While his son was on this expedition, Nabo-Polassar died, and Nebuchadnezzar succeeded to his throne. He entirely rebuilt the city of Babylon, and made it the most magnificent city in the world. The tower and temple of Belus, the hanging gardens, the magnificent palaces, and the walls of the city, were all his work; and scarcely a ruin exists in the neighbourhood without bricks bearing his name. A few years after the death of Nebuchadnezzar, the Babylonian power declined, and Babylon itself was taken by the Medes and Persians under Cyrus, B.C. 539. After one or two fruitless attempts at revolt, the city finally settled down under the Persian dominion, and on defeat of their power, passed to Alexander the Great. From this time, whatever changes happened in Asia, only brought a change of masters, and Babylon sank gradually, until the city became a complete ruin.

Its capture by Cyrus is related in Isaiah xlvii., Jeremiah xxv., and Daniel viii. Its power must have been much detested, if the expressions alluding to its fall be considered. Isaiah xxi. 2–9 says, 'Go up, O Elam; besiege, O Media; —Babylon is fallen, is fallen; and all the graven images of her gods he hath broken unto the ground;' while Jeremiah says, 'Babylon shall become heaps, a dwelling-place for dragons, an astonishment and an hissing, without an inhabitant' (Jeremiah li. 37). When Babylon was beset by Cyrus, B.C. 539, Nicotris, the queen mother, counselled resistance, and as there was an ample supply of food, with walls 350 feet high and 87 thick, it seemed possible to withstand a siege. But after it had lasted two years, Cyrus opened the head of the canal connected with the Euphrates, and allowed its waters to enter trenches which he had excavated around the city. This so drained the bed of the river where it entered the city, that by midnight the two bodies of soldiers whom he had posted at the points of its entrance and exit passed in and opened the gates for the army, who poured in and surrounded the palace; within a few hours, the city surrendered. It never recovered its ancient splendour, but from her fallen towers have arisen, not only all the present cities in her vicinity, but others which, like herself, are long ago gone down into the dust. Since the days of Alexander, we find four capitals at least built out of her remains, —Seleucia by the Greeks, Ctesiphon by the Parthians, Al Maidan by the Persians, and Kufa by the khalifs,—with towns, villages, and caravansaries without number. Ur or Uru is the modern Mugheir; Erech or Uruk is the present Warka; Nipur, city of Bel, is the modern Niffer; Larsa=Sen Kereh; Babylon or Babel=Hillah; Tiggaba or Kute is Tel-Ibrabim; Kisu or Kis is the modern Hymar; Sippara, city of the sun-god, is the present Sura; Agane, near Sippara, part of Sura; Zirgulla=Zerghul; Dur or Diru, the modern Deyr. Babylonian history is of interest for the illustration of the Hebrew and Christian Scriptures, and the religions of the Hindus, Greeks, and Romans. Babylonia was the oldest civilised dominion in Asia, and was the centre from which civilisation spread into Assyria, from thence to Asia Minor and Phœnicia, from thence to Greece and Rome, and from Rome to modern Europe. The Chaldæan legend of the flood was in existence at least 2000 years before the Christian era, and their Xisithrus, Xisuthrus, or Hasis Adra, was its Noah. Their inscriptions also make mention of a conqueror named Izdhubar, whose character in several points corresponds with that of the biblical Nimrod, described in Genesis x. 9, 10, as a mighty hunter before the Lord, doubtless meaning a nomade, and 'the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar.' He was on friendly terms with Hea bani, an astrologer, and he visited Hasis-adra, who related to him the story of the flood. Many exploits and mythical adventures are related of him. Sargon, the greatest of the kings of Akkad, was the Moses of the Bible. He was adopted by Akki, a water-carrier. He conquered the Elamites, Syrians, and Kazulla, ravaged Sabarti, and founded the city of Dur Sargina. The ruins near Hillah are still, by the Arabs, designated Babel; and all historical records, as well as traditions, agree in representing these as the remains of the first city of Nimrud, the Babylon of Herodotus, Diodorus Siculus, and other historians. Four miles and a quarter N. 20° W. of the bridge of Hillah is the Majallibah, near which are the remains of the Kasr, as well as those of the hanging gardens; and at rather more than six miles from Hillah, standing amidst and crowning the summit of extensive masses of ruin, is the Bars-i-Nimrud. This has been considered by Niebuhr, Rich, and others to be the celebrated temple of Belus, and, according to Herodotus, it was separated from the palace by the river (lib. i. c. clxxx.). 'L'un [des quartiers] est remarquable par le palais du roi, et l'autre par le lieu consacré a Jupiter Belus.'

The pre-eminent mounds are three in number: 1st, the Amran Hill, so named by Mr. Rich, from its supporting a small tomb erected to the memory of some personage of that name, said to have been a son of the Khalif Ali, who fell at the battle of Hillah. The second pile is the Kasr, or palace, which is separated from the preceding by a distance of only 750 yards. The third is known by the appellation Majallibah, or Maqluba, the overturned. It stands about a mile and a half northward from the other, is about 200 yards square each way, and its S.E. corner is said to be 140 feet high. The religion of the Babylonians was of the lowest and most degrading kind. They had faith in magic, exorcism, charms, sorcery, omens, dreams. The three great Babylonian gods were, Anu, lord of the heavens; Bel, lord of the visible world; and Hea, lord of the sea and infernal regions. Sin, or the moon-god of Ur, was the eldest son of Bel; Shamas, the sun-god; Nergal, god of war; Ninip, Vul or Rimmon, god of the atmosphere; Sir-ili, king of the gods; with many others. The female divinities were Anatu, goddess of life and death, the female form and complement of Anu; Anunit, goddess of Akkad or Agane; Nana, goddess of Erech

Beltis, wife of Bel; and Davkina, consort of Hea. —*Ouseley's Travels*, i. 104; *Mignan's Travels*, p. 168; *Porter's Travels*, ii. 337, 339; *Euphrates and Tigris, Col. Chesney*, p. 118; *Bunsen's Egypt; G. Smith's Assyrian Discoveries; do. do. Hist. of Assyria, Hist. of Babylonia; Lectures by the Rev. A. Sayce; Larcher's Translations; Rawlinson's Five Great Monarchies; Rich, Ruins of Babylon.*

BACCAUREA PIERARDI. *Buch.*

Baccaurea ramiflora, *Lour.* | Pierardia sapida, *Roxb.*
Lut qua, ... CHIN. | Koli-Kuki, . . . CAN.

This small tree grows in Tipperah, Burma, Cochin-China, Canara, and Travancore, and Andamans. The fruit, or rather the aril of the seed, is a very pleasant acid; it generally hangs in great profusion from the trunk, appearing as a crimson mass. It yields a hard and heavy timber, and is used in Burma for wheel axles. B. dulcis, *Wall.*, is a tree of Penang and Sumatra.—*Roxb.; Beddome, Fl. Sylv.* p. 280; *von Mueller.*

BACCHUS. Sir W. Jones imagined that the Dionysos or Bacchus who is said to have invaded India, was Rama the son of Kush; the Black Osiris of the Egyptians had also the titles of Seirius, Sirius, and Bacchus.

BACH. HIND. Acorus calamus.

BACH, a family or 'got' of Rajputs of inferior rank, settled on the borders of the Jonpur district, in Oudh and Gorakhpur. They are said to be of the Chauhān tribe. The Bach-hal 'got' in Alighur, Badaon, Mathura, and Shah-Jahanpur claim to be of the Soma Vansi stock residing near Shah-Jahanpur; they supplanted the Gujur, and themselves have been succeeded by the Kutt'herya and Gaur Rajput.—*Wils. Gloss.; Elliot, Suppl.*

BACH-CHALI KURA. TEL. Basella cordifolia, *Lam.*, and B. alba, *Linn.* Bach-Chali Manda is Ceropegia tuberosa.

BACHELOR HALLS, or town-halls for men, are customary among several of the races of the East Indies. In the Marquesas they are lofty sheds, open on three sides, where the men take their meals, and women are prohibited entering. The Abor Naga tribes of the Assam borders and the Kol tribes of Central India have these public buildings, in which the young unmarried men, with a small number of the elders, sleep,—partly to free the families, but chiefly as a guard. They are known as the Morang, and throughout the Peninsula of India as the Chauri, at which all stranger travellers put up. The unmarried girls amongst the Kol races have also their spinster halls, under the care of an elderly woman.—*Dalton; Bennett, Whaling Voyage*, i. 317. See Chang; Deka; Dhumkuria; Cutcherry.

BACKERGANJ, a town and district in the Dacca division of the Bengal Presidency. The district lies between lat. 21° 49′ and 23° 4′ 45″ N., and long. 89° 53′ 45″ and 91° 4′ 50″ E., and has an area of 4006 square miles, and a population of 1,874,201. It is in the delta of the Ganges, Brahmaputra, and Meghna, and has numerous great jhils, marshes, and swamps, and interlacing khal or channels and estuaries taking different names, and useful in place of roads. Fish and formidable crocodiles abound. The races dwelling in it are the Hindu, Brahman, Kshatriya, and Rajput, with the non-Aryan fisher and cultivator races, Baidia, Chandala, Napit, and Kaibartha. It was often swept over in the past century by the predatory Magh.

BACON, the flesh of swine, salted and dried; largely prepared in Ireland and America, and in the northern counties of England and southern of Scotland, and exported to all parts of the world. It is a coarse food, and that prepared in India is very liable to induce disease of the bowels; its use should be avoided.—*M'Culloch, Com. Dict.*

BACON, THOMAS, author of First Impressions, and Studies from Nature in Hindustan.

BACTA VINDA CHADA. SANSK. Euphorbia thymifolia.

BACTRIA, as known to the Greeks and Romans, was the region lying between the Oxus and its tributaries on the north, and the western part of the Paropamisan range or Hindu Kush. It thus included the site of the modern Balkh, and of Margiana, the modern Merv. Bakhdi, or the fortunate, the name of one of the settlements of the eastern Aryans in their southerly migration, was the source of the term Bactria. Curtius accurately described Bactria as a region of the most varied physical character. The region has witnessed great political changes, which indeed continue to recur up to the present day. In B.C. 1200, Semiramis is supposed to have retreated into it after her defeat on the left bank of the Indus. In the 7th century B.C. it passed under the dominion of the Medes, and in the reign of Darius it formed the twelfth satrapy of the empire, and furnished powerful contingents for the army. Alexander the Great, in his advance towards the Indus, formed military stations in Bactria; and after his demise, when the generals of his armies set up for independence, Bactria was carved into dominions which, with varying limits, lasted from B.C. 256 to A.D. 207. But of that long line of Bactrian kings through a period of 463 years, their coins furnish almost the only available testimony of the survival, reinstitution, and extinction of the dominant Hellenic element on the site of Alexander's furthest conquest in the east, and of the potentates who swayed the destinies of those lands for the next four centuries. Professor Wilson gives a list of them from Theodotus I., B.C. 256, to Pantaleon, B.C. 170. Then of barbaric kings, Su Hermæus, Kadaphes, and Kadphises, from B.C. 100 to B.C. 50; also of an Indo-Parthian dynasty; of the Indo-Scythian princes of Kābul, and a classification of their contemporaries. And Mr. Thomas, in Prinsep's Antiquities, gives Major Cunningham's later and more comprehensive table of the several dynasties.

Mr. James Prinsep, Mr. H. T. Prinsep, Professors Wilson and Lassen, have based their views on the coins of Greek, Aryan, Bactrian, and Indo-Scythian kings and dynasties, which the researches of Sir Alexander Burnes, Mr. Masson, Generals Court and Ventura, had brought to light, as also from the engravings on rocks and on relics found in topes in the region around Kābul. The languages in which these legends are defined are Aryan-Pali or Bactrian, Greek, Indo-Pali or old pre-Sanskrit alphabets. On coins, these are sometimes single, but many dynasties adopted bilingual legends, Aryan and Greek, or Greek and Indo-Pali, the Greek becoming gradually more barbarous, until at length it became unintelligible. Mr. Prinsep thinks it established that the Aryan-Pali or Bactrian language was long the vernacular of the Paropamisan range, of Kābul, and perhaps of Herat and Kandahar, up to the Indus, for its

BACTRIA.

writing has been found in the topes of Manikiyala in the Panjab, and, it is said, on the rock at Bamian. Unlike the Greek and Sanskrit, it is written, like the Semitic tongues, from right to left, and in characters seemingly of Phœnician origin. Besides being used on the Græco-Bactrian coins, it is seen on a copper plate known as the Taxila, on a vase found at Peshawar, on the Bumaran vase, on a cylinder at Manikiyala, and on the Wardak urn.

The inscription of Asoka at Kapurdigiri is in the Bactrian-Pali characters, and written from right to left; all the others are in the Indo-Pali character, and written from left to right. The name of Asoka does not occur in them, but he calls himself Piyadasi, and the beloved of the gods.

One passage refers to the Greek king Antiochus and three others, under the version of Turamayo, Antakana, Mako, and Alikasunari, which are supposed to represent Ptolemy, Antigonus, Magus, and Alexander.—*J. R. A. S.* xii.

Dr. Burnell concurs in the opinion that the characters used in the Kapurdigiri inscription are of Phœnician origin.—*Burnell, A Few Suggestions.*

The Aryan character was adopted first on the coins of the Greek kings from Eucratides down to Hermæus. It was then taken up by the Scythians, who crossed the Paropamisus, Imaus, or Hindu Kush, and also by Parthians, who asserted their independence in Afghanistan. Mr. James Prinsep, Mr. H. T. Prinsep, and Professor Wilson considered this Aryan language to have a close affinity with Sanskrit. Menander, the known Indian conqueror, never seems to have used the Indo-Pali characters of Asoka. At Manikiyala is a tope solidly built of quarried stones and lime cement; a great cupola 80 feet high and 310 to 320 feet in circumference, was opened by General Ventura, and there are fifteen other and smaller cupolas there, which were opened by General Court. Monuments of the same kind are met with at Rawalpindi (in the Panjāb), in the Hazāra country, west of Kābul, at Jalalabad, Lugman, Kābul, Bamiān, and in the Khaibar pass. Many of those west of Kābul were opened by Mr. Masson. In one, N.N.E. of the village, which was opened by General Court, a sculptured inhumation slab was found in Aryan characters, along with Roman coins and coins of Kadphises and Kanerkes,—a fact alone sufficient to indicate that the territories around had been under the sway of rulers of varied races. The countries over which these chiefs ruled were Bactria, Sogdiana, Margiana, Paropamisadæ, Nyssa, Aria, Dranga, Arachosia, Gandharitis, Peukelaotis, Taxila, Patalene, Syrastrene, and Larice, but their limits were incessantly varying.

Professor Lassen supposed the existence of *four Greek* kingdoms, viz. *first*, that of Bactria. A *second*, eastern, under Menander and Apollodotus, comprehending the Panjāb and valley of the Indus, with Kābul and Arachotia or Kandahar added in times of its prosperity. A *third*, western, at Herāt and in Seistan. A *fourth*, central of the Paropamisus, which latter region Mr. Prinsep is inclined to give to Bactria, because of the bilingual as well as the pure Greek coins of Heliocles and Antimachus, kings of Bactria. The earliest of these rulers were the successors of Alexander the Great. Alexander's death occurred in the spring of the year 323 B.C. His empire, though only of ten years' growth, was not transient. His colonies and their institutions, manners and language, had a lasting action in Central Asia, the effects of which were felt for at least 500 years after his decease. Though he left his brother Aridæus and the posthumous child of Rashana or Roxana, called Alexander, neither of these succeeded him, for his military commandants assumed sovereign power.

Stasanor, whom Alexander had appointed to the satrapy of Drangia, retained it after Alexander's death, but on the subsequent division at Triparadeisas, B.C. 321, he exchanged it for the government of Sogdiana and Bactriana; and Antiochus left him in possession, B.C. 316.

In India, Eudemus had been left in command of the troops, with Pithon the son of Agenor and Philip son of Machatas? as satraps. The last-named was murdered in 326 B.C., and Pithon was removed to Babylon in 316 B.C., and was put to death by Antigonus. Antigonus, in 315 B.C., assumed the title of king of Asia.

Seleucus Nicator, to whom Babylon was at first assigned, after various changes of fortune, rose to great power, and between 311 and 302 B.C. extended his sway towards the east, and even invaded India, where he formed a matrimonial alliance with Chandragupta, under his grandson Antiochus Soter, B.C. 261-246, when his kingdom was weakened by his long war with Ptolemy Philadelphos.

Arsaces established a Parthian kingdom, B.C. 250, and shortly afterwards Diodotus, governor of Bactria, revolted, and made Bactria an independent state.

Seleucus Callinicus, B.C. 246–226, undertook an expedition against the Parthians, and seems to have entered into an alliance with Diodotus to secure his co-operation, but he was totally defeated by the Parthians.

The following are deemed *conditionally established dates* of Greek rule in Bactria and India:—

Sophytes, an Indian chief near Lahore, and vassal of Alexander, coins Greek money about 306 B.C., imitating the head of Seleucus I. of Syria.

Antiochus II. of Syria, about 256 or 250 B.C., issues Bactrian coins, with the name of Antiochus, and subsequently adopted national Bactrian type.

Diodotus, called Soter by the later kings, about 256 or 250 B.C. becomes independent king of Bactria (revolts, or is acknowledged by Antiochus). His son, Diodotus II., mentioned by Justin, is not proved by the coins, and doubtful.

Euthydemus, from Magnesia, follows Diodotus or his dynasty in Bactria.

War with Antiochus III. of Syria. Treaty of peace. Antiochus gives his daughter (Laodike) to Demetrius the son of Euthydemus. Euthydemus dies of old age. Demetrius the son of Euthydemus follows him and extends his dominion as far as India. Bilingual coins appear. Demetrius makes war with Eucratides.

Eucratides, king of Bactria, reigns in the time of one of the earliest Arsacidan kings, therefore probably about 200 B.C. A treaty of peace was agreed to (according to some authors, the overthrow of Demetrius and occupation of India) with favourable conditions for the victorious Eucratides? Demetrius gives his daughter Laodike to the son of Eucratides (Heliocles?). Coins of

Eucratides, struck at the wedding of his son Heliocles and Laodike.

Heliocles coins as co-regent with his father.

Euthydemus II., son of Demetrius, a boy, coins (as co-regent with his father). These coins of Euthydemus II. are of the same date as those of Pantaleon, Agathokles, Antimachus (*Θεός*).

Pantaleon and Agathokles belong to the same kingdom. Agathokles and Antimachus strike the coins of their predecessors; among these, as predecessors on the Bactrian throne, are Antiochus Nicator, Diodotus-Soter, Euthydemus Deus.

The following reigns stand side by side:—

Demetrius | Eucratides | Agathokles | Antimachus (brothers) | Antialcides;

Euthydemus II. | Heliocles | Pantaleon.

Plato, B.C. 165, reigned towards the end of the lifetime of Eucratides, about 165 B.C. There is a unique tetradrachm of the Attic character, but he had not begun to use Aryan inscriptions on his silver coins.

Strato, contemporary of the latter part of the reign of Heliocles.

Agathokleia, Strato's wife.

Strato II., the beloved of his father, Strato's son.

With the death of Heliocles, there begins suddenly a large series of other Greek coins of the Bactrio-Indian kings, so very like one another in style, that it is quite impossible, as before, where writers on history aid, to arrange them chronologically. After Heliocles, Plato and Antialcides, all certain indications of dates fail us.

In 256 or 255 B.C., Bactria declared for independence, under Theodotus or Diodotus; and his successors are known as the Græco-Bactrian kings. The names of several are known from the Greek and Roman historians, and about forty of them from their coins, but they have not, as yet, been arranged in any satisfactory manner. Many of them seem to have been ruling contemporaneously in different parts of Bactria.

The following is a line of rulers which has been framed from these kings by General Cunningham:—

B.C.
256 Diodotus I. } ruled in Bactriana (including Sog-
243 ,, II. } diana, Bactria, and Margiana).
247 Agathokles } ruled in Paropamisidæ and Nyssa.
227 Pantaleon }
220 Euthydemus ruled in Bactriana, Ariana (including Aria, Drangia, Arachosia, and Paropamisidæ), Nyssa, and subsequently Gandharitis, Peukelaotis, and Taxila.
196 Demetrius ruled in ditto, ditto, and later in his reign, Patalene, Syrastrene, Larice.
190 Heliocles—Laodike, Bactriana and Paropamisidæ.
190 Antimachus Theos ruled in Nyssa, Gandharitis, Peukelaotis, and Taxila.
185 Eucratides ruled in Bactriana, Ariana, besides Patalene, Syrastrene, and Larice, as well as Nyssa, Gandharitis, Peukelaotis, and Taxila.
173 Antimachus Nicephoros ruled in Nyssa, Gandharitis, Peukelaotis, and Taxila, contemporarily with Eucratides' retention of the rest of his dominions.
165 Philoxenes succeeds to Antimachus Nicephoros' kingdom.
Nicias ditto, with the exception of Taxila.
165 Apollodotus succeeds Eucratides in Ariana, as well as Patalene, Syrastrene, Larice.
Zoilus }
Diomedes } follow Apollodotus in Ariana alone.
Dionysius }
Epander.
Hermæus.
Calliope.
159 Lysias succeeds these in Paropamisidæ, and obtains Nicias' dominion of Nyssa, Gandharitis, Peukelaotis; while Mithridates I. possesses himself of Ariana, having previously gained Margiana from Eucratides.
Plato.
Agathokleia.
150 Antialcides succeeds to Lysias' kingdom.
Amyntas.
Apollophanes.
Archebius follows Antialcides.
161–140 Menander reigns in Paropamisidæ, Nyssa, Gandharitis, Peukelaotis, Taxila, Por., Reg., Cath., Patalene, Syrastrene, Larice.
135 Strato succeeds, with the exception of the countries of Patalene, Syrastrene, Larice, which fall to Mauas.
Hippostratus, Telephus, Theophilus, follow Strato.

Of all the kings who followed Eucratides, Menander and Apollodotus alone are mentioned by classical authorities. Menander made conquests in the N.W. of India, and carried the Greek arms further in that direction than any other monarch. His coins are numerous about Kābul and Peshawur.

The first Theodotus, B.C. 256, reigned about the same time as Arsaces I.

Theodotus II., B.C. 243, is said to have reigned in the Kābul valley.

Euthydemus, B.C. 220, reigned in the time of the expedition of Antiochus the Great, and was defeated in battle near Merv by the united Syrian and Parthian armies. He then urged Antiochus to receive him in alliance, and so extend the Greek influence to the Indus. A peace was concluded, and Euthydemus led the Syrian army through Bactria, *i.e.* by the route north of the mountains to the Kābul valley, and across the Indus, in B.C. 206. There Antiochus made peace with Sophagasenus (Asoka), which that sovereign recorded by edicts on rocks and pillars in various parts of India, in characters exactly resembling those on the coins of Agathokles. In B.C. 205, Antiochus returned by way of Arachotia. The translation of the edicts of Asoka is in the Asiatic Society's Journal for 1838. That on the Girnar rock is said to name Antiochus as Antiochia Yona Raja.

Eucratides, B.C. 178 (Prinsep, B.C. 181; Bayer, Wilson, B.C. 165; Visconti, Lassen, B.C. 175). He seems to have made an expedition into India in 165 B.C., and on his return from which, to have been murdered by his son. Numbers of his coins have been found in Bactria and Afghanistan. Mr. H. T. Prinsep considers that he ruled originally in Bactria, subsequently made conquests in, and south of, Paropamisus, in Kābul; and first of all the Greeks coined in the bilingual Aryan inscription. The first use of two languages, however, is also ascribed to Agathokles, who used Greek and Sanskrit, while Eucratides used Greek and Aryan, and, it is supposed, consequent on his conquest of the Paropamisus, after assumption of the title of Great King. On his death, his wide dominion is supposed to have been broken into several independent kingdoms.

Heliocles, B.C. 155, the parricide of Eucratides, used bilingual inscriptions on coins in pure Greek and Aryan. His rule, though short, extended over Bactria and the Paropamisus.

Antimachus, B.C. 150, coined with Greek and Aryan.

Agathokles, B.C. 190, coined with Greek and Sanskrit; is supposed by Lassen to have ruled Kābulistan to the Indus; and Mr. H. T. Prinsep

supposes him to have been the governor left by Antiochus in Kābul, after his treaty with Asoka.

Pantaleon, B.C. 195, coined in Greek and Sanskrit.

Parthia followed? Bactria for independence about the year 255 B.C., under the rule of Arsaces I., who is variously described as a native of Sogd, as a Bactrian, and by Moses of Chorene as of Balkh, this last author adding that the dynasty was known as Balkhavensis or Pahlavian. He used Greek only on his coins (and in his public letters and correspondence), ordinarily with the head of the sovereign on one side. Great King of Kings was a title first adopted by Mithridates II. Arsaces I., B.C. 254–250, is supposed to have been killed in action with Ariarathes of Cappadocia, but the date and circumstances are not known.

Arsaces II. (Artabanus?), son of Arsaces I., about B.C. 220 or 216, at first extended the Parthian empire, but was afterwards driven into Hyrcania by Antiochus Magnus in B.C. 212; allying himself with the Scythians, he recovered Parthia.

Arsaces III., B.C. 196, called Priapatius, Phraapatius, or Phriadatius, son of Arsaces II., reigned fifteen years, left three sons, Phrahates, Mithridates, and Artabanus.

Arsaces Mithridates I., B.C. 177 or 173, made Balkh his capital, subdued Media and Persia, and captured Babylon; brought under his dominion Western Bactria, Aria, Seistan, and Arachosia, and made a successful expedition into India.

Arsaces Phrahates II., B.C. 139 or 136. In his reign, Bactria seems to have been subjugated entirely by Scythians. He was defeated and slain in B.C. 130, when restraining the Parthians from ravaging the country.

Arsaces Artabanus, B.C. 126, uncle of Phrahates, and youngest son of Priapatius, died of a wound received in action from the Tochari Scythians.

After many kings, the Græco-Parthian or Arsacian dynasty in Central Asia ended in A.D. 209 with Arsaces Artabanus, who was involved in a war with Rome, but ultimately slain in battle at Balkh by one of his officers, Ardeshir Babekan, who established his own dynasty, that of the *Sassanians*, in A.D. 235. It lasted nearly 500 years. The capital in the time of the Cæsars was at Seleucia on the Tigris. The system of government was Asiatic, by satraps or local rulers possessing full power over the persons and properties of the subjects.

The *Parthians* seem to have held sway in the brief interval that separated the death of Eucratides, about B.C. 155, till the total subversion of the Bactrian kingdom by the Tartar tribe of Su from the north of Transoxiana, B.C. 126; and their Indian kingdom was subverted about B.C. 26 by the Yue-Chi, who came from Persia, and spread themselves along a large portion of the course of the Indus.—*Elphinstone*, 246–248. De Guignes' account of the first conquest is that the Su came from Farghana, on the Jaxartes (the modern Syr Darya), and conquered a civilised nation, whose coins bore a man on one side and horsemen on the other. These seem to have been the coins of the Eucratidæ, which had the king's head on one side, and Castor and Pollux, mounted, on the other. According to Strabo, the nomades who overthrew the Greek rulers of Bactria were the Asii, Pasiani, Tokhari, and Sakarauli.—*Dr. Bhau Daji.*

The *Scythian* kings followed the Greek kings in adopting their forms of money. They coined similar pieces, with superscriptions similar and in the same letters, but inscribed on them their own names and titles, and varied the emblems and devices.

Mauas, B.C. 135, is supposed to have been a Scythian, the head of one of those tribes that broke into Bactria between 150 and 140 B.C., and he seems to have held communication with Azes. On the obverse, this coin contains the king with a Tartar war trident, setting his foot on a prostrate enemy.

Azes, B.C. 130, the greatest of Scythian kings, on whose coins are bilingual inscriptions, in plain Greek characters: — ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ; in Aryan-Pali, Maharajasa Raja-Rajasa Mahatasa Ayasa. The figures on the coins are various. Professor Wilson thinks he was an Indian Buddhist king about 50 B.C. Professor Lassen regards him as a Saki (Scythian), who conquered the Kābul valley in the time of the second Mithridates, and finally destroyed the kingdom of Menander and Hermæus in about 120 B.C.

Azilises, B.C. 115, reigned with the same titles as Azes. On one coin, the name of Azes is on the Greek obverse, and that of Azilises on the Bactrian reverse.

Vonones, B.C. 100, supposed to have been a Parthian satrap who asserted independence and created a kingdom for himself out of the dominions of Azilises.

Spalirisus, B.C. 85, sometimes read Ipalirisus, supposed a Parthian king.

Spalyrius, B.C. 75, had many coins in two languages; he was a vice-regent, son of Vonones, and perhaps brother of Spalirisus.

About this time, as indicated by his coins, appears a ruler whose name and personal designation is not known, styled Soter Megas, B.C. 70. This nameless great Soter king had coins with an Aryan legend, which James Prinsep and Professor Lassen ascribed to Azes. On all is a peculiar monogram with three prongs. The same monogram was continued in coins of the Kadphises and of the Kanerkes, but it is not found in those of the Hercules type derived from Hermæus. Mr. H. T. Prinsep considers him to have been contemporary but not identified with Vikramaditya, and that he assumed the title of Soter Megas, which was continued down by the Kadphises kings. He considers that the nameless kings, with those on whose coins are the words Kodes or Hyrkodes, although mere local chiefs, such as now rule at Kulm, Kunduz, and Balkh, preceded the conquest of the Panjab by Vikramaditya about B.C. 56. About this great king India affords nothing but fables; but a passage of the Periplus mentions that his capital was Ozene (Ujein), and it is known that he extended his empire to Kābul. His empire fell to pieces after his death.

Kadaphes or Kadphises, a dynasty of three rulers who reigned in Kābul from the downfall of the kingdom of Vikramaditya. Kadphises' name is on the Aryan reverse of the Hermæus coins of the Hercules type. There is no indication of a settled worship. The Hercules worship was readily borrowed from the Greeks by the wild Scythians, as a mere reverence of physical strength. The Kohistan is

supposed to be the district of the first rise of Kadphises, while Kābul and its valley were subject to Indian rule; and while there, the chief seems to have retained his Scythian title and rude worship of Hercules. Afterwards, overpowering the Indian governors who had followed Vikramaditya into the Kābul valley and Panjab, he or his descendants seem to have adopted the Hindu religion, coining with Greek, and dropped their Scythian title. In a gold coinage by a Kadphises king, Siva occurs in the mixed male and female character, and very generally accompanied by the bull Nandi. Professor Lassen discovered in Chinese history that Khi-out-chi-u-hi Kui-tsi-kio, a Yuchi, or Yeutchi, or white Hun, conquered the Szu or Azes Scythians in about 40 B.C., and, dying at the advanced age of 84 years, his son Yen-kao-Ching prosecuted his career of victory, and reduced the Indus valley and Panjab to subjection in about 20 B.C. The names are scarcely recognisable, but the facts and period correspond to the career and supposed era of the Kadphises kings.

Korosoko Kosoulo Kadphises, B.C. 50, in Aryan Dhama . . . rata Kujula kasa Sabashakha Kadaphasahis,—coins are of the Hercules and Hermæus types.

Zathos Kadaphes Koranos, B.C. 20. On the reverse of the coins is a sitting figure, with the arm extended, and wearing a loose flowing Indian dress. They have monograms the same as the Azes coins. The Siva worship had not yet been established as the state religion.

Oohemo Kadphises (Hima, snow, white), B.C. 5. His copper coins have the king standing in a Tartar dress, with coat, boots, and cap, his right hand pointing downwards to an altar or Hima, and having a trident separate on one side, and a club on the other. The reverse has the Siva and Nandi bull.

The readings of the Aryan inscriptions on coins of the Kadphises kings, by Lassen, J. Prinsep, and Wilson, are somewhat different, and it is suggested that the words Korso Kozoulo, Koranos, and Zathos, were titles short of royalty. Professors Lassen and Wilson carry the dynasty of Kadphises through the whole of the first century of the Christian era, and consider it to have been then overpowered by a fresh swarm of Scythians under the Kanerki kings. Mr. H. T. Prinsep supposes that during the ascendency of the Kadphises kings, the Græco-Parthian party still held out in cities and communities, abiding their time to reassert their independence, and rose again about the middle of the first century of our era. Amongst these, coins show—

Undopherres, A.D. 40, calling himself King of Kings in Greek, and in Aryan, Maharajasa Raja Rajasa, Tradatasa, Mahatasa, Pharahitasa.

Gondopherres or Gondophares, B.C. 55, who took the same Aryan name of Pharahitasa.

Abagasus, King of Kings, A.D. 70, in Aryan Abakhafasa. Professor Lassen supposes this name to be identical with Vologeses. Mr. H. T. Prinsep supposes these coins to be of Parthians who established for themselves a separate and independent sovereignty in Kābul and the Paropamisus.

Abalgasius, A.D. 80. Captain Cunningham described the Aryan legend on the coins to be, 'Of the saviour king Abagasus,' younger son of Undopherres.

Kanerki.—At the close of the first century of our era, when the above Aryo-Parthian supposed dynasty ceased to reign in Kābul and the Panjab, a new race of Scythian kings appeared, who issued gold and copper money of quite a different device and style from anything before current. These bear a title of Kanerkes, at first with the title of Basileus Basileon, but afterwards with the Indian title of Rao Nano Rao. The number and variety of the Kanerki coins indicate a long dominion for kings of the race. The only characters on their coins are Greek, but these become at last so corrupt as to be quite illegible. On their obverse is the king standing, or in bust to the waist, in a Tartar or Indian dress, with the name and titles in a Greek legend round; while on the reverse are Mithraic representations of the sun or moon, with HAIOΣ, NANAIA, OKPO, MIOPO, MAO, AΘPO, or some other mystical name of these luminaries, also in Greek letters. And on all the Kanerki coins is the same monogram as the Kadphises dynasty used, and which was borrowed apparently from the nameless Soter Megas. This would seem to indicate that the Kanerki dynasty, though interrupted, as Mr. Prinsep supposes, by the intervention of Aryo-Parthians, was yet a continuation of the same tribe and nation as its predecessors of the name of Kadphises. The state religion seems to have been Mithraic, whence derived not known; but on their coins the Siva bull device is also found on the reverse, the bull's head being to the left,—in the coins of the Kadphises being to the right. A list of their kings cannot be framed, but their power seems to have lasted for more than two centuries. The style and device of the Greek, of the gold coins especially, of the coins both of Kadphises and the Kanerkes, was carried on till it grew more and more corrupt, and was at last entirely lost, through the deterioration of art, under the princes of Hindu race, who succeeded to the more energetic Greeks and Scythians.—*Masson; E. Thomas' Bactrian Coins; Tod, Rajasthan*, ii. 217; *Bunsen, God in History*, i. 270, 293; *Bunsen's Egypt; Thomas' Prinsep; Mr. Newton in Journ. Bo. As. Soc.* 1867; *Elph. India; Wilson's Ariana Antiqua; Indian Antiquary; Dr. Bhau Daji; Burnell, A Few Suggestions.*

BACTRIAN CAMEL, or two-humped camel, Camelus Bactrianus.

BAD. PERS. The wind, according to Asiatics, a common cause of disease. It usually means rheumatism.

BADABANALA. SANSK. A term sometimes applied to the south pole.

BADADA. SINGH. From Buda, Wednesday.

BADADUM. TAM. Erythrina sublobata.

BADAGA. TAM., TEL. From Vada, north, the northern people, the Telugu people. The Badaga or Badagaleya-varu, a Brahman race in Mysore, Vaishnava sectarians. They mark their foreheads with three perpendicular lines.

BADAGA, the most numerous tribe of the Neilgherry hills. They state that about the 15th century their ancestors came from the Mulusal hills 60 miles south-east of the town of Mysore. Their name is supposed to be a modification of the Canarese word Vaddaca or north, and they undoubtedly speak an ancient but organized dialect of the Canarese. In 1867, the population was said to comprise 17,778 souls, distributed

over 4071 houses. They have the usual elongated head of the peninsular Hindu races. The average height of 25 men, of 33·8 years of age, was 66·7 inches, and their weight 110·76 lbs. The average of 25 women, of 27·68 years, were of height 58·51 inches, and weight 92 lbs. They have the usual Asiatic features, with a feminine cast. They are agricultural; and when they arrived they acknowledged the proprietorship of the Toda as prior occupant races, to whom they promised a land-tax of one-sixth of the produce, which they still continue to pay, though with occasional demurring. The Toda race call them 'Mav,' or father-in-law. Both men and women work in the fields, but of late years a large number of men find employment as labourers and artisans. The other hill tribes on the hills live in isolated communities, but the Badaga dwell in villages on a rising ground, in streets running in parallel lines, in thatched houses built of stone and mud, and divided into separate compartments, with a double tier of lofts, and with a wide terrace in front as a drying, threshing, and winnowing floor. The doorway, 43 inches high and 26½ broad, is their only opening. The cattle are penned in an adjoining cow-house or shed. Marriage takes place when grown-up. Women wrap a cloth round their bodies from below their arms to their hips, and fasten it with a cord below their arms and around their hips; the arms and shoulders and their legs below the knees are bare. A scarf goes round the head, and is let fall behind. The women are of domestic habits, and kind and affectionate mothers; they are simple, modest, and retiring. They seem now to be following three forms of the Hindu religions,—the Saiva, the Vira Saiva, and the Vaishnava. Formerly they claimed as their deity 'Hettee-du,' an old man, and 'Hereardu,' who, they said, conducted them to the mountains. But they have numerous local deities. A chief deity is in Rungasawny peak, where men of the Irular tribe officiate as priests, and offerings of ghi and fruits are made. Another deity is on a droog near the village of Hollikul, where a Badaga priest officiates, and there are other male and female gods. Many Badaga are comparatively wealthy. They can neither read nor write; they are timid and superstitious, haunted with a dread of evil spirits, and are deceitful, ungrateful, and false. They are in perpetual fear of the Kurumbar, to whose sorcery and witchcraft they attribute all accidents and ailments which befall themselves, their cattle and crops, and in their delusions they have killed Kurumbars, and suffered for it. Nevertheless they get the Kurumbar to officiate as priests at all social ceremonial occasions. They both burn and bury their dead.—*Drs. Baikie, Latham, Shortt; Harkness, Neilgherry Hills.*

BADAGE, a tribe of Coorg slaves.

BADAKHSHAN is a mountainous region, including the upper part of the valley of the Oxus. The capital is Faizabad. It lies between lat. 36° and 38° N., and long. 69° and 73° E.; is on the western declivity of the Belur Tagh in the valleys of some of the head streams of the Oxus, of which the Badakhshan river is the principal. It is 180 miles long. Its inhabitants are of the Tajak race, Shiah Mahomedans, and speak Persian. The Tajak race here are purer Iranians than other Tajaks. The Tajak possessed the country before the inroads of the Turks and Uzbaks. They are a wild race, living in the little mountain glens in villages surrounded by gardens. In the remote mountains of Badakhshan are the richest known mines of rubies and turquoise. Marco Polo mentions that the chief of Badakhshan laid claim to a Grecian origin. Baber corroborates the story; and Elphinstone says that the chief of Darwaz, in the valley of the Oxus, was of Macedonian descent. Burnes also believed in the descent of many of the chiefs of Badakhshan from the Greeks of Bactria. On the north of Badakhshan are the hill states of Wakkan, Shughnan, Darwaz, Kulab, and Hissar, all of whose peoples claim a descent from Alexander. To the eastward of Badakhshan lies the plain of Pamir, inhabited by the Kirghis; the Siah Posh Kafir are on the south, occupying a great part of the range of the Hindu Kush and a portion of Belur Tagh. Marco Polo resided in Badakhshan for the sake of his health, and he described Wakkan, Pamir, Belur, and Kashmir. Badakhshan rubies were formerly of high repute. The turquoise of Badakhshan and Khokand is of a green colour, and is very inferior to the blue turquoise of Neshapur in Persia. In its ruby mines, the gem is said to be found in limestone, along with great masses of lapis-lazuli. It has also iron, salt, and sulphur. Its rivulets, romantic scenes and glens, its fruits, flowers, and nightingales, are spoken of in rapture by the people. The Tajak of Badakhshan are not so handsome as the men of Chatral; their dress is like that of the Uzbaks.—*Markham's Embassy*, p. 163; *Mohun Lal's Travels*, p. 250; *Yule's Cathay*, i. p. 187; *Col. MacGregor; Bellew*, p. 207. See Afghanistan.

BADAL. Pers. Retaliation, vendetta.

BADAM, Pers., Hind., is a term which, with affixes and suffixes, is applied to several kernel fruits. Badam-i-talkh, bitter almond. Badam-i-shirin, sweet almond. Kaghazi Badam is like the thin-shelled Barcelona almond.

Badam Kohi is the apricot.

Badam talkh-i-pahari is Prunus Armeniacus.

Jungli Badam, Sterculia fœtida.

Badam, in Tamil, Canarium commune.

Hijli Badam is the Terminalia catappa.

Badam-Kandi. Hind. A sweetmeat imbedding almonds.

BADAMI, a hill fort, in lat. 15° 55′ N. and long. 75° 42′ E. in the South Mahratta country, is S.S.E. of Kaladghi. The foot of the fort is 1646 feet above the sea. At the close of the 18th century, it was the scene of a great disaster to a Hyderabad army, which was swept away by a pestilence; it was taken by the British in 1818, and again in 1841. Badami has Buddhist and also Brahmanical caves, one with a date, A.D. 579. The Aiwulli caves are 5 or 6 miles north of Badami, and those of Purudkul or Pittadkul are as far south. The Imperial Gazetteer mentions a Jaina cave of A.D. 650. In the Brahmanical caves the Narasinha avatar of Vishnu is represented seated on the five-headed serpent Ananta.—*Fergusson and Burgess; Imp. Gaz.*

BADAM VITTU BANKA. Tel. Tragacanth.

BADANIKA. Tel. Loranthus longiflorus, *L.* Badanika Chega gadda. Vangueria spinosa.

BADANJAM. Hind. Solanum melongena.

BADAR. Tr. Indus. Taxus baccata.

BADARINATH, in Garhwal, a peak situated

in the Mana pass, within the Himalaya. It is in 30° 44′ 15″ N. lat., 79° 30′ 40″ E. long. The peak is 22,901 feet. The entrance to the Hindu temple is 10,124 feet above the sea, according to Robert Schlagentweit, but according to the Bengal As. Soc. Journal, 10,294 feet. Near it, the upper limit of the 'Amesh and Kiusi' fir trees is 9572 feet; the upper limit of the 'Bilka and Deodar' fir trees, 9348 feet; and the upper limit of walnuts (Akrot), 8376 feet. Immediately below the village of Mana is the shrine, which is dedicated to an incarnation of Vishnu, and is one of the most sacred in Hindu mythology. The temple is built on the bank of the Bishen Ganga, immediately over the site of a hot spring, the existence of which no doubt led to the original selection of this remote spot. It is said to have been sanctified by Sankara Charya about A.D. 800, and pilgrims bathe in the sacred pool below the shrine. The east bank rises considerably higher than the west bank, and is on a level with the top of the temple. About the middle of the bank is a large cistern about 20 or 30 feet square, covered in with a sloping roof of deal planks supported on wooden posts. This is called Tapta-kund, and is supplied by a spring of hot water issuing from the mountain by a subterraneous passage, and conducted to the cistern through a small spout representing a dragon's or a griffin's head. A little to the left of it is Surya-kund, another hot spring, issuing in a very small stream through a fissure in the bank. There is no basin or reservoir to receive the water. The principal idol, Bhadri-nath, is placed opposite the door, at the farther extremity; above its head is a small looking-glass, which reflects the objects from the outside; in front of it are two or three lamps, which furnish all the light the apartment receives, excepting from the door, diffusing such feeble glimmering rays that nothing was clearly distinguished. It is dressed in a suit of gold and silver brocade. Below it was a table, or board, covered with the same kind of cloth. The Rawal, or chief priest, is invariably a Namburi Brahman from Malabar, no other class of Brahman being allowed to touch the idol. Many temples erected in the same site have been overwhelmed and destroyed by the avalanches which occur there. Its revenues are derived from the offerings of its votaries and the rents of assigned lands.—*Professor Wilson; Fraser's Himalaya Mountains*, pp. 373-375. See Kunawar; Sri Sampradava.

BADAVA-HRITA. SANSK. A man who becomes a slave that he may marry a female slave in the family.

BADAWAT. PERS. Hedysarum alhaji.

BADAWI. ARAB. A Bedouin Arab.

BADAWURD. HIND. Fagonia cretica.

BADDI KANDER. HIND. Ehretia aspera.

BADEK, in Java, a fermented liquor, prepared by boiling and stewing rice, with a ferment called razi, consisting of onions, black pepper, and capsicum. After frequent stirring, the mixture is rolled into balls, which are piled up in a vessel, and the badek drips to the bottom.—*Hogg, Veg. King.* 816.

BADGACHI. TAM. A low caste in Travancore, but superior to Pariahs.—*Wilson's Glossary.*

BADGER, the Hebrew Tachash. Mammals of the tribe Semi-Plantigrada, family Melididæ. Arctonyx collaris of N. India is the hog-badger; Mellivora Indica, the Indian badger; Meles ankuma is the Japanese sand-badger.

BADHA. SANSK. In Hindu law, corporal punishment, which may be of three kinds,—Tarana, beating, caning; Chheddana, mutilating; and Marana, killing.—*W.*

BADHAIL, a bold, brave, predatory race occupying Beit in Kattyawar; like the Waghair race of Dwarica, who with the Badhail race of Aramra were so long the terror of the western seas, they are a spurious branch of the Jhareja family of Bhooj, one of whom, called Abra, with the cognomen of Much'hwal or whiskered, came from Cutch in the time of Rinna Sowa, into whose family he married. His son had offspring by a woman of impure caste, and assumed the name of Waghair, with the distinctive suffix Manik or gem. Malu Manik, the last chieftain of this race, with all his motley company of Waghairs, Badhails, and Arabs, was slain in the storm, or in the retreat after a desperate defence. The Aramra of the maps is in long. 69° 15′ E., and lat. 22° 27′ N. According to Colonel Tod, Uja, the third son of Seoji, a Rhator Rajput of Kanouj, issued from the sandhills on the Looni, carrying his forays to the Saurashtra peninsula, where he decapitated Beekumsi, the Chamara chieftain of Okamundala, and established himself. From this act his branch became known as the Badhail. See Kattyawar.

BADHAK, a robber tribe in Northern India, often associated with Thugs, and, like them, murdering those they rob. They resided chiefly on the borders of Oudh, but carried on their depredations at a distance.—*Wilson's Glossary.*

BADHAWARA, in Bengal, a guard over the village crops.

BADHIA. HIND. A blight which attacks Holcus sorghum, Penicillaria, and Zea mais, which prevents the ear filling, also sugarcane.

BADHOO, a Hindu royal ceremonial. It consists in waving a brass vessel, filled with pearls, round the sovereign's head, and distributing them to Brahmans.—*Tod's Rajasthan*, ii. p. 73.

BADI. HIND. The fortnight from full to new moon; the darkening half of the moon.

BADIAN. PERS. Fœniculum panmori; also F. vulgare and Nigella sativa; also comfits, sugared seeds of the 'sonf.' Badian-i-khatai, PERS., Illicium anisatum; star-anise.

BADIDAPU CHETTU. TEL. Erythrina Indica.

BADIKI. TEL. Sapium cordifolium, *Roxburgh.*

BAD-i-SIMUM, a desert wind in Kachi, which occurs by night or day, usually in June or July. Its appearance is sudden, though sometimes preceded by a cold wind; its course is straight and defined, leaving a narrow tract in which it has burned up or destroyed all vegetable and animal life. It is attended with a sulphurous odour, and resembles the blast of a furnace, and the current of air in which it passes is evidently greatly heated. It is not accompanied by dust, thunder, or lightning. Dr. Cooke believes the Bad-i-simum to be a very concentrated form of ozone, generated in the atmosphere by some intensely marked electrical condition.—*Dr. Cooke.*

BADI-ud-DIN, a Syrian saint, who lived at Makanpore in Oudh. His festival day is on the 17th Jamadi-us-Sani, and is known as the Charaghan-i-Zandah Shah Madar. See Dam-i-Madar.

BADJAR-KITA. BENG. Ant-eater. Manis.

BADLA. HIND. Brocade or variegated silken stuff.

BAD-MAASH. PERS. An evil liver, a person living by defrauding others. It is from Bād, bad, and Maash, food. Bad-nam, disgrace. Bad-bakht, an unfortunate.

BADOCHI, a red earth of Gurgaon, used in dyeing.

BADOZAI, a tribe inhabiting the Past-i-koh, to the west of Sib, in the Kohistan of Baluchistan. —*MacGregor.*

BAD PAI. PERS. A swift horse (wind-footed) of Turkoman breed, much prized by the Persians, and always found in the stud of a person of rank.

BADR. ARAB. Full moon.

BADRACHELLUM, in lat. 17° 41′ N., and long. 81° E., a small town on the Godavery river, in the south of the Peninsula of India, to which pilgrims resort. Diamonds are found in the neighbourhood. The virtues of the great river Godavery are all collected in the neighbourhood of Badrachellum. It stands on a knoll about 100 feet high; the temple, an old structure, is very sacred.

BADRAGA. HIND. Escort, safe conduct.

BADRAJ-ul-ABIAZ. ARAB. Basella alba.

BADRAKAI. TAM. Elæocarpus tuberculatus.

BADRANJ BUYAH. PERS. Balm, Melissa officinalis, *var.*, also HIND., Nepeta ruderalis.

BADRARA. HIND. Gmelina Asiatica; Pashtu; Taxus baccata; the yew. See Sarrap.

BADRASIR, a famed temple of the Jains.

BADROR, the Prora of Beas; Machilus odoratissimus, *Nees.*

BADSHAH or Padshah. HIND. A king. Badshahi, sunnud, royal grant.

BADSHAHI RAI, Sinapis brassica, also S. ragosa.

BADUL. BENG. Pteropus Edwardsi.

BADUL, a young chief famed in the history of Chitore. It is in Chitore an oath to swear 'by the sin of the sack of Chitore.' Of these sacks were three and a half. In the 'half,' the city was not stormed, but the best and bravest were cut off (*saka*). The attack is described with great animation in the Khoman Rasa. Badul was then but a stripling of twelve, but the Rajput expects wonders from this early age. He escaped, though wounded, and a dialogue ensues between him and his uncle's wife, who desires him to relate how her lord conducted himself, ere she joins him. The stripling replies: 'He was the reaper of the harvest of battle; I followed his steps as the humble gleaner of his sword. On the gory bed of honour he spread a carpet of the slain; a barbarian prince his pillow, he laid him down, and sleeps surrounded by the foe.' Again she said: 'Tell me, Badul, how did my love (*peear*) behave?' 'Oh! mother, how further describe his deeds, when he left no foe to dread or admire him?' She smiled farewell to the boy, and adding, 'My lord will chide my delay,' sprang into the flame.—*Rajasthan*, i. p. 264.

BADULLA, a town in Ceylon; near it are hot springs. A race of people, called Pareya, or strangers, are there met with, believed to have been descendants of Portuguese captives made slaves after the re-conquest. Badulla is in lat. 6° 59′ N., and long. 81° 11′ E., 38 miles W. from Nurelia (Newera Elia), and is 2450 feet above the sea. The highest point of the road between Taldenia and Badulla is 2345 feet.

BADYA, a hill race, not Gond, occupying the tract between Ghondwana and the Mahadeva hills, who have conformed to the Hindus in their language and religious observances.

BAEL or Bela. HIND. Ægle marmelos. Its fruit is much used throughout Bengal, being one of the best known and most popular remedies of the people. The native practitioners prescribe it in cases of dysentery and chronic diarrhœa, mixed with catechu and sugar.

BAEL-KI-BHAJI. HIND. Basella alba.

BAETAN is the only serpent of Arabia that is truly formidable; a small, slender creature, spotted black and white; its bite is death, and the dead body is swollen by the poison in a very extraordinary manner.—*Niebuhr*, ii. p. 333.

BÆTYLIA, stones held sacred by the Jews, probably aerolites. They were without any resemblance to the human figure. See Eagle-stones.

BAFFIN, WILLIAM, in A.D. 1616 sailed round the sea which is now known as Baffin's Bay. He came to the E. Indies in 1619 in the East India Company's fleet commanded by Shilling, and was killed on the 1st February 1622 (another authority says 23d May 1622) at the siege of Ormuz. Near the south end of Kishm is a ruined fort, which was built by the Portuguese in 1621, but was besieged by the combined English and Persian forces, and surrendered to the English on the 1st February 1622, and William Baffin was one of the few English killed. It is curious to note the death in the East Indies of Davis and Baffin, the arctic navigators. See Kishm.

BAFT. PERS. Any calico loom-work. Bafta, ANGLO-HIND., cotton manufactured articles loom-woven. See Clothing.

BAG. HIND. Horse reins of leather, tape, or silk. Bagdaur, a leading rope or horse halter, either of silk or other material, No. 540.

BAG. HIND. A tiger. Bag-bhut, also called Bag-eswar, the tiger demon, much dreaded by Hindus and Mahomedans in India, who believe that women witches can assume the form of a tiger. Tigers' nails are used as charms. The instant a tiger is shot, the people cut off the claws to break the future spell.

Bag-Eswar is a deified spirit, held in great reverence by the Kusru, Suri, Markam, Netia, and Sarsun Gond.

Bag-Eswari, a name of Durga; her statue, four-armed, is in the Kailasa temple at Ellora.

Bageswara Mata, a goddess of Baghelcund, to whose shrine Komarphal of Gujerat (A.D. 1166) sent his son.—*Fergusson*, p. 451.

BAGADHA, an ancient dominion in India. Jarasanda, a king of Bagadha, opposed Semiramis, B.C. 1230, defeated and drove her back to the Indus with immense loss. See Semiramis.

BAGALA. SANSK. Cucurbita, *sp.?*

BAGA-LUTA. HIND. Cocculus acuminatus.

BAG-AMBRA. HIND. The lion's hide covering of the Theban Hercules.

BAGAR. MAHR. Swinging by iron hooks from a pole.—*W.* See Swinging Festival.

BAGAR. HIND. Eriophorum cannabinum. The suspension bridges over the Tonse, between Simla and Mussoori, are made of this very tenacious grass. String for various purposes, grass shoes, and other articles, are made of it, in Hushyarpur, Mandi, and other parts of the Himalaya.

BAGARA, a tribe of 1000 families of Arabs, tributaries of the Shamr, occupying the country to the north of Nisibin in Kurdistan.—*MacGregor.*

BAGARI, a tribe inhabiting the district of Bagar, between the south-west borders of Hariana and the Sutlej. Said to have been Rajputs, but also supposed to be Jat. A robber race of this name is settled in Malwa.—*Wils. Gloss.*

BAGA ROH. PUSHT. A white hill; a near range.

BAGATI JUMIZ. HIND. Aquila pennata, *Gm.*

BAGAWAT. SANSK. The most meritorious; a name of Buddha.

BAG-BHARENDA. HIND. Jatropha curcas.

BAGDI, of Bengal and Cuttack, a servile race who follow unclean out-of-door avocations. They are one of the most numerous of the non-Mahomedan castes of Bengal. They are cultivators, fishermen, watchmen, labourers, and palki-bearers, but addicted to dacoity. They seem to be the same as the Bagari of Malwa. Some holders of large estates in Eastern Bengal are of this family.

BAGDOS or Bag-dasha. BENG. Viverra zibetha.

BAGGALAH, ARAB., or Bajra or Budgerow. These vessels trade from Cutch, Gujerat, and the Malabar coast, to the Gulf of Persia, the coast of Arabia, and the Red Sea. They are Indian vessels, and manned with Indian seamen, called Lascars. See Boat.

BAGGA PATTI. TEL. Limnophila racemosa.

BAGH. PERS. A garden. Like the Dutch and Chinese of the present day, Persians delight in naming their gardens and garden-houses with fancy names, as Farah-bagh, garden of delight; Lal-bagh, ruby garden; Rishq-i-Irm, the envy of Paradise. It is often joined to other words, as Ali-bagh, Hazari-bagh, and in that form indicates the first commencements of the towns which have grown around the original flower or fruit grounds. There are also other combinations in Hindi, as Baghaet, garden lands; Baghvan, a gardener; Baghicha, small garden.

BAGH, a village in Malwa, 25 miles S.W. of Dhar, and 30 miles W. of Mandu, in lat. 22° 24′ N., and long. 74° 52′ 30″ E. Three miles to its south is a group of ruined Viharas. The first from the east is 82 feet by 80 feet. The Viharas are known to the people as the Pancha Pandu. The rock-hewn pillars were once adorned with frescoes in different colours, and of great beauty. —*Burgess*, p. 365.

BAGHANDEN, also Baghi, palanquin-bearers in Tinnevelly.

BAGH-ANKRA. BENG. Alangium decapetalum, also Pisonia villosa.

BAGHANWALLA, a town in the Salt Range, has the principal seam of tertiary coal.

BAGHDAD, in lat. 33° 19′ 50″ N., long. 44° 22′ 45″ E., is the capital of the Turkish province of Baghdad, and has a population of about 65,000, Turks, Persians, Jews, Christians, Kurds, and town and nomade Arabs. It is built on both sides of the Shat-ul-Arab, the connection being established by a bridge of boats. Its traditional name means 'City of Peace,' but its history has been one of continual strife and bloodshed. Founded in A.D. 763, it flourished under the khalifs, till the invasion of Hulaku with his Tartar hordes, who deluged its streets with the blood of 160,000 inhabitants, A.D. 1257 (1258–59?). In A.D. 1400 it was again taken by Timur, who raised a trophy of the heads of 90,000 of its principal men outside the city gate. In 1508 it was invaded by Shah Ismail Sufi, and fell into the hands of the Persians. In 1534 Suliman wrested it from the Persians, and made it a Turkish province. Subsequently Shah Abbas recovered it for the Persians, but they finally lost it in 1638, since which time the Turks have held it against two Persian invaders successively. Its revenue under the khalif Mamun was said to have been £56,000,000 yearly. In 1854 it was reduced to £350,000. It is the classic scene of the Thousand and One Nights, but there is hardly a relic of the times of the khalifs in modern Baghdad. The city was then built on the western bank of the Tigris, now it is largely all on the east side. A small piece of the old river wall, an inscription on a gateway, and a venerable khan, are about the only vestiges of its ancient splendour. It is unequally divided by the river, two-thirds being on the left bank, and the remainder on the right or Mesopotamia side; the town is fortified by a high brick parapet wall, flanked at intervals with bastioned towers, and surrounded by a ditch; the citadel, which is a respectable work, is situated at the north-western extremity. The bazar built by Daud Pasha is one of the finest in the east, and is well stocked with home and foreign manufactures. Some of the mosques are also striking; but the rest of the buildings show, as in eastern countries is usual, on the exterior either dead walls or ruins; but when viewed from a distance, and especially from the river, the luxuriant date groves and rich gardens, contrasted with green domes and graceful minarets, present a rich and attractive appearance. Previously to the plague in 1830, there were 110,000 inhabitants.

Baghdad is frequently called Babylon by the early travellers, and even by the Arab geographers. The Church of Rome still gives the title of 'Bishop of Babylon' to the prelate who is placed over the Roman Catholic Christians in the pashalic of Baghdad.

The khalifs or vicegerents who succeeded Mahomed ruled sometimes in Baghdad and sometimes in other parts of their conquered dominions. The race of Ommiah, sixteen in all, ruled from Damascus from A.D. 661–2 to 744–5. The Abbassi reigned at Baghdad from A.D. 749–50 to 1258–9, when Baghdad was besieged and taken by Hulaku, grandson of Chengiz Khan.

The Mostanzeria mosque is of the age of the khalifs. The Takieh is a monastery of darveshes of the order of the Bektashi, which stands on the banks of the Tigris, on the west side of the town, and is a good specimen of early and pure Mahomedan architecture.

The Baghdad pashalik has many tombs of persons and places famed in history,—the ruins of Babylon, the tower of Babel, the Arch of Ctesiphon, the tombs of Ezekiel, of Ezra, and of the Lady Zobeidah, the reputed authoress of the Arabian Nights.

During the early trade in the Persian Gulf, direct intercourse was for many years maintained with the governors or pashas of Turkish Arabia, without much consideration of their relation to Constantinople. In the year 1639 there seems to have been an English factory at Bussora, subordinate to the factory at Gombroon, and protected by firmans. But the first firman on record is one

granted in 1759 (No. XL.) by the Pasha. In 1835 the political agent in Turkish Arabia, who had hitherto been under the Bombay Government, was put directly under the control of the Supreme Government of India. In 1841, consular powers were conferred on the agent by Her Majesty's Government. All ranks and classes stain their hands and hair with henna, and the Arabs largely stain their lips blue. The plague has repeatedly recurred, but in 1831 it was a very calamitous outbreak. Baghdad is called Dar-us-Salam, or Mount of Peace, also Medinat-al-Khalifa, the City of Khalifs.

Four large synagogues are attended by contented and prosperous-looking Jews. Christian churches rear their heads on all sides, French, Latin, Armenian, and Chaldee; while the public baths are frequented by Musalman and Christian alike, irrespective of caste, creed, or religion.

In the 8th century, Hindu physicians went to Baghdad and practised at the hospitals. Two of them, named Manka and Saleh, were the physicians of Harun-ur-Rashid. Nine miles from Baghdad is the small Akarkouf, the ground around the ruined pile, called by the Arabs Tál Namrud, and by the Turks Namrud Tapassi. Both these terms mean the hill, not the tower, of Nimrud, and the term Akarkouf or Agargouf, given by the Arabs, is intended to signify the ground only around it.

The Baghdad pashalik extends in a north-west direction from the mouth of the Shat-ul-Arab to the rocks of Merdin, the Baghdad frontier towards Constantinople. In an east and west line, it stretches from the confines of Persia to the banks of the Khabour, which separates it from the pashalik of Orfa (the Osrhoene of the Romans, and that part of Mesopotamia which contained the Haran of Abraham, and the famous Edessa of the crusades). The general boundaries of the pashalik of Baghdad may be called the Euphrates and Arabian desert of Najd to the west and south, Khuzistan and the stretch of Zagros to the east, the pashalik of Diarbekir or Hollow Mesopotamia to the north-west, and Armenia, with the Kurdish territory of Julamerick, to the north; the whole forming a kind of irregular oval, comprehending ancient Babylonia and all Assyria proper. That portion of the pashalik which lies north-east of the Tigris, and which comprised the chief part of Assyria, is now called Lower Kurdistan, a name not very dissimilar, as Major Rennel observes, to the old Scripture appellation for Assyria, found in the second book of Kings, and in the Prophet Amos, both of which probably refer to the country east of Nineveh as the land of Kir. The rest of the pashalik lies between the widely sweeping currents of the Tigris and the Euphrates, commands the no less renowned boundaries of Babylonia, including Chaldæa, its most eastern quarter. This insular country was also designated by the ancients by the name of Mesopotamia, so denoting its situation between two rivers; and modern times have changed its appellation again, the Arabians calling it Al Jazira, and the Persians including it within the line of Irak-i-Arabi. Its length is 500 miles, and its breadth 250 miles, area 50,000 square miles. Its three divisions are Al Jazira on the north-west, between the Euphrates and Tigris; Irak-i-Arabi, below Baghdad and south of the Tigris; and Sulimania, or the country of the Kurds. Its migratory tribes are the Montefik, Beni Lam, Zobeid, Shammar, Togeh, and Deffabeh. Its rivers are the Tigris, Euphrates, Zab, Adheym, Diala, Thartar, Shal al Hat, and others.—*Treaties*, vii. p. 175; *Porter's Tr.* ii. pp. 246, 281; *Mignan's Tr.* pp. 90, 102; *Rich's Kurdistan; Chesney's Expedition; Layard's Nineveh*, ii. p. 175; *Thomas' Prinsep; MacGregor's Persia.*

BAGHEL, according to Wilson, a branch of the Sisodhiya Rajputs of Gujerat, who migrated eastwards. Subdivisions of the tribe, under different denominations, are widely spread though Bundelkhand, Allahabad, Benares, Gopur, Cawnpur, and Farrakhabad. According to Sir Henry Elliot, Baghel, literally, tigers' whelps, are a branch of the Solunki tribe of Rajputs, who give their name to Baghelcund, also called Rewa. Tod describes the Baghela as a Chauhān race, descended from Komarphal (died A.D. 1166), sovereign of Gujerat. They were formerly rulers of Gujerat, and some Solunki chieftains are still there. Raja Ram, Baghel, protected the wife of Hamayun, Akbar's mother, and Akbar gave the tribe much influence. The chief of Rewa is a Baghel. He is the descendant of the famous Sid Rai Jyi Singh, the ruler of Anhalwar Pattan from A.D. 1094 to 1145, whose court was visited by the Nubian geographer Edrisi. Edrisi states that Jyi Singh was then a Buddhist.—*Elliot.* The Baghel are extrogamic, not marrying within their own tribe, and, like the Gujar, permit remarriage of widows. The princes of Baghelcund are of this race; in Gujerat there are many petty chieftains of this tribe, as Lunawarra, Mandvie, Mahera, Godra, Dubboye, etc.

BAGHELCUND, a territory in Central India, whose princes are of the Baghel or Baghela race. It is regarded by the Indian Government as including the four states, Rewa, Nagode or Ocheyra, Maihar, and Sohawal or Koti. It is between lat. 22° 40′ and 25° 10′ N., and long. 80° 25′ and 82° 45′ E.; has an area of 14,250 square miles; a population of 2,260,000. It has on its west, Bundelkhand, with which it is historically connected.

BAGHI. ARAB., HIND., PERS. Rebellious.

BAGHLAH. ARAB. A ship of the eastern seas, of the Indian Ocean, and Bay of Bengal, from 50 to 300 tons' burden. The name is derived from the Arabic, and is the feminine of baghl, a mule, but is variously written by Europeans as bagla, baggalow. Wellsted, however, supposed it to be from bagola, HIND., the crane.—*Burton's Pilgrimage*, i. 262; *Wellsted's Trs.* i. p. 16.

BAGHNU. HIND. Populus ciliata.

BAGH-NUKKOSHIM. BENG. Lablab falcatum.

BAGH-NULA. BENG. Cynotis axillaris.

BAGHOL, of Sutlej, Machilus odoratissimus.

BAGHRAM, near Charikar, about 30 miles north of Kābul, was supposed by Mr. Prinsep to be Alexandria apud Caucasum, in which Alexander's army passed the winter of B.C. 330–329. Græco-Bactrian coins have been found here in great profusion.

BAGHUNA. HIND. Rhus cotinus.

BAGHWAN, a territory in Baluchistan, held by the Eltaiz-Zye, a branch of the Kambarani tribe, related to the khan of Kelat. In the valleys beyond Baghwan are to be seen stupendous bunds or dams erected by some prior race. They are supported and strengthened by buttresses or walls built at right angles. They always present a scarped face to the opposite side,

which, when well preserved, is levelled off with the surrounding and superior ground. Those built across the mouths of ravines are very solid and high, and usually the builders have taken advantage of some mass of rock jutting out as a sort of foundation. Those in slopes are never seen singly, but always in numbers, varying with the extent of the ground to be covered, and placed in succession, one behind the other. The intervening ground being levelled, is thus formed into a succession of terraces.

Those built across ravines were intended to form tanks for the preservation of the water that came down at irregular intervals in floods. Those on slopes, to economize the distribution of the water; the surplus water of one terrace running over and flooding the lower one, depositing as it went a layer of surface soil. The ground thus levelled of course became more valuable, freed from the irregularity and roughness which characterize these narrow stony valleys. They are almost confined to the provinces of Jhalawan, and are largest and most important in the southern and south-eastern portions of the province. That the ancient city at Gunjjuck is of the same date, and constructed by the same people, seems extremely probable.

From the numbers and position of these structures, the Ghorbasta people who built them must have felt that the country, as existing by nature, was utterly incapable of supporting them; and they must have possessed an energy and ingenuity which the present races are totally without. It appears almost certain that they must have swarmed eastward over the mountains from Mekran, making their appearance on the south-west portion of the table-land. Gradually pushing eastward and northward as their numbers increased, they ascended to the various valleys as high as Kelat, when, discovering the great eastern outlet, the Moolla pass, they found an exit by it into the plains of India. How long they remained on the table-land, from whence they originally came, and over what countries they eventually distributed, are alike mysteries.

BAGI. Can. Sweet flag.

BAGLA or Bagola. Sansk. The genus Ardea; the cranes.

BAGLAN, on the crest of the Western Ghats, supposed to be the original residence of the Mahrattas, who there, as a mountain race, cultivate the fertile valleys or mawals. Baglan is the western taluka of Kandesh. Stretching north in Baglan are a series of valleys separated by small chains of hills. These hills, as in the Poona mawuls, have ground naturally formed for forest reserves.—*Gibson's Forest Reports of* 1857-60.

BAG-NAK or Wāg-nak, amongst the Mahrattas, a weapon worn on the hand in the form of a tiger's claws, made of curved steel blades set on a bar, with rings through which the fingers pass. It is struck as if tearing with claws. It was a weapon of this kind with which Sivaji struck Afzul Khan.

BAGNI. Pers. Malt liquor or beer, applied by some of the people of the Caucasus to their own beer (which Klaproth says is very like London porter). This liquor was called by the Mongols, darassun, the terracina of Rubruquis.

BAGON. Philip. Balachang.

BAGOON. Beng. Egg-plant; Solanum melongena.

BAGRENDI. Hind. Jatropha curcas.

BAGRI. Hind. According to Wilson, Bagur is the tract lying between the S.W. borders of Hariana and the Sutlej, occupied by the Bagri tribe, who are regarded as Jats. Bagur is also a tract on the S.W. of Malwa; and a predatory race called Bagri have settled in the eastern parts of Malwa, Hissar, and Bhattiana. Sir H. Elliot says they were originally Rajputs, but now classed as Jats. The Bagri are one of the predatory tribes of Central India. Several of these tribes in the 18th century were for many years the worst enemies to the prosperity of this country; they were the Moghi, Bagri, Bhil, Sondi, and Bhilalah. The two principal were the Bagri and Moghi; they came to Central India originally from the western parts of India, chiefly from the neighbourhood of Chitore. The Moghi hardly passed the Chambal, but the Bagri settled in the eastern parts of Malwa in considerable numbers; and about the beginning of the 19th century, the Solunki Rajputs introduced no less than 400 of them to garrison the small fort of Sattanbaree in Bersiah, in which district, and others in its vicinity, there had been for a long period many settlers of this tribe. The Bagri are a very brave race of men, and though they till the soil and pursue occupations of industry from necessity, their favourite pursuits were thieving and plundering. In these arts they were at once expert and bold. They were also mercenary soldiers, ready to serve any one, and to engage in any cause for prey. The Bagri were foot-soldiers; their jamadars or leaders, whom they obeyed implicitly, were usually mounted. Wherever they settle, they remain in colonies; and even when three or four families fix in a small village, they live distinct from the other inhabitants. This tribe, though scattered, preserved a correspondence, which made them formidable enemies to the internal peace of any country in which they were numerous. There were not more than 1200 in the countries of Bagur and Kantul and their immediate vicinity. The Meena and Goojur of Hindustan, who have settled in Central India (though the greater proportion of them are cultivators), have not forgotten the habits of their ancestors; and, till late in the 19th century, many of these classes distinguished themselves as expert and successful thieves and robbers.—*Malcolm's Central India*, ii. p. 185; *Wilson's Glossary*; *Elliot's Suppl.* See Bagur.

BAGSARIA. A small clan of Rajputs in the Moradabad district; also a branch of Kanauj Brahmans.—*Wilson's Glossary.*

BAG-SIRA. Hind. Gryllus monstrosus; locust.

BAGU or Wagu. Javan. Gnemium gnetum.

BAH or Daha. Hind. The burning of dead bodies.

BAHA, also Khal and Khala. Hind. A water-course, in some places natural, in other places artificial. It is from bahna, to flow.

BAHAD'HA, also Bahadrha. Tel. Terminalia belerica, *Roxb.*

BAHADUR. Pers. The seventh title amongst Indian Mahomedans and Hindus, and generally given along with other titles, as Motamid-ud-Dowla, Bahadur; Madar-ul-Umra, Bahadur; Sir Salar Jung, Bahadur.

BAHADURI VARAHA, a gold coin struck in the time of Hyder Ali, value Rs. 4½.

BAHADUR KHEL, in Afghanistan, a clan

to the east of the Joorduk pass, where, also, at Kharrah and Lutumur, are the three Trans-Indus salt-mines. Those of Bahadur Khel, in lat. 33° 10′ 30″ N., and long. 70° 59′ 15″ E., 4 miles long and 450 yards in breadth, are a mass of rock salt, and several salt hillocks crop out between two hills. The salt is largely worked by the Government, and is exported to Kābul, Baluchistan, the Derajat, and neighbouring Indian towns. Revenue, £1279.

BAHAN. PUSHT. Populus Euphratica.

BAHANGI or Bhangi, in peninsular India, a postal term for the heavier book and parcel post.

BAHARA, also Balhara, an ancient Hindu dynasty that ruled in Gujerat and Surat (Saurashtra). The capital was Balabhipura, and the dynasty was named Bahara, Balabhi, and Bala Rai. Balabhipura was destroyed by the Parthians in A.D. 524. See Saurashtra; Kattyawar.

BAHARLOO, one of the seven Turkish tribes who supported Shah Ismail, one of the first of the Suffavean kings of Persia, about A.D. 1500. They wear the red cap, and are part of the Kazzilbash. See Kajar; Kazzilbash.

BAHA-ud-DIN, Nakshbandi, the national saint of Turkistan, was the founder of the sect of Nakshbandi fakirs or darvesh. He died A.D. 1388 (1303 ?), and his tomb is in a small garden in a village six miles from Bokhara, on the Samarcand road. Pilgrims visit the shrine from remote countries of Asia. It is a small temple-like mausoleum, decorated with rams' horns and rags. At one side is the sang-i-murad, or wishing-stone, with an inscription, which devout visitors rub with their hands, faces, and beards.—*Schuyler*, ii. 113.

BAHA-ud-DIN, Zakariah, a fakir who lived in the beginning of the 14th century, and is still one of the most revered of the Mahomedan saints. He left enormous wealth to his heirs.—*Briggs' Ferishta*, i. p. 377.

BAHAU-RUPA. HIND. Literally, many faces, a section or clan of the Banjara, at the foot of the Himalaya; also mimics and beggars, and in the southern Mahratta country they are the associates of thieves.

BAHAWULPUR, a Mahomedan state lying to the east of the river Indus, north of Saurashtra. The reigning family claim to trace their descent to the Abbassi khalifs of Baghdad, including Harun-al-Rashid. But the reigning chief, according to Mr. Masson, is of a Jat family, called Daoudputra, or the sons of David. They formerly lived about Shikarpur, but, becoming numerous, they were expelled; and, crossing the Indus, possessed themselves of the country, where they established separate and independent chiefships. Many of their leaders built towns, to which they gave their respective names, Bahawulpur, Ahmadpur, Fazilpur, Sabzal Kot. The state has an area of 22,000 square miles, with a population of 500,000, mostly Mahomedans. Its rivers are the Indus and the Sutlej, and the fertile parts extend along the banks; and, besides smaller inundation channels, a great channel, 113 miles long, has also been cut parallel to the Sutlej or Gharra. Bahawulpur is seated on the skirts of the desert. The town is built about two miles from the south bank of the Gharra river, and the transition from a land of sterility and solitude to one of fertility and abundance, is very striking to the traveller approaching it from the east. The Bahawulpur territory is bounded on the north by the provinces of Multan, Mankira, and Liya. To the south it has the great desert, separating it from Jessalmir. On the east, it touches to the north on the lands of the Sikh chief of Patiala, and, more directly east, on the frontiers of the Rajput principality of Bikanir. Westward it is defined by the river Indus, which divides it from Mittan-Kot, and a slip of territory dependent on Dera Ghazi Khan; and lower down, from Harrand and Dajil, provinces of the Brahui khan of Kelat. Bahawulpur is remarkable for the manufacture of lūngees, or silken girdles, and turbans. The inhabitants of this and all the neighbouring countries on the west and north are principally Jat and Baluch, who profess the Mahomedan religion. Uch is perhaps the most ancient town. The name is borne by two contiguous towns, one of which, Pir-ka-Uch, was bestowed on Pir Nassir-ud-Din, the spiritual adviser of the khan. Khanpur, 40 coss from Barra Ahmadpur, is surrounded by a country amazingly fertile, and is a depôt for indigo, rice, and all kinds of grain. Moz Ghar fortress is a lofty structure, built of kiln-burnt bricks. The chief fortress of the state is Durawal, equidistant from Ahmadpur and Bahawulpur, or 18 coss from each.—*Elphinstone's Caubul*, i. p. 26; *Masson's Journeys*, i. pp. 17–26.

BAHBUDI, an Afghan knife.

BAHDINAN, a tribe in Kurdistan, along with the Sekkir, Nur-ud-Din, Shinki, Gellati, Bulbasi, Jass, and Mikri, under the prince of Amadiyah and Rowanduz, and number 400,000 souls.

BAHEL SHULLI. MALEAL. Asteracantha longifolia, *Nees*.

BAHERIA, a clan of Rajputs in Jonpur and Chunar.

BAHI, Bahi-Khata, Bai or Bhai. HIND. A commercial diary, a daily account-book, a merchant's day-book. Bahi-putwari, a village accountant's register.

BAHĪKA, a tribe who were occupying the neighbourhood of the Indus near Attok, at the time of Alexander and Chandragupta. They were one of the republican races known as the Arashtra, or the kingless, the republican defenders of Sangala or Sakala. They are the Adraistæ of Arrian, who places them on the Ravi. They were known by the several names of Bahika, Jartikka, and Takka; from which last is the name of their old capital of Taxila, or Takkasila as known to the Greeks. The Takka people still exist in the Panjab hills; and their alphabetical characters, under the name of Takri or Takni, are used by all the Hindus of Kashmir and the northern mountains, from Simla and Sabathoo to Kābul and Bamian.—*Elliot*. See Chandragupta; Kābul; Pak-Pattan.

BAHIKATHA, a mendicant sect in the Benares district, who, to enforce their demands for alms, cut and stab themselves, till the family, in horror, give them money to go away.—*Sherring's Tribes*, p. 270.

BAHIN. HIND. A silver armlet.

BAHIRA. SANSK. Terminalia bellerica. Belleric myrobalan, the fruit, is very astringent; considered cooling, and given in hematuria; much used in dyeing, and in mesalihs; is common in all bazars.—*Gen. Med. Top. of Ajmir*, p. 128.

BAHIR-VASI. HIND. A Hindu of unclean avocations, who resides outside (bahir) the town.

BAHLIM, a Mahomedan tribe in Dasna and Meerut. Some of the Banjara tribes of Rohilkhand take the name of Bahlim; also a gang of Thugs.—*Elliot.*

BAH-MAH-THOA. BURM. A useful timber of Tavoy.

BAHMAN, afterwards named Ardeshir, was the son of Isfandiyar, the brazen-bodied, a prince of great renown in Persian annals. He is one of the most conspicuous heroes in the Shah Namah.

BAHMANI, a Mahomedan dynasty who ruled at Beder, in the Dekhan. They held the country towards Kulburga, in the S.W., and part of Telingana in the east. The first of the dynasty was Ala-ud-Din Hasan, Gangawi, Bahmani, a native of Dehli, of Afghan descent, and of humble origin. He farmed a small plot of land belonging to a Brahman astrologer named Gangu, and discovered a treasure, which he delivered up to Gangu, who in return obtained his advancement. He changed his own name to Ala-ud-Din, and added to it Hasan Gangu, the last being that of the Brahman. He was the first Mahomedan king in the Dekhan. He fixed his capital at Kulburga, and his successors afterwards made Beder the capital.

	A.D.	A.H.
Hasan Gangu or Ala-ud-Din,	1347	748
Muhammad I.,	1358	759
Mujahid,	1375	776
Daud,	1378	780
Mahmud I.,	1378	780
Ghaias-ud-Din,	1397	799
Shams-ud-Din,	1397	799
Firoz,	1397	800
Ahmad I.,	1422	825
Ala-ud-Din,	1435	838
Humayun,	1457	862
Nizam,	1461	865
Muhammad II.,	1463	867
Mahmud II.,	1482	887
Nominal kings, Ahmad II.,	1518	924
Ala-ud-Din II.,	1520	927
Wali,	1522	
Kalim,	1526	

After the Bahmani kingdom of the Dekhan became dismembered, at the end of the 15th century, into the five states of Bijapur, Ahmadnaggur, Berar, Golconda, and Beder, these, for 150 years, continued incessantly at war, and so ruined the centre of the Dekhan that it is still with few inhabitants. Golconda State alone remains under another dynasty.—*Elph.*

BAHMAN SAFAID, and Bahman Surkh. HIND. White and red Centaurea behmen.

BAHNI — ? A dance.

BAHOLI or Bhawali. HIND. Land about the village homestead in Kangra.

BAHR. ARAB., PERS. The ocean, a sea; a great river, as Bahr-ul-Yemen. Bahr-ul-Abiad, the White Nile; Bahr-ul-Azrek, the Blue, and Bahr-ul-Aswad, the Black Nile. Bahr-ul-Kulzum, the Red Sea; Bahr-i-Oman, the Arabian Sea; Bahr-ul-Rum, the Mediterranean.

BAHRAICH, a district of Oudh; area, 2645 square miles; population, 774,477; bounded on the west by the Gogra river. Bahraich town is in lat. 27° 34′ 52″ N., and long. 81° 38′ 2″ E. Besides the Aryan Hindu Brahmans, Kshatriya, and Vaisya, the population consists of Ahir, Chamar, Gararíya, Kahar, Kurmi, Kori, Lodha, Murao, Nao, and Pasi, and about 34,000 Mahomedans. Sakya, the Buddha, was born at Kapilanagara (now Nagar, near Basti), about 623 B.C., and passed nineteen years of his life at Sravasti, its ancient capital, the modern Sahet Mahet. At Tanda, 9 miles west, is a statue of Maha Mai, Sakya's mother, which Hindus worship, but call it Sita Mai. Bahraich takes its name from the Bhar race, who once were dominant here and in all the districts of eastern Oudh.

BAHRAM, the name of five of the Sassanian kings of Persia, whom the Romans styled Varanes and Varanus.

		Smith.	Mordtman.
Varanes I.	A.D.	274,	271 the 4th king.
,, II.	,,	277,	274 5th ,, styled Segan Shah.
,, III.	,,	294,	291 the 6th king.
,, IV.	,,	390,	389 styled Kerman Shah.
,, V.	,,	420-438	420 styled Bahram Gor.

In the reign of Bahram Gor, the famous impostor Mani, founder of the sect of Manichæans, made his appearance, and was put to death by the king. Bahram Gor was famous for his liberty, gallantry, and love of the chase of the Gor or 'wild ass,' and he was surnamed Gor from his partiality to hunting that animal. In its pursuit he was drowned in one of the deep pools near Persepolis. The monuments of Bahram are placed with those of Sapor I., below those of Darius and Xerxes, on the cliffs of Naksh-i-Rustam. Various authorities state that Bahram Gor was in India in the 5th century, and left progeny by a princess of Kanouj. A passage in an ancient Jain MS. indicates that in 'S. 523, raja Gardha-bhela, of Cacoostha, or Sooryavansa, ruled in Balabhipoora.' It has been surmised that Gardha-bhela was the son of Bahram Gor, a son of whom is stated to have obtained dominion at Putun.—*Tod's Rajasthan*, i. p. 232. See Sassanian Kings.

BAHRAM, a 'Sakkar' or water-carrier, a poet of Bardwan of the time of Akbar. He has a tomb erected to his memory. Near it is buried Sher Afghan, first husband of Nur Jahan.

BAHRAM KHAN, a Turkoman by birth, was a distinguished officer under the emperor Humayun, before his expulsion from India. In the defeat of Humayun by Sher Shah, Bahram was separated from his prince, but made his way, after a long series of dangers and adventures, through Gujerat to Sind, where he found Humayun, in the third year after his expulsion. He was received with joy by the whole of the exiled party, and became thenceforward the most confidential of Humayun's officers. When Akbar was sent as the nominal head of the army in the Panjab, the real command was vested in Bahram Khan. When Akbar ascended the throne (A.D. 1556, A.H. 963), at the age of thirteen years and four months, Bahram Khan was invested with the unlimited exercise of all the powers of sovereignty, receiving the title of Khan Baba, or king's father, a translation of the Turki Atabek; and the real restoration of the house of Timur was brought about entirely through the exertions of Bahram. But his temper was harsh, his manners overbearing, and he could not suffer the smallest pretension to power derived from any source but his favour. Even Akbar was kept in thraldom, and, when eighteen years old, concerted the plan of a hunting party, from which he returned suddenly to Dehli, where (A.D. March 1560, A.H. 28 Jamadi-ul-Akhir 667) he proclaimed that he had assumed charge of the

government, and forbade obedience to other than his own orders. Bahram went off to Nagor as if proceeding on pilgrimage to Mecca, but receiving some further cause of irritation, he went openly into insurrection, and attempted an invasion of the Panjab. Akbar moved against him, and defeated him (A.D. September 1560, A.H. Maharram 968) by a detachment, and Bahram fled to the hills, but at length threw himself on the king's mercy. Akbar received him with honour, and Bahram proceeded to Gujerat on the way to Mecca, but while preparing to embark, he was assassinated by an Afghan, whose father he had killed in battle during the reign of Humayun.—*Elphin.* pp. 435-6.

BAHREIN, also called Awal Island, on the Arabian shore, extends from lat. 26° 14′ to 25° 46½′ N., and occupies a central position in the Gulf of Bahrein. Its pearl fishery employs about 4500 vessels and boats, and it was long a field of contention between the different powers who towards the end of the 18th century strove for supremacy in the Persian Gulf. In 1779, after having often changed masters, it was conquered by the Uttoobee tribe, by whom it has ever since been held, under allegiance at one time to Muscat, and successively to the Wahabis, to Turkey, and to Persia. In 1820, after the capture of Ras-ul-Khyma by the expedition sent against the piratical tribes in the gulf, the two chiefs, Abdulla-bin-Ahmed and Suliman-bin-Ahmed, who then ruled Bahrein conjointly, signed a preliminary engagement not to permit in Bahrein the sale of property procured by plunder and piracy, and to restore all Indian prisoners then in their possession. They also subscribed a general treaty for the pacification of the Persian Gulf. The chiefs of Bahrein were parties to the engagement in 1847 for the suppression of the slave trade. Twelve miles from the north end is a small mass of volcanic hills, called Jabal Dukhan, 400 feet high. The Uttoobee, who last conquered Bahrein (A.D. 1779, A.H. 1194), were of the Beni Sabah, Beni Yalahimah, and Beni Khalifah, who came originally from Koweit or Grane, but afterwards quarrelled, and the Yalahimah were nearly all destroyed. The pearls are large, and of a yellow colour; and Niebuhr stated the annual revenue from its pearl fishery at £157,600. Fresh-water springs occur on the shore reef off the island at 2½ fathoms; a similar spring is off Katiff, distant 8 or 9 miles.—*Findlay; Kinneir's Memoir*, p. 17; *Horsburgh; Wellsted; Aitcheson's Treaties.*

BAH'R-WATTIAH (bah'r, out, and wat, a road) is a term applied to Kattyawar Rajputs, who on some quarrel with their landlord quit their villages, which thus lie waste, and occupy the neighbouring fastnesses, from whence they make inroads, until hunted down, or a compromise or settlement occurs.

BAHU. HIND., usually Bhau, a son's wife.—*W.*

BAHU-DAKA, a Hindu ascetic mendicant; a Sanyasi. Wilson derives the term from bahu, many, and udaha, water, as such mendicants beg from every house.—*Wilson.* See Paramahansa.

BAHULA. SANSK. The dark fortnight.

BAHU-PADDAI. SANSK. A belt or sash worn by women across their breasts.

BAHURA. BENG. Terminalia bellerica, *Roxb.*

BAHUTA of Shahpur, an armlet, from bahu, the arm.

BAI, also written Baee, Bye, and Bhye, MAHR., a lady; a respectful address for a woman. In Bengal, a mistress, a dancing girl, a prostitute.

BAIA, Bai. ARAB. A sale. Bai-namah or Bahi-namah, a deed of sale. Baina, earnest money.

BAIA. HIND. The Ploceus baya, *Blyth*, the weaver bird of India. It builds bottle-like nests, generally hanging over water. It is readily domesticated, and acquires several little tricks.

BAIBARANG. HIND. Myrsine Africana, also Embelia ribes.

BAIBARANG KATAI. HIND. A species of Melissa or Nepeta.

BAIB-YAH. BURM. Conocarpus robusta.

BAID or Bed, herbalists who gather and sell medicines. They are often quoted as authorities for the properties of plants, but they are poor and illiterate, often beggars. They are a caste or a race. A considerable number occupy the Hyderabad country near the Bheemah. See Ved; Gollar.

BAID or Bed. HIND. Populus alba.

BAIDARA are the people or tribe from whom the term Pindara was obtained. In the many cultivated spots throughout the hills which extend northwards from Kapaladurga, Tipu settled tribes of the Baidara race, who received twelve pagodas a year, and served as irregular troops when required. They were excellent marksmen, and in following the armies spared neither life nor property. These men were the chief instruments of Hyder and his son in the depredations of the Karnatic. There are two Baidar principalities in the Dekhan, one at Zorapore or Baidar Zorapore, and one at Ghurghunta. The men are tall and good-looking, and fond of sport. They hunt and eat the wild hog.—*Buchanan's Mysore*, p. 179.

BAIDWANA, descendants of the Chauhān or Pramara Rajput, who embraced Mahomedanism.

BAIGA of Mandla are supposed to be the prior occupants of that district, and take the title of Bhumia or landlord. The Baiga language is almost pure Hindi. They have three sections, Binjwar or Bichwar, Mundiya, and Bhirontiah, each of which is subdivided into seven sections. Even where the Gond and Baiga occupy the same village, the Baiga live apart from the Gond. They are of a slight, wiry build; hardy, extremely active, fearless, trustworthy, and independent. They cultivate by the 'Dahya' system, and sow the Kodo or Paspalum frumentaceum in patches called Bemar.

BAIGAR. HIND. In the south of India, persons formerly compelled to give their labour as porters or for public works. Compulsory labour.

BAIGAR. Wilson says that Baigar is a name of the Kharwar tribe, but this designation is not known in the Peninsula. The Kharwar are dyers with the red dye from the Morinda umbellata.

BAIKAL, a lake in Mongolia, an expansion of the Angura river. Its length is nearly 400 miles (according to Bell, 300 miles), with 45 miles of average breadth from north to south. It has steamboats plying on it. Its seal and sturgeon fisheries are valuable, and the oil of the golomynka fish, Callionymus Baicalensis, is valuable. Mountains encompass the lake entirely, and several rivers disembogue. Towards the N.E. end of the lake is O-leao-han (Olchon) island, frequented by wandering tribes of the Mongol and the Pu-la-te (Buraty of Bell), and they bring hither with them their horses. Baikal lake is 1715 feet above the

level of the sea, Selinghinsk 1779 feet, and Kiakhta 2400 feet, consequently higher than all the towns of the Harz and the Swiss Alps. The omully fish come in vast shoals from the Baikal, in autumn, up the river Selingue to spawn. They advance up the river about 10 miles a day. This fish is very agreeable food, either fresh or salted. They are much fatter the nearer they are caught to the sea. Near Baikal lake are several hot mineral springs; that of Tourkinsk is the most accessible. Many families from Irkutsk spend part of their summer here. Between this place and the Ourt Bargouzine there are other springs, in which the gushing fluid scalds the hand if placed in it.—*Narrative*, pp. 45–53; *Timbowski's Journey*, i. 17.

BAIKER. Hind. Cervulus moschatus, *De Bl.*

BAIKIE, ROBERT, was a medical officer of the Madras army, who wrote observations on the Neilgherry Hills in Mad. Lit. Trans., and Notes on the Climate of Coorg, *ibid.* 1836, iv. p. 338.—*Dr. Buist's Catal.*

BAIKUNTH or Vikunt'h, the heaven of Vishnu. Jafar Khan had pits of this name in which he confined revenue defaulters.

BAIL KUMHAR, the Canarese name of the Taremuk or wandering blacksmith. They wander about the Mahratta country. Wilson writes the name Bailu kanomar.

BAINA. Sansk. Andropogon muricatum.

BAINGAN. Hind. Solanum melongena, egg plant. Baingani Rang, a dull purple colour, like that of the rind of the baingan. Baingan Tamaku, a variety of tobacco.

BAINSI, a section of the Gujar tribe.

BAIO-JENTI. Beng. Sesbania Ægyptiaca.

BAIR or Ber. Beng. Zizyphus jujuba.

BAIRAGI. Hind. A Hindu ascetic mendicant. Byragi, Viragi, from Vi, privative, and rag, passion; literally, a person freed from desire. The term is loosely applied to several sects of Hindu ascetics, but originally to followers of Ramanand and his disciple Ramanuja. They are chiefly recruited from the Sudras; they do not marry, and they bury their dead.—*Sherring*, p. 260.

BAIRAM or Beyram, amongst the Turk race of Constantinople, a religious festival on the 10th day of the month Zi-ul-Haj, and is also called the Eed-i-Adha and Eed-ul-Kurban, and by the Turks generally Kurban Bairam. See Bakrid.

BAIRATH, at the foot of the Bhim-gupha hill, 41 miles north of Jeypore and 25 miles west of Alwar. It is an old town of fame from the wanderings of the Pandus, and has two of Asoka's rock inscriptions. One of them is on a detached block of granite. Bairath has copper mines.

BAIRD-SMITH, an officer of Madras and Bengal, who rose to the rank of lieutenant-colonel of Engineers. He was employed to report on the system of irrigation in Italy. He travelled in North America in 1853, and studied the irrigation systems of the Madras districts, under General Sir Proby Cantley. In 1854 he drew up regulations for the Ganges Canal, which was opened in that year. He was in command at Roorkee during the rebellion of 1857; and in June of that year was employed as engineer before Dehli, where he was wounded. His services there were rewarded by promotion to lieutenant-colonel, he was raised to the rank of Commander of the Bath, nominated aide-de-camp to the Queen, and in 1858 he was appointed Mint Master at Calcutta. His reports on irrigation were printed. He died on board the P. & O. steamer Candia in 1858, and was buried at Madras.

BAIRHAM, a Hindu set of musical tunes, said to have been composed by Brahma.

BAIRIS, a river that issues from the Oodi-Sagur lake of Rajputana, and passes within a mile of Chitore. There are two grand reservoirs within six miles of each other,—the Peshola, or internal lake, having an elevation of eighty feet above the external one; the Oodi-Sagur, whose outlet forms the Bairis. The Peshola may be called the parent of the other, although it is partly fed by the minor lake at the villa of Suhailea-ki-Bari. Both are from twelve to fourteen miles in circumference, in some places thirty-five feet deep, and being fed by the perennial streams from the Aravalli, they contain a constant supply of water.—*Tod's Rajasthan*, ii. p. 627.

BAIRIYE. Singh. A durable wood of Ceylon, weighing 57 lbs. 10 oz. per cubic foot, and lasting 10 to 30 years. The tree is found chiefly near the mouths of the rivers, in the northern and western provinces of the island, and its timber is used for anchors and in house-building.—*Mendis.*

BAIS, a numerous tribe of Rajputs in Oudh, and at Baiswara in the N.W. Provinces, who gave their name to the district. They assert that they came from Manji Paithun in the Dekhan, and that their 360 clans are descendants of 360 wives of king Salivahana (A.D. 78). They are included amongst the 36 royal races, and can intermarry with the Chauhān and Kachwaha. Their tilak-chandra branch have the moon for their frontal mark.—*Wilson's Glossary.*

BAIS. Hind. A verbal alteration from Vais, or Vaisya, the third order of the Hindus. The bankers, merchants, and shopkeepers known as Marwari, call themselves Bais or Vais. See Vaisya.

BAISA-BOL. See Bol.

BAISAKH, amongst the Hindus, the first of their luni-solar months, April and May. The first of Baisakh is a holiday, in which Hindus bathe, as a religious ceremonial, in rivers, canals, at Hardwar, in the Ganges, or other holy rivers. The Baisakh Bihu festival is as gay as a carnival. For many days before the actual festival, the young people in the villages may be seen moving about in groups gaily dressed, or forming circles, in the midst of which the prettiest girls dance, with their long hair loose on their shoulders. The first day of the festival is devoted to interchanges of visits, the next to the bathing and worshipping of all the cattle, and on the third day the inhabitants of several groups of villages, old and young, meet at some appointed place and give themselves up to thorough enjoyment. The girls on these occasions do not like to dance before the men of their own village. Akhtij is the 18th day of Baisakh, on which cultivators of the N.W. Provinces adjust the obligations incurred to provide for the rabi crop. It is to this crop what the Diwali is to the kharif. On the Akhtij, the manufacture is commenced of new agricultural implements. Brahmans are fed, and the new grain eaten, this being till then scrupulously abstained from. A plough is also slightly passed over the fields to secure good luck, but to sow seed on that day would be unlucky;

Pus amawas mul bin,	Srawan bihuni srawani,
Bin ruhin Akhtij,	Britha na bowo bij.

BAISHEE. Beng. Willow; Salix Babylonica.

BAISHNAV, a dialectal change from Vaishnava, a sectarian Hindu follower of Vishnu; but the term is commonly applied in northern India to religious mendicants, who mark their foreheads with the symbols of Vishnu, and repeat hymns in honour of his avatars, but chiefly of Rama and Krishna.—*W.* See Vaishnava.

BAISWARA, a district in the N.W. Provinces.

BAIT. ARAB. A house. Bait-Ullah, the house of God in Mecca; Bait-ul-Maqaddas, the holy house in Jerusalem; Bait-ul-Mal, a treasury.

BAIT, a couplet in the Arabic, Persian, and Hindustani poetry; but the Mahomedan poets of Sind apply the word to their peculiar triplets. The war song, or that sung in battle, like the Arabic Rajaz, is called 'Shair' in Sind, and was sung by the Mirasi, or bard, who accompanies the chief, during the combat.—*Burton's Scinde*, p. 386.

BAITALI BHAT, bards of the Gosains of the Benares district. They claim descent from Baital, a raj-bhat at Vikramaditya's court; but he abandoned the king and the king's religion, and attached himself to the Gosain sect. They subsist on charity, but accept it only from Gosains, whose bards they are.—*Sherring.*

BAITAL PACHISI, or Twenty-five Tales of a Demon, is the term generally in use in all the vernacular dialects of British India—Bengali, Gujrati, Hindi, Mahratti, Tamil, and Telugu—to designate an extremely popular collection of stories, written in Sanskrit, and translated into the current tongues. The collection is known as the Vetala Panchavisati, and purports to have been stories related by a sprite, or demon, or vampire, who haunts cemeteries, and animates dead bodies, to Vikramaditya, king of Oojein, according to the usual version; but, according to the Kathā-Sāgara, to Tri-Vikrama Sena, king of Prelishthana or Pythan, on the Godavery. Whether it was a separate work originally, or whether it always formed the ninth section of the twelfth book of the Katha, is uncertain. It is now, however, printed separately, and has been translated into English by Raja Kali Krishna, Mr. Eastwick, Captains Hollings and Richard Burton, Munshi Ghotam Mahomed, and Mr. John Platts. The scene is laid in Oojein, then ruled by Raja Gandharb Sen, whose son and successor Shank was slain by his younger brother Vikram, or Bhartari. It relates the occurrences resulting from the gift by a deity to an anchorite Brahman, of a fruit possessing the power of conferring immortality on whoever should eat it. Vikram ate it, and became a devotee. Kathāsaritsāgara, the Ocean of the Streams of Narrative, or Watery Ocean of Stories, is a well-known book in the languages of India, but is more commonly known as the Vrihat-kathā and the Vrihat-kathāsāgara, the great collection of tales, or great tale from which the Kathāsaritsāgara has been compiled. The date and the author of the Vrihat-kathā are both unknown, but it was written in prose in minute detail. The Kathāsaritsāgara, however, is in verse, and is more compressed in style, the author being Bhatta Somadeva, who lived about A.D. 1088. It is a large work, and consists of eighteen books, subdivided into 124 sections. Only a portion of it has been translated. The first book refers the origin of the stories to Siva, who told them to his wife Parvati. The Kathāsaritsāgara abounds with pictures of national manners and customs and feelings.

BAITAR, styled Ul-Baitar, a learned man of Baghdad. He died A.D. 1248.

BAITARA. SANSK. Dry ginger.

BAIT'HAK. HIND. A house with an open sitting-room on the first floor, from baithna, to sit; also an assembly at night of women. Baithak-khana, the reception-room of a native dwelling-house. Baithan, a homestead.

BAITOOL, a district in the Nerbadda division of the Central Provinces, comprising the western section of the Satpura plateau, and situated between lat. 21° 20′ and 22° 35′ N., and long. 77° 20′ and 78° 35′ E., an area of 4118 square miles. Its population is about 100,000.

BAIT-ul-FAKIH, an inland town of the district of Tehama, a province of Yemen, from which the coffee tree was taken to Bourbon.

BAIZ. ARAB. Lit. white. A mark or signature by a feudatory Mahomedan prince, generally the first part of the Arabic letter swad; a cipher, a monogram.

BAIZA-BAI, born towards the close of the 18th century, was the daughter of Shirzi Rao, Ghatgay, a Mahratta leader and minister of great notoriety, and her brother was Hindoo Rao. She was married to Dowlut Rao Sindia with great pomp. She was a woman of imperious disposition and masculine temper, and when her husband died childless in 1827, she assumed sovereign power. Afterwards she adopted Jankojee, a relative of her husband, and acted as regent till Jankojee came of age, when, weary of restraint, he sought British protection, and he was placed on the gad'hi in A.D. 1833. On this, Baiza-Bai retired to Agra, then to Farrakhabad, and subsequently to her jaghir in the Dekhan.

BAIZAH, also Baidah. ARAB. An egg; also, owing to the shape, the testis.

BAIZAI is a division of Swat, south of the Mora range and north of Lunkhor. It is inhabited by Baizai Swati, Utman Khel, Khatak, Mohmand, Rawauri, etc. The Baizai section of the Mohmand tribe inhabit the country between the Halimzai section and Bajawar. They punish abduction by fine.—*MacGr. N.W.F.I.* i. pp. 138–145.

BAIZAWI, the cognomen of the author of the Nizam-ut-Tawarikh, given to him as a native of Baiza, a town a short distance from Shiraz. He was Kazi there, and subsequently at Shiraz, where he died A.H. 685, A.D. 1286. His name was Abu Saeed Abdullah bin Abu'l Hasan Ali, Baizawi. He wrote a commentary upon the Koran, entitled Anwar ut Taazil wa Asrar ut Tawil, the Lights of Revelation and Mysteries of Allegorical Interpretation, which has been commented on by many succeeding authors. It is considered the best commentary. He also, about A.H. 674, wrote the Nizam-ut-Tawarikh, the arrangement of histories, a small work devoted to general history, the prophets and patriarchs from Adam to Noah, the pre-Mahomedan kings of Persia, Mahmoud and his Ummayide and Abbasside successors, dynasties of Iran during the time of the Abbassides.—*Elliot.*

BAIZOARA, in lat. 16° 31′ 6″ N., and long. 80° 40′ 1″ E., on the left bank of the Krishna or Kistna river, and 180 feet above the sea. A dam or anicut has been thrown across the Krishna river at this place, and extensive canals lead from it to the north and south.

BAJA. HIND. Baja bajantri. Music; musical instruments.

BAJANTRI KORAWA, a branch of the Korawa tribe, who are usually the village musicians, from Baja, music. They are the Gaon Korawa or Sonai Kolawaru. See Korawa; India.

BAJAR-KIT. HIND. Manis pentadactyla.

BAJASWA. According to Colonel Tod, the three great branches of the Indu (Lunar) Aswa bore the epithet of Mida (pronounced Mede), viz., Poora-mede, Uja-mede, and Deo-mede, and he supposes these to be the Aswa invaders of Assyria and Media, the sons of Bajaswa, expressly stated to have multiplied in the countries west of the Indus, emigrating from their paternal seats in Panchalica.—*Tod's Rajasthan*, i. p. 58.

BAJAT. HIND. A head ornament.

BAJAWAR, an independent district south of the Mohmands and west of the Kunar range. It is an undulating plain, 25 miles long, and 2 to 7 miles broad. It is a pastoral country, with large herds of cattle and flocks of sheep and goats. The chief has a large force of 6000 men and 16 guns, has absolute power over his people, even extending to their wives and daughters. They have always been hostile to the British, and were against them at Jalalabad and at the Ambila expedition of 1863. It produces iron, sulphide of antimony, and copper. It is inhabited by Hindki about 30,000 souls, a mixed race called Rudbari, and 10,000 to 12,000 families of Turkolani, who can turn out 15,000 fighting men. Elphinstone says the Turkolani are also called Turkani; that the upper hills are inhabited by converted Kafirs, the lower by Hindki, and the plain by the Rudbari, a mixture of all tribes and nations.—*Elphinstone's Caubul*, p. 251; *MacGr. N.W.P.I.* i. p. 145.

BAJ-BAJ or Budge-Budge, a fishing village on the banks of the Hugli, 15 miles below Calcutta.

BAJGAH. A village 64 miles N. of Bamian, in the valley of Kamard, in Afghan-Turkistan.

BAJI BIJI. BENG. Herpestes Malaccensis.

BAJI RAO, son of Balaji Wiswanat'h, was the second Peshwa of the Mahrattas. He was the ablest of all the Brahman dynasty, and of all the Mahratta nation except Sivaji. His father died in October 1720, and Baji Rao had a powerful rival in the Pirti-Nidhi. The Pirti-Nidhi was sincerely apprehensive of the effects of a further diffusion of the Mahratta power; and he strenuously contended for the necessity of consolidating the raja's present possessions, suppressing civil discord, and acquiring a firm hold on the countries in the south of the Peninsula before attempting to make any conquests in Hindustan. Baji Rao took a bolder view. He saw that the hordes of predatory horse, who were so useful in an enemy's country, would be utterly ungovernable at home; and that it was only by forming an army, and establishing a military command, that an efficient internal government could be brought into existence. He therefore counselled an immediate invasion of the northern provinces, and pointed out the inward weakness of the Moghul empire, which was nowhere so rotten as at the core. Let us strike, said he, the withered trunk, and the branches will fall of themselves. The eloquence and earnestness with which he pressed his advice overcame all the doubts of the Raja Saho, and when urged by Baji Rao to allow him to carry his standard beyond the Nerbadda, he exclaimed with enthusiasm, 'You shall plant it on Himalaya.' Raja Saho was not destitute of abilities, but his education in a Mahomedan seraglio was alike unfavourable to hardiness of body and activity of mind; while Baji Rao, born in a camp, and trained up a statesman and diplomatist, combined the habits of a Mahratta horseman with an enlarged judgment and extensive knowledge. Unlike the subdued manners of others of the brahmanical class, his temper was ardent and his manner frank; he never flinched from fatigue or danger, and could make a meal of dry grain rubbed out of the husks between his hands as he rode along on a march. When Asof Jah was removed from the governments of Malwa and Gujerat, and Raja Girdhar was appointed governor of Malwa, he was unable to defend it against the incursions of Baji Rao; and Hamid Khan and Sirbaland Khan, successively governors of Gujerat, yielded the Chouth and Syr Deshmukhi to the Mahrattas (A.D. 1725, A.H. 1138). Asof Jah at this time raised questions as to the party to whom—whether to Samba, who had made Kolhapur his capital, or to Saho—his Chouth and Syr Deshmukhi payments should be sent, and he joined Samba to relieve Barhanpur. Baji Rao made a rapid incursion into Gujerat, which he ravaged with fire and sword. He returned with celerity to the Dekhan, laid waste the country around Asof Jah's army, and so straitened him for supplies, that he renounced his connection with Samba, and conceded other advantages to the Mahrattas (A.D. 1727, A.H. 1140). After this, in A.D. 1729, A.H. 1141–2, Baji Rao crossed the Nerbadda to ravage Malwa, and extorted from Sirbaland Khan a confirmation of his predecessor's grant of the Chouth of Gujerat.

At this time, four officers of the Peshwa—the Puar, Gaekwar, Holkar, and Sindia—who were to be founders of dynasties, were rising into distinction. They were all from districts of the country in which the Mahratta language is spoken. Mulhar Rao Holkar was a shepherd on the Nira, south of Poona; the family are still ruling at Indore. Ranaji Sindia, though of a respectable family near Sattarah, was in such abject poverty as to be a menial servant of Baji Rao. Piliji Gaekwar was an adherent of Dabari, hereditary senapati or commander-in-chief, and on Dabari falling in action, A.D. 1731, and his son an infant, Piliji was nominated regent by Baji Rao, and the family are still ruling at Baroda. Udaji Puar was a chief before his connection with the Peshwa; he soon acquired territory about Dhar, on the borders of Gujerat and Malwa, but never rose to such power as his colleagues or their descendants.

Baji Rao made peace with Asof Jah; but Abhi Singh of Jodhpur, who had murdered his father, Ajit Singh, procured the assassination of Piliji Gaekwar, whose son and brother ravaged Gujerat, raised all the surrounding hill tribes of Bhils and Kolis, and made a sudden irruption into Jodhpur.

Baji Rao entered Malwa in person in A.D. 1732; he aided the raja of Bundelkhand, and in return for his services the raja ceded the territory of Jansi on the Jumna, and bequeathed to him rights on the Jumna. In 1734 he came in contact with Jei Singh II., raja of Ambar, distinguished for his love of science. Jei Singh was viceroy of Malwa, and, with the tacit concurrence of the emperor, he surrendered Malwa to the Mahrattas; and in 1736 he claimed as a jaghir the province of Malwa and all the country south of the Chambal, together

with the holy cities of Muttra, Allahabad, and Benares. In the following year (A.D. 1737, A.H. 1149), Baji Rao advanced towards the capital. By the time he had arrived within 40 miles of Agra, his light troops, under the command of Mulhar Rao Holkar, were ravaging the country beyond the Jumna. These were attacked and driven back by Sādat Khan, governor of Oudh, and Kamr-ud-Din Khan advanced to Muttra to oppose Baji Rao. Whilst he lay inactive near Muttra, Baji Rao suddenly quitted the Jumna, passed off about fourteen miles to the right of the Moghul army, and, advancing by prodigious marches, all at once presented himself before the gates of Dehli. He drove back a sally of the garrison, and retreated to the Dekhan, followed by Asof Jah, who had been appointed vizir of the emperor. Asof Jah advanced to Seronj with an army about 34,000 strong, supported by a reserve under Safdar Jung, nephew of the Saadat Khan of Oudh. Baji Rao crossed the Nerbadda with an army 80,000 strong, and Asof Jah awaited him (January 1737) in a strong position near Bhopal. The Mahrattas laid waste the country around him, intercepted his supplies, attacked every detachment that showed itself, and interrupted all communication with his reserve, and at the end of a month or six weeks Asof Jah commenced to retreat. But the Mahrattas hung upon his rear, and in February 1738 he ceded all the country from the Nerbadda to the Chambal (including all Malwa). Asof Jah also promised to procure from the emperor a confirmation of the cession and a payment of fifty lakhs of rupees (Feb. A.D. 1738, A.H. Ramzan 1150); but before this could be obtained, Nadir Shah, king of Persia, swept over the empire, and the progress of the Mahrattas was arrested. After the rout of the imperial forces at Karnāl (13th February 1739), the plunder of Dehli, and the massacre of its inhabitants, Nadir Shah left the Moghul army destroyed, the treasury exhausted, the finances all but annihilated, and internal dissensions between the Turani families of Kamr-ud-Din Khan and Asof Jah, and all those who were desirous of supplanting them. During this state of things, Baji Rao suspended all operations. 'Our domestic quarrels,' he writes, 'are now insignificant. There is but one enemy in Hindustan. Hindus and Musalmans, the whole power of the Dekhan, must assemble.'

On Nadir Shah's departure, Baji Rao moved against Nasir Jang, son of Asof Jah, who was encamped with 10,000 soldiers at Burhanpur, but the young viceroy broke through Baji Rao's army, and advanced to Ahmadnaggur on his way to Poona, and Baji Rao came to terms with him. Baji Rao then recommenced his march towards Hindustan, but he died on the 28th April 1740 (A.H. Safar 1153), on the banks of the Nerbadda. He left three sons, Balaji Rao, who succeeded him as Peshwa; Ragonath Rao or Ragoba, who was at one time much connected with the British, and was the father of the last Peshwa; and Shamshir Bahadur, to whom (though an illegitimate son by a Mahomedan woman, and brought up in his mother's religion) he left all his possessions and pretensions in Bundelkhand.

During the last years of Baji Rao's administration, he had been engaged in wars in the Konkan. They were chiefly conducted by his brother, Chimnaji; and from the position of his enemies in forts and islands, protected on one side by the sea, and on the other by hills and jungles, the wars required extraordinary exertions, and were attended with imperfect success. These enemies were Konaji Angria of Calaba, a maritime predatory chief, the Habshi of Jinjira, and the Portuguese. Angria for about 20 years, 1713–1734, remained almost independent; and the Habshi chiefs were almost as powerful at sea as Angria. The war with the Portuguese originated in the contest between the Angrias (A.D. 1737). It ended in the loss of the Portuguese possessions in Salsette, Bassein, and the neighbouring parts of the Konkan (A.D. 1739). The Mahrattas lost 5000 killed and wounded at Bassein.—*Grant Duff, Hist. of Marathas*, i. p. 547.

BAJI RAO II. was Peshwa from 1795 to 1818, and was the last of the Peshwas. He was son of Raghoba, and succeeded his cousin, Madhoo Rao, who had thrown himself from a window and been killed. Baji Rao was a clever but unscrupulous ruler, and had amongst his more prominent officers Nana Farnavis and Trimbakji Danglia, both of them unprincipled men. After his defeat at Poona on the 16th November 1817, he retreated with his army to the southern districts of the Mahratta country, but on the 28th retraced his steps northwards. Baji Rao continued to elude the forces by which he was surrounded. He failed at Coreygaum; General Sir Lionel Smith, with the 2d and 7th Madras Cavalry, and two squadrons of H.M. 22d Light Dragoons, defeated him on the 20th Feb. 1818 at Ashṭa; Brigadier Pritzler, Colonel Prother, Generals Munro and Malcolm, and Sir Thomas Hislop, had taken the strongholds of Vizierghur, Singhur, and Purundhur, all those in the southern Konkan, Bādami, Bhagulkot, Sholapur, Chanda, Talner, Belgaum, Trimbuk, Malleigaum, Raighur, and others in the Dekhan. Finally, on the 3d June 1818, he surrendered to General Malcolm, on a guarantee of eight lakhs of rupees a year; and he settled at Bithur, where he passed his life in the manner common to Hindus of those days. He adopted Dundoo Punt as his son and heir, but the Indian Government refused to recognise Dundoo Punt as entitled to the eight lakhs, and to this refusal has been attributed his vile conduct at Caunpur.—*Elph. India.* See Mutiny.

BAJPAI. HIND. Vajpoyi, SANSK. A branch of the Kanouj Brahmans.

BAJRA. HIND. A large boat, round-bottomed, without a keel, in use for travelling on the lower Ganges, called budgerow by the British.

BAJRA. HIND. Penicillaria spicata. This is a very common millet in India; is not so heating as Jawari or Holcus sorghum. It is made into cakes or porridge. Sown in fields at the commencement of the rains. It does not require much water, but it is of the last importance that this should be timely. That grown in the Indian desert is deemed of better quality than the produce of the richer lands of Malwa.—*Tod.*

BAJRA KAPTA. HIND. Manis pentadactyla.

BAJRANGA, a name of Bhairava. It means of thunderbolt frame, from Bajra, a thunderbolt, and anga, the body. See Bhairava.

BAJRI. HIND. In the Panjab, a sort of grave of disintegrated rock, used when ground up in forming plasters and stucco. Qu. Is it kaolin?

BAJU. MALAY. A jacket of many different kinds, worn by both sexes.

BAJU or Baju Laut, a maritime people in the Archipelago Islands, who venture far to sea. Many of the Baju remain throughout the year near the Dutch settlement of Macassar, on the south end of the Celebes. They are chiefly employed by the Chinese in fishing for trepang or sea-slug, and are generally involved in debt. The demand against each boat or family usually averages about four hundred guilders (twenty-five pounds sterling), and no instance is on record of their ever having absconded to avoid the payment of their debts. The Baju are commonly called Sea Gipsies. They are found in considerable numbers in the sea which lies between the east coast of Borneo and the west coast of Celebes. They are said to have come originally from Johore, in the Malay Peninsula, the inhabitants of which they much resemble in features and habits. Many of them are settled in permanent villages on the east coast of Borneo, but the greater number live in their boats, which are from five to ten tons burden, during the whole year, and shift their position with the changing monsoon, so as always to keep on the lee side of the island, and consequently in fine weather. They all profess the Mahomedan religion, and differ but little, except in their maritime habits, from the Malays, though they are said to adhere less strictly to the tenets of their faith. They also deal in tortoiseshell, and it is said engage in piratical acts, though they do not pursue it as a profession. They also manufacture an alkali from the ashes of sea-weed, nipah leaves, and the marine plants of salt marshes, with which they traffic. Such of them as reside in permanent habitations have fowls about their houses, and in all respects resemble the other Mahomedans. Their villages are built on posts, and always over the water, and close to the sea, or near the mouths of large rivers, in which the eastern part of the island abounds. They are expert divers, and would be useful in this manner if capitalists should think proper to fish the rich banks of the pearl and mother-of-pearl oysters in Malludu Bay, and amongst the islands of the Sulu Archipelago, which would doubtless be found immensely productive.—*Earl*, p. 335; *Low's Sarawak*, p. 342. See Orang Laut.

BAJUR. Hind., Pushtu. Picea Webbiana; P. Pindrow; the silver fir.

BAK. Sansk. Ardea torra and A. putea.

BAK. Sansk. Speech. Also an estimate of the produce of a field. See Bhak.

BAKA. Arab. Herbage; hence Baqal, a dealer, a shopkeeper, a close-fisted person.

BAKA-KAI. Maleal. Cucumis melo seed.

BAKAL. Sansk. Mimusops elengi.

BAKAL, low caste labourers of Canara.

BAKAM. Arab. Cæsalpinia sappan; the Bukum wood of commerce.

BAKAPUSHPAM. Tel. Agati grandiflorum.

BAKAR. Hind. of the Cis-Sutlej, Kalesar, etc. Cornus oblonga.

BAKAS. Sansk. Adhatoda vasica.

BAKAYUN. Arab. Melia sempervirens.

BAKCHI. Sansk. Vernonia anthelmintica.

BAKER, Captain, author of Eight Years' Wanderings, and also the Rifle and the Hound, or the Wild Sports of Ceylon.

BAKER, W. E., an officer of the Bengal army; a writer on various subjects connected with the natural history and productive resources of India, chiefly contributed to the Journal of the Bengal Asiatic Society.

BAKERGANJ, a town in Bengal, 120 miles east of Calcutta. It lies between the Megna and Jessore, is low-lying, and famed for its rice cultivation. The Bakerganj district in 1877 had 1,874,201 souls in an area of 4066 square miles; besides Hindus, there are many Chandal, Napit, and Kaibarta. A copper plate, in Sanskrit verse, was found here, dated Samvat 3, of Kesava Sena's reign, which, from the Ayin Akbari list, makes the year A.D. 1136. The character used in inscriptions is the Gaur, a little less simple than the earlier alphabets of the Pala dynasty. The Sena dynasty was of low origin, calling themselves Sankaya Gauriswara, or Lord of Gaur. There is not any mention of fire-arms, but of bows, arrows, swords, etc.—*B. As. S. Jo.* vii. p. 42.

BAKESWAR, of the Murshidabad district of Bengal. Springs impregnated with sulphuretted hydrogen occur in the bed of the river, and near Tanlifsara village are a group of sacred hot sulphur springs, called Bhum Bakeswar.—*Imp. Gaz.*

BAKHAR. Mahr. Historic memoirs.

BAKHDI, or fortunate, from which the term Balkh is derived.

BAKHRA, a town in Tirhut, where there are many mounds and remains of an ancient Buddhist city, with images and inscriptions. See Kesariah.

BAKHSH, Hind., from Bakshidan, Pers. A gift, donation, a donor; usually Bux. Khuda-bakhsh, Deo-datus. Bakshi, a military chief, a paymaster; in Turkistan, a troubadour, a wandering singer. Bakhshish, a present, a donation or gratuity; in Syria and Egypt, regarded as the drink-money of Europe. The Mahomedans of Syria and Egypt shout for bakhshish on every occasion. It is seldom heard in southern India.

BAKHTAR ZAMIN, the Bakhtar country, the present name of the country between Balkh and Kābul; ancient Bactria.

BAKHTAWAR, a religious mendicant of the Sunyabadi sect.

BAKHTIAR, a Ghilzai general, who, under the orders of Kutub-ud-Din, about A.D. 1201 conquered Behar, and in 1203 Bengal; but in his expedition against Bhutan and Assam he was signally defeated, and driven back to Bengal, where he died from vexation, about A.D. 1206.

BAKHTIARI, pastoral tribes of Kurds, who take up their warm winter quarters in Arabistan, at the head of the Persian Gulf, but in summer travel northwards amongst the mountains of Kirman Shah. The inhabitants of Luri-Bazurg are now classed under the general title of Bakhtiari; but originally this name merely applied to a small tribe, one of the twenty-six distinct clans among whom the province was divided. The Bakhtiari comprise, exclusive of dependencies, the Haft Lang, the Chahar Lang, and the Dina ruin. The Bakhtiari tribe, who inhabit the mountains of Luristan west of Irak, between Shuster and Isfahan, and from Shuster to near Kermanshah, often wander to other parts. They have often attacked Isfahan, Nadir Shah alone having almost reduced them. They are named Παττισχοθοεεις by Strabo, and Patiskharis in the cuneiform inscriptions. Their manners and language have scarcely changed since the days of Cyrus. About 1840 they were conquered and decimated by the Persian Government, and their chiefs kept in perpetual

imprisonment at Teheran. The country is famed for the expedition of Alexander and his successors' rule. The country south of the great chain probably formed the site of the ancient Elam of Scripture, a powerful nation in the early days of Abraham, before the kingdoms of Assyria and Babylon rose into notice in the east. The tribe in Luristan have a tradition that they originally came from Syria (Sham) under one great chief, and took possession of the mountains which they now inhabit. They export to Khuzistan a small quantity of grain and tobacco, gall-nuts, mastic, cherry sticks for pipes. Their language is old Persian. They have a national dance called chapi. They have rejoicings around the body of one of their number, and if killed in battle their joy is more pronounced. Nadir Shah took a large number into his army, and they behaved well at the siege of Kandahar.

The Ulaki, a branch of the Haft Lang, about 1200 families, occupy the neighbourhood of Teheran in summer, in the mountains near Fellat and Semiran, and on the coast near Bushahr in winter. The Janeki are the chief of the Chahar Lang, have many subdivisions, and number about 5000 families. The Mala Madi, a tribe of the Bakhtiari of about 1000 families. They accompanied Nadir Shah in his expeditions against Herat, and on their return settled in the Fellat district. —*Layard; MacGregor*, iv. pp. 305, 598; *De Bode's Travels*, p. 522; *Ferrier's Caravan Journeys*, pp. 8–500; *Malcolm's Persia*, ii. pp. 171, 465.

BAKKA MEENA. Hind. Scops Aldrovandi.

BAKKAR or Bukker, opposite to Rohri and Sukkur, is a fortified island in the Indus, and was once held by the Daurani, latterly by Mir Sohrab of Sind. The effect of the landscape here is wonderfully increased by the beautiful stream, and the immense groves of date trees which fringe its banks. It was ceded to the British by the Talpur dynasty, 29th January 1839.—*Masson's Journey*, i. p. 362; *Imp. Gaz.*

BAKKUL. Hind. The fibrous bark of the roots of several trees, used in Malwa as a cheap substitute for string and cord. In Bengal, Agave Americana.—*Royle.*

BAKLA. Duk. Vicia faba; the garden bean, cultivated as the kidney bean. Bakla Kubti, the bean of Pythagoras. Baklazun, Phaseolus vulgaris; dwarf or kidney bean.

BAKLAT-ul-AHMAKA. Arab. Purslane; Portulaca quadrifida. Baklat-ul-Faristum, balm; Melissa officinalis, *var.* Baklat-ul-malik, Fumaria parviflora, *W. and A.*

BAKLI. Hind. Lagerstræmia parviflora, *R.*

BAKOLI. Hind. A small green caterpillar that destroys rice crops.

BAKOOMBA. Mahr. Careya arborea, *Roxburgh.*

BAKRAI. Pukhtu. A marriage portion.

BAKRI, A.D. 763, originator of the Moulad-i-Sharif recitations, by Mahomedans, of the birth, miracles, and death of their prophet.

BAKRID, from bakhar, a bull, and eed, a sacrifice; a Mahomedan festival held on the 10th day of the twelfth month of the Mahomedan year, called Zi-ul-haj. It is the festival in commemoration of Abraham offering up his son. The name of this son is not particularly mentioned in the Koran. Some Indian shiahs, however, suppose him to have been Isaac; but the Persians all agree that he was Ishmael. This feast is also named Eed-i-kabeer (the great feast), and Eed-uz-zoha (feast of daylight), and Eed-i-Kurban. In India it is called Bukreed; and in Turkey Kurban-Bairam. Numbers of sheep and goats, sometimes a camel or an ox, are sacrificed on this day, and the flesh distributed to the people.

BAKROR. To the eastward of Buddh Gaya, on the opposite bank of the Phalgu or Lilājan river, and immediately to the north of the village of Bakror, there are the ruins of a large brick tope, with a stump of a sandstone pillar at a short distance to the northward.—*B. A. S. J.*, 1864.

BAKSA. Beng. Rottbölla glabra.

BAKSAR, a village in Oudh, on the left bank of the Ganges, which is here a sacred spot for pilgrimage.—*Imp. Gaz.*

BAKSHI. Hind. Gardenia tetrasperma.

BAKTRATURDA, a title of Ganesha.

BAKU of the Bhot, a hill cloak.

BAKU or Bakou, in the north of Persia, on the shores of the Caspian, a place of pilgrimage, to which Hindu pilgrims even from India resort. It is now Russian territory. It has black naphtha springs, and when the weather is thick and hazy, the springs bubble up higher, and sometimes the naphtha takes fire, and runs like burning lava into the sea. The flaming soil or everlasting fire of Baku is the attraction to pilgrims, and is not less famous than its naphtha springs, which occasionally take fire. Moore tells us of—

'Badku and those fountains of blue flame
That burn into the Caspian;'

and in recent years the naphtha has been used as fuel on board the steamers on the Caspian. In Hindu ancient geography, Baku is in Kusha Dwipa. The supply of this article in many places near that town, especially at the village of Balakhatany, has existed for centuries. The naphtha, oozing through a layer of sand, comes to the surface of the earth in the form of a thick black liquid. In 1859, M. Kokoreff, at the suggestion of the chemist Liebig, established a kerosene refinery at Soorakhanakh, 12 versts distant from Baku. By 1869 there were 50 other similar establishments there, and 200,000 poods (40 lbs. to the pood) had been by then exported. At the end of a third period of ten years the quantity exported had reached 10,000,000. The principal cause which prevents Baku kerosene from competing with American, is the dearness of utensils to keep it in, and of carriage. At Baku it costs from 35 to 40 kopecks (about 10d.) a pood. It costs at the rate of 40 kopecks a pood for vessels to keep it in, and its cost per pood for conveyance to Astracan is 18 kopecks; to Tsareetzin (on the Volga), 30 kopecks; to Nijni-Novgorod, 40 kopecks; to Moscow, 63 kopecks; and to St. Petersburg, 86 kopecks.—*Jameson's Ed. Journ.* 1837-38.

BAKULA. Hind. Minusops elengi. In Hindu legend, it was beneath a Bakula tree, on the banks of the Jumna, that Krishna fascinated the milkmaids of Brindhabhan with his flute.

BAKUMBER. Beng. Anisomeles ovata.

BAKUR-CHIRIA, or 'the bird's nest,' also called Jodagir, or Hill of Strife. Joda, on the recommendation of an ascetic, erected a castle on it. Doubtless its inaccessible position seconded the recommendation of the hermit, for its scarped summit renders it almost impregnable.—*Tod.*

BAKUR-KHANI. PERS. Armeniaca vulgaris, *Lam.*; the apricot.

BAKUS. BENG. Malabar nut, Adhatoda vasica.

BAL, the sun-god of the Hindus, identical with the Baal-god of the Egyptians and western Semitic nations. The worship of Bal seems to have been originally astronomical, and subsequently physiological. In the former, the sun was worshipped direct, as yet in India, every morning, and at every solstice or sakrant. In the physiological worship, the female power of Bal was Baal-tis or Bel-tis. These formed an androgyne divinity. The Semitic emblem of Baal was the pillar on the high places, and his companion was the bull or calf,—all identical with the Hindu Ba-al or Bal represented by Siva, whose emblem is the pillar or lingam encircled by the yoni, with the vahan bull, Nandi or Basava, facing in front. See Numbers xxii. 41, xxiii. 14–28.

The worship of the god Bal seems to have been adopted in Egypt and throughout south-western Asia, and sometimes to have been considered that of the creative sun; sometimes in the form of the physiological emblems. The sun-worship of India seems to have had its chief place in Saurashtra, which was in constant intercourse with Egypt and western Asia. Under one or other of these philosophical explanations, Baal or Bal or Belus was the chief god of all the Semitic nations. The Aryan Brahman seems at present to have chiefly adopted the astronomical view; the Rajput and the southern Asiatics, the physiological. But in India, at present, these philosophies are all confused. At present the sakrant, or Sivarat (night of Siva) is the winter solstice. On it, in ancient times, in India, the horse was sacrificed to the sun, or Balnath—the lord Bal. The Scandinavians termed the longest night the 'mother night,' on which they held that the world was born. Hence the Beltane, the fires of Bal or Belenus; the Hi-ul of northern nations; the sacrificial fires on the Aswa Medha, or horse sacrifice worship of the sun, by the Soorya sect on the Ganges, and the Syrians and Sauromatæ on the shores of the Mediterranean. When 'Judah did evil in the sight of the Lord, and built them high places, and images, and groves, on every high hill and under every tree,' the object was Bal, and the pillar, the lingam, was his symbol. It was on his altar they burned incense, and 'sacrificed unto the calf on the fifteenth day of the month' (the sacred Amavas of the Hindus). The calf of Israel is the bull (Nandi) of Bal-eswar or Eswara, the Apis of the Egyptian Osiris. According to Colonel Tod, the temple of Solomon was to Bal; and all the idolaters of that day seem to have held to the grosser tenets of modern Hinduism.

> 'Peor his other name, when he enticed
> Israel in Sittim, on their march from Nile.'
> —*Paradise Lost*, Book I.

Colonel Tod tells us that Balnath was the god Bal of the ancient times of India, and the buldan was the gift of the bull to the sun. He mentions that there are numerous temples in Rajasthan of Baalim; and that Balpoor (Mahadeo) in Saurashtra has several, all representing the sun. There is at Balpoor a temple to Balpoor Siva, or Siva of the town of Bal, with its lingam, yoni, and ball of brass; and Bal-eswar is the lord Bal, Maha-bal-Eswar the great lord Bal. In ancient western Asia, Bal and the brazen calf were specially worshipped on the fifteenth of the month, and in India, the sacred day of Bal-Eswar, with his vahan bull Nandi, is the amavasa, the moonless fifteenth day of the month. Amongst the Rajput races, according to Colonel Tod, Har is Bal, and is the patron of all who love war and strong drink, and is especially the object of the Rajput warrior's devotion; accordingly blood and wine form the chief oblations to the great god of the Indus. The Gosains, and the peculiar priests of Har, or Bal, the sun, all indulge in intoxicating drugs, herbs, and drinks. They are usually seated on a lion, leopard, or deer skins, their bodies covered with ashes, their hair matted and braided, with iron tongs to feed the penitential fires; and their savage appearance makes them fit organs for the command of the god of blood and slaughter. The bodies of these Gosain priests, ministers of Har, the god of war, are not burned like the Hindus, but are buried, and a circular tumulus is raised over the remains; and over some classes of Gosains, small tumuli, whose form is the frustrum of a cone, with lateral steps, the apex crowned with a cylindrical stone.—*Tod's Rajasthan*, i. 76, 77; *Tod's Travels*, pp. 54, 49; *Milner's Seven Churches*, p. 100; *Layard's Nineveh; Sonnerat's Voyage*, i. p. 160.

BAL. HIND. An ear of corn. Bāl-kat, cutting off the ears of corn without reaping the stalks.

BAL, also Bala, also Bala-ka. SANSK., HIND. A child. Kumara, Kumari, a boy, a girl under 5 years of age. Poganda, a boy from 5 to 9. Kisora, from 10 to 16, is a child, a boy, a youth. Under the British, however, the minority is to the end of the 18th year. Women are termed Bala if under 16; Prude, middle-aged; Bridu, when forty. Bal-Krishn, Bal-Gopala, the infant Krishna. Many Hindus and many Hindu towns have names beginning with Bal, sometimes referring to infancy, as bal-amra, or young mango grove, sometimes to a deity.—*Wilson; Tod's Rajasthan*, ii. p. 251.

BALA. BENG. Pavonia odorata, also Hibiscus tortuosus, Twisted hibiscus.

BALA. DUK. Cuscus root; Andropogon muricatus. In Bengal, Haliætus fulviventer, *Vieill.* In Hindustan, Sida rhombifolia. Also a grub which eats the young plants of wheat or barley when about six inches high.

BA-LA. BURM. Elettaria cardamomum, *Wh. and Mat.* MALAY, Musa sapientum.

BALA, also Bala Mushk. HIND. Valeriana Wallichiana.

BALA-BAND, or head fillet, the diadem of the Greeks, is in Mewar the symbol of honour, and in the days of the grandeur of that state was held equal to any cordon of Christendom. It consists of one or more cords of floss silk and gold thread tied round the turban, the ends hanging behind the head. The bala-band or silken fillet was valued as a mark of the sovereign's favour, and was tantamount to one of the courtly orders of Europe.—*Tod's Rajasthan*, i. p. 652.

BALABANDI TIGE. TEL. Ipomæa pes-capræ.

BALA BHADRA, son of Nanda, and elder brother of Krishna. He is the patron of agriculture. He was of great strength and irate temper. Hindus believe that Bala Bhadra is Balarama, the ninth incarnation of Vishnu.—*Taylor.* See Baldeva.

BALABHI, an era mentioned by Tod as occurring in an inscription found at Somnath, commencing 318 A.D. It is named from the town of Balabhi, which was destroyed in 802 Samvat, from which time it may be presumed the era was discontinued. This is also written Valabhi; and in an inscription on copper plates found there, of date A.D. 328, containing grants of lands to Brahman priests, the era used in the inscription is the Valabhi era, corresponding to the 375th of Vikramaditya, or A.D. 319. The ancient kingdom of Balhara was ruled by Balabhi princes. Their chief town, Balabhipura, according to Tod, was destroyed under Siladitya III., by an irruption of the Parthians, Getes, Huns, or Cathi, or of these tribes combined, and he gives the date as A.D. 524; but Thomas gives A.D. 745, and the Chinese traveller Hiwen Thsang visited it in the 7th century. Its ruins exist, about 20 miles west of Bhaonagar in Kattyawar, near the modern town of Wulleh. The extent of the ancient kingdom seems to have been from the Aravalli mountains in the north, to the Tapti. On its destruction, Anhalwara became the seat of government, its princes bearing the title of Bala Rai, and this endured until the 14th century. Colonel Tod says that at all events the Prince of Deo laid the foundation of Anhalwara Puttun in S. 802 (A.D. 746), which henceforth became the capital city of this portion of India, in lieu of Balabhipura, which gave the title of Balika-rai to its princes, the Balhara of the earlier Arabian travellers, and, following them, the geographers of Europe, and supposed to be the Byzantium of Ptolemy. The Udaipur dynasty claim to be the descendants of Lob, the eldest son of Rama of the Solar dynasty. They say that they were first ruling at Balabhipur, but their capital was laid waste by the son of Nushirwan of Persia, A.D. 524. The Rajput queen escaped the general destruction, and gave birth to a son, who was named Goho, from whom the rajas of Udaipur are descended. Goho established the kingdom of Edur, and eight princes succeeded him on the throne.

The capital of Balabhi was described by Hiwen Thsang as 30 li or 5 miles in circuit, with 100 Buddhist monasteries and 600 Buddhist priests; and the king, although a Kshatriya, was a Buddhist. Fergusson (p. 727) gives dates on inscriptions corresponding from A.D. 460 to 718. The ruins are extensive, and are still known by the name of Vamilapura.—*Elphin.* p. 211; *Cunningham, Ancient Geography of India*, p. 323; *Elliot's History of India*, p. 356; *Tod's Rajasthan*, i. 49, 102; *Fergusson*, pp. 405, 727.

BALACHAN or Balachang. MALAY.

Gna-pi, ...	BURM.	Bagon, ...	PHIL.
Trasi, ...	JAPAN.		

A condiment prepared in various ways, but ordinarily from prawns, sardines (Engraulis meletta), and other small fish, pounded and pickled. It is one of the largest articles of native consumption throughout both the Malay and Philippine Archipelago, Asiatic Islands, by the Burmese, the Siamese, and Cochin-Chinese. It is indeed essentially the article known to the Greeks and Romans under the name of Garum, the produce of an Engraulis, a Mediterranean fish. A mild description of Balachang is made in Bombay, and sold as an item in Indian oilmen's stores. 13,500 tons, valued at £90,000 sterling, were exported from Burma, from 1st November 1854 to 1st November 1855. It is a kind of caviare. In general, its aroma is too strong for European taste; but some of the best, from Tavoy and Mergui, is of a reddish colour, and is very similar to the anchovy paste of the London oilmen. That most in use is made of a species of very small shrimp, which, in the fine season, is found in enormous numbers on the borders of the sea; it is salted and pounded in a mortar, and, being made up into little parcels, is sent into the interior, where it is highly esteemed. The inferior kind is made of all kinds of little fish, shrimps, etc., in the same way, but does not bear so high a price. In another mode, the ingredients are placed in a pit to undergo fermentation, and afterwards dried, pounded, and preserved with spices. With the Malays, Siamese, Burmese, and Cochin-Chinese, Balachan has become a necessary of life, as it serves to season the daily food of these nations. In Sumatra the red Balachang is the best, and it is made of the spawn of shrimps, or of the shrimps themselves, which they take about the mouths of rivers. They are, after boiling, exposed to the sun to dry, then pounded in a mortar with salt, moistened with a little water, and formed into cakes, which is all the process. The black sort, used by the lower class, is made of small fish, prepared in the same manner. On some parts of the east coast of the island they salt the roes of a large fish of the shad kind, and preserve them perfectly dry, and well flavoured. These are called trobo.—*Ainslie; Faulkner's Com. Dict.; Yule's Embassy; Crawfurd's Dict.* p. 27; *Marsden's Hist. of Sumatra*, pp. 63, 64.

BALAD. AR. A district, a town. Balad-ul-Jahaf, a district in Yemen. Ibn-ul-bald, a citizen.

BALADEVA, the Hercules of the Hindus.

BALADEVA PATANA, now called Maha Balipura.

BALA-DITYA-CALU, a Telugu astronomer, who wrote in the 4558th year of the Kaliyug.

BALÆNIDÆ, a family of the whales, aquatic mammals, some of which attain a length of nearly 100 feet. It comprises the genera Balæna, Balænoptera, Physeter, and Phocæna. There are in India one of the Balænoptera, four Balæna, one Physeter, and one Phocæna. Balænoptera belongs to a group possessing a dorsal fin, and hence called Finner, Fin-back, Fin-whale, also Pike-whale and Rorqual. Species of the Balæna genus occur both in the northern and the southern seas. The whale of the Greenland fisheries belongs to this genus. It is the Balæna mysticetus, *Gray*, and is the arctic whale, or right whale of seamen.

(*a*) *Balæna antarctica.*

B. antipodarum, *Gray.*

New Zealand whale.	Southern whale.
Antarc. smooth-backed ,,	Tuku Peru of N. Zealand.

Is not known in the central parts of the Pacific. But in spring it resorts to the bays of Chili, South Africa, the Brazils, Australia, New Zealand, and Van Diemen's Land. It is smaller than the arctic whale.

(*b*) *Balæna Australis*, Des Moulins.

B. antarctica, *Lesson.*

Right whale of South Sea whalers.	Le Grand Baleen du Cap Cuv.
Southern whalebone whale of Nunn.	Common black whale of Sir James Ross.

Inhabits the South Seas; and multitudes were seen by Sir James Ross in very high latitudes.

It is of a uniform black colour. It nearly resembles the B. mysticetus, *Linn.* It is of value only inferior to that of the sperm whale. It is pursued by the people of the Cape of Good Hope.

(*c*) *Balæna Japonica.*

The Japan whale is an inhabitant of the coasts of Japan, which it visits periodically. Its head is often covered with barnacles.

(*d*) *Balæna marginata*, Gray.

The western Australasian whale has very long and slender baleen, with a rather broad black edge on the outer or straight side.

(*e*) *Balæna mysticetus*, the Right Whale.

B. Grænlandica, *Linn.* B. vulgaris, *Brisson.*	B. Rondolettii, *Willoughby.*
Right whale, . . ENG. Right whalebone whale, ,, Greenland whale, . ,,	*Var. a.* Nord kapper whale. Nord caper whale. *Var. b.* Rock-nosed whale.

According to Lesson, inhabits all the seas of the globe.

Balænoptera Indica, Blyth, the Indian fin-whale, inhabits the Australian seas, Persian Gulf, Indian Ocean, and Bay of Bengal. It attains a length of about 100 feet, and a circumference of 42 feet. They are often captured off Ceylon, and the Maldives and Seychelles are the head-quarters of the whalers who seek these whales; but they are not so much sought after as the species of Balæna which yield much blubber. Balænoptera boops, *Linn.*, and B. musculus, *Linn.*, the great and lesser Rorqual, are both found in European seas. Dr. F. D. Bennet mentions (ii. p. 232) a species of Balænoptera under the synonym of Balæna gibbosa, *Gmel.*, the hump-back of southern whalers, as frequently seen in the Atlantic and Pacific Oceans.—*F. D. Bennet*, ii. 232; *Jerdon*; *Elliot.*

BALAGAIYYI. KARN. The right-hand castes of the south of India.

BALAGHAN, a booth made by branches of trees covered with birch bark.

BALAGHAT, a geographical term to designate a table-land in peninsular India; also the elevated region of the Peninsula of India between the Eastern and Western Ghats, the collectorate of Salem; it means above the ghat. The Balaghât district in the Central Provinces consists of the eastern portion of the central plateau which divides the Central Provinces from east to west, with a rich level tract on its south, in the valley of the Wainganga. Its subdivisions are Burha and Behir. Payin Ghat, or Til-Ghat, is the low country between the Eastern Ghats and the Bay of Bengal.

BALA GHUND. PUSHT. Ægle marmelos.

BALA-GOPALA, SANSK. From Bala, a child, Go, a cow, and pala, a feeder; a name of the infant Krishna. See Bala; Krishna; Rudra.

BALAHAR. HIND. A low caste servant, a sweeper, a watchman, a village servant.. The name is also written Baladhar and Bilahar, and seems the same as the Balahi, who is described as a man of low caste; a Chamar employed to measure land.

BALAJI, a deity of the Hindus of Gujerat; he is there also called Thakur.

BALAJI RAO was the eldest son of the first Baji Rao. On his father's death, 28th April 1740, he succeeded as Peshwa, amidst domestic troubles caused by the old enemies of the family, the Pirti-Nidhi, Ragoji Bhonsla, and the Gaekwar, and he got rid of enormous debts that had been incurred in the military operations, chiefly through Bara Matiker, a man of some consequence and of immense wealth. He moved into Hindustan, and occupied Malwa, which was conceded on condition of Balaji helping to drive Ragoji out of Bengal, which its viceroy, Ali Verdi Khan, was unable of himself to do. Balaji marched by Allahabad and Behar to Murshidabad, and intercepted Ragoji, who drew back, but (A.D. 1743, A.H. 1156) was followed and defeated with the loss of all his baggage. Balaji Rao was now opposed by a combination of Ragoji Bhonsla, Damaji Gaekwar, and the agent of the Pirti-Nidhi, but he successfully broke up their league by conceding to Ragoji the right of levying tribute in all Bengal and Behar, if not also in Allahabad and Oudh. About December 1749, raja Saho died. He was without issue, and Balaji Rao, under the authority of a deed which he produced from Saho, declared the son of Raja Ram his successor, under the title of Ram Raja. Balaji Rao undertook the cause of Ghazi-ud-Din Khan, the eldest son of Asof Jah, against Salabat Jung, the third son. He marched into the Nizam's territory, but was compelled to return by forced marches into his own dominions, because of the revolt of Tara Bai, who seized the person of Ram Raja, confined him in a dungeon, declared him an impostor, and carried on the government on her own authority, aided by Damaji Gaekwar. Balaji induced Damaji to visit him, and at the interview he treacherously made him prisoner, attacked and broke up his army, thus deprived of its leader. Salabat Jung advanced to the neighbourhood of Poona, aided by a subsidiary force of 500 French soldiers and 5000 sepoys, under M. Bussy, who repulsed the assaults of Balaji, beat up his camps, and established a general impression of his superiority. But M. Bussy had to retreat, as his army had not been regularly paid and became nearly beyond control. After the retreat of M. Bussy and Salabat Jung, Balaji became involved in the affairs to the south connected with the French and British. He released Damaji Gaekwar, and (A.D. 1755) sent him, along with Ragoba, the Peshwa's brother, to bring Gujerat into order. Ragoba levied contributions in Malwa. In the end of 1756, Ragoba was again sent to Malwa, from which, on the invitation of Ghazi-ud-Din, grandson of Asof Jah, he advanced on Dehli, occupied the city, and laid siege to the fortified palace, which held out for more than a month. In May 1758 Ragoba marched and took possession of Lahore, and occupied all the Panjab, the Daurani chief retiring across the Indus without offering battle. In 1759, when Ahmad Shah was approaching to avenge this, the Mahrattas had 30,000 men in the neighbourhood of the northern provinces, but apart, in two divisions, one of them under Dataji Sindia, the other under Malhar Rao Holkar. Ahmad Shah came suddenly on the force under Dataji Sindia, who fell with two-thirds of his army, and Malhar Rao Holkar was overtaken when retreating towards the country south of the Chambal, and almost destroyed by a Daurani detachment, which had made a prodigious march for that purpose. Sedasheo Rao Bhao, cousin of Balaji, was employed at the capital as minister and commander-in-chief in the Dekhan. He had got possession of Ahmadnaggur,

and was on the eve of a settlement, afterwards concluded at Udgir, by which large territorial and pecuniary cessions were obtained from Salabat Jung, and such a burden imposed on the Moghul government in the Dekhan as it never was able to recover from. This success led to jealousy on the part of Ragoba, who, to Sedasheo Rao's remonstrances on the profusion of his expenditure, replied that the Bhao had better undertake the next expedition himself, when he would find the difference between that and serving in the Dekhan. Sedasheo Rao took him at his word, and an exchange of situations was forthwith agreed on. Whatever the nation possessed, either of power or magnificence, was brought forth to give weight to Sedasheo Rao's command, and news of the misfortunes of Sindia and Holkar only stimulated the nation to exertion. Sedasheo Rao was naturally haughty and overbearing, proud of the new greatness of his family, and puffed up by recent success into an overweening confidence in his own abilities, both as a statesman and a soldier. He was accompanied to his command by Wiswas Rao, the youthful son and heir apparent of the Peshwa, and by all the great Brahman and Mahratta chiefs without exception. Many Rajput detachments were sent to join him as he advanced, and Suraj Mull of Bhurtpur is said to have reinforced him with a body of 30,000 Jat. This experienced old chief advised the Bhao to leave his infantry and guns and all his heavy baggage in the Jat territory, where it could be protected by strong forts, and to advance with his cavalry alone, and harass his enemies in the Mahratta manner, and protract the war until the Daurani, who had already been many months in India, should be constrained by the climate to return to their native mountains. This prudent counsel was seconded by the Mahratta chiefs, but was at once rejected by their commander. He slighted Suraj Mull on several occasions, and offended the Mahratta chiefs by his Brahman pride, his imperious mode of exercising his command, and the absence of the freedom and familiarity to which they were accustomed in their leaders. In this manner he advanced to Dehli. Its walls were scaled, and the citadel shortly yielded to artillery. The Bhao defaced the palaces, tombs, and shrines, for the sake of the rich ornaments which had been spared by the Persians and Afghans; he tore down the silver ceiling of the audience hall, and seized on the throne (no longer so precious as of old), and on all other royal ornaments. Their value has been stated by Casi Rao and Grant Duff at £170,000. Suraj Mull, disgusted with what he saw, withdrew to his own territory. The Bhao sent a picked force to attack Cunjpura, on the Jumna, sixty miles above Dehli, where there was a Daurani garrison under an officer of distinction. To prevent this, Ahmad Shah advanced with all his army, but, finding the river near the capital full, he proceeded up to near Cunjpura, where he learned that it had been taken, and all the garrison put to the sword. Ahmad Shah crossed the river by fording and swimming (25th Oct. 1760), and the Mahrattas hastily retired to Paniput, where they threw up works round their camp, encompassed by a broad and deep ditch, and protected by their numerous artillery. Ahmad Shah and his allies advanced, and his force being very small, he too formed an entrenched camp in front of the Mahrattas. The numbers in the respective armies are not precisely known. The Bhao's force consisted of 55,000 cavalry in regular pay, with at least 15,000 predatory Mahratta horse, and 15,000 infantry, of whom 9000 were disciplined sepoys under Ibrahim Khan Gardi, a Mahomedan who had deserted from the French service. He had 200 guns, with numerous wall pieces, and a great supply of rockets, which was a favourite weapon with the Mahrattas. Grant Duff estimates the predatory horse and followers at 200,000, and Casi Rao states the whole number at 500,000. Ahmad Shah had about 40,000 Afghans and Persians, 13,000 Indian horse, and a force of Indian infantry estimated at 38,000, part of which were the Rohilla, but the great bulk was a rabble of foot-soldiers. The Bhao had ordered Govind Rao Bandela to collect what troops he could on the lower course of the Jumna, and that chief now appeared in the rear of the Daurani camp with 10,000 or 12,000 horse, who spread over the country and intercepted all supplies. But a body of the Daurani horse, under Attai Khan, nephew of the grand vizir, made a march of upwards of sixty miles, surprised Govind Rao's camp about daybreak, and completely destroyed his party, Govind Rao himself falling in the action. The Daurani force got the command of the open country, and the Mahrattas were at once straitened; they had eaten up and consumed the town of Panipat, and began to feel the severest pressure of want. Continual skirmishes were taking place between the two armies; the Mahrattas made three vigorous attacks on the Daurani lines. Ahmad Shah did not hurry on the war. He had a small red tent pitched in front of his entrenchment, to which he repaired every morning in time for the daybreak prayers, and where he generally returned to dine in the evening, and never rode less than fifty or sixty miles a day, in visiting his posts and reconnoitring the enemy. Among the last efforts of the Mahrattas to obtain relief, was their sending out a foraging party with innumerable camp followers; but the helpless crowd was discovered by the Daurani, and slaughtered in immense numbers. On this the chiefs and soldiers surrounded the Bhao's tent, and urged him to fight and die in the field rather than perish in misery. The Bhao agreed to their wish; they all partook of betel-leaf, and swore to fight to the last, and orders were given to make the attack the next morning before daybreak. About three in the morning, the spies reported that the Mahrattas were getting under arms. Shuja-ud-Dowla went to Ahmad Shah's tent and desired he should be awakened (A.D. 6th January 1761, A.H. Jamadi-us-Sani 1174). The Mahomedan allies did not make much use of their guns, and as those of the Mahrattas approached, the shot went over the heads of their adversaries. The actual engagement was begun by Ibrahim Khan Gardi, who seized a flag with his own hands, and ordered his men to cease firing and advance with fixed bayonets. Their attack fell on the Rohillas, who were broken after a prodigious slaughter. Their defeat laid open the right of the grand vizir, who commanded the centre of the Daurani line, and who was now charged by the Bhao and Wiswas Rao with the flower of the Mahratta army. In this

charge, Attai Khan, the nephew of the vizir, was killed at his side; the vizir dismounted, and, with the few who were near him, determined to die on the spot. Shuja-ud-Dowla's division was next to that of Attai Khan, and, noticing a sudden diminution of the sounds of war in that quarter, he sent Casi Rao to inquire the cause, and found the vizir on foot in full armour, endeavouring to get his men back into the ranks. Ride to Shuja-ud-Dowla, said he, and tell him that if he does not support me immediately, I must perish. But Shuja-ud-Dowla, though he kept his ground, did not venture to take part in the action. The advantage of the battle inclined to the Mahrattas, until Ahmad Shah, after rallying the fugitives, and ordering all to be cut down who would not return, gave orders for an advance of his own line, and at the same time directed a division on his left to wheel up and take the enemy in flank. This manœuvre was decisive; for though the closest combat was raging in the centre where the Bhao and Wiswas Rao were engaged on horseback, and where they fought on both sides with spears, swords, battle-axes, and even with daggers, yet all at once, as if by enchantment, the whole Mahratta army turned their backs, and fled at full speed, leaving the battlefield covered with heaps of dead. The victors pursued them with the utmost fury for fifteen or twenty miles, and as they gave no quarter, the slaughter was very great. The peasants destroyed a large portion of those who escaped from the Daurani, and great numbers who fell into the hands of the Daurani were put to death in cold blood. Ahmad Shah made a strict search for Jancoji Sindia, who was concealed by a Daurani chief, and was made away with to avoid detection; he also compelled Shuja-ud-Dowla to give up Ibrahim Khan, whom he personally abused, and ordered to be confined, but he died of his wounds within a week. The body of Wiswas Rao was found, and a headless trunk which was believed to be that of the Bhao. The whole number of the slain is stated at 200,000. Almost all the great Mahratta chiefs were killed or wounded, except those who had been left with a force at Dehli, and Malhar Rao Holkar, who was accused of having too early retreated. Madhaji Sindia, afterwards the founder of a great state, was lamed for life, and Nana Farnavis, who long kept off the downfall of the Peshwa's government, narrowly escaped by flight. Never was defeat more complete, and never was there a calamity that diffused greater consternation. Grief and despondency spread over the whole Mahratta people. Most had to mourn relations, and all felt the destruction of the army as a death-blow to their national greatness. Balaji Rao never recovered the shock. He slowly retreated from his frontier towards Poona, and died in a temple which he had himself erected near that city. The wreck of the army withdrew south of the Narbadda, evacuating almost all their acquisitions in Hindustan. Dissensions soon broke out after the death of Balaji, and the government of the Peshwa never recovered its vigour. Most of the Mahratta conquests were recovered at a subsequent period, but it was by independent chiefs, with the aid of European officers and disciplined sepoys.—*Casi Rao's Narrative in As. Res.* iii. 97, 123; *Grant Duff's History of the Marathas; Sair-i-Muta-akhirin; Elliot's Life of Hafiz Rahmat, quoted in Elphinstone's History of India.*

BALAJI WISWANATH, a Brahman of the Konkan, where he was the hereditary village accountant. He was the chief supporter of the raja Saho; he was a man of great ability both in civil and military affairs. His services in the wars that ensued after Saho arrived in the Dekhan, were rewarded by Saho with the title of Peshwa, and the office of prime minister; and the government was left almost entirely to him, while Saho pursued his favourite field sports of hunting, hawking, and fishing. This commenced the power afterwards acted on by the Peshwas, who became eventually the real rulers of the Mahratta empire. On his demise in 1721, his son, the first Baji Rao, succeeded him.

BALAK, two hills so called, 600 paces asunder, in the district of Balad-ul-Jahaf in Yemen. This district is the land of Sheba, being called to the present time Ard-us-Saba; and Balkees, the queen of Sheba, built a masonry dyke or dam between the two Balak hills. It afterwards burst, and is famed in Arabian story as the Sail-ul-Arun or Sail-ul-Mareb.—See Balkees; Saba.

BALA KHANA. PERS. Upper storey, whence comes balcony in English.—*Rich, Kurdistan.*

BALAL, in Karnatica, an honorific appellation.

BALAM. HIND. Cymbopogon aromaticus.

BALAMBANGAN or Balambang Island, called Berobangan by the Malays, nearly 15 miles long, lies in the Balabac Strait, at the north-east side of Borneo. It was once a possession of Britain, and, from the extreme richness of that portion of the island, it might have proved a settlement of great value, but it was relinquished to Holland in 1827. It has two excellent harbours. The principal station on the peninsular tongue off the southern harbour was determined to be in lat. 7° 12′ 51″ N., long. 116° 49′ 8″ E.—*Horsburgh.*

BALAM-CIRA. HIND. Cucumis sativus.

BALAM PULI. MALEAL. Tamarindus Indica.

BALAND, a tribe formerly dominant in Ajoree Burhur and the southern parts of Mirzapur. They were expelled by the Chundel Rajputs, and now occupy Munwas, a principality in subordination to the raja of Rewa.—*Elliot.*

BALANISTUM. HIND. Pomegranate flowers.

BALANITES ÆGYPTIACA. *Delile.*

Balanites Ægyptiaca, var. Indica, *W. Ill.*	Ximenia Ægyptiaca, *R.*
	,, Americana, *L.*
Saum, ... AFR.	Nanjunda maram, TAM.
Haleluj, ... ARAB.	Gara or Gari chettu, TEL.
Hingun Bet Hinggo, HIND.	

This small, thorny tree has alternate bifoliate leaves, with greenish-white flowers. It is found throughout India, and flourishes in black soil. It is cultivated in Egypt; and at Jerusalem it is made into walking-sticks, on which they inscribe the word Jordan in Hebrew characters. It grows in the Panjab from Dehli westward to Rohtuk. It has a girth of 18 inches. Wood soft, and shoemakers' boards are made of it. Its leaves are slightly acrid, and are said to possess anthelmintic properties. The fruit, when ripe, can be eaten without inconvenience; but Dr. Roxburgh describes the pulp as exceedingly bitter, and having an offensive, greasy smell. It is about the size of an egg, and covered with a smooth, dry cortex. It is used in native fireworks; the kernel being scooped out, the shell is filled with

gunpowder, and explodes with a very loud report. A fat oil, called zachun, qu. zaitun? is extracted from the seeds.—*Drs. Wight, Riddell, O'Sh., Voigt, Stewart; Mr. Jaffrey.*

BALANOPHOREÆ. This order of plants contains several parasites, such as the Rafflesia and also the Cisti trees of Europe, which yield the hypocistus juice, and owe all their properties to the presence of an abundance of gallic acid. The Balanophora species growing in the East Indies are,

B. dioica, *R. Br.*, Nepal, Java.
,, elongata, *Blain*,
,, Indica, *Wall.*, Pen. of India.
,, typhina, *Wall.*, Prome, Taong-dong.
,, gigantea, *Wall.*, Taong-dong.

A species, called Gochamul in Hindi, is a curious leafless parasite growing abundantly on maple in the Zemu valley in Sikkim, and also in the N.W. Himalaya. It occasions great knots on the maple roots, and on the oaks and other mountain trees, from which the Tibetans form their drinking cups. Dr. Hooker found a small store of these knots, cleaned and cut ready for the turner, and hidden behind a stone by some poor Tibetan, who had never returned to the spot; they had evidently been there a very long time. The Lepcha drink out of these little wooden cups, which are very pretty, often polished and mounted with silver. Some cups are supposed to be antidotes against poison, and hence fetch an enormous price; these are of a peculiar wood, rarer and paler coloured, and Dr. Hooker paid a guinea for one such, hardly different from the common sort, which cost but 4d. or 6d. At Lhassa their price is higher, as they are all imported from the Himalaya. B. gigantea is a favourite astringent remedy in Burma. B. Indica, *Wall. Cat.* 7224, is found in the forests of the central province of Ceylon, at an elevation of 3000 to 5000 feet.—*Thw. En. Pl. Zeyl.* p. 293; *O'Sh.* p. 569; *Hooker, Him. Jour.* i. 132.

BALANUS, the barnacle genus, one of the Cirrhipedia of the Articulata. Some of those found on old timbers in India are very large.

BALA RAI. See Balhara; Balabhipur.

BALA RAMA, elder brother of Krishna. His history is greatly mixed up with mythical legends, but he seems to have married Revati. In youth he was the playfellow of Krishna, and in after life the sharer in his toils and his glory. He is the analogue of Hercules. He is said to have rebuilt the city of Rajagriha. A statue of him is at Muttra. He is also called Balabhadra and Baladeva.—*Growse*, p. 57.

BALA RAMA, the eighth avatar or incarnation of Vishnu.

BALASA PANDU. TEL. Webera tetrandra.

BALASINORE, a tributary state in Gujerat, of 150 square miles. The title of the family is Babi, from their founder, Sher Khan, Babi.

BALASOR, a town and bay and river in Orissa, the entrance of the bay being in lat. 21° 28′ N., long. 87° 4′ E. The East India Company formed a factory here. It has a rock from which are made plates, dishes, cups, and household utensils. The district is 2068 square miles, with 770,232 people, Bhumij, Pan, Kandara, Khandait, Santal, and Hindus. One of its rivers, the Baitarani, is the Styx of the Hindus. There are several seaports and harbours.—*Horsburgh; Imp. Gaz.*

BALASPUR, in the Central Provinces, contained, in 1867, a population of 780,503, amongst whom,

607,249 *Immigrants.*		Baniya, . . .	4,873
Chamar, . . .	164,388	Other Hindus, .	133,833
Panka, ...	72,972	Mahomedans, .	9,041
Ahir or Raut, .	66,574	173,194 *Prior Races.*	
Teli, ...	51,679	Gond, ...	120,159
Kurmi, ...	39,843	Kanwar, . . .	30,436
Mali, ...	25,145	Bhumia, . . .	2,264
Brahman, . . .	17,167	Binjwar, . . .	7,009
Bairagi, . . .	11,092	Dhanwar, . . .	3,988
Rajput, . . .	10,702	Other non-Hindus,	9,338

BALAS RUBY. Badakhshan has been known since the days of Marco Polo as the country producing the real balas ruby, as well as the lajivard or lapis-lazuli, from which is made the beautiful blue pigment called ultra-marine.—*Papers, East India*, p. 186.

BALAZAR, an intoxicating electuary prepared from the Malacca bean, the Anacardium; hence the cognomen Al-Baladuri of Ahmad, who was addicted to its use.

BALBAND, the Mahratta alphabetical character.

BALBEK. See Baalbek.

BALBHOG, an offering to Krishna in the early morning.

BALBI, GASPAR, a merchant dealer in precious stones, who travelled to India between 1579 to 1588. In 1583 he visited Pegu, and wrote a book, entitled Viaggio dell' Indie Orientale.

BALBOA. Vasco Nunez de Balboa was born in 1475 at Xeres de los Caballeros, of a noble but poor family.

BALBODH. MAHR. The Deva Nagri alphabet.

BAL-CH'HARU, also Balchir and Balchur. HIND., BENG. Nardostachys Jatamansi; Jatamansi valerian. It is found near standing water at Ajmir; the roots are small, and knotty, and fine, like hair, hence the name; have a sweet scent, are tasteless; used to heat, strengthen, and excite the system. One tola is the dose. Are very much used also in hair mesalihs or pomades.

Also the name of the Andropogon schoenanthus grass, the roots of which are like fine hair, sweet-scented, and much used in cleaning the hair.—*Gen. Med. Top.* p. 128. See Nardostachys.

BALDÆUS. Philip Baldæus about 1660 travelled in India, and in his book of travels gave a description of the coasts of Malabar and Coromandel. He gives information of the early struggles of the Dutch and Portuguese.

BALDEO or Baladeva, a city near Muttra. It has a statue of Bala Rama, elder brother of Krishna.

BALDEVA, son of a prince of Muttra, and nephew of Koonti, the mother of the five Pandu brothers. Baldeva was cousin of Krishna, and fled with Yudishtra from the battle-field famed in the Mahabharata into Saurashtra. After Krishna's death, Baldeva and Yudishtra went northwards, and it is supposed penetrated into Greece. Baldeva has been deified as the god of strength, and is supposed to be the Hercules of the east and west. He is still worshipped as in the days of Alexander, his shrine at Baldeo in Vrij, his club a ploughshare, and a lion's skin his covering. At Rupbas, there is a statue 27 feet 5 inches in height, said to be that of Baldeva, but supposed to be a Jaina image.—*Tod's Rajasthan.* See Bala Bhadra; Krishna; Pandu.

BALDUWA. MALAY. Velvet.

BALDWIN, king of Jerusalem; in A.D. 1111 took Beyrout from the Saracens, but in 1187 it was again lost.

BALE. KARN. Glass bracelets worn by women.

BALE of cotton weighs—

In America, . .	440 lbs.	In China, . . .	240 lbs.
,, Brazil, . . .	180 ,,	,, Bengal, . . .	300 ,,
,, Egypt, . . .	500 ,,	,, Madras, . .	300 ,,
,, Turkey, . .	350 ,,	,, Bombay, . .	394 ,,

BALEAN, a timber of Singapore. See Kayu.

BALEI. MALAY. A public hall in a village, where strangers are received, public business transacted, and marriages performed. See Morang.

BALEIA-ITHI-KANI. MALEAL. Zapania nodiflora, *L.*

BALEL, of Kashmir, Coriaria Nepalensis.

BALELA. HIND. Terminalia bellerica. Balela Sujah, small black myrobalan, fruit of the Terminalia citrina.

BALESAN. EGYPT. Balsamodendron Berryanum, *Arn.;* Amyris Gileadense.

BALESWAR, a distributary of the Ganges, which enters the Bay of Bengal, as an estuary 9 miles broad, under the name of Haringhata. The bore does not occur in it.—*Imp. Gaz.*

BAL-ESWARA, a title of Siva, whom his followers designate Mahadeo, or Mahadeva. He is the same with the Assur of the Scriptures, and has resemblance to Jupiter.

BALFOUR, EDWARD GREEN, L.R.C.S.E., Fellow of the Madras University, Corresponding Member of the Imperial-Royal Geological Institute, Vienna, a medical officer of the Madras Army. He was in India from 1834 to 1876; he rose to the rank of Surgeon-General, and for upwards of five years was the Head of the Madras Medical Department. During his service, he prepared and edited the Cyclopædia of India and of Eastern and Southern Asia through two editions in India in 1858 and 1873, and a third edition is now being printed in Great Britain. On the appearance of the first edition, a review of it in the Madras Journal of Literature and Science said: 'There is no question but that his long residence in India, his scientific researches, and his very variety of duties, eminently fit him for a work of this character, which, however imperfect and incomplete as a whole, will be of great utility, and prove a valuable aid to others.'

As an executive officer, he had been in medical charge of European and native artillery, of native cavalry, and of native infantry, both of the Madras and Bombay armies; had been Staff-Surgeon of Ahmadnaggur in the Dekhan, and Garrison-Surgeon of Bellary, in the Ceded Districts. In the administrative grade, from 1862 to 1870, he served as Deputy Surgeon-General of the Burmah Division and Straits Settlements, southwards to Singapore and the Andamans, twice in the Ceded Districts, twice in the Mysore Division, and for four years with the Hyderabad Subsidiary Force and Hyderabad Contingent. While so employed, he resided in or inspected at nearly a hundred of the cities, towns, and military cantonments, some several times over; and from 1871 to 1876 inclusive he was, as Surgeon-General, the Head of the Madras Medical Department.

For many years he was Political Agent at the Court of the Nawab of the Carnatic, also Paymaster of Carnatic Stipends; from 1858 to 1861, he was Commissioner for investigating the Debts of the Nawab of the Carnatic, against whose estate claims for above a million sterling (Rs. 1,00,80,000) were made. He acted for a short time as Assistant Assay Master at the Madras Mint; and in the Military Finance Department of India he was, at Madras, Examiner of Medical Accounts.

Early in his service he had passed as Interpreter in the Hindustani language; he was for years employed as Persian and Hindustani Translator to Government (1854 to 1861); and, as a Member of the Board of Examiners, he examined the civil officers in those tongues. He obtained H.H. the Nawab of the Carnatic's consent to the establishment of the Madrassa-i-Azam (Azam being the takhallus or literary title of that sovereign), and it still flourishes in Madras; and he induced the Mahomedan residents of that city to establish the Madras Mahomedan Library, of which, in 1876, they elected him a life member.

In 1850, his offer to the Government to form a museum in Madras was accepted, and he named it the Government Central Museum. He was its superintendent till the year 1859, in which year the visitors rose to 552,407. In 1856 he commenced the collection of animals which have formed the Madras Zoological Gardens, in the People's Park. And in 1866 he instituted the Mysore Museum at Bangalore, the visitors to which in 1868 numbered 203,534. While superintendent of the former museum, he prepared and printed nine catalogues and eight reports on its mineralogical, geological, zoological, and economic collections.

He was honorary Secretary to the Madras Central Committees for the Great Exhibition of 1851, for the Paris Exhibition of 1855, for the Madras Exhibitions of 1855 and 1857, and was a member of the Madras Committees for subsequent Exhibitions at Vienna and Paris. He published a volume of selections he had made from the Persian and Hindustani poets; it is quite a volume de luxe, lithographed with arabesques. He translated and published in Hindustani, Conquest's Outlines of Midwifery, and paid for and printed translations of same in Tamil, Telugu, and Canarese. He translated and printed Gleig's Astronomy in Hindustani, and also a diglot Hindustani and English Statistical Map of the World, which also was rendered and printed in Tamil and Telugu. He contributed to current literature papers on the Migratory Tribes of India; on the Influence of Trees on the Climate of a Country, for which he received the thanks of Government; on the Health of Soldiers; on the Crimes and Disabilities for which the Native Soldiers of the Madras Army were discharged the Service; on the Amount of Education in Madras; on the Commercial Products of the Madras Presidency; on the Mollusca, with the genera of Recent and Fossil Shells; on the Epidemic of Cholera at Thayet Myo; on the Vegetables available for Europeans in Burmah; on the Typhoid Fever at Bangalore; on the Ethnology of Hyderabad; on the Sanitary Condition of Secunderabad; and on the Sanitary Prospects of Trimulghery. He also published two editions of his Statistics of Cholera; two editions of the Localities in India exempt from Cholera; three editions of the Timber Trees, Timber, and Fancy Woods of India and of Eastern and Southern Asia; three editions of the Vydian and Hakím; two editions of Eminent Medical Men. The Honourable the Court of Directors, H.M. Secretaries of State for India, the Government of India, the Government of Madras, the Medical, the Finance, the Sanitary and other

authorities, noticed his work in favourable terms. When offering to take charge of the Madras Museum, he had intimated: 'I do not wish any remuneration of any kind; nor would I wish my offer to be considered as in any way hampering the Government in any arrangements they may in future wish to make;' and the Court of Directors, in acknowledging this, said: 'We have to express our sense of the liberal and considerate terms in which Mr. Balfour offered to undertake the charge.' When about to quit India, the Hindu, Mahomedan, and European community of Madras invited his attendance at a meeting, 'publicly to record the high sense they entertained of those labours of your life, which, having in view the public good, have pre-eminently characterized your career, but also to convey to you the expression of their regard and esteem for your private character.' And in the address then presented to him, he was asked to sit for his portrait, to be placed in the Government Central Museum, and it quoted the words of the Mahomedan community, who said, 'The debt we owe him is one of the deepest gratitude, and his name will be cherished in our memories with the highest sense of esteem and respectful attention.' While still at the head of the medical department, H.M. the Queen bestowed on him a Good Service Pension.

The members of the Mahomedan Library, at a meeting at which the leading men of that race and the heads of the European society were present, presented him with an address in the Persian language, gratefully acknowledging that he had founded the institution in 1851; and long after he had retired from the service, the members of the Apothecaries' Fund, their Widows and their Orphans, sent after him to England an address 'in grateful recollection of the valuable services rendered by him in 1872.'

BALFOUR, General Sir GEORGE, K.C.B., M.P., an officer of the Madras, and afterwards of the Royal, Artillery, 1826–1880. He served with the Malacca Field Force in 1832-33; as Brigade Major in the campaign against Kurnool in 1839, and was present at the battle of Zorapore on the 18th October 1839: served as Staff Officer of the Madras Forces in the war against China in 1840-1-2, and was present at the capture of Chusan on the 5th July 1840; Canton, 25th May 1841; Amoy, 26th August 1841; Chusan, 1st October 1841; Chinghae, 10th October 1841; Ningpo, 13th October 1841; Ningpo, 10th March 1842; Tsekee, 15th March 1842; Segaon, 15th March 1842; Chapoo, 18th May 1842; Woosung, 16th June 1842; Shanghai, 19th June 1842; Chin-keang-koo, 21st July 1842; Nankin, August 1842; Yang-tse-kiang river, September 1842; and received the Chinese medal. During the war he was Staff Officer of the Madras Forces; he was elected by the army Joint Agent for Captured Public Property; he was Receiver of the Ransom payable under the treaty of Nankin, and he settled and paid the Hong debts due by the Chinese merchants. He was Consul at Shanghai for many years; was employed as a Commissioner to inquire into the Madras Public Works Establishments. He was a member of the Military Board, which had control over every departmemt of the army except as to pay and discipline, and which merged into the office of Inspector-General of Ordnance and Magazines, which he held for several years. In 1860 he was specially commissioned by the viceroy, Lord Canning, to inquire into the condition of the Native and European troops forming the garrison of Burmah; but his latest labours in India, from 1859 to 1862, were as Chief of the Military Finance Department of India. Towards the beginning of 1859 the last embers of the mutiny were just being trodden out; peace had been restored, but with peace had not come prosperity, for the British empire in India had been saved from the perils of revolt and rebellion, to be compelled to struggle a second time for life against the dangers of bankruptcy, as the sepoys' revolt had burdened India with a debt scarcely less to be dreaded than the dangers it had escaped. The large powers which, during the emergency, had of necessity been entrusted to departments, and to divisional and station officers, were still being exercised; extra establishments no longer necessary were being kept up; contracts were being renewed at war prices; and, from the nature of the circumstances, the army was the chief source of expense. At this juncture, Colonel Jameson of the Bombay army, Colonel Burn of the Bengal army, and Colonel Balfour, C.B., of the Madras Artillery, were formed into a commission on the military establishments of the country. They first examined into those of Bombay (18th July 1859), then visited Madras, and finally reached Calcutta in the beginning of 1860, from which, before many months were over, Colonels Jameson and Burn left in ill health, leaving to Colonel Balfour, early in 1860, the entire work. A Military Finance Department for final control and audit was then formed, of which he was appointed chief, and from that date the whole of his efforts were directed to bringing the army military establishments down to the peace scale. The numerical strength of the army, sanctioned on the restoration of peace after the revolt, was for Bengal, 113,095; for Madras, 55,125; for Bombay, 39,270; or a total of 207,490, of whom 71,121 were to be Europeans, and 136,369 natives. Prior to the revolt of 1857, the military charges of India were £11,500,000, and the European army had been lower than in any year since 1816; but by the beginning of 1859 this charge had risen to £21,000,000, when the Military Finance Commission was established, and the result of its action became felt. The military estimates for 1860-61, including the carriage department, were reduced to a trifle over £16,000,000, and in the following year, Mr. Laing, the financial member of the Supreme Council, intimated that the Military Finance Department had revised the estimates with great care, and they were stated at £12,850,000, or £2,479,000 lower than in 1860-61. Mr. Laing further added that £12,199,242 was the estimated cost of the military establishments as fixed permanently for India, only that in the year 1861-62, reduction of items costing £600,760 could not be completed. The 1861-62 estimate, therefore, was to that amount higher than the estimated permanent expenditure, so that the actual diminution from 1860-61 to 1861-62, in the cost of the army, was £3,220,000. It was further expected that the annual military charges would be brought down to twelve millions in India and two millions in Britain. Mr. Laing, when submitting his budget estimates, and ex-

plaining the changes in operation, stated that the future history of India would not be complete without mentioning the successful labours of Colonel Balfour. Mr. Thurlow, private secretary to Lord Elgin, remarks (The Company and the Crown, pp. 29,30), that when the Military Finance Department was established after the revolt of 1857, in order to ensure economy in military expenditure, 'General, then Colonel, Balfour was selected for the sole control of this department, under the personal authority of Lord Canning.' 'He was,' adds Mr. Thurlow, 'a man of obstinate ability, and was armed to the teeth with power and promise of support. He conducted the work of pruning with a knowledge of detail only exceeded by his zeal in execution.' So early as 1861, Sir Charles Wood showed that the reductions ordered by the Government of India were expected to amount in the year 1860-61 to £2,500,000, which, with those of the previous year, would make an estimated saving in military expenditure alone of £6,000,000; and he added that if the reductions for 1861-62 were equal to those of 1860-61, and the produce of new taxes came up to the estimate, the expenditure and income of 1861-62 would be balanced. When the accounts were made, the deficit of 1861-62 was only £50,678. To admit of an examination of the results of Colonel Balfour's labours, the following tabular statements are given, showing the increase and decrease of the expenditure during his chiefship of the Military Finance Department:—

Year.	Revenue.	Expenditure.		Total.	Deficit.
		In India.	Home Charges.		
	£	£	£	£	£
1857-58	31,706,776	35,078,528	5,018,890	40,097,418	8,390,642
1858-59	36,060,788	43,590,793	6,657,612	50,248,405	14,187,617
1859-60	39,705,822	44,622,270	5,853,413	50,475,683	10,769,861
1860-61	42,903,234	40,408,239	6,516,380	46,924,619	4,021,385
1861-62	43,829,472	37,245,756	6,634,344	43,880,100	50,628 Surplus.
1862-63	45,143,752	36,800,805	6,515,601	43,316,406	1,827,346
1863-64	44,613,032	38,087,772	6,446,913	44,534,685	Sur. 78,347
1864-65	45,652,897	39,452,220	6,394,198	45,846,418	193,521
1865-66	48,935,220	41,120,924	5,048,228	46,169,152	S.2,766,068
1866-67	42,122,433	37,094,406	7,545,518	44,639,924	2,517,491
11 mos.					
1867-68	48,534,412	41,044,485	8,497,622	49,542,107	1,007,695

Military Charges.

Year.	In India.	At Home.	Total.
1855-56	£10,019,436	£1,672,757	£11,492,193
1856-57	11,813,131	1,770,038	12,783,159
1857-58	15,569,925	3,165,958	18,734,958
1858-59	21,080,948	4,368,856	25,449,804
1859-60	20,909,307	2,730,994	23,640,301
1860-61	15,730,006	2,838,156	18,568,162
1861-62	13,681,900	2,507,504	16,189,404
1862-63	12,764,325	2,128,426	14,892,751
1863-64	12,697,069	1,849,341	14,546,410
1864-65	13,494,467	2,280,019	15,774,486
1865-66	14,360,338	2,462,882	16,763,220
1866-67 11 mos.	12,440,383	3,385,408	15,825,791

It will be observed that the military expenditure in India rose to 21 and 20 millions in 1858–59 and 1859-60. But from that year Colonel Balfour's labours began to be felt. The military charges were reduced to £15,730,006 in 1860-61, to £13,681,900 in 1861-62, and to £12,697,069 in 1863-64. When the task was complete, the Government of India bore testimony to the important services which had resulted from his labours. The viceroy of India, Lord Elgin, on Colonel Balfour's return to England, wrote, that a man who, right or wrong, saved the country several millions sterling, well merited some reward. After his return to Britain, he was in 1866 employed on the Recruiting Commission in England. His voluminous and minute evidence before Lord Strathnairn's Committee led to his nomination in 1867 as Assistant to the Controller-in-Chief at the War Office, to assist Sir Henry Storks in the reorganization of the War Office Departments of Controul. He was employed there from January 1868 to March 1871, and the result is shown by the estimates for store rates for the years prior and subsequent to his appointment:—

1867-68, . .	£1,555,500	1869–70, . .	£1,150,000
1868-69, . .	1,491,400	1870–71, . .	1,000,000

The honour of K.C.B. was bestowed for his services in this department, and in 1872 he was elected M.P. for Kincardineshire.—*Martin's Statesman's Year Book*, 1864 *to* 1869; *Thurlow's Company and the Crown*, pp. 29, 30; *West's Sir Charles Wood's Administration, London*, 1867; *Home News*, 19th February 1869, p. 33; *Madras Army List; Minutes of Lord Canning, Sir Bartle Frere*, 11*th March* 1862, *of the Honourable S. Laing and Sir Cecil Beadon*, 7*th April* 1862, *of Sir R. Napier*, 9*th April* 1862, *and Earl of Elgin and Kincardine*, 10*th April* 1862; *Records of the India Office.*

BALGHAR. HIND. Russian leather.

BALHARA, also styled Rashtrakuta, a dynasty who ruled at Malked in the Dekhan. According to Elliot, an ancient dynasty and kingdom mentioned by the merchant Suliman. The Balhara seem to represent the Balabhi sovereigns of Balabhipura, who were succeeded by the Balla princes of Anhalwara Puttun. Their territories included the country of Lata, or Larike, on the gulf of Cambay. According to Colonel Tod (Travels, pp. 147–48), Balhara was a title assumed by the successive sovereigns of Saurashtra. He says the earliest of the tribes which conquered a settlement in the peninsula of Saurashtra was the Balla, by some authorities stated to be a branch of the great Induvansa, and hence termed Balika-putra, and said to have been originally from Balika-des, or Balkh, the Bactria of the Greeks. The chief of Dhank is a Balla. The Balla pay adoration almost exclusively to the sun, and it is only in Saurashtra that temples to this orb abound. So that religion, tradition as regards their descent, and personal appearance, all indicate an Indo-Scythic origin for this race; and in order to conceal their barbarian (M'hlecha) extraction, the fable of their birth from Rama may have been devised. The city of Balabhi, written Wulleh in the maps, and now an inconsiderable village, was said to be 12 cos, or 15 miles in circumference. There is a sun-temple at Baroda, dedicated to Surya Narayana; and in Col. Tod's time it was the object of worship of the prime minister of the Guicowar, who was of the Purvo caste, descended from the ancient Guebr. There is also a sun-temple at Benares. According to Mr. Edward Thomas, Balhara and Bala-Rai of the sea-going Arabs was a dialectal change from Bārā Rai, the great king or lord paramount for the time being.—*E. Thomas; Yule, Cathay*, i. 183.

BALI, also called Mahabali, king of Maha-balipura. He was the son of Virochana, son of

Prablada, son of Hiranya Kasipu. His wife was Vindhyavali.—*Dowson.*

BALI, SANSK., in all peninsular India and in Ceylon, in the religious rites of the people, means a sacrifice performed to local deities, to earth and air deities, to evil spirits, to the manes of deceased ancestors, and to the Hindu deities Siva, Vishnu, their consorts and incarnations. Bali is the word used in Ceylon to express the worship of the heavenly bodies. The victim sacrificed is generally a cock; and the Baliya are clay images supposed to represent the controlling planet of the individual, and are destroyed at the conclusion of Bali ceremonies. Bali, Bali Akhi, Bali-Dan, and Rakta-Bali, are the names for the sacrifice offerings of flowers, animals, and other articles offered to an idol; also of the food offered to created beings, in small quantities thrown up into the air. In Canara, a woman by eating of Bali-akhi food assumes the profession of a prostitute. The gifts to Vishnu are milk, cocoa-nuts, or dough images, rice, flowers, curds, and fruits; but to Siva and Durga are goats, sheep, and buffaloes, the heads of which, after being cut off, are given to the pujari, and the carcases to the inferior castes. This rite is often practised in times of severe epidemics.—*Wilson.* See Sacrifices.

BALI, an island in the Eastern Archipelago, is feudatory to the Dutch. Bali and the adjoining island of Lombok in 1881 had a population of 80,498, viz. 78,187 natives, 207 Arabs, 403 Chinese, and 34 Europeans. The Balinese entertain great aversion to a maritime life, and are more rarely to be met with at the European ports than the natives of the other islands to the eastward. They are fairer in complexion, stouter in frame, and more energetic in their dispositions, than the Javanese, and in appearance and dress bear a great resemblance to the natives of Siam, from whom it is probable that they are descended. The entire population of Bali profess a degraded form of the Hindu religion, and the burning of widows amongst them was carried to an extent never known even in continental India. The slaves of a great man were also consumed upon his funeral pile; and when the immense annual loss of life produced by these frightful practices is considered, it is surprising that the island possesses so large a population. Other widows burn themselves or are despatched with a kris. Keppell mentions that Bali is the only island, however, in the whole Archipelago where the two great forms in the Indian religions—the Brahmanical and the Buddhist—exist together undisturbed. The Balinese are a comparatively civilised race, and very jealous of the encroachments of their powerful neighbours. Bali island has inland freshwater lakes or reservoirs situated several thousand feet above the level of the sea. Bali, Borneo, Java, Timor, the Philippines, the Moluccas, and New Guinea possess almost similar climates, but there are great differences in their animal productions. In Bali, birds are the barbet, fruit-thrush, and woodpecker. In Lombok, the cockatoo, honey-sucker, and brush turkey. In Java and Borneo are many kinds of monkeys, wild cats, deer, civets, and many varieties of squirrels. In the Celebes and Moluccas, the prehensile-tailed cuscus is the only terrestrial animal seen, except pigs and deer. The natural productions of Borneo, Java, and Sumatra have a considerable resemblance. Sumatra has the Indian elephant, the tapir, and rhinoceros; Borneo has the same elephant and tapir; one of the Javan rhinoceros is different, but another occurs in Asia, and the smaller mammals are generally the same in the three islands. The fauna of Borneo and Celebes differ extremely, and this difference continues to the south, the line of separation passing between Bali and Lombok, though these two islands are only 15 miles apart. Bali women, like the Burmese, attend to the selling of goods and merchandise. The Balinese tongue, with its ceremonial dialect and sacred language, is one of the most improved languages of the Archipelago. Bali and Lombok form one of the residences of Netherland India; and treaties have been formed with several neighbouring native princes, of Badong, Beliling, Den-Pasar, Karang-Assam, Klong-Kong, Lombok, and Taboekan.—*Bikmore; Earl, Keppel's Ind. Arch.* ii. pp. 143, 386, 389; *Almanac.*

BALIGH. ARAB. Mature, adult of age. Nabaligh, not grown up.

BALI-PATI, in the Panjab, earrings worn by both sexes of Hindus.

BALI-PRATIPADA, a Hindu festival in commemoration of king Bali being sent to Patala, held about the last days of October. It seems to relate to some war amongst the ancient races of S. India. In Coorg called Bali-payda.

BALIPURA, the Palibrotha of the Greeks, supposed to be the same with the city of Rajagriha.

BALISHT. HIND. A span.

BALISTES, the file fish of the South Seas.

BALIYUS, a term in the Turkish and Persian dominions for a consular functionary. It is supposed that it is originally Venetian, possibly from the Greek basileus.

BALJA. TEL. A large tribe of Sudra Hindus, scattered through Telingana. A few of them are foot-soldiers, but the majority are occupied in agricultural labour. A Balja man is Balja-vadu; plural, Balja-wanlu.

BALJAWAR, one day's journey north of the Oxus, has a rich lead mine, and in its immediate vicinity is a large hill, called the Koh-i-Meeriah, from which is extracted coal of a good quality, and used as fuel by the inhabitants of the neighbourhood. Silk is produced in abundance, and could be cultivated to an almost indefinite extent. The vale of the Oxus seems peculiarly adapted to this produce, and the best specimens come from Koubadian and Hazrat Imam, on its north and south bank. The silk of Bokhara is spoken of as being still better.—*Papers, Afghanistan*, p. 186.

BALKAN, two low ranges of hills on the E. coast of the Caspian, about lat. 39° 30′ N., and long. 54° 30′ E., rising 3000 feet above the sea; gems are said to be found.—*Collett, Khiva.*

BALKASH, a lake of Central India.

BALKEES, who succeeded her father Hodhad in Yemen, was properly named Balkama or Yalkama. Her existence has given rise to numerous fables, and amongst others that she was the queen of Sheba, who married Solomon. This Balkees, however, lived about the commencement of the Christian era, and she repaired or consolidated the dam of Mareb.—*Playfair.* See Saba.

BALKH, in lat. 36° 48′ N., is a town of Afghan-Turkestan, 357 miles N.W. from Kābul, 120 miles W. of Kunduz, 370 miles N.E. of Herat. The province of Balkh is bounded on the N.E. by the

Oxus, E. by Kunduz, W. by Khorasan, and S.W. by the mountains of Hazara and the state of Maimuna. To the S.E. the country is cold and mountainous; but the N.W. parts of it are flat, sandy, and exceedingly hot in the summer. It is tolerably well peopled by Uzbak, Afghan, Mongol, Turk, and Tanjet or Tajak, who partly dwell in villages, and partly roam with their flocks in search of pasturage. The Uzbak are simple, honest, and humane; but the Tanjet are a corrupt and dissolute race of men, addicted to vices. They have a few Jews and Hindus; the new town has 10,000 Afghans, and 5000 Kapchak, and some Uzbak. The city of Balkh is regarded by the Persians as the ancient source of religion and polite education. The ruins of the old city are in a circuit of 20 miles around. Moorcroft and Guthrie are buried outside the city, but Moorcroft died at Andkhui. In 1850 it fell under Afghan rule. There are many aqueducts, and the country is fertile. By Asiatics, Balkh is named Amu-l-Bălăd, the Mother of Cities. It is said to have been built by Kaiamurz of Persia, also by the philosopher Zoroaster. It was conquered by Alexander, and included in Bactria. Balkh stands on a plain about six miles from the hills. Its climate is very insalubrious. It is well irrigated by means of aqueducts from the river. It is built on a gentle slope which sinks towards the Oxus, about 1800 feet above the sea. It has repeatedly sent out conquerors, and been conquered. Arsaces I. is described by some as a native of Sogd, by others as of Bactria, but by Moses of Chorene as of Balkh; and Moses adds that the dynasty was called Balkhavensis or Pahlavian. It was one of the finest cities of Asia, until Chenghiz Khan and Timur almost razed it to the ground on several occasions. In Polo's time it still preserved some signs of its former magnificence. Nadir Shah, in 1736, conquered Balkh and Kunduz. After his death, these provinces passed, under the Daurani monarchy, into the possession of the Afghans, until, in 1820, Shah Murad of Kunduz asserted his independence. After that date they formed part of the state of Bokhara, but Afghanistan once more asserted her supremacy over them, Bokhara became confined to the northern bank of the Oxus, and Afghanistan extended its rule north of the Hindu Kush, from Maimuna on the west to Kunduz and Badakhshan on the east.—*Vambery, Bokhara*, p. 340; *Kinneir's Geog. Memoir*, p. 31; *Chatfield's Hindustan*, p. 31; *MacGreg.* p. 192; *Bellew*, 205; *Burnaby's Khiva; Kotenko's Central Asia.*

BALKO-BANS. BENG. Dendrocalamus balcooa.

BALLA, a supposed Scythic race formerly ruling in Saurashtra; one of the Rajcula race. The byrd or 'blessing' of the bard is, 'Tatta Multan-ka Rao,' indicative of their original abodes on the Indus. They lay claim, however, to descent from the Suryavansi, and maintain that their great ancestor, Balla or Bappa, was the offspring of Sava, the eldest son of Ram; that their first settlement in Saurashtra was at the ancient Dhank, in more remote periods called Mongy Puttun; and that, in conquering the country adjacent, they termed it Baleakheter (their capital Balabhipura), and assumed the title of Bala Rai. Here they claim identity with the Gehlot race of Mewar, which long held power in Saurashtra. Before the Gehlot adopted the worship of Siva Mahadeo, which period is indicated in their annals, the chief object of their adoration was the sun. The Balla on the continent of Saurashtra, however, assert their origin to be Induvansa, and that they are the Balika-putra who were the ancient lords of Aror on the Indus. The Katti people claim descent from the Balla, an additional proof of northern origin, and strengthening their right to the epithet of the bards, 'Lords of Multan and Tatta.' The Balla were of sufficient consequence in the 13th century to make incursions on Mewar; and the first exploit of the celebrated rana Hamir, was his killing the Balla chieftain of Choteela. The chief of Dhank is a Balla, and the tribe yet preserves importance in the Peninsula.—*Tod's Rajasthan*, i. 42, ii. 112.

BALLABI. A principality was founded at Ballabi in Gujerat in the middle of the second century of the Christian era (A.D. 144), by Kanak Sena, an emigrant of the Solar race, which reigned in Oudh. They were driven out of their capital, A.D. 524, under Siliditya III., by an army whom Colonel Tod thinks were Parthians, and whom Mr. Wathen suggests were Indo-Bactrians; and Elphinstone supposes they may have been Persians of the Sassanian race. The princes of that family emigrated again from Gujerat, and at length founded the kingdom of Mewar, which still subsists. Ballabi is supposed to be the Byzantium of Ptolemy. In one inscription, Dhruva Sena is described as a follower of Bhagavata, and Dharapattah of the sun; all the rest worship Siva.—*Elphin.* pp. 211, 212.

BALLAI or Ballati. HIND. Of the village community of India, the shepherd who drives the village flock to the common pasturage, and, besides his seerano, has some trifling reward from every individual. It is his especial duty to prevent cattle trespasses. In Central India, the village boundary servant.—*Rajasthan*, ii. p. 596.

BALLAM or Vallam, the great canoe of Ceylon, usually made from the angely, Artocarpus integrifolia, or Ahir-suta. See Boat.

BALLAPOORA. In Mysore, two towns of this name, Chikka and Dodda Ballapoora, about 14 miles apart, of great importance until reduced by Hyder Ali. Chikka Ballapoora is very healthy. Several families of the Morasu Wakkaliga are in this part of the country; the women amputate two fingers of the right hand. The sect is said to be a subdivision of the Morasu Wakkal. Every woman of the sect, previous to piercing the ears of her eldest daughter, preparatory to her being betrothed in marriage, must necessarily undergo this mutilation, which is performed by the blacksmith of the village for a regulated fee, by a surgical process sufficiently rude. The fingers are placed on a block, the blacksmith places a chisel over the articulation of the joints, and chops them off at a single blow. The story related by Wilks of the origin of this strange practice, is that a Rakshasa (giant) named Vrika, by a course of austere devotion to Mahadeva, obtained from him the promise of whatever boon he should ask. The Rakshasa accordingly demanded that every person on whose head he placed his right hand, should instantly be reduced to ashes; and Mahadeva conferred the boon, without suspicion of the purpose for which it was designed. The Rakshasa no sooner found himself possessed of this formidable power, than he attempted to use it for the

destruction of his benefactor. Mahadeva fled; the giant pursued, and followed the fugitive so closely as to chase him into a thick grove. His pursuer inquired of a husbandman at work in an adjoining field whether he had seen the fugitive, and what direction he had taken. The man, fearful of the future resentment of Mahadeva, and equally alarmed for the present vengeance of the giant, answered aloud that he had seen no one, but pointed to the place of concealment. In this extremity Vishnu descended in the form of a beautiful girl, to the rescue of Mahadeva. The Rakshasa became instantly enamoured; the damsel was of pure Brahmanic origin, and might not be approached by the unclean giant. By degrees she appeared to relent, and, as a previous condition to further advances, enjoined the performance of the Sandya, a ceremony in which the right hand is successively applied to the breast, to the crown of the head, and to other parts of the body. The Rakshasa, thinking only of love, and forgetful of the powers of his right hand, performed the Sandya, and was himself reduced to ashes. Mahadeva now issued from his place of concealment, and, after the proper acknowledgment for his deliverance, proceeded to discuss the guilt of the treacherous husbandman, and, as a punishment for his crime, determined to deprive him of the finger with which he had pointed out the hiding-place. The man's wife, who had just arrived at the field with his food, hearing this sentence, threw herself at the feet of Mahadeva. She represented the certain ruin of the family if her husband should be disabled for some months from performing the labours of the farm, and besought the deity to accept two of her fingers instead of one from her husband. Mahadeva, pleased with so sincere a proof of conjugal affection, accepted the exchange, and ordained that her female posterity should sacrifice two fingers at his temple as a memorial of the transaction. The practice is accordingly confined to the supposed descendants of this woman. There are about two thousand families who follow this superstition in Mysore. Personal mutilation is forbidden now by law, but the people prefer to endure punishment rather than not follow this ancient custom.

BALLER, a fine-grained wood of a good colour, grown on the island of Banca.—*Court*, p. 134.

BALLET-WOOD, a timber of the Andamans, of great transverse strength.

BALLOON VINE. Cardiospermum halicacabum.

BALLOOT. PERS. Galls, gall-nuts.

BALLORA, the name given by the people to the caves known as Ellora; also called Yerula.

BALLOTA, village municipality; also the individuals composing it. In Hindustan and Bengal, the republic or village system has been greatly disturbed by the repeated inroads and conquests of foreign races, and the long period of Mahomedan rule, and there the village officers and servants are less complete. But even there the headman and the accountant are almost invariably retained, and some of the other officers and servants are also to be found, and in most instances the offices are hereditary, are capable of being mortgaged or sold, are paid by recognised fees and perquisites, by allotments of grain at the time of harvest, or sometimes by portions of land held rent-free or at a low quit-rent. In the Canarese and Mahratta countries the village authorities are still ruling. They greatly vary in number and in duties; but there are office-holders who claim to be descendants of the persons who first settled, a thousand years ago and more, in the villages they now hold, and similar is to be found amongst the Reddi and Gauda of the south and east. It is this that preserves the Indian villages from the changes which would otherwise have occurred from the irruptions of the many conquering races. Amongst the Mahratta, office-bearers are known as Balute or Alute; amongst the Canarese, as Ayakarru, Ayagarra, or Ayangaudlu.

Head officer, Potail, Reddi, Gauda; assistant do., Changala; accountant, or Kalkarni; district do., Despandi; Chaudari, convener of trades; the money-changer, assayer, gold and silver smith, is Potadar; the barber, Nhawi or Nai; washerman, Parit, Dhobi; temple servant or Gurao; carpenter or Sutar; potter or Kumhar; gatekeeper or watchman, usually a Pariah or Mhar, Mhang, Ramusi or Bhil, called eskar, veskar, tallari; waterman, do., do., do.; astrologer or Josi; shoemaker or Mhang; Bhat or bard; Maulana or Mulla, a Mahomedan priest, and others.

The Mahratta village head, the potail, is also the civil magistrate, and settles petty civil matters to the extent of two maunds of grain, or four or six rupees, and sends higher claims to the tahsildar. In criminal matters he is only the police, and sends all to the Amin. In lieu of pay for the above services, the potail is allowed from 25 to 50 bighas of land rent-free, the land tax being about 3 or 4 rupees the bigha. For the cultivation of his rent-free lands two or four bullocks would be needed, because from 10 to 16 bighas, according as the rains are heavy or light, are all that a pair of bullocks can get over. There are sometimes two or four potails in a village, not always of the same caste; for instance, the village of Khanpur, Zillah of Nandair, has four potails, two Mahratta, a Canarese-speaking lingaet, and a Kulkargah; and there are a few Brahman and Mahomedan and Pariah potails, but a Christian potail is unknown.—*Wilson's Glossary.*

BALLOTA NIGRA. *W.* Black horehound is the Balloté of Dioscorides, and the Ballota of Pliny. B. Hispanica, *Linn.*, has been introduced into India. B. Disticha, *Linn.*, and B. Mauritiana, *Persoon*, are syns. of Anisomeles ovata, *R. Brown.*

BALM, a name applied to several plants and vegetable products. Melissa officinalis of the S. of Europe is the Arabian or common balm; Calamintha nepetha is field balm; and C. officinalis is the mountain balm. All these are natives of Great Britain, and only one M. officinalis is known in India. The resin called balm of Gilead, noted in Scripture, is obtained from incisions in the bark of the Balsamodendron Gileadense, which is a synonym of B. opobalsamum; and this resinous product is also known as balm of Mecca. But in Britain the plant known as balm of Gilead is the Abies balsamea. M. officinalis is alluded to in Genesis xxxvii. 25, xliii. 11; Jeremiah viii. 22, xlvi. 11, and li. 8; and in Ezekiel xxvii. 17. It is a pot herb; the young tops and leaves are used in cookery, and when dry, as tea; raised from seed cuttings, etc. Like all pot herbs, it should be cut, to dry, when in flower, and dried in the shade.—*Jaffrey; Ainslie; Hogg, Veg. King.*

BALMUJ. PANJ. Daucus carota.

BALNA. MAHR. A woman's name, meaning little one.

BAL-NATH, the deity worshipped by the Saura races in Gujerat, identical with the Syrian Bal. The Bul-dan, or sacrifice of the bull to Bal-nath, is on record, though now discontinued amongst the Hindus. A ring was dug up at the Fort Hill, Montrose, which Colonel Tod considered to bear the symbol of the sun-god Bal-nath; around it is wreathed a serpent. Balnath, a hill in the Panjab, the most commanding object within fifty miles of the Hydaspes.—*Tod's Travels*, p. 49.

BALO. JAV. Lac.

BALOGHIA LUCIDA. *Endl.* A middle-sized tree of E. Australia. A beautiful and indelible pigment issues from the wounds in the bark.—*V. Mueller.*

BALOLO, a name of Skardo.

BALOO. SANSK. Sandy. Baloo-desa would be, in the Persian Regist'han, or desert, very applicable to Arabia Deserta.

BA-LOO-LET. BURM. Paratrophia digitata.

BALOR, the name applied to Balti by the Dard race. Fossils are found in the Balor hills.

BALPUR-SIVA, or Siva of the city of Bal, a small temple visited by Colonel Tod. In front of the mythic emblem of the god was Nandi, the vahan or courser, the bull in brass, at one time apparently the sole object of worship of the Saura peninsula.—*Travels*, p. 54.

BAL-RAKSHA. HIND. Gnaphalium, *sp.*

BALSAM, flowering plants of the genus Impatiens, of which numerous species occur in India and China. Towards the close of the rains, the whole of the Western Ghats of India, the Syhadri range, are covered with the balsam, the valves of the ripe fruit opening at the slightest touch and expelling their seed, from which peculiarity the term Impatiens has been given to the genus. It is a pretty sight to see the hills for miles clothed with flowering balsams. Balsams, on the Khassya hills, are next in relative abundance (about 2 to 5) to the orchids, both tropical and temperate kinds, of great beauty and variety in colour, form, and size of blossom. The common garden balsam, in its double state, has long been an object of cultivation. It not only has a tendency to vary with double flowers, but has also the power of continuing to produce them when renewed from seeds. To secure fine balsams, save the seed with great care from the finest and most double flowers only, throwing away all whole coloured and single blossoms. Balsams require to be sown thinly in a box or seed-pan. After the plants are 2 or 3 inches high, they should be transplanted out singly in well-manured soil; if to be grown in pots, they should be put in small-sized ones at first, and re-potted into larger when requisite, which will be when the small pots are filled with roots. The soil best adapted for culture is, two parts strong loam approaching in appearance to brick earth, and two parts well decayed manure, with a little lime, which will aid in preventing mildew, so destructive to the balsam; the pots should be well drained, and the plants must never be neglected in watering.—*Hook. Him. Jour.; Riddell's Gardening; Voigt.* See Impatiens.

BALSAM, the balsem of the Dutch, baume of the French, balsamo of the Italian and Spanish, according to Calmet, is supposed to be derived from Baal-shemen, royal oil. The term designates the products of several plants, some of them of the S. and E. of Asia, but others foreign to these regions, as Brazilian elemi, called also Acouchi balsam, a resin obtained from the Icica heterophylla. Balsam apple is the fruit of the Momordica of Syria, and is applied to wounds. Carpathian balsam, from two species of pine. Copalm balsam is from the Liquidambar styraciflua. Hungary balsam is from the Pinus mugho. Balsam of copaiba is from several species of Copaifera of the West Indies and tropical America. Balsam of Peru is supposed to be got from the Myrospermum Peruiferum of Central America, and one white balsam of commerce is made from it; but white balsam, or myrrh seed, or quinquino, is also obtained from the M. pubescens. Balsams of copaiba, Peru, and elemi are used medicinally. Canada turpentine or Canada balsam is obtained from the Abies balsamea in Canada. Between the bark and the wood of the trunks and branches of these trees are vesicles containing the oleo-resin, which exudes when they are broken. Canada balsam is much used by varnish makers in the manufacture of some of the most transparent varnishes. It is also extensively employed by opticians as a cement. To Balsamodendron opobalsamum, M. Kunth more particularly refers the Balessan of Bruce. The plants in the S. and E. of Asia which yield balsamic products are as under:—

Amyris commiphora.
Balsamodendron Gileadense.
,, opobalsamum.
Buchanania latifolia.
Cedrus deodara.
Chloroxylon swietenia.
Dalbergia sissoo.
Dipterocarpus alatus.
,, angustifolius.
,, grandiflorus, *Wall.*
,, incanus, *Roxb.*
,, lævis, *Ham.*
,, turbinatus, *Gœrt.*
Holigarna longifolia.
Liquidambar altingia, *Bl.*
,, orientale, *Mill.*
Melaleuca minor, *D.*
Melanorrhœa usitatiss.
Odina wodier.
Pinus excelsa.
,, Khasyana, *Brandis.*
,, longifolius.
Rhus verniciferum, *D. C.*
Sethia Indica, *D. C.*
Stagmaria verniciflua.
Tectona grandis, *S.*

Balsam of Peru, Balsamum Peruvianum. The tree, Myrospermum peruiferum, is a native of Central America, from whence, formerly, the balsam was forwarded to Peru for re-exportation to Spain. The drug is obtained by beating and charring the bark, so as to promote the flow of the resin, which is collected by the application of rags to the injured portions of the trunk. It is a resinous fluid, and is imported into India as a surgical application. Balsam of Tolu; Baume de tolu, FR.; Tolutanischer Balsam, GER.; Balsamo de Tolu, SP. The source of the balsam of Tolu is imperfectly known.

BALSAMODENDRON, a genus of plants of the natural order Burseraceæ, *Kth.*, B. Berryanum, B. Roxburghii, and B. Agallochum, occur in India. Dr. Stocks, under B. Roxburghii, *Arnott*, unites Amyris commiphora, *Roxb.*, A. agallocha, *Hort. Beng.*, Balsamodendron agallocha, *Voigt, Hort. Sub.*, B. Roxburghii, *Arnott*, Commiphora Madagascarensis, *Lindl. Flor. Med.*, and a species of Protium, *W. and A.*; and he describes his species as growing in Arabia, Sind, Deesa, Marwar, the Dekhan, Aurangabad, N. India, Silhet, Assam, and the Garo hills. B. Katof is mentioned by Forskal. B. pubescens, *Stocks*, is a small tree, called Baee by the Baluch, native of Sind, much resembling the Googul tree. Its young shoots are fragrant.—*Dr. J. E. Stocks.*

BALSAMODENDRON AGALLOCHA. *W. & A.*

B. Roxburghii, *Arn.*
Amyris agallocha, *Roxb.*
,, commiphora, *Roxb.*
Commiphora Madagascarensis, *Jack.*
Googul-Gubdee, . HIND.
Googala, SANSK., HIND.

This small tree grows to the east and north-east of Bengal, in Silhet, Assam, and the Garo hills, also in the Central Provinces and Panjab. Dr. Royle supposes this to produce the gum bdellium of commerce, and perhaps of Dioscorides; but b'dellium is got also from B. Mukul and B. Africanum. The whole plant, while growing, is considerably odoriferous, particularly when any part is broken or bruised, and diffuses a grateful fragrance, like that of the finest myrrh, to a considerable distance around. Timber worthless, from the rapidity with which white ants devour it. It burns brightly, and makes excellent torches.—*Voigt; Roxb.; Fl. Andh.; Pearson; Jacob.*

BALSAMODENDRON BERRYI. *Arn.*

Protium Gileadense, *W. and A.*
Amyris Gileadensis, *Willde, Roxb.*

Balsam, ... ARAB.
Koughan balsam, HIND., PER.
Balm of Gilead, . ENG.
,, of Mecca, . ,,
Balessan, . . . EGYPT.

A large shrub or small tree, a native of Arabia, Ethiopia, and all over the Madras Presidency. It forms an excellent hedge, and the whole tree has a grateful fragrance. M. Fee ascribes to this tree three distinct products,—balsam of Mecca, a wood called xylobalsamum, and fruits termed carpobalsamum. Tradition is rich in anecdotes relative to the origin of its balsam. The Mahomedans affirm that it sprang from the blood of the slain in Mahomed's conflict with the tribe of Harb, and that the prophet used the balsam for the resuscitation of the dead. It is much used in medicine by the hakims as a stimulant, tonic, and somewhat astringent remedy, and as an external application to indolent sores. It is also employed as a perfume and cosmetic. A mixture of this balsam is made by rubbing together 8 ounces of acacia gum on white muslin, and 2 drachms of Mecca balsam. It is much prized by the Mahomedan physicians as a tonic stimulant, in doses of half to one ounce three times daily.—*Beng. Phar.* p. 375; *O'Sh.* p. 285; *Bedd. Fl. Sylv.*

BALSAMODENDRON EHRENBERGI, *Berg.*, yields myrrh resin. B. mukul, *Hooker*, yields the b'dellium resin.

BALSAMODENDRON GILEADENSE. *Kunth.*

Akuila, ... ARAB.
Balessan, . . . EGYPT.
Balm of Gilead, . . ENG.
,, of Mecca, . . ,,
Rougham balsam, HIND.
Ud-i-Balessan, . PERS.
Tukhm-i-Balessan, ,,

This plant of Arabia is supposed to be one of those that produce the balm of Gilead, the balm of Scripture, and balsamon of Theophrastus and Dioscorides.—*Birdwood*, pp. 20, 21.

BALSAMODENDRON MYRRHA. *Nees.*

Murr, Morr, . . ARAB.
Bola, Bol, . . SANSK.
Heerabol, . . SANSK.
Valati-polam, . TAM.

A native of Yemen; is a small tree with a whitish grey bark, with rough abortive branches, terminating in spines. It yields the myrrh of commerce; the juice exudes spontaneously, and hardens on the bark. It contains gum and resin, acts as a stimulant expectorant, and is used in bronchitis, asthma, and diseases of women; also as an external application to ulcers and sore throats, aphthæ and spongy gums; by hakims it is employed in chronic coughs, induration of the liver, intestinal worms, and amenorrhœa. It is said to cause abortion.—*Birdwood*, p. 20; *Powell's Handbook*, i. p. 338.

BALSAMODENDRON ROXBURGHII. *Arn.*

Amyris commiphora, *Roxb.*
,, agallocha, *Hort., Beng.*
Protium Roxburghianum, *W. and A.*
Commiphora Madagascarensis, *Lind., O'Sh.*
Balsamodendron agallocha, *Voigt.*

Its Resin.

Aflatun, . . . ARAB.
Googul, Googur, BALUCH.
East Indian myrrh, ENG.
B'dellium, ... ,,
βδέλλιον, ... GR.
Μαδελχον of Dioscorides.
Googul, ... HIND.
Mukul, ... ,,
Muql, ... PERS.
Googula, . . . SINGH.
Kookul, ... TAM.
Googulu, ... TEL.

A small tree 4 to 6 feet high. It grows in Arabia, Sind, Deesa, Marwar, Aurangabad, the Dekhan, N. India, Silhet, Assam, Garo hills. It produces a valuable gum-resin, met with in all the bazars of India, and said to constitute the bulk of the article exported from Bengal as East Indian myrrh. Royle considers the Googul identical with the B'dellium of commerce, and he ingeniously traces in Budlyoon and Madelkon (the Greek synonyms of Googul) the βδέλλιον and μαδελχον of Dioscorides. The medicinal properties of B'dellium are exactly like those of myrrh, and it is much cheaper. Dr. Ainslie describes the gum-resin as semi-pellucid, yellowish or brown, inodorous, and brittle, softening between the fingers; in appearance not unlike myrrh, of bitterish taste, and rather strong smell. He states that it was then all brought from Arabia and Persia, where the tree is called Daracht-i-muql.—*O'Sh.* 287; *Ains.* i. p. 29; *Royle*, p. 177; *Birdwood*, p. 21; *Dr. J. E. Stocks.*

BAL SANTOSH, lit., child satisfying; Hindu beggars who ask alms by calling these words.

BAL TAR. SANSK. Borassus flabelliformis.

BALTI, a district of Central Asia, in long. 75° E., and lat. 35° N. Balti extends from the confines of Ladakh westward to the great bend of the Indus. It has Dras and Hasora on its south, and the Kouenlun or Mustagh on the north. The bed of the Indus at Tolti is 7500 feet; at Iskardo, the capital, 7000; at Rondu, 6200; at the great bend, about 5000; and the mean height of its villages above the sea is about 7000 feet. Its chief town of Skardo is 7255 feet above the sea, and Khapalu is 8285 feet above the sea. Balti, or Balti Yul, is called Palolo or Balor by the Dards, and Nang Kod by the Tibetans; and the country is frequently called Skardo or Kardo or Iskardo from the name of its well-known fort and capital. Skardo is called by the Lamas of Ladakh, Skarma-m Do, meaning the enclosed place or the starry place. The mountains which surround the Iskardo plain rise at once with great abruptness, and are very steep and bare. Balti proper is a small table-land, and, with that of Deotsu, is about 60 miles long and 36 broad. The Balti people of Little Tibet, the Byltæ of Ptolemy, though Tibetan in language and appearance, are all Mahomedans, and differ from the more eastern Tibetans of Le, who call themselves Bhotia, or inhabitants of Bhot, by being taller and less stoutly made. Their language differs considerably from that of Le, but only as one dialect differs from another. The people are strong and hardy; they grow corn and cut water-courses like the people of Rongdo, irrigating the land, and using manure, and they are fond of out-of-door and manly games. The houses of Iskardo are very much scattered over a large extent of surface,

so that there is no appearance of a town. They have the Khor country on the east, inhabited by a people supposed to be the Chauranæi-Scythæ of Ptolemy. Iskardo, Skardo, or Little Tibet, was conquered in 1840 for the raja Ghulab Singh, by his general Zorawar Singh, with his Dogra troops. rGylfo, the title of the ruler of Iskardo or Little Tibet, is derived from two Balti words,—rGgyl, powerful, and Fo, a man. The queen is styled rGgyl-mo. Mr. Vigne points to this as the original of the title of Guelph belonging to the royal family of Britain, and of the term Gylfe-koniger, still used to designate the old kings of Denmark.—*Thomson's Trs. in W. Himalaya*, 247; *Latham's Ethn.; A. Cunningham; Vigne, Narrative; Hooker et Thomson*, p. 225; *Yule, Cathay*, i. 234.

BALU. HIND. A bear. Balu-Soor, the Indian hog-badger, Arctonyx Collaris.

BALU. HIND. Sand; hence Balua, sandy, and Bal-sundar, sandy soil.

BALUCHISTAN, between lat. 24° 50′ and 30° 20′ N., and long. 61° 10′ to 68° 38′ E., comprises the extensive regions between the confines of modern Persia and British territory in the valley of the Indus; to the north Seistan and Afghanistan, to the south the ocean, mark its boundaries. Area, 106,500 square miles; population, 400,000 ? The western section comprises the subdivisions of Nushki, Kharan, Mushki, Panjghur, Keej, Kolwah, and Jhow; the maritime section includes the provinces of Las, Hormara, and Pessani; the central section is formed of the great provinces of Saharawan and Jhalawan, to which are to be added the districts dependent on the capital, Kalat, and which are intermediately situated between the two; and the eastern section includes the provinces of Cutch Gandava, Harand, and Dajil, the last two bordering on the river Indus. The most remarkable features of Baluchistan are its rugged and elevated surface, its barrenness, and deficiency of water. It may be described as a maze of mountain, except on the N.W., in which direction the surface descends to the great desert, and on the south, where a low tract stretches along the sea-shore. The more important valleys are Shal, Mustung, Kalat, Baghwan, and Mungochar.

The valley of *Quetta*, or Shal, is situated in 67° E. long., and 30° to 30° 20′ N. lat. It is about 15 or 20 miles in length, and from 4 to 6 in breadth. It is bounded to the westward by the Chah'l Tan range, having a strike of S.S.W. by N.N.E.

The valley of *Kanhee* is situated to the west of, and runs parallel to, that of Quetta, but extends further south. Its length is about 30 miles, and breadth 5 or 6. It is bounded on the east by the great Chah'l Tan range, which separates it from the valley of Quetta, and on the west by a parallel range of much less height, which, towards the north, separates it from the valley of Pishin.

The valley of *Mustung* is to the south of the valleys of Quetta and Kanhee. It extends from about 29° 30′ to near 30° N. lat., and its eastern boundary is nearly defined by the 67° of E. long. It is therefore about 40 miles in length, and varies in breadth from 5 to 8 miles, spreading out towards its upper end, and being gradually constricted towards its lower or southern extremity. It is bounded by parallel ranges, running N.N.E. by S.S.W. of height, probably, from 500 to 800 feet. The range to the eastward is pierced by a pass leading to the Dasht-i-be-Daulat.

The *Dasht-i-be-Daulat* is an elevated valley or plain, situated to the N.E. of Mustung, at the head of the Bolan pass. Its breadth is from 15 to 20 miles. It has no towns or villages, but is occasionally dotted with the tomans of the Kurd tribe. Some portions of it are cultivated in the spring and summer months, but during the winter it is a bleak, howling wilderness, destitute of trees or any shelter; the snow lies deep on it, and cold winds whistle over its frozen surface. It is subject to the depredations of the Kaka (Khaka, Kakar, Kakarr) tribe of Afghans, and caravans are frequently plundered by them. In the summer it is clothed with the fragrant Terk plant, and its surface diversified by fields of waving grain. It has no streams, but one or two wells have been dug, and water obtained with some difficulty; the cultivators are dependent on rain and heavy dews.

The valley of *Mungochar* is situated to the southward of that of Mustung, more circular in form, and of much less extent; destitute of trees, save a few stunted mulberries.

The valley of *Giranee* is situated south of Mungochar, and is distant about 8 miles from Kalat.

The valley of *Ziarat* is situated to the westward of, and runs parallel with, the preceding; is of considerable extent, well watered and cultivated.

Baluchistan was early traversed or noticed by Pottinger, Postans, Ferrier, Burton, Masson, and Mohun Lal; and, more recently, other writers have noticed its features and peoples. Dr. Cook (in Trans. Bomb. Med. and Phys. Society) described the territories as consisting of lofty rugged table-lands and level ground, and their climates as exhibiting the severest heat and the most intense cold. He arranged it into five portions—

The great *central* mountain range or table-land, running north and south, which comprises the provinces of Saharawan, Jhalawan, and Las;

The *mountain district* extending eastward, inhabited by the Murri and Bugti, situated to the south of Sind and Cutchi;

The *province of the plains*, Cutch Gandava;

The *province of Makran*, diversified by mountain and desert, which stretches westward along the sea-coast;

The *great desert* of Seistan to the north of the last-named districts.

Saharawan is the more northern of the central provinces, and blends its confines with the Afghan districts of Pishin and Toba, dependent on Kandahar. It has a length and breadth of about 100 miles each way. On its east are parallel ranges of hills, which separate it from Dadar and Cutchi, with which it communicates by a pass through which runs the river Bolan, leading from Dadar to the Dasht-i-be-Daulat. Mustung district is occupied by the Raisani, Sherwani, Mahmud-Shahi, Bangalzai, and Lari; Gurghina is the land of the Sirpherra; the Dasht-i-be-Daulat and Merv are held by the Kurd; the Laghao are in Mangochar; the Rodani in Ashi Khan and Puden, but also west of Kurdigap, at Iri in Kachi and at Sohrab in Jhalawan; the Ghazghi in Ghazg; the hills west of Khanak are occupied by the Shaikh Husain and Samulari, and the Sunari are in the Dasht-i-Goran.

Jhalawan lies between lat. 26° and 29° N., and long. 65° and 67° 30′ E. It includes the countries stretching in a southerly direction between Kalat and the maritime province of Las. To the west, barren tracts intervening, it has the provinces of Mushki, Kharān, and Kolwah. It comprises the districts of Sohrab, Zahri, Baghwan, Khozdar, Zidi, Kappar, Wad, Nall, and the hills of the Mingal, Bizanju, and Samulari. The pastoral tribes in this province are superior in numbers, the great tribes of Mingal and Bizanju giving them preponderance. The Mehmasini, Nusherwani, and Mirwari occupy the Mushki district. Jhalawan is somewhat less mountainous than Saharawan, and, except its valleys, is very barren. Its people, about 30,000 in number, are chiefly pastoral, very poor and very ignorant. These tribes are largely pastoral and nomade, and have their allotted portions of the country, which they jealously guard. Many of them are traders and horse-dealers, visiting the chief towns of India.

Kharan has two small towns, one of which, Washak, is occupied by the Nusherwani tribe, who claim a Persian descent, and, in common with the Rajput of Udaipur in western India, trace it to the celebrated Nusherwan.

The deserts of Nushki, Chagai, and Seistan are sometimes collectively called the desert of Baluchistan.

The *Kohistan* district is a mountain region lying between Kalat and Cutch Gandava, and is composed of several parallel ranges of limestone rock. Its highest mountain, the Chahal Tan, 12,000 feet, is 85 miles east of Kalat. Its two watercourses are the Bolan and the Mula, which discharge into the plains of Cutchi, also the Gaj and the Nara.

The following heights were obtained by the boiling point of water in the route towards Makran and the return route :—

Kalat, . . .	Feet, 7000	Nokhejo, . .	Feet, 3380
Panderan, ...	5690	Gajer, ...	2960
Nogramma, . . .	470	Juri, ...	3900
Baghwana, . . .	470	Tyak, ...	4700
Khozdar, ...	330	Wujju(Kulgully pass),	5700
Nal, ...	3390	Mutt, ...	5330
Taigab, ...	360	Sohrat, ...	5770
Greisher, ...	4173	Rodings, ...	6580

Throughout Baluchistan, but chiefly in Jhalawan, are great structures, called Ghorbasta or Ghorband, constructed by some prior race, and bearing a resemblance to the Cyclopean remains of Europe. They are built across ravines, and evidently intended for tank bands; their vicinity is all terraced.

The southern part of the modern Baluchistan was made known to Europe by the march of Alexander the Great. On quitting Pattala (supposed to be Tatta) on the Indus, he proceeded with his army through the dominions of the Arabita, a part of the province of Las, and in it forded the Arabis (Purali) river. Westward of that insignificant stream, he traversed the territory of the Orietæ, and thence crossing over one range of mountains, he entered the province of Gedrosia (Makran), in which his troops were thinned by the accumulated hardships of thirst, famine, and fatigue. Craterus, with the heavy baggage and invalid soldiers, marched far to the north by Arachosia and Drangiana, which provinces are included in the modern ones of Kandahar and Seistan. Since the middle of the 19th century, many of the valleys and mountain districts of the northern parts have been repeatedly and successfully marched over in the expeditions of the army of British India, though they also have suffered from want of water, from the heat of the hot weather, and the cold of winter.

Baluchistan and British India are in political alliance, the treaties bearing date 14th May 1854, 8th December 1876. Nasir Khan, in the 18th century, after a contest with Ahmad Shah, acknowledged the latter as his suzerain, agreed to furnish a contingent for war services, and accompanied him to Hindustan. He died A.D. 1795. He was a liberal, just, and brave ruler. His son and successor was Mahmud Khan, who died A.D. 1819, and was succeeded by his son Mehrab Khan, who was killed, 13th November 1839, in the storm of Kalat by the British forces. His son Hasan Khan, after a brief reign of Shah Nawaz Khan, regained power, assumed the title of Nasir Khan, and ruled till his death, A.D. 1857; his half-brother, Khudadad Khan, 16 years of age, succeeded him, but was temporarily put aside by Sherdil Khan, after whose murder in 1864 he resumed authority.

Kalat, the chief town, has about 400 houses within its walls, with suburbs comprising other 400 houses. Kalat is situated in a narrow valley, bounded to the east by the hill ranges extending to Cutch Gandava. In the town are many Brahui, a great number of Hindus, and a large proportion of slaves. The entire suburbs are inhabited by Babi and other Afghans. The agricultural classes are nearly exclusively Dehwars, whom Masson regards as the original occupants, and equivalent to the Tajaks of Afghanistan and Turkestan, and, as with them, their vernacular language is Persian. The Brahui pastoral tribes, belonging to whom is the reigning family, speak a language called Brahui, or Kur Galli.

Cutch Gandava presents a large extent of level surface, has an excessively sultry climate, and great scarcity of water for agricultural purposes. It is inhabited by three very distinctly marked races, the Jat, the Rind (including the Maghazzi), and the Brahui. The Jat are undoubtedly its early occupants; the Rind are more recent settlers; and the Brahui have acquired a permanent interest in the province only since the time of Nadir Shah. The climate is so oppressive from April to August that communications are nearly suspended, and travelling is attended with great risk, from the hot winds which sweep with fatal violence over the parched, arid plains. No less terrific are the emanations emitted from the heated surface of the soil. This noxious hot wind is known as the Bad-i-simoom. But in winter its climate is temperate, and the Khan of Kalat, and all the Rind, Brahui, and well-to-do Baluch resort to it. It is their wintering land. It has the Bolan, Moolla, and Nari rivers. Its chief towns are Gandava, Bagh, Dadar, Kajak, Leri, Haji ka Shahar, Kotru, and Mirpur.

Nushki lies between the desert of Seistan on the west and the Gurghina district of Saharawan on the east. The Kaisar river runs through it; asafœtida and rhubarb grow wild. It is occupied by the Zigger Minghal and the Rakshani Baluch. They have large flocks of sheep and herds of cattle, and remain there all the year round.

Makran, the ancient Gedrosia, is partly Persian

and in part belongs to Baluchistan, lying between Persia and the Baluch province of Las. Its seaboard extends from Ras Malan to Ras Jashk. On its coast line are the districts of Hormara, Pasni, Kolanch, Guadar, Juni, Baho Dastyari, Chaobar, and Kibla; and inland are Kolwa, Panjur, Kej, Tump, Mand, Pishin, Sarbaz, Dizak, Kasarkand, and Geh. It is traversed from east to west by parallel ranges of mountains, and has several rivers, the beds of which are dry for many months. The tribes are chiefly Baluch, Gichki, Boledi, Malika, also Nusherwani, Bizanju, Narui, Hot, and Rind, and the Brahui Mirwani. Other less important tribes are Ashkani, Band, Birdi, Gaja, Gorji, Jatgal, Kaodai, Kalmati, Ketwari, Lagaori, Kosagi, Kotigi, Mulai, Maidizai, Puzh, Raisi, Singalu, Shazadah, Shehi, Sanjadah, Sangorif, Wardili, and Zishtkhani. The inferior tribes are Bahari, Durzadah, Korwa, Langao, Lori, Lundi, Med, and Zati; and the unorthodox Baluch tribes are the Dai or Zikri, the coast tribes of Med, Korwa, and Raisi; also the Biadiah, and the Khoja, or Lutia. The language of Makran is a patois of Persian, with many Arabic words and phrases. The races are true to their undertakings; they number about 200,000 souls. The more important harbours are Sunmiani, Hormara, Kolmat, Guadar, Juni, and Chaobar.

Panjgur district of Baluch Makran consists of a cluster of forts and villages amongst groves of date trees.

Kej, the most western district of Baluch Makran, has a cluster of villages and forts, situated in the great valley, about 12 miles wide, that traverses the country of Makran from east to west. The chief families are the Gitchki, of Hindu descent, with two clans, the Malikzai and Esazai; also the Raizi and Mulai. Above half the population of Kej are of a religious sect called Zigger, who dispense with many prayers, rites, and ceremonies of orthodox Mahomedanism.

Kolwah province is four or five days from the coast, north of Hormara. It is sterile, but inhabited by the Mirwari, Homerari, Rodahi, and Nusherwani tribes.

Jhow is a small province west of Las, from which it is separated by a range of mountains. Its inhabitants are the Mirwari and Halada tribes, the latter are Brahui, and pastoral.

Las has an area of about 5000 square miles. It is a flat plain, barren, and lies between mountains and the sea, and has the Purali river, the Arabis of the Greeks, and other streams, the banks of which are fertile. Its towns are Bela, Utal, Sunmiani, and Liari. The chief inhabitants are the Lassi division of the great Lumri tribe, with Hindu and Khojah traders.

Bela in Las, built on the Purali river, seems to have been preceded by another town, the sepulchres of which are about five miles westward, where coins and trinkets are occasionally found. Funeral jars are also brought to light, filled with ashes, charcoal, and other incinerated substances. In the nearest point of the contiguous hills separating Las from Jhow are numerous caves and rock temples. Captain Postans says (p. 359): 'The tribe of Beerovees, who dwell near Beila, made a practice of selling their children when in want, which appeared to be generally the case, as no difficulty was experienced in obtaining them whenever required.'

Hormara, a sea-coast district of Baluch Makran, has about 1000 Med fishermen, with a few Hindu and Khojak traders.

Pasni or Passani, also a sea-coast district, is occupied chiefly by the Kalmati.

Saharawan and Jhalawan are ruled by hereditary chiefs, who have their hereditary standard-bearers. The place of the Saharawan chief, in council and in war, is on the right of the Khan; that of the Jhalawan chief is on his left. Las also has usually been governed by a hereditary chief, called the Jam; but this ruler rebelled, and became an exile in British territory.

The Baluch have three great sections, Narui, Rind, and Maghazzi; and Pottinger, writing in the early part of the 19th century, gave the following list of their subdivisions and the numbers of their fighting men:—

Narui.

Arbabi,	6000	Ming or Mind,	300
Khasoji,	150	Rakshani,	700
Kurd or Shahidi,	4500	Sajadi,	450
Malika,	250		

Rind.

Boledi,	900	Kharani,	1000
Bugti,	...	Kosa,	150
Chachri,	1500	Lagari,	5000
Changia,	100	Lurd,	1000
Dinari,	700	Mari,	...
Dirishk,	500	Mazari,	2500
Doanki,	80	Mundastri,	1500
Dumki,	...	Nusherwani,	700
Ghulambulk,	700	Pogh,	300
Gurchani,	3000	Puzhi,	600
Jalambani,	800	Rindani,	8000
Jatui,	75	Umrani,	4000
Kalui,	700		

Maghzi.

Abra,	3000	Lashari,	20,000
Birdi,	200	Maghzi,	8000
Isobani,	...	Mataihi,	1000
Jakra,	...	Musani,	6000
Jakrani,	...	Nari,	500
Jatki,	4000	Turbandzai,	...
Kakrani,	...	Unar,	...
Kalandarani,	700		

The Rind, one of the principal divisions of the Baluch tribes, have a tradition that they came originally from Aleppo.

The affinity of the Baluchi to the Persian language affords of itself strong evidence in favour of the surmise that they came from the westward; and the majority of the Baluch nation dwell on the western frontier; neither hair, features, manners, nor language bear the slightest similitude to those of the Arabs.

Brahui Tribes.

Bajai,	700	Isirani,	...
Bambakzai,	...	Jaiani,	60
Bangalzai,	...	Jaikho,	...
Barjai,	1000	Jamalzai,	...
Bhuka,	300	Kaisari,	1000
Bhuldra,	300	Kajan Buledi,	7000
Bizanju,	1000	Kala Dai,	300
Chamrozai,	...	Kamburani,	1000
Changozai,	...	Kantinzai,	...
Chotwa,	700	Kari,	1500
Debaki,	4000	Karu Chaku,	500
Dodai,	...	Khidrani,	5000
Gajage,	200	Kolachi,	250
Galusuri,	700	Kuchka,	300
Gulzai,	...	Kulcha Bhagwa,	500
Gurganani,	300	Kurda,	200
Gwarani,	...	Kuri,	150
Haruni,	200	Lagi,	3000
Hasani,	...	Mahmudani,	500
Imam Husaini,	2000	Mahmud Shahi,	3500

Brahui Tribes—*continued.*

Mihrani,	...	Ramazanzai,	...
Mingal,	10,500	Ridi,	1700
Mirwari,	7000	Riki,	700
Momasini,	1500	Rodani,	600
Muraha,	1000	Rodanzai,	...
Muri,	300	Saharawani,	10,000
Murui,	...	Samozai,	...
Musuwani,	1000	Sarfarani,	2500
Nagri,	2000	Sasuli,	200
Nasir Rodani,	3000	Shadanzai,	...
Nichari,	2000	Shahozai,	...
Pandarani,	3000	Sherwari,	8000
Poatyi,	...	Sherzai,	...
Purjahai,	200	Shuja-ud-Dini,	1000
Rahzai,	...	Sumlari,	4000
Raisani,	1500	Zahri,	8000
Raisatko,	100		

The Brahui appear to have been a nation of Tartar mountaineers, who settled at a very early period in the southern parts of Asia, where they lived a nomade life in small khels or societies, headed and governed by their own chiefs and laws, for many centuries; and at length they became incorporated, and obtained their present footing at Kalat and throughout Baluchistan. Some amongst them affirm that the name is a compound of an affix boan, and roh, a word said to mean a hill, the Baluchi being called in one quarter of the country Narui, which means 'lowlanders,' *i.e.* literally not hillmen, a name they received from the Brahui when they came amongst them, and evinced a preference for the champagne districts, low villages, and plains. The Brahui imagine themselves the aborigines of the country.

The Baluch and Brahui take their tribal names either from the chief under whom they serve, the district or country to which they belong, or the traditions as to whence they derive their descent. The Gurgani, Sherwari, and Sherzai take from gurg and sher, respectively a wolf and a lion; the Lumri, from lumri, the fox; the Jamalzai, Changozai, Shadanzai, and Gulzai, from the terms jamal, chango, shad, and gul, severally meaning beautiful, good, happy, and rose; the Dodzai, from 'do,' two, being two united tribes, etc.

The Kurd, who inhabit the Dasht-i-be-Daulat, doubtless came from Kurdistan, and made choice of the Dasht-i-be-Daulat. Many of the Jhalawan tribes are undoubtedly of Rajput origin; and until lately the practice of infanticide prevailed amongst them. Near Bagwana was seen a cave in the rock filled with the dried mummy-like bodies of infants, some of which when seen had a comparatively recent appearance. Burton states (*Scinde*, p. 244) that the Baluchi were in the habit of putting to death their female children by concubines and unmarried girls, either by means of opium or drowning in milk.

Grammars of the languages show that the Baluch is of the Aryan or Sanskrit stock, and the Brahui of the Scythic or Turanian family. Lieut. Pottinger mentions that the Baluchi tongue partakes considerably of the idiom of the Persian, and at least one-half of its words are borrowed from that language, but greatly disguised under a corrupt and unaccountable pronunciation. The Brahui, on the contrary, is, he says, so dissimilar in its sound and formation, that he did not recollect to have marked in it a single expression in any way approaching to the idiom of the Persian.

Dr. Caldwell regards the Brahui as derived from the same source as the Panjabi and Sindi, but it unquestionably contains a Dravidian element. The discovery of this element beyond the Indus river, supports the view that some of the Dravidians, like the Aryans, the Græco-Scythians, and the Turco-Mongolians, entered India by the N.W. route. According to Mr. Campbell (pp. 54–56), Brahui is mainly Aryan (Indo-Persic), with a Turanian element. The contour of the people of these two classes, Brahui and Baluch, is as unlike, in most instances, as their languages, provided they be descendants of a regular succession of ancestors of either; but the frequent intermarriages which take place amongst them have tended in some degree to blend together the peculiar characteristics of both, so that in many families, and even in whole tribes, they have ceased to exist. The typical Brahui are certain tribes in Saharawan and Jhalawan.

The Brahui are a nomade race, always residing in one part of the country during summer, and migrating to another for the winter season. They likewise change their immediate place of resort many times, in search of pasturage for their flocks,—a practice rare among the Baluch tribes. The Brahui, instead of the tall figure, long visage, and raised features of their fellow-countrymen, have stout, squat figures, short, thick bones, with round faces and flat lineaments. Numbers of them have brown hair and beards. The Kamburani, the chief tribe, are subdivided into three distinct gradations of rank, called Ahmedzai, Khani, and Kamburani. The first supplies the khan; the Khani are of the secondary rank of chiefs. The term Kamburani includes all the remainder of the tribe, but in common is applicable to the whole body. They receive wives from, but do not marry their daughters into, other tribes.

The *Baluch tribes*, Rind and Maghzi, are settled in Cutch Gandava, to which fertile plain they have emigrated at different periods from the province of Makran, and have become incorporated with the Jat, or cultivators of the soil, as the subjects of the Khan of Kalat; a few of these likewise reside in the hills to the N.E. of Cutch Gandava, and skirts of the deserts north of Kalat. The Sacæ, who formed part of Alexander's army, and whose country is stated by Wilson to have been that lying between the Paropamisan mountains and Sea of Aral, still, it has been said, exist as a tribe of the Brahui of Jhalawan.

The Baluchi have by no means a pure and unbroken descent from any one source. They claim to be Arabs from Aleppo. In many cases the outline of their physiognomy is very similar to that of the Arabs of Egypt and Syria; and if such a Baluch were dressed in the Arab dress, it would be exceedingly difficult to detect his nationality. Others are Sindians who fled to the hills on the invasion of their country by the Mahomedans.

The whole of the tribes, Brahui and Baluch, are nominally subject to the Khan of Kalat as chief of all, but his power varies with his popularity. The nomade tribes reside in tomans, or collections of tents. The tents are made of goat's hair, black or striped; the furniture is very simple, —a few metal cooking-pots, a stone hand-mill, some rough carpets with a rug, a distaff for spinning wool, and a hookah, are all that are usually found in a Brahui tent. That of the chief may perhaps be better furnished, and he is richer than his neigh-

bours in flocks and herds. The dress of the poorer classes is made up of a long tunic, trousers loose at the feet, and a black or brown overcoat or cloak, usually of felt, kummerbund and sandals. They wear a small cap, either fitting tight to the outline of the head, or dome-shaped, with a tassel on the top. Those of the higher classes are elaborately ornamented with gold thread. Few wear turbans; but the Baluch have them preposterously large, of white muslin. The higher classes are somewhat better dressed, and carry lungees or scarfs, which they throw around their shoulders in exactly the same manner as a Scotch plaid. Instead of the cholo, Baluchi women generally wear the gaghgho, a long shift opening behind between the shoulders, and with half arms. It is generally made of red or white stuff, reaches almost down to the ankles, and is elaborately worked at the breast. Red is the fashionable colour. Among the poorest no trousers or drawers are worn under it.

The women tie their hair in a knot behind, brushing it smooth in front, and keeping it in place by a kind of fixature. The colour of the hair is frequently brown or red. The men wear their hair long and flowing over the shoulders, whilst a luxuriant beard falls over the breast.

Baluchistan is rich in mineral productions; copper, lead, iron, antimony, sulphur, and alum abound in various parts; while common salt is too plentiful to be advantageous to vegetation. On the high road from Kalat to Cutch Gandava is a range of hills from which red salt is extracted. Sulphur and alum are to be had at the same place. Ferrier saw quantities of white and grey marble in the mountains to the westward of Nushki, but it does not seem to be at all prized by the Baluch. The best timber the Baluchi have is the Upoors, the Zizyphus jujuba and tamarind trees, both of which are remarkably hard and durable; also the Babul, Farnesian mimosa; Lye, or tamarisk; Neem, or Melia azadirachta; Pipul, or Ficus religiosa; Sissoo, or Dalbergia sissoo, *Roxburgh;* Chinar, Platanus orientalis. The Brahui, unlike all other Mahomedan people, have no syuds, pirs, mullas, or fakirs, or any persons pretending to inspiration or sanctity amongst them, and are compelled, while holding the craft in due reverence, to seek them amongst strangers.—*Richard F. Burton's Scinde,* p. 244; *British World in the East; Ritchie; Ferrier's Journeys; Pottinger's Travels, Beluchistan and Sinde; Masson's Narrative; Masson's Journeys; Masson's Kelat; Postans' Personal Observations; Dr. Cook; Imp. Gaz.; Caldwell's Comparative Grammar; Mr. (Sir Geo.) Campbell,* pp. 54–56.

BALUNG-GACH. BENG. Sweet basil; Ocimum basilicum.

BALUNGOO. HIND. Seeds of Dracocephalum Royleanum; black, one-eighth of an inch long, pointed, mucilaginous, and slightly aromatic.

BALUR. HIND., PERS. Crystal; rock crystal.

BALU RAKKASI. CAN. Argemone Mexicana; in Telugu, Fourcroya gigantea.

BALUSU KURA. TEL. Canthium parviflorum. Kura signifies 'vegetable.' In a verse of the Bharata, where Krishna, having been fed by a hunter or savage, his attendant asks, 'Is the Balusa kura which you received from Panchalikudu equal to salyodanam (fine rice) apupa (cakes), saka (vegetables), supam (pulse)?' It is also a common proverb, 'Whilst life remains, I can subsist on the leaves (kura) of the Balusu;' implying submission to any necessity however grievous.

BALUT. HIND. Quercus incana.

BALUTA, also written Balote, or Bara Balute, the village servants in S.W. India, who, with the inferior servants Alute and Narakaru, vary in number in different parts of India, from six to twenty-seven, and have different designations. In most cases their offices are paid by recognised fees and perquisites, by allotments of corn at harvest-time, or by portions of land held rent-free or at a low quit-rent. The offices are mostly hereditary, and are capable of being mortgaged or sold. They are a municipality, and could be employed to the benefit of the country. Wilson enumerates them as the Potail or headman; Kalkarni or accountant; Chaudari, head of the trades; Potadar, or assayer, money-changer, silversmith; Despandi, district accountant; Nhawi or barber; Parit or washerman; Gurao, temple servant; Sutar, carpenter; Kumhar, potter; Eskar or Mhar, gatekeeper; and Josi, astrologer. Amongst the Canarese people the village servants are styled Ayagaru or Ayengandlu, or those who share in portions of the crop, for services.—*Wilson's Gloss.*

BA-LU-WA. BURM. Abelmoschus moschatus.

BAM. HIND. A fathom.

BAM, said to be an exclamation of salutation interchanged by saiva mendicants carrying the water of the Ganges. Perhaps a misprint for Ram Ram Mahadeo?—*Wilson.*

BAM. ARAB. Melia sempervirens.

BAMA. HIND. Red-flowered variety of Coronilla grandiflora, *Linn.*

BAMAH. HEB. A high place; worship in high places. Habamah, highland.

BAMARI. HIND. Eclypta erecta.

BAMAU, a close-grained wood of Akyab and Pegu? prized by Karens for bows. A cubic foot weighs 52 lbs. Average length of the trunk to the first branch is 30 feet, and average girth measured at 6 feet from the ground is 6 feet.—*Dr. Brandis, Cal. Ex. Cat.*

BAMBA, an Aryan race in the hills beyond the Jhelum or Hydaspes, on the Panjab frontier. They were originally Brahmans, but are converts to Mahomedanism.

BAMBAL of Kaghan. Viscum album, *L.*

BAMBALAS, also Bambalimas. TAM. Bambali, MALEAL. Citrus decumana.

BAMBAN GAUR. A class of Gaur Rajputs.—*W.*

BAMBANIA. HIND. A subdivision of the Khachhi tribe of cultivators.—*Wils.*

BAMBOO.

Wa, Wa-bo, Pe-lau,	BURM.	Nai, . . .	HIND., PERS.
Penang-wa, . .	,,	Preng, ...	JAV.
Wa-gna-khyat, .	,,	Mambu, Buluh, .	MALAY.
Chuh, ...	CHIN.	Kul-mulla, .	MALEAL.
Bans, B'hans, . .	HIND.	Mungil, Munjil, .	TAM.
Nirgali Bans, . .	,,	Bongu veduru, . .	TEL.
Bar b. ans Garu b.,	,,	Penti veduru, Potu v.,	,,

Of the bamboo, the most gigantic of the grasses, there are many genera and species, which are applied to so many useful purposes, that it would be difficult to point out an object in which strength and elasticity are requisite, and for which lightness is no objection, to which the stems are not adapted in the countries where they grow. They vary in size from that of a reed to that of a tall and slender palm tree; and the South Asia genera comprise species of arundinaria, bambusa,

beesha, three of dendrocalamus, with species of gigantochloa, nastus, and phyllostachys.

For *building* purposes, they are used for frame-works of houses, the uprights, flooring, planking, roofing, and thatching, with all the needed scaffolding;

Also for all *household* furniture, chairs, seats, bed-posts, couches, cots, tables, blinds, screens, and mats; also as pans, baskets, buckets, boxes, hollow cases, cooking pots, and cups; likewise as tongs, forks, and knives; also for pipe-sticks, musical instruments, weaving implements, and handles for umbrellas and parasols.

Conveyances of kinds, palanquins, dhoolees, palanquin and dhoolee poles, litters of kinds, biers, carts, tent poles and shoulder poles, are all made of bamboo.

For *war* and the chase, they make bows, arrows, and quivers; lance, javelin, and spear shafts; spears, daggers, and arrow heads; stockades, rockets; fire-works, and the sumpitan blow-pipe.

Fishers make stakes for nets, fishing-rods, fish poles, and crab nets.

For *agricultural* purposes, the harrow, the hoe, the clod-crusher, durable water-pipes, conduits, levers for wells, fences, raised floors for rice stores, portable stages, hencoops, bird-cages, the floors and supporters of bridges, ladders, platforms.

For *seafarers*, the bamboo provides spars, oars, yards, masts, deck planking, flag poles, outriggers, and rafts for floating heavy timber; while for the *learned*, books, paper, rulers, and pencil are all made of bamboo.

Bamboo *bows* and *arrows* are in common use wherever the bamboo is obtainable. The harder and thicker sorts, split and formed with tapering ends, make a very strong and elastic bow; a narrow strip of the outer skin of the same is used for the string; and the slender, reed-like kinds make excellent arrows. One of the few agricultural implements used by the Papuans, a *spud* or *hoe* for planting or weeding, is made of a stout bamboo, cut somewhat like a spear head.

Ladders are made of two bamboos of the required length, by cutting small holes just above each ring, to receive the rungs or steps, formed of a more slender bamboo. Malays make wonderfully light scaling-ladders, which can be conveyed with facility where heavier machines could not be transported. In their search for honey and bees-wax, the tribes of the Archipelago make a ladder by driving bamboo pegs into the tree three feet apart, and a straight bamboo is fastened to their outer ends, thus forming with the tree a ladder, which they build higher as they ascend. The bamboo can be split with great facility and accuracy, and, owing to its being hollow, it can be easily cut across or notched with a sharp knife or hatchet. By cutting off the end very obliquely just beyond a joint, a very sharp cutting point is obtained, suitable for a spear, dagger, or arrow head, as effective as a weapon as iron. Such spears are used by all the Malay races. The *masts* and *yards* of native vessels in the Archipelago are almost always formed of bamboo, as it combines lightness, strength, and elasticity in an unequalled degree. Two or three large bamboos form the best outriggers to canoes, on account of their great buoyancy. They also serve to form *rafts;* and in the city of Palembang in Sumatra is a complete street of floating houses supported on rafts formed of huge bundles of bamboos. The Dyaks make bamboo *bridges* to cross streams, and also carry footpaths along the face of precipices, formed wholly of bamboos ingeniously hung from over-hanging trees by diagonal rods of bamboos so as to form true suspension bridges. The flooring of Burma and Malay houses is almost always of bamboo. They are split lengthways twice, and the pieces tied down with a rattan; or the bamboos are split down one side, opened out and spread flat. In Lombok and Macassar, *houses* are made entirely of bamboo, — posts, walls, floors, and roof all being of this one material; also every article of their furniture,—chairs, sofas, and bed-steads, blinds, screens, mats, baskets. For *water vessels*, some of the lighter kinds are cut into lengths up to five feet, a small hole being knocked through the septa of the joints and three or four of these vessels are tied together and carried on the back. Water pipes and aqueducts are also made from bamboo tubes; measures, drinking vessels, water dippers, tobacco boxes, and tinder boxes. Single joints of bamboo make excellent *cooking* vessels for rice, fish, and vegetables. They serve, too, for jars; and pipes and hookahs can also be formed from them. In Sumatra, the framework of the *houses* of the natives is chiefly composed of this material. In the floorings, whole stems, four or five inches in diameter, are laid close to each other, and across these stems laths of split bamboo about an inch wide are fastened down with filaments of the rattan cane. The sides of the houses are closed in with the bamboo, opened, and rendered flat by splitting or notching the circular joints on the outside, chipping away the corresponding divisions within, and laying it in the sun to dry, pressed down with weights. Whole bamboos often form the uprights; and the house is generally roofed in with a thatch of narrow split bamboos, six feet long, placed in regular layers, each reaching within two feet of the extremity of that beneath it, by which a treble covering is formed. Another and most ingenious roof is also formed by cutting large straight bamboos of sufficient length to reach from the ridge to the eaves, then splitting them exactly in two, knocking out the partitions, and arranging them in close order with the hollow or inner sides uppermost; over which a second layer, with the outer or convex sides up, is placed upon the other in such a manner that each of the convex pieces falls into the two contiguous concave pieces, covering their edges, the latter serving as gutters to carry off the rain that falls upon the upper convex layer.

In China, the *shoots* are boiled, pickled, and comfited; the *roots* are carved into fantastic images of men, birds, monkeys, or monstrous perversions of animated nature, or are turned into oval sticks for worshippers to divine whether the gods will hear or refuse their petitions. The tapering *culms* are used for all purposes that poles can be applied to,—carrying, supporting, propelling, and measuring; by the porter, the carpenter, and the boatman; for the joists of houses, the ribs of sails, the shafts of spears, and the wattles of hurdles; the tubes of aqueducts, and the handles and the ribs of umbrellas and fans. The *leaves* are sewed upon cords to make rain-cloaks, swept into heaps to form manure, and matted into thatch to cover houses. Cut into

splinths and slivers of various sizes, the *wood* is worked into baskets and trays of every form and fancy; twisted into cables, plaited into awnings, and woven into mats for scenery of the theatre, the roofs of boats, and the casing of goods. The shavings even are picked into oakum, and mixed with those of rattan to be stuffed into mattresses. The bamboo furnishes their bed for sleeping and the couch for reclining, the chopsticks for eating, the pipe for smoking, and the flute for entertaining; a curtain to hang before the door, and a broom to sweep around it; together with screens, stools, stands, and sofas for various uses of conveniences and luxury in the house. The mattress to lie upon, the chair to sit upon, the table to dine from, food to eat, and fuel to cook it with, are alike derived from it; the ferule to govern the scholar, and the book he studies, both originate here. The tapering barrels of the 'song' or organ, and the dreaded instrument of the lictor, one to make harmony and the other to strike dread, the skewer to pin the hair and the hat to screen the head, the paper to write on, the pencil handle to write with, and the cup to hold the pencil, the rule to measure lengths, the cup to gauge quantities, and the bucket to draw water, the bellows to blow the fire, and the bottle to retain the match, the bird-cage and crab-net, the fish-pole and sumpitan, the water-wheel and aqueduct, wheelbarrow and cart, etc., are one and all furnished or completed by this magnificent grass, whose graceful beauty when growing is comparable to its varied usefulness when cut down.

In the *Malay Peninsula* and *Sumatra*, the bamboo is formed into a wind instrument. On nearing one of these, says a writer, our ears were saluted by the most melodious sounds, some soft and liquid like flute notes, and others deep and full like the tones of an organ. These sounds were sometimes low, interrupted, or even single, and presently they would swell into a grand burst of mingled melody. I can hardly express the feelings of astonishment with which I paused to listen and look for the source of music so wild in such a spot. It seemed to proceed from a clump of trees at a little distance, but I could see neither musician nor instrument, and the sounds varied so much in their strength, that their origin seemed now at one place and now at another, as if they sometimes came from mid air and sometimes swelled up from the mass of dark foliage, or hovered, faint and fitful, around it. On drawing nearer to the clump, my companions pointed out a slender bamboo which rose above the branches, and whence they said the musical tones issued. I was more bewildered than before, but they proceeded to explain that the bamboo was perforated, and that the breeze called forth all the sounds. Here was the most wonderful of all the applications of the bamboo, converting an entire bamboo, rough from the jungle, and thirty or forty feet in length, into a musical instrument by simply cutting a few holes in it. They are called bula ribat, or bula perinda (storm or plaintive bamboo). As we proceeded, and when the notes had died away in the distance, our ears were suddenly penetrated by a crash of grand thrilling tones, which seemed to grow out of the air around instead of pursuing us. A brisk breeze which soon followed, and imparted animation to the dark and heavy leaves of the gomuti palms, explained the mystery, while it prolonged the powerful swell. As we went on, the sounds decreased in strength, and gradually became faint, but it was not till we had left the bamboo of the wind far behind us, and long hidden by intervening trees and cottages, that we ceased to hear it. Marsden, in his Dictionary, gives the quotation, 'Terlalu amat mardu bunyinia seperti buluh perrindu rasania,' which he translates, 'Most melodious was the sound, affecting the sense like supernatural music.' Those seen in Rambau and Naning had a slit in each joint above a certain height, so that one bamboo possessed 14 to 20 notes, each of which varied in itself according to the strength of the breeze. The joints decrease in their bore from the bottom to the top, and the slits also differ in their size and shape.

In *Timur*, a musical instrument is formed from a single joint of a bamboo by carefully raising seven strips of the hard skin to form strings, which remain attached at each end, and are raised up by small pegs wedged underneath, the strings being prevented from splitting off by a strongly plaited ring of the same material bound around each end. An opening cut on one side allows the bamboo to vibrate in musical notes when the strings are pulled. The 'gamelung' of Java is made by sets of gongs and metallic plates.

About *Hong-Kong* and *Canton*, several kinds of the bamboo are very common. There is a yellow variety with beautiful green stripes painted on its stems, as if done by the hand of a most delicate artist. But, like the Indian varieties, they grow in dense bushes, their stems are not remarkable for their straightness, and the large joints and branches which are produced on all parts of the stem give it a rough surface, and consequently render it unsuitable for fine work. These tropical jungly-looking bamboos disappear in the more northern latitudes, and in their places we have the mowchok, the long-sin-chok, the hoo-chok, and one or two others, all with clean stems and feather-branches, suited for the most delicate kinds of work, and all 'good for food.' These bamboos invariably grow in a rich yellow loam on the slopes of the hills.

Almost all the common *paper* of China is made from bamboo foliage. In the Himalayas, also, large water-tanks are constructed in the fields for steeping the bamboo stems in a solution of lime. They are then taken out and beaten upon stones until they become quite soft, or till all the flinty matter which abounds in their stems is removed. A *fibre* for textile purposes can be got from bamboo. To prepare the fibre, the knots or joints are cut with a circular saw. A quantity is then placed in a tub or boiler having a perforated steam-pipe at the bottom. Cold water and then caustic soda is put in, the quantity of the latter being governed by the quantity of the bamboo, and determined by experiments, since some kinds of bamboo require more soda than others. Steam is then turned on, and the boiling kept up for four or five days with the caustic soda. The caustic liquor is then drawn off and fresh water poured on, and then another boiling for four days. This is repeated. The bamboo is then put into a sort of mangling machine, with a roller of 3800 lbs. to crush it. Several other processes then take place, and the fibre is then put up in bales ready for scouring and dyeing, and for mixing with wool, silk, cotton, or any other fibrous substances. It is said to mix

readily with almost anything, and takes colours without difficulty.

A *fungus* like a mushroom grows at the root of the bamboo, and it is regarded by the Burmese as quite a specific for worms. Some European physicians also deem it a superior anthelmintic.

The best places for bamboos are near water, wells, tanks, or streams. The stems run up to almost their entire length before they throw out any of their branches,—an interesting provision of nature; for if the lateral shoots were developed before, they could not possibly rise through the thick network of branches above, and attain that form of grace and beauty which nothing in nature can surpass. The ordinary great bamboo of India is known to grow 40 feet in 40 days in the moist jungles, and Indian bamboos at Cairo grew 10 inches in one night. In Ceylon, the rapid growth of the bamboo was made use of under native rule as a means of carrying out a sentence of a cruel death. The criminal or victim was laid on the ground over a bamboo sprout, which speedily made a way through his body.

The Garo, Bodo, and Kachari races perform sacrifice before a bamboo fixed into the ground.

Bamboos are taken to Britain chiefly as dunnage in the holds of vessels, and used principally for making umbrella sticks, light garden seats, and handloom weavers' reeds, etc.

Bamboo Rice.—The bamboo flowers once in 30 to 60 years, and dies. In most districts in which they grow, the bloom makes its appearance in January, and by the end of March the seeds are ripened, when the natives watch for the first shower of rain to throw them down. On the Sheveroy hills it rained heavily on the 1st and 2d of April in 1872, and on the 3d groups of native men, women, and children were seen entering the bamboo jungles at the base of the hills, with baskets, sieves, and brooms, for the purpose of collecting the seed for food. A Madras measure of the seed when cleaned yields half a measure of grain; the grain is small, about one line in thickness, a quarter inch in length, of a light brownish colour, oblong in shape, pointed at both extremities, and rounded off on one side, and on the other it is flat, the germinal spot being placed at an extremity facing the rounded side, and indicated by a slight depression at the part. The grain is readily boiled, when it has all the appearance, taste, and flavour of the ordinary rice, the Oryza sativa. One Madras ollock of the clean grain, weighing $15\frac{1}{4}$ tolas, when boiled yielded $2\frac{3}{4}$ ollocks of boiled rice, weighing $29\frac{3}{4}$ tolas by weight. The grain makes good healthy food, and is largely partaken of by the poor in districts where it can be collected; in some parts of India the grain is eaten raw; also used to distil country arrack from, and like ordinary rice on all occasions when procurable. Large flowering in the Soopah forests took place in the spring of 1864, during which about 50,000 people assembled from neighbouring districts to collect the seeds, which they used as rice. Fever is said to prevail where tracts of bamboos are seeding. Capt. Sleeman mentions that all the large bamboos, whose clusters and avenues formed the principal feature in the beauty of Dehra Doon ever since the valley became known to us, or for the last quarter of a century, ran to seed and died on one season, as well those transplanted from the original stock the previous season as those transplanted twenty years ago. The people of the hill and jungly tracts of central India calculate ages and events by the seedings of the hill bamboos; a man who has seen two Kutungs, or two seedings of the bamboo, is considered an old man,—perhaps sixty years of age.

Immense quantities of fine bamboos are floated down the various rivers of the western coast of India. They are one of the riches of those provinces. They are ordinarily 60 feet long and five inches in diameter near the root; these are readily purchased standing at 5 rupees per 1000, and small ones at $3\frac{1}{2}$ rupees per 1000. Millions are annually cut in the forests, and taken away by water in rafts or by land in carts. From their great buoyancy, they are much used for floating the heavier woods, as Terminalia tomentosa and Dalbergia arborea, and piles of them are lashed to the sides of the pattimars going to Bombay. The larger ones are selected as outriggers for ferry boats, or studding-sail booms for small craft. In addition to the vast export by sea, it is estimated that two lakhs are taken from the Soopah taluq eastward. The Malabar bamboo is much smaller than that of Pegu (Bambusa gigantea), which is 8 inches in diameter. Immersing in water, or, better still, in a solution of sulphate of iron or lime water, extracts the sweet sap, which would otherwise induce decay. But when it is intended to split the bamboos for reepers, this should be done before steeping them in the metallic bath. The merchants on the western coast of India prefer the water-seasoned bamboos which have been months in the water attached to the rafts that are floated down the Nelambur and Sedasheghur rivers to the sea. The bamboos are brought down in immense floats, tied together in bundles of fifty by the root ends, which are turned towards the fore part of the float. Enormous quantities are annually rafted down the Ganga and Ramganga rivers, and down the Ganges canal.

Bamboo Caps.—The official summer caps of the Chinese mandarins are made from the rind of a crooked bamboo.

Bamboo Galls, Chuh-juh, CHIN., morbid excrescences which grow to the size of a hen's egg on the stalks of the bitter bamboo (Ku-chuh, CHIN.). They are said to have injurious properties.

Bamboo Juice, Chuh-li, CHIN., is prepared by heating short pieces of green bamboo so as to drive out the sap at the cut ends, and is given in catarrh, fever, etc.

Bamboo Sugar, or Tabashir, is found in the hollows of the bamboos. It is a silicate, and quite inert, but the natives have great faith in it as a stimulant. Its properties are said to be by them of a very heating nature. Tamil practitioners say the root is diluent, that the bark cures eruptions, the leaves emenagogue, and that the tabashir, which is found in the old cavities of the joints, is useful in paralysis and flatulence.—*Oriental Herald*, ix. p. 296; *Calcutta Catalogue; Fortune's Residence in China; Fortune's Wanderings in China; Smith's China-English Cyclopædia; Von Mueller.*

BAMBOUAI. BURM. Careya arborea.

BAMBUSA, the bamboo genus of tropical plants of the order Panicaceæ. There are numerous species in the south and east of Asia, mostly

in regions where the climate is warm and moist. The stems grow in clusters, from 10 to 100, from the same root-stock, and are straight for 18 or 20 feet. When in flower it is usually destitute of leaves, and as the extremity of every ramification is covered with blossom, the whole plant seems one entire, immense panicle.

B. Agrestis, *Poir.* Mountainous and dry desert places in all China, Cochin-China, and the Malay islands. Stems crooked, often a foot thick, a foot and a half long, and nearly solid.

B. Amahussana, Amboyna and Manipa, has short joints and a thick wood; upper leaves with stinging hairs.

B. Apus, *Schultes.* A gigantic species on Mount Salak in Java; stems 60 or 70 feet high, and as thick as a man's thigh; leaves very large, taper-pointed.

B. Aristata, *Loddiges.* Slender stems, smooth, not spiny; native of E. India; an elegant species.

B. Arundo, *Klein*, of Chawuree, furnishes the Mahabaleshwar walking-sticks.

B. Aspera, *Sch.* Amboyna; rises to 60 or 70 feet high.

B. Atra. Leaf-stalks covered with stinging hairs. Stems black and shining, and found in Amboyna. It is the Leleba nigra of Rumphius.

B. Baccifera, *Kunth.* Beesha Rheedii, *Kunth.*
Beesha, ... TAM. | Pagutullu of CHITTAGONG.

The Chittagong mountains. It bears a berry one-seeded, and yields tabashir.

B. Balcooa, *Roxb.* Dendrocalamus balcooa, *Voigt.* Balcooa bans; Dhooli balcooa, BENG. Of gigantic size, and reckoned the best for building purposes. Before using it, it is steeped in water for a considerable time.

B. Bitung, *Sehi.* Found in Java; remarkable for its extremely broad and scabrous leaves.

B. Blumeana, *Sch.* Java; stems as thick as a child's arm.

B. Glauca, *Loddiges.* India. Not spiny. Leaves covered on the under surface with very close bright glaucous bloom, scarcely above an inch long, and not more than two lines broad, not growing above two feet high, with entangled branches.

B. Maxima, *Poir.* Cambodia, Bali, Java, and various islands of the Archipelago. Grows 60 to 70 feet high, and as thick as a man's body. Its wood is, however, very thin.

B. Mitis, *Poir.* Cultivated in Cochin-China; wild in Amboyna. Stems are thin, but sometimes as thick as a man's leg, 30 feet long, and said to be very strong.

B. Multiplex, *Lour.* Stems 12 feet long, and an inch thick, cultivated for hedges in the north of Cochin-China.

B. Nana, *Roxb.*
Pelau, Pe-Nangwa, BURM. | Keu-fa, ... CHIN.

Burma; China. Makes most beautiful close hedges and fences.

B. Nigra, *Loddiges.* Canton, where its stems, not more than a man's height, are cut for walking-sticks and handles of ladies' parasols. Grows in England.

B. Picta. Common in Ceram, Kelanga, Celebes, and other islands. Joints 4 feet long, and about 2 inches thick; wood is thin, and consequently used principally for light walking-sticks. It is, however, extremely strong.

B. Prava forms large woods in Amboyna, which come down to the coast. Its leaves, 18 inches long and 3 or 4 inches broad, have stinging hairs.

B. Pubescens, *Loddiges.* Not spiny; native country unknown. Stems 30 feet long, and an inch and a half in diameter.

B. Spina. Canta Banso, URIA. Extreme height, 80 feet; circumference, 1½ feet. Abounds in Ganjam and Gumsur.

B. Spinosa.
Arundo arbor, *Linn.* | A. bambos, *Linn.*
Behur Bans, . . . BENG. | Wagna Khyat, . BURM.

This middling-sized and very elegant species grows from 30 to 50 feet high, in the vicinity of Calcutta, and in Burma. Its stems, almost solid, have strong sharp spines, and grow so close together as to form an almost impenetrable thicket. It has a smaller cavity in its centre than others of the genus, and a staff of it is put into the hand of a young Brahman when being invested with the sacerdotal thread.

B. Striata. Not spiny. Stems slender, polished, yellow, with green stripes. A native of China; cultivated in the hothouses of England on account of its beautiful variegated stems. Grows about 20 feet high.

B. Stricta, *Roxb.* Male bamboo.
Dendrocalamus strictus, *Nees.*
Nastus strictus, *Sm.*
Bar, ... HIND. | Sandanapa Vedaru, TEL.

Somewhat spiny. Its great strength, solidity, and straightness render it fit for many purposes. Spear or lance shafts are made of it.

B. Tabacaria, *Poir.* Grows wild in Amboyna, Manipa, and Java. Its stems, with nearly solid joints 3 or 4 feet long, but not thicker than the little finger; when polished, make the finest pipe sticks. The outside is so hard that it emits sparks of fire when struck with the hatchet.

B. Tulda, *Roxb.*
Dendrocalamus tulda, *Voigt.* | Tulda, or Pika, bans.

Is common all over Bengal, and grows rapidly to 70 feet long and 12 inches in circumference, rising to its full height in thirty days. Improves in strength by steeping in water. The Jowa bans with long joints is one variety, and the Basini bans used to make baskets is another.

B. Verticillata, *Willd.* 15 or 16 feet high. The leaves occasion so much itching, that this kind is troublesome to collect. It is the Leleba alba of Rumphius, who says the edges of its leaves are so sharp as to wound the gatherers. It is found in Amboyna.

B. Vulgaris, *Wendl.* Its stems are from 20 to 30 feet long, and as thick as a child's arm. In favourable seasons it has been observed to grow 18 inches per diem. Besides these may be named B. Brandisii; Beechyana, flexuosa, marginata, nutans, pallida polymorpha; regia and tuldoides.—*Transactions of the Agr. and Hortic. Soc. of India*, iii.; *Roxb.*; *Eng. Cyc.*; *Mason's Tenasserim*; *Cleghorn's Reports*; *Poole's Statistics of Commerce*, p. 18; *Dr. Hooker, Him. Journ.* ii. 311, 281; *Morrison's Chinese Products*; *Marsden's Sumatra*; *Von Mueller*; *Kurz.*

BAMBUS-BOOK of the Chinese, contains the record of the Imperial dynasties from B.C. 1991 to A.D. 1264. The chronological connection of its dynasties is as under:—

I. Dynasty Hia, the first emperor, Yu, beginning B.C. 1991, reigned 432 years.
II. Dynasty Shang, began B.C. 1559, lasted 500 years.

III. Dynasty Tshen, began B.C. 1050, lasted 269 years; the emperor Yen Yang began to reign B.C. 781. Confucius lived under his dynasty, and he recorded the observations of the solar eclipses from B.C. 481 upwards to 720.
IV. Dynasty Tsin, began B.C. 255, and lasted 49 years.
V. Dynasty Han, began B.C. 206, and lasted to A.D. 264, a total of 469 years.

BAMIA. EGYPT. Abelmoschus esculentus.

BAMIA. AR.? the little edible fish known as the Bombay duck.

BAMIAN. The pass at Bamian town is 8946 feet above the level of the sea. It is the great commercial route from Kābul to Turkestan; the several passes to the eastward are less frequented on account of their difficulty and their elevation. The valley is in lat. 34° 50′ N., long. 67° 54′ E., is about 1 mile wide, and is bounded by nearly perpendicular steeps, in some parts so close as to exclude the mid-day sun. The pass leads over a succession of ridges from 8000 to 15,000 feet. The Harakotal pass, at the entrance to the Bamian, or, more correctly, the Lighan valley, is nearly 10,000 feet, while two others near the town of Bamian are about 8500 each. The Hadsehijak, leading from Bamian to Kābul, is the most formidable, and is almost 12,000 feet above the sea. It is the only known route over the Hindu Kush for artillery or wheeled carriages. Bamian town has been conjectured to be the site of Alexandria ad Caucasum; but it lies north of the Hindu Kush, and Alexander is supposed by some to have moved to the south of that mountain. The town and its vicinity are remarkable for relics of antiquity, colossal idols, the castle of Zohak, the fortress of Syadabad, and the ruins of Ghulghuleh, with numerous cells excavated for about 8 miles in the mountain-sides. The impression is that the idols and cells are Buddhist remains. Of three idols sculptured in bold relief on the cliff, according to Eyre, one is about 160 feet high, a smaller one 120 feet; but Burnes, Moorcroft, Gerard, and Vigne all have stated other dimensions. The greater figure is called Sang Sal, and supposed to be that of a man. The smaller, called Shah-Muma, supposed to be a woman; a third figure being called that of a child. The figures have been injured by cannon-shot, some say by Aurangzeb, some by Nadir Shah. The caves or cells are of great extent; some exhibit considerable artistic decorations. One of them under the larger idol would lodge half a regiment. They are supposed to be residences of the Buddhist priests. On the summits of neighbouring hills are towers, supposed to be pyrethræ. The whole valley is filled with the ruins of tombs and other edifices. The ruins of the city of Ghulghuleh are extensive; it was taken by Chengiz Khan, its people all destroyed, and the city overturned. The ruins of what is called Fort Zohak are 8 miles from Bamian town. It is attributed to king Zohak of Persia. Its ramparts are 70 or 80 feet high. The early political vicissitudes of Bamian must have been the same as those of Bactria and Kābul. We find there successive vestiges of Greek, Scythian, and Sassanian rule, and of the Buddhist and Mithraic forms of worship. In the early ages of the Christian era, or perhaps for a century or two before, Buddhism prevailed at this place. Such of the caves as are appropriated to Buddhist mendicants were embellished, and the statues of Sakya Muni (Buddha) were hewn out of the rock. At a subsequent period, the emblems of the fire-worship and its altars succeeded, until these were in turn displaced by the Arab and the Koran. Bamian is rich in minerals. Gold is found at Fuladat, also lapis-lazuli, and in the hills of Istalif north of Kābul. There are ten or twelve lead mines in a defile in the neighbourhood, also ores of copper, tin, and antimony. It is said also to have sulphureous springs.—*Burnaby, Ride to Khiva; Kostunko on Central Asia; Vambery's Bokhara; Bellew*, p. 205; *MacGregor*, p. 195; *Moorcroft's Travels*, ii. pp. 387–393; *Burnes' Travels; Vigne's Narrative*, pp. 185, 193–397; *Masson's Journeys*, ii. pp. 283-295; *Tod's Rajasthan*, i. p. 22.

BAM-MARGI, a depraved Hindu sect at Benares, who follow the teachings of a Bamo, or woman.—*Sherring.*

BAMO, in long. 97° 30′ E., and lat. 24° 4′ N. Bamo, properly Mang-mo, is a frontier town lying between Yunnan and Burma, in the Shan territory. It has the Pu-long tribes and the Ka-Khyen around it. From Bamo to the Burmese frontier is 46 miles; Bamo to Momin, 90 miles, in Shan and Chinese territory. A route by Bamo from Burma enters China in the province of Yunnan, near which, in the Burmese traditions, their ancestors formerly dwelt. The present city is situated about 40 miles W. of the Chinese frontier, and Chinese form about one-half of the population; the remainder are Shan and Burmese. It carries on a trade by means of caravans with some of the large cities in western China, in woollen, cotton, and silk goods. British trade between Rangoon and Bamo, from a few hundred pounds in 1857–58, attained in 1873 to a million sterling.

BAMTELE, an important Rajput tribe in the eastern parts of the central Doab.

BAMUN-HATI. BENG. Clerodendron siphonanthus.

BAMUNIPAT, a holy mountain.

BAN. HIND. A forest; wild, uncultivated, as Sandar-ban, Tar-ban, sandar forest, Palmyra forest; also written bun.

Ban Ada, Zingiber casumunar, wild ginger, *Roxb.*
,, Akrot, Pavia Indica.
,, Asarhoo, Gossypium herbaceum.
,, Bati, wet land.
,, Bhanta, wild Solanum melongena.
,, Billi, wild cat.
,, Biral, Felis leopardus Bengalensis.
,, Burbuti, Phaseolus rostratus.
,, Chalita, Leea crispa.
,, Chandur, Flagellaria Indica.
,, Charal, Desmodium gyrans.
,, Char, Quercus semicarpifolia.
,, Chari, also Baro, a high jungle grass with leaves like those of the sorghum. Wild elephants are very fond of it.
,, Chichinga, Tricosanthes lobata.
,, Chour, the wild yak.
,, Ga? cotton wool, raw cotton.
,, Gab, Diospyros cordifolia.
,, Ghi, Corchorus olitorius.
,, Gao, Bos gaurus.
,, Gooa, Areca triandra.
,, Gu, Solanum melongena.
,, Gumuk, Cucumis pubescens.
,, Gandhina, Allium tuberosum.
,, Huldee, Curcuma aromatica.
,, Joeen, Clerodendron inerme.
,, Jam, Ardisia humilis.
,, Jin, a weed about 3 feet high, which springs up with the autumn crops. Much sought after by fakirs who practise alchemy.

Ban joma, Clerodendron inerme.
,, Joan, Cnidium diffusum.
,, Jooli, Phyllanthus multiflorus.
,, Kaoa, Coffea Bengalensis.
,, Kapas, Hibiscus vitifolius.
,, Kar, wild forest produce, gums, honey, brushwood; also forest revenue.
,, Kas, a grass of which ropes are made.
,, Kat, Guilandina bonduc.
,, Kat'h, a coarse catechu.
,, Kau, Quercus annulata.
,, Kela, Hedychium spicatum.
,, Khajur, Caryota urens.
,, Khara, also Baraundha, also Mudi, last year's cotton lands.
,, Kokra, or Ban murgh, Gallus ferrugineus.
,, Khor, also Banakhor Pavia Indica.
,, Kimu, Corylus lacera, hazel.
,, Kuch, Viburnum cotinifolium, also V. fœtens.
,, Kuchao, Colocasia antiquorum.
,, Kulay, Glycine labialis.
,, Kulmee, Ipomœa striata.
,, Lamaku, Verbascum thapsus.
,, Lubunga, Ludwigia parviflora.
,, Ling, rolled stones found in the rivers of northern India, worshipped by Hindus of the Saiva sect.
,, Mallica, Jasminum angustifolium.
,, Mahal, HIND., the crab apple of the western Himalaya, Pyrus baccata.
,, Maranga, Oxalis sensilica.
,, Marich, Ammania vesicatoria.
,, Marua, Æchmanthera gossypina.
,, Meethee, Melilotus parviflora, Trifolium Indicum.
,, Mullika, Jasminum sambac.
,, Munj, HIND., the dry sheath of the flower-stalk of 'moong' grass, used for string, etc. Leaves from the flower-stalks of Saccharum munja.
,, Naranga, Gelonium fasciculatum.
,, Narangi, Biophytum sensitivum.
,, Neel, Tephrosia purpurea.
,, Nuti, Amarantus fasciatas.
,, Okra, Urena lobata; Triumfetta angulata; Xanthium orientale.
,, Palung, Sonchus orixensis; Rumex Wallichianus.
,, Para, Bos gaurus.
,, Pat, Ban Phal, Corchorus olitorius, C. depressus, C. acutangula, and other species.
,, Phal, in Jhang, a kind of morel.
,, Piring, Melilotus lucantha.
,, Putol, Tricosanthes cucumerina, Tr. dioica.
,, Rai, Sinapis divaricata.
,, Raihan, Melissa or Nepeta.
,, Raj, Bauhinia racemosa.
,, Raja, a tiger, literally forest lord.
,, Ri, Capparis spinosa.
,, Rita, Acacia rugata.
,, Rohu, Manis pentadactyla.
,, Safed pooin, Basella alba.
,, Shim, Lablab dumetorum, also L. vulgaris.
,, Sulfa, Fumaria parviflora.
,, Sun, Crotalaria verrucosa.
,, Shooni, BENG., Ixora bandhuca.
,, Sinjli, Cratœgus oxyacantha.
,, Suri or Ban sari, a weed in the Doab near the Jumna, very injurious, and difficult to eradicate from arable land.
,, Tanduli, Amarantus polygonoides.
,, Tendu, Diospyros cordifolia, wild ebony.
,, Tepurija, Physalis minima.
,, Tulsee, Ocimum adscendens.
,, Turooi, BENG., Luffa clavata.
,, Uch, Morinda exserta.

BAN. BURM. The purest refined silver.

BAN, also Bang. HIND. Quercus incana, also a rocket, also cotton.

BAN. ARAB. Moringa pterygosperma, also the Bed-i-Mushk, or weeping willow.

BANAFAR, a tribe of Yadubansi Rajputs in Oudh, Allahabad, Benares, and Bundelkhand.

BANAFSHA. HIND. Viola serpens; also the dried plant of the Viola odorata. The infusion is a good nauseant and diaphoretic.—*Beng. Phar.*

BANAGANAPILLY, the town of a chiefship in the Ceded Districts of the Madras Presidency, between Kurnool and Cuddapah, in lat. 15° N. and long. 78° E., with an area of about 275 square miles; population, 45,208. It was held first by a Moghul chief, but is now in the possession of a Syud family. There are diamond mines in a low range of hills about half a mile from the town. The matrix of the gem is a breccia lying under compact limestone, of which the hills in the neighbourhood are composed. The breccia is composed of a mixture of coloured jasper, quartz, and hornstone, cemented by a silicious paste. It passes into pudding-stone of rounded pebbles of the above minerals, cemented by an argillo-calcareous earth of a loose friable texture, in which the diamonds are found.

BANAJIGA, a lingaet sect.

BANANA.

Kan-tsiau, Pa-tsiau, CHIN. | Arati Pallam, . . TAM.
Mouz, ... HIND. | ,, Pandoo, . . TEL.

Banana is a W. Indian and tropical American term for the plantain tribe Musaceæ, to which, in India, the term plantain is usually given; there are few species, but many varieties. Their fruits are largely eaten. The stem of Musa textilis, of the Philippine Islands, furnishes the Manilla hemp. In the valleys of the south of the Peninsula of India, and of the Dindigul mountains, M. superba is found wild. Major Munro has seen the wild plantain at 7000 feet above the sea, in the Khondah slopes of the Neilgherries. A similar variety, having seeds surrounded with a gummy substance instead of a pulp-like fruit, was found by Dr. Finlayson on Palo Ubi, near the southern extremity of Cambodia. In Batavia, also, there is stated to be a variety full of seeds, which is called Pisang batu or Pisang bidju, that is, seed plantain. In Khassya the name of the wild plantain is Kairem, and the cultivated Kakesh. That cultivated in Nepal has been called M. Nepalensis; and a similar species may be seen growing below the Mussoori range, as well as near Nabu. The wild fruit in all the situations consists of little else than the hard, dry seeds. The common edible varieties of M. paradisiaca, or Musa sapientum, flourish even in the poorest soils, and also near brackish water. The natives of Bengal generally prefer the larger and coarser fruited kinds, called banana, to the smaller and more delicately tasted fruit known as the plantain, which is alone esteemed by Europeans. The edible varieties extend through the Indian Archipelago northwards as far as Japan, while in China are found M. coccinea and M. Cavendishii. M. ornata grows in Chittagong. Again, M. glauca is indigenous along the Malayan peninsula. Dr. Helfer mentions that twenty varieties are found in the Tenasserim Provinces; and the Malays reckon forty varieties of the cultivated banana, and the Philippine islanders carry them to fifty-seven, both people having a distinctive epithet for each variety. The qualities are as various as those of apples and pears in Europe, the ordinary sorts being a very indifferent fruit.—*Hooker's Him. Jour.* ii. p. 268; *Royle's Fibrous Plants; Crawfurd's Dict.* p. 31.

BANANG. MALAY. Yarn, thread.

BANA-PHAL, of Sutlej. Strawberry; Fragaria vesca, *L.*

BANA-PRASTH, properly Vana-prasth, a Hindu who has become a hermit in the third stage of

his life's career; who has retired to the forest and become an ascetic.

BANAS, and Koteree or Kotesiree, are rivers near Sanganeer in Udaipur (Oodeypore). The Banas river runs through Jeypore.

BANAT. HIND. Broadcloth.

BANAULA. HIND. Cotton seed.

BA-NAWA, a sect of fakirs in India.

BANCA DEVA, also called Banga, a deity of the Gonds. See Banga.

BANCA ISLAND, northern point, is in lat. 1° 52′ N., long. 125° 24′ E. It is hilly, and of middling height. St. Paul's mountains, contiguous to its south end, are 930 feet high; but Parmasang and Manopen hills, on the west side of the island, are respectively 1350 and 1617 feet in height. The Straits of Banca are bounded on the east by this island, and on the west side by the coast of Sumatra. The straits extend from Lucepara island about 129 miles, with an undulating course to the N.W. The straits are one of the most frequented in the Indian seas. Banca has a population of 69,312, of whom 181 are Europeans, 48,922 are natives, 20,063 are Chinese, and 136 Arabs. Its area is 237 square miles. The Chinese have been attracted to it by its very valuable tin mines. Banca is inhabited by four distinct races of people. The Orang-Gunung, or hill-people, the aborigines in the interior, lead a wild kind of life, but are submissive to the regulations established by the Government. The sea-coasts are occupied by Malays from Sumatra; they are extremely indolent, all the labour, either in cultivating pepper or working the mines, being performed by the Chinese, consisting of between fifteen and twenty thousand souls. The Orang-Laut, or sea-people, who are similar in their habits to the Baju Laut on the coasts of Borneo and Celebes, live entirely in their little prahus, and move about the coasts. They subsist principally by fishing, and were always ready to give information to the piratical rovers. The discovery of tin attracted numerous foreigners, chiefly Chinese, who, with the working of the mines, introduced the first attempts at agriculture and commerce. During many years this small island has yielded an annual revenue in tin, which for a district of the same extent equals the metallic wealth obtained annually from the mines of Mexico. The Anten district contains the richest of the tin mines. — *Court; Earl's Archipelago; Horsburgh; White's Voyage*, p. 223.

BAN-CHARI, also Baro. HIND. A high jungle grass, with leaves like those of the sorghum. Wild elephants are very fond of it.

BANCOONGONG or Bacoongon Bay, in Sumatra, opposite the river and village of same name, in lat. 2° 52′ N., and long. 97° 38′ E., where ships find shelter.—*Horsburgh.*

BANCOORAH, a town and its district in the Burdwan division of Bengal, lying between lat. 22° 54′ and 23° 37′ N., and long. 86° 49′ 15″ and 87° 35′ E., with an area of 1346 square miles, and 526,772 inhabitants. The town is on the left bank of the Dalkissur, in lat. 23° 14′ N., long. 87° 6′ E., and 29 miles from Raniganj, 101 miles from Calcutta. It is a fertile district, with much coal and iron ore. Coal is worked at Raniganj.

BANCOOT RIVER, in lat. 17° 57′ N., and 11½ miles east of Bombay Castle, has 10 feet on the bar at low water. The town of Bancoot, on the northern part of the Angria country, surrendered to Commodore James on the 8th April 1756, and was called Fort Victoria.—*Horsburgh.*

BAND. PERS., HIND. A band, tie, dam, dyke, causeway, bank, or bundle of papers. Bāndah, a slave, a servant; Bāndi, a slave girl; Bändiwan, a prisoner; Band-o-bast, settlement. Band is also an embankment across a valley, or across a dip of the ground to form a tank. The whole of the Karnatic is covered with such tanks, some of them very small, sufficient only for a small field, others of lake-like dimensions; one near Cumbum is eight miles in circumference, and one near Hyderabad is about seven miles in circumference. The word is from the Hindi word bandhna, to tie or bind; hence also the Bandana handkerchiefs. Several bands or embankments in Persia are celebrated, — Band-i-Ahwaz and Band-i-Shahzada, across the Karun river; Band-i-Amir, over the Kur river, the Bendamir of Moore's poetry.

BANDA. BALI. Areca catechu.

BANDA, a guru of the Sikh religionists, who succeeded Guru Govind. He was tortured to death by Farokhsir, emperor of Dehli, A.D. 1716.

BANDA. HIND. Viscum album.

BANDA. HIND. A perfumed cosmetic powder, the Abir of the Arabs. See Abir.

BANDA, a town and district in Bundelkhand, between lat. 24° 53′ 15″ and 25° 55′ 30″ N., and long. 80° 2′ 45″ and 81° 36′ 15″ E., with an area of 2908 square miles, and 697,684 inhabitants. The town is on the right bank of the Keyn river (Ken, Caine), had a population of 72,800, and is 620 miles from Calcutta. Banda district is an irregular triangle, separated on the N. and N.E. by the river Jumna from the Futtehpur and Allahabad districts. The S.W. and S. are bounded by the Ken, and partly by the second range of low hills forming the flank of the table-land of Bundelkhand.

BANDA, a group in the Archipelago consisting of ten islands; the largest is Lontar or Great Banda. It is crescent-shaped, and Pulo Pisang, Banana Island, Pulo Kapal, and Ship Island lie in the hollow of the crescent, and form the arc of a circle. Within this arc are three other islands, the highest of which is Gunong Api, next Banda Neira, N.E. of which is Pulo Krakka or old woman's island. D'Abreu, a Portuguese commander, was the first European who visited the nutmeg group, and for nearly a hundred years the Portuguese monopolized the trade. In 1609 the Dutch attempted to take these islands, but as the war lasted eighteen years, and the natives had all fled to the neighbouring islands, the Dutch had to cultivate these islands with slaves, and, when slavery was abolished, with convicts, of whom, in 1865, there were about 3000. Almost all the island is covered with nutmeg trees, grown under the shade of the Canarium commune. Banda and its three islands enclose a secure harbour, and the water is so transparent that living corals and minute objects are seen below. Of the birds is a very handsome fruit pigeon, Carpophaga concinna, which feeds on the mace, and is found also in Ke and Matabello; and a small fruit dove, Ptilonopus diadematus. The area of the whole group is only 176 geographical square miles, but in five of them all the nutmegs consumed in the world are grown, and for twenty years they annually yielded 580,000 lbs. of nutmegs, and

137,000 lbs. of mace, Dutch weight. In 1865, about 450,000 nutmeg trees were in the Banda group. In some trees the mace is white. Unlike Amboyna, it is unhealthy, and exposed to constant danger from the Gunong Api volcano, which has many times burst in eruption, devastating and blasting the neighbouring region with showers of scorching ashes. This Fire Mountain is the curse of the group, not only when in eruption, but on account of the insalubrity it spreads around. The base of the volcano, called by the French the Grenade of Banda, occupies the whole surface of the islet, to which it gives a name. Its height is about 2000 feet, covered with magnificent vegetation, commencing at the line where the waves cease to beat, and continuing upwards to the point where the lava ceases to flow, being cooled by the air. The nutmeg is not cultivated on Gunong Api, and the isle is inhabited only by a few immigrants from Timor. Up to 1820, people occupied the base of Gunong Api, and cultivated the nutmeg trees. On the 11th June 1820, a little before noon, in an instant, without any warning, an eruption occurred of such violence that all the people at once fled to the shore and crossed over to Banda Neira. From its summit rose great masses of ashes. Lontar is merely part of the walls of an immense crater about (if the circle were complete) six miles in diameter, and Pulo Pisang and Pulo Kapal are two fragments of the circle. On the average, an earthquake occurred once a month in Lontar. The volcano there has burst forth in 1586, 1598, 1609, 1615, 1632, 1690, 1696, 1712, 1765, 1775, 1778, 1820, and 1824. It is 2321 English feet high, but has several times been ascended. On one occasion, sand and stones, heated till they gave out light like living stones, fell on every side like hail, set fire to the woods, and soon changed the mountain-side into one immense cone of flame. The south-west monsoon then blowing carried the sand and ashes over to Banda Neira, and destroyed all its nutmeg parks and its drinking water. The eruption continued incessantly for thirteen days, and did not wholly cease for six weeks. During this eruption the mountain was apparently split through in a N.N.W. and S.S.E. direction. An eruption of ashes occurred on the 22d April 1824. Banda is only separated from Gunong Api by the narrow Sun Strait, and has suffered from a great sea wave. The water first streamed out from the land, and left dry a vessel that was riding at eight or nine fathoms. It then returned in a great wave from the ocean, which rose 25 or 30 feet over the low western part of the village, and engulfed Fort Nassau. Professor Bikmore supposes that the whole of the old volcano, Banda Neira, Gunong Api, and Lontar, and the area they enclose, was raised for a moment, the water streamed out from the straits between them, and returned with violence as the area subsided. When first discovered by Europeans, the inhabitants of Banda had made considerable advance in civilisation, although still much inferior to that of the Malays and Javanese. About three-fourths of the inhabitants are mixed races, Malay, Papuan, Arab, Portuguese, and Dutch; but the aborigines doubtless were Papuans, and a portion of them still exists in the Ke islands, to which they emigrated when they first took possession of Banda.—*Temminck, Possessions Neerlandaises*, iii. 290; *St. John's Indian Archipelago*, i. pp. 134, 135; *Bikmore's Travels; Horsburgh; Valmont de Bomare, Histoire Naturelle*, iv. 177, 181; *Hogendrop, Coup d'Œil sur Java.*

BANDAGI. HIND. Literally service; an expression used by Mahomedans in saluting superiors, and in addressing letters to their parents and persons in authority.

BANDAHL. BENG. A spur projecting into a river.

BANDAH-NAWAZ, a Mahomedan saint or holy man who is buried at Kulburga. His name and title was Syud Muhammad, styled Gesu Daraz of the long locks. A Mahomedan festival is held on the 16th of Zu-l-Kaidah in his honour.

BAND-AHWAZ, a dam across the river Karun in Khuzistan. The whole river passes through the weir, about forty yards broad, at its west end.—*Layard; Chesney; Selby; MacGregor*, p. 56.

BANDAIR HILLS are separated from the Panna range by the valley of Lohargaon, rising from a platform from ten to twenty miles wide. Average elevation 1700, but amounting on some of its undulations to 2000 feet. The hills are generally of sandstone, intermixed with ferruginous gravel. The basin of Lohargaon is of lias limestone. The outer limit of this hilly tract is marked by abrupt isolated hills.

BAN-DAKHUR. HIND. Syringa emodi.

BANDALA, in the Philippine Islands, a fibre extracted from the harder and stronger outer layers of the Musa textilis, employed for cordage. —*Royle.*

BAND-AMIR. A dam erected about the 12th century across the river Kur by Azad-ud-Dowla, a former prince and governor of Fars. Its object was to raise and throw the water into irrigation channels. The dam consists of a straight bridge of thirteen arches.—*Morier; Malcolm; Kinneir; Ouseley; MacGregor.* See Bendamir.

BANDANA. HIND. A term applied to a calico print; also to a kind of silk or cotton handkerchief with bright figures, etc., upon a red or dark ground; from bandhna, to tie; because, in India, the parts intended to remain undyed were tightly tied. The Indian manufacture has almost ceased, British dyers having imitated them by white figures formed on a ground of Turkey-red by means of an aqueous solution of chlorine. This is made to flow down through the red cloth in certain points which are defined and circumscribed by the pressure of hollow lead types inserted into plates of lead contained in a hydraulic press. The press is furnished with a pair of pattern plates, one attached to the upper block of the press, and the other to the moveable part of it. From twelve to fourteen pieces of cloth, previously dyed in Turkey-red, are stretched over each other as evenly as possible, and then rolled round a drum. A portion of the fourteen layers equal to the area of the plates being drawn through between them, the press is worked, and the plates are brought together with a force of upwards of three hundred tons. The solution of chlorine is then allowed to flow into the hollows of the upper lead plate, whence it descends on the cloth and percolates through it, extracting the Turkey-red dye, the intense pressure preventing the bleaching liquor from spreading beyond the limits of the figures perforated in the plates. When a certain quantity of bleaching liquor has passed through,

water is admitted in a similar manner to wash away the chlorine. The pressure is then removed, and another square of the fourteen layers is moved forward under the plates, and the process is repeated. When all the pieces have been discharged, they are winced in water, and further treated so as to improve the lustre both of the white and of the red.—*Faulkner.*

BANDAR. HIND. A monkey.

BANDAR. SUTLEJ. Capparis spinosa, *L.*

BANDAR. SINGH. Pandar, TAM. A Singhalese affix of nobility.

BANDAR. PERS. A harbour, a seaport. A prefix, as Bandar-Abbas; in India, a suffix, as Machli-bandar, Lakpat-bandar. From this comes the harbour Bandar boat of British sailors. The harbourmaster or governor of a place is the Shah-bandar, or king of the harbour. Like Kalna or Patna, a bandar is a mart on a river bank.

BANDARA. MAHR. Hymenodyction excelsum.

BANDAR ABBAS, in lat. 27° 10′ 35″ N., and long. 56° 18′ 48″ E., a port on the east of Kirman in Persia, 108 miles S.E. of Shiraz, distant from Isfahan 740 miles, and from Teheran 1000 miles. It is in a bay of the Gulf of Ormuz. It contains about 89,000 inhabitants, Persians, Arabs, Kurds, a few Armenians and Bedouins. It has only two or three fathoms of water at two miles from the shore, and a heavy surf rises from the S. and S.E. winds, which are frequent, and ships seek shelter at Ormuz and Kishm. It is the ancient Harmozia. Its former name, Gamrun, was changed A.D. 1662, when Shah Abbas, aided by the English, drove off the Portuguese, but towards the close of the 17th century it again fell into a subordinate position. Nevertheless the route of Bandar Abbas leads by one of the natural passes into the heart of Persia. The summer heat is so great that it is then almost abandoned, the people going to Minab, fourteen miles distant; but in winter the landing of goods recommences for Yezd, Isfahan, Shiraz, and Kirman. Exports are Persian carpets, tobacco, dried fruit, sulphur; and imports piece goods, earthenware. It is suited for an emporium of trade. Sulphur is brought to Bandar Abbas and to Muscat from mountains a little way in the interior from Muscat.—*Pelly; MacGregor*, p. 57; *Goldsmid's E. Persia*, i. 227; *Findlay; Ouseley's Travels*, i. p. 165; *A Journal from Calcutta to Aleppo, etc.* p. 11, Lond. 1758; *Kinneir's Geographical Memoir*, p. 201.

BANDAR MANCHE, a large canoe. See Boat.

BANDAR REG, a small town in Fars, Persia, thirty-two miles N.W. of Bushahr. It was the stronghold of the celebrated pirate, Mir Mohanna, once the terror of the Persian Gulf. It was taken by the English, and the fortifications razed.

BANDARRI, a race in Bombay who climb the palmyra and cocoa-nut trees for palm wine. From habit, these men attain extraordinary dexterity in ascending the loftiest trees, with little other assistance than may be afforded by the natural rings or sheaths of their slender stems. The costume of the Bandarri is a close crimson cap, bound round the head with a small handkerchief, the depending corner protecting his neck from the influence of the sun. A stiff leather kilt descends to the knee, fastened round the waist with a thong, which secures the necessary implements of his calling, and supports a strong hook, on which the Bandarri swings a chatty, previous to commencing his ascent.—*Postans' Western India*, i. p. 89.

BANDARU. TEL. Dodonæa Buchanniana, *D.C.*; D. angustifolia and dioica, *R.* ii. 256.

BANDARU. HIND. Gardenia tetrasperma.

BANDARWAR, a numerous tribe of the Baniya of Hindustan, with 36 clans, who intermarry.—*Sh.*

BANDELKHAND. See Bundelkund.

BANDENG. MALAY. A palatable fish, much resembling the salmon in taste. They are reared in fish-ponds, and the young are sold at 18 Rs. per redan of 5500 small fish. At the change of the east and west monsoon, the coast is yearly visited by Madurese fishers, who come to catch the young bandeng for the fish-ponds.

BANDHAGURH. See Senapathi.

BANDHAL GOTI, a Chauhan Rajput tribe in Bundelkhand and Benoudia.—*Wilson.*

BANDHARA. MALAY. A hereditary elective officer of Johore.

BANDHRIK. HIND. Also written Bandhukamu. Pantapetes Phœnicea, *L.*; also Ixora bandhuca, *R.* i. 376.

BANDI. HIND. A female slave; also a court minstrel.

BAND-i-BERBER. It is said that a day's journey from Bamian to the S.W. are the remains of an extensive fortress, called Band-i-Berber, erected near a large lake.—*Moorcroft's Trs.* ii. pp. 387–393.

BANDICOOT. In India, the Mus giganteus. It is the English corruption of the Telugu words, pandi-koka, pig-rat; it weighs 3 lbs. Its bones are fragile, and it is very easily killed. Its nests, when rifled, are frequently found to contain considerable quantities of rice, stored up against the dry season. The Australia bandicoot is the Perameles nasuta of St. Hilaire, a marsupial animal.—*Tennant's Ceylon*, p. 45.

BAND-i-FARIDUN, a dam in Khorasan, 6 miles N.W. of Kalandarabad, near Mashad, with channels to fertilize the lands of Faridun.

BANDIGURUVINDZA. TEL. Adenanthera pavonina. Bandi Murugudu, Getonia floribunda.

BANDITA CHETTU. TEL. Erythrina Indica.

BAND-o-BAST. HIND. Final settlement.

BAND PAT. HIND. Clitorea ternatea.

BANDRI. HIND. A grass about 2 feet high, found in rice and kodo fields, used as fodder for cattle.

BANDUK. HIND. A musket, a fowling-piece. Toradar banduk, a matchlock. Si-paia banduk, a heavy gun, requiring a pronged support; a kind of jazal, but carried in the field.

Banduk-Masaladar, a gun fired with a percussion cap,—'masala,' the percussion composition.

Banduk Pathar-kalah, a matchlock with flint pan.

Banduk Rakh-dar, a gun, rifle-bored.

BANE, Flea-bane, insect-bane, mosquito-bane, bug-bane, rat-bane, etc., are insecticide substances. The dogbane family 'Apocynaceæ' are truly poisons. Nerium piscidium bark, which contains much useful fibre, proves deadly to fishes. Dogs refuse to sleep on rugs beneath which mint has been placed, and this simple plant thus affords a good means of ensuring cleanliness. Deer refuse to approach crops in which the safflower, Carthamus tinctorius, has been intermixed. White mustard sown round vegetables, as the cabbage, prevents the inroads of caterpillars. Snakes are said to avoid

the fennel plant, as well as all places strewed with fennel seed (Nigella sativa). Dill grown in cabbage beds protects the cabbages from caterpillars. Broad beans growing close to the gooseberry bushes protect the bushes from the caterpillars. The pyrethrum is said to protect vines from the phylloxera. The rasped wood of the oleander is employed as ratsbane. To destroy flies, a decoction of quassia placed in a plate is frequently had recourse to. In southern Asia, plants of the 'Ghi-gowar' or 'Kalbunda,' the Aloe perfoliata, are suspended with their roots upwards, with a longitudinal incision in each leaf, to permit the aroma of the juice to become apparent, and disperse mosquitos from the room. Flies, fleas, and mosquitos avoid rooms in which branches of pennyroyal have been suspended. In India, mosquitos are smoked out by burning chips of resinous wood. A species of ant, Formica smaragdina, well known in Malabar and the wooded parts of India, is employed in the N.W. Provinces to destroy the nests of wasps that have established themselves in a house. They are said to destroy all the wasps, but become so infuriated that their own indiscriminate attacks are nearly as bad as those of their foes. Honigberger states that a twig of the walnut tree, Juglans regia, is kept in a room as a means of dispelling flies; that when flea-bane is roasted, flies take to flight; and when sprinkled on the floor, fleas disappear. Dr. Hooker mentions that Clerodendron leaves bruised are used to kill vermin, fly-blows, etc., in cattle. The Inula pulicaria, or flea-bane, a common roadside plant in Britain, strewed or burned in any place destroys gnats and fleas; and the same properties are attributed to the common ox-eye daisy of Britain, Chrysanthemum leucanthemum. 'Camomille rouge,' the beautiful red Pyrethrum (P. carneum, formerly Chrysanthemum coccineum), in England a pretty ornamental garden flower, is prepared from the flower heads of the plant, which, when dried and crushed, form the famous Persian flea powder. Sprinkled in beds, etc., it kills all disagreeable and hurtful insects; and a small quantity of the spirit distilled from it destroys insects in greenhouses, or can be applied to vegetable life in the open air against green-fly, house-fly, etc., without injuring the plants. More than twenty villages in the district of Alexandropol are occupied in the cultivation of the red chamomile. It is said also to destroy maggots which breed in wounds, a property which the valuable decamulli gum of the Gardenia lucida and chloroform also possess. The pyrethrum powder seems the same as the well-known pireoti of Kurdistan, is largely imported into Turkey, and during the war was greatly used in the barracks and hospitals of Turkey and the Crimea. Its introduction into India merits favourable consideration. Pyrethrum Indicum and P. Sinense grow in the Tenasserim Provinces. The odour of the common feverfew of Britain, P. parthenium, is disliked by bees; and these insects may be easily kept at a distance by a person carrying a handful of the flower heads. The 'akarakarum' of India, the Pyrethrum officinale, or common pellitory, may perhaps have equal power. Chrysanthemum Indicum, the common Gool Dawudee, of which there are several varieties, grows all over India, and is worth a trial. Natives of India suspend in their houses a few branches of the milk hedge (Euphorbia tirucalli), to destroy fleas. They likewise make pastilles containing sulphate of copper, 'Neela toota,' HIND., which, when burned, drive away bugs, mosquitos, and fleas, using three or four in a day. Bugs have a great antipathy to the leaves and powdered seeds of the custard apple, and instantly quit a bed in which they are placed; and Dr. Irvine mentions that babai, the roots of Ocimum pilosum, have the same effect. Colocynth is useful for protecting shawls and feathers. Camphor-wood is valuable for the construction of chests and almirahs, as its powerful odour protects the contents. Leaves of Margosa trees, Melia and Azaderachta, dried and kept in books, preserve them from the attacks of insects. To prevent injury to furs, feathers, books, papers, and clothes, that are lodged in trunks, bookcases, etc., it is useful to place along with them small packets of camphor, or little cups of camphor dissolved in alcohol; packets of the seeds of the small fennel flower, Nigella sativa, the 'kala jira' of the bazars, pieces of the roots of the Aconitum ferox, the poisonous 'bish,' may also be used, but its highly poisonous effects on animal life require that it be had recourse to with the greatest precautions. Kiri mar, HIND., worm-bane, is the Stachys parviflora; Piu mar, HIND., flea-bane, is the Plectranthus rugosus. In India, the pastes or gums employed in the bindings of books form special objects for the attacks of certain insect tribes; it may be useful to be known, therefore, that insects refuse to attack the gum of the cashew nut fruit, and that it or a little sulphate of copper or blue vitriol mixed with the rice or flour paste used for joining papers, very effectually keep these destructive pests at a distance. The leaves of the Justicia gandarussa, *Linn.* (Caar noochi, TAM.; Nalla wawalee, TEL.; Neela nirghoondee, SANSK.), dried and powdered, are also used as a preservative to keep insects from books. Amongst the insects which infest books in India are two genera, which are usually regarded as accomplices in the work of destruction, but which, on the contrary, pursue and greedily feed on the larvæ of the death-watch and the numerous acari which are commonly believed to be the chief depredators that prey upon books. One of these maligned genera is a tiny tailless scorpion (Chelifer), of which three species have been noticed in Ceylon, the Ch. librorum, *Temp.*, Ch. oblongum, *Temp.*, and Ch. acaroides, *Hermann*, the last of which, it is believed, had been introduced from Europe in Dutch and Portuguese books. The other genus is the Lepisma, and the tiny silvery creatures of which it consists are called by Europeans the fish insect. Like the chelifer, it shuns the light, hiding in chinks till sunset, but is actively engaged during the night, feasting on the acari and soft-bodied insects which assail books and papers. The Chinese use pastilles called mosquito tobacco, made with the sawings of resinous woods, believed by Mr. Fortune to be procured from juniper trees, and mixed with some combustible matter to make it burn. A somewhat fragrant smell is given out during combustion, which at a distance is not disagreeable. Sometimes the sawdust is put up in coils of paper, and is then burned on the floors of the houses. Various species of wormwood are likewise employed in China for the same purpose. The stems and leaves of these plants are twisted and dried, and

probably dipped in some preparation to make them burn. Hot alum water will destroy red and black ants, cockroaches, spiders, chintz bugs, and all the crawling pests which infest houses. Take two pounds of alum and dissolve it in three or four quarts of boiling water; let it stand on the fire until the alum disappears, then apply it with a brush, while nearly boiling hot, to every joint and crevice in closets, bedsteads, pantry shelves, and the like. Brush the crevices in the floor of the skirting or mop boards, if you suspect that they harbour vermin. If, in whitewashing a ceiling, plenty of alum is added to the lime, it will also serve to keep insects at a distance. Cockroaches will flee the paint that has been washed in cool alum water. Sugar barrels and boxes can be freed from ants by drawing a wide chalk mark just round the edge of the top of them. The mark must be unbroken, or they will creep over it, but a continuous chalk line half an inch in width will set their depredations at naught. Powdered alum or borax will keep the chintz bug at a respectful distance.—*Tennant's Ceylon; O'Sh.; Hooker, Him. Jour.; Honigberger.*

BANEBERRY, Actæa spicata.

BANG. HIND. Or bhang. Cannabis sativa.

BANGA. HIND. Platanista Gangetica; the river hog of Bengal, a kind of porpoise.—*Wilson.*

BANGA. SANSK. Not modern Bengal, but in ancient times the country north of the Bhagirathi. Bangali, relating to Bengal, a man of Bengal.

BANGA. HIND. Cotton wool.

BANGALI ELACHI. BENG. Amomum subulatum.

BANGALORE, in lat. 12° 57′.37″N., long. 77°36′ 56″ E., a large military station and town in Mysore. At the flagstaff, the mean height of the cantonment above the sea is 2949 feet, according to Ad. Schl., and 2874 according to Babington. The climate is almost European as to coolness, but at the more exposed parts is unfavourable to young children. The fruits and vegetables of Europe all grow well, and many Europeans are settled there. Average rainfall, 36 inches. Bangalore Pettah or civil town, was taken by storm by the British on the 21st March 1791; and a battle was fought on the 6th December 1791.

According to a legend, it was anciently named Yalabunka Naud, but its ruler, Vira Babala Roya, about the 12th century, having lost his way, found shelter from an aged woman and a meal of Auvara Bangaloo (the Hala Kanada name for boiled gram), and he named the village Bangaloor, and gave it to his hostess.

In 1881, on the coming of age of the present ruler of Mysore, Bangalore was transferred to the British. Bangalore city in 1871 had 142,513 inhabitants, of whom 105,632 were Hindus, 21,587 Mahomedans, and 15,294 Christians. Public buildings for the administration of Mysore were erected during the minority of the present ruler. There are many Christian churches; and the French Catholics and several Protestant sects are spread over Mysore district. There is a college, and the Mysore Museum, which the editor founded in 1865. The manufactures consist of woollen and silk fabrics, iron and steel.

BANGALORE, a district of the Nundidrug division of Mysore, has an area of 2914 square miles, with 828,354 inhabitants in 1871, chiefly Hindus. The Komati number 5641; the Nagarta, 4888; the Wakkaliga, 222,653; the Lingaet, 36,430; Kumba, 46,167; Banajiga, 29,896; Tiglar market gardeners, 28,780; wandering tribes, 12,036; and wild tribes, 1738.

BANGALOW, from banglah. HIND. A single-storeyed house.

BANGALZAI, a Baluch tribe, occupying exclusively Isprinji, but reside also at Shal and Mustung, and in winter repair to Talli near Lehri.

BANGAN, a group of islands in the Eastern Archipelago, occupied by the Manguianes, a mild and ill-used people.

BAN-GANGA, a tank at Walkeshwar, near Bombay, fabled to have been produced by Krishna firing an arrow at a spot to obtain pure water.

BANGAR, HIND., of Cis-Sutlej, high land requiring irrigation by wells. See Banjar.

BANGARI. HIND. Vangueria spinosa.

BANGARMAU, a pargana in Unao; its inhabitants are so fond of display, as to have given occasion for the saying that one with nine gold stripes in his turban will earn his livelihood by gathering cow-dung.

BANGARO MAE, a wood of the Kei islands, well adapted for masts.

BANGASH, a people claiming Afghan descent. The Samalzai clan are of the Shiah sect. They are noted for their bravery, and could turn out 700 fighting men.—*Lt.-Col. MacGreg.* iii. p. 65.

BANGAS JAMPACCA. MALAY. Michelia champaca.

BANGHI. TAM. A heavy mail post.

BANGI. TAM. In Tinnevelly, a form of village tenure by which the lands are redistributed once in every six years among the villagers, by lot. It is the same as the wesh (waish) of the Afghans.—*W.*

BANGKA, also called Katua. HIND. An aquatic beetle which eats rice plants. It is said to take a leaf for a boat and to paddle itself from stalk to stalk. It is harmless when the water is let off from the field.

BANG-KONG, a sash or waist-cloth of cotton or silk.

BANGLA. HIND. A kind of betel leaf.

BANGLES.

Bangrian, . . .	HIND.	Wallaeel, . . .	TAM.
Kadiam, . . .	SANSK.	Galzoo, ...	TEL.

Glass, gold, and silver bracelets worn by women throughout the East. The Chinese make them of a clouded or plain vitreous substance, to imitate jade stone or chalcedony. For export they are packed in boxes containing 1000 pairs, each box estimated to weigh a pikul. Bangles are imported into, and also exported from, Madras and Bombay. In four years, the imports were to the value of Rs. 1147, chiefly from Bombay. The exports were in number 1,953,000, of the value of Rs. 3078, and to Bombay and Sind.

Glass bangles are largely made in many parts of India, a workman turning out 600 or 700 daily. Some are of beautifully tinted glass. Jade bangles in Yunnan sell at Rs. 125 the pair. In Bengal, a bangle of iron is put on the left hand of the Hindu bride by her mother-in-law, with a benediction that she may be ever blessed with her husband, and she marks the middle of the bride's forehead with vermilion. The iron or other metal bangle denotes the ayestree or married state.

BANGNI, a Dofla tribe.

BANGRA. BENG. Wedelia calendulacea.

BANGRA, a cloth made from the gigantic sting-

ing nettle of the Nepal and Sikkim hills. The preparation of the fibres is in the same mode as the 'pooah,' but the bangra is harder and stiffer than pooah, and not adapted to making ropes or nets.—*Royle.*

BANGSIRNG. MALAY. Tupaia Javanica.

BANGU, a river Thug in Bengal?

BAN GUMUK. BENG. Cucumis sativus.

BANGUR. HIND. The highland of the doab between the Jumna and Hindun and the Ganges.

BANGY, properly Bahangi, a shoulder pole with slings at each end for carrying weights.—*W.*

BAN'H. HIND. The forearm; also a guarantee, security, or pledge. The senior military officers attached to a Nazim's camp used to pledge their honour for the safety of any important landowner who took up his quarters in their lines, while his periodical revenue arrangements were under discussion. These pledges were honourably respected by all parties.

BAN-HALDI of BEAS. Hedychium spicatum.

BANI, also Kapsa and Kupu, HIND. A yellow earth of Rohilkhand and Oudh, with which potters ornament their wares.

BANI, HIND., of Kotgurh. Quercus annulata.

BANIJAGA. KARN., TEL. A lingaet, a follower of the Jangam sect; also commonly a lingaet shopkeeper.

BANIWAL. HIND. A subdivision of the Bahangi sect.

BANIYA. HIND. A shopkeeper, a tradesman, a mahajan or banker; in Benares, they are worshippers of Krishna, under the names of Gopal Ran-chor, Radha-Vallabh.—*Sherring.* See Baniya.

BANJ, properly Banj'h. HIND. A barren woman.

BANJ. ARAB. Henbane. Banj-i-rumi, Conium maculatum; Banj-i-dashti, Datura.

BANJAR. HIND. Waste land generally; land out of cultivation; fallow or barren.

BANJAR, a river in Borneo occupied by the Kyan race; its banks and vicinity are said to yield gold and diamonds. See Kyan.

BANJARA, often written Bunjara and Brinjara, are called also Lambada, Lambadi, and Ilambadi. Their Canarese name is Herkeri. The name of Banjara is supposed by Elliot to be derived from the Sanskrit Bunij, a merchant. Shakespeare derives it from the Persian Birinjar, a rice-carrier. In the Dasa Kumara Charitra, a work written by Dandi, mention is made of a cockfight in a Banjara camp; but the Banjara are even indicated by Arrian as one of the classes of Indian society. They are chiefly wandering grain merchants and salt merchants, but many have settled down in the tract under the northern hills lying between Gorakhpur and Hurdwar. Some are Mahomedans, and say they came from Multan. Those of western India are usually Charans, and their sacred character is a great protection to them. The Banjara of Berar have been greatly predatory, and been removed.

The Turki Banjara, who are mostly carriers, have 36 tribes or got.

The Baid Banjara have 11 'got.' They came from Bhutnir, and are now in Pilibit and Kant, and many are weavers, oculists, and medical men.

The Lubana Banjara have 11 'got;' are mostly agricultural. They claim to be descendants of Gaur Brahmans, and to have left Runthumbor in Aurangzeb's time.

The Mookeri Banjara claim to have come from Mecca, and to reside in Jhujjur. They have 16 'got.'

The Bahurup Banjara are mostly Hindu, and lead a more wandering life. They are divided into the five tribes, Rahtor, Chauhan or Koorri, Powar, Tuwar, and Barka, who are again subdivided into tribes or got. They claim to have come from Chittur. They intermarry, but not with members of the same got. They have a close relation with those of the Dekhan; each community has a chief at its head, styled Naik, to whom they yield implicit obedience. The Banjara are scattered in communities all over India. In the south of India they style themselves Gohur. They are met with from Kashmir to the south of India, and keep in Tandas or encampments. Their Tanda, HIND., Kepa, MAHR., in the extreme south of India have become greatly broken up, for they are predatory, engage in gang robbery; many of them are to be seen in jails; in the Mysore territory their women and aged men are breaking metal for the roads; and the rapid extensions of roads and railroads have done much to exclude them there from their trade as carriers and collecting merchants. But in Berar and throughout the Hyderabad country they are still in large numbers, collecting from the lone hamlets the small quantities of grain, cotton, and wool obtainable, and bringing them into the larger marts. Their means of carriage is solely the bullock and the cow. Some of these are magnificent; and it is a grand sight to see a Banjara Tanda, laden with cotton or grain, traversing the country through pathways and tangled trees and brushwood, so entwining that portions of cotton are taken up at every step. Their value as travelling merchants, in times of scarcity or great demand, is incalculable, for no other means could bring in the small stores of outlying hamlets. They will shortly disappear from traffic as rail and metalled roads increase. The Banjaras are men of great energy. They have in some places fixed homes. Throughout Berar, and in the northern parts of the Hyderabad territory, some of them are to be found settled in villages as servants of the potails, and are recognised as village Banjara. On the borders of Rohilkhand towards the Terai, they have considerable settlements, are prominent landed proprietors, and important people. A numerous tribe are spread along the foot of the Himalaya from Hurdwar to Gorakhpur, engaged in agriculture.

Wilson says they are partly of Hindu and in part of Mahomedan belief; and some of the Bahurupa Banjara are, it is said, accepted as guarantees for agreements, similarly to the Charan and Bhat; but their name, Bahu-rupa, meaning many disguises, does not bear this out.

The Banjara is also called by the Dekhan people Lambana. The Banjara man is a Gohur, a man; and this is their own tribal name; a woman, however, is a Banjarni.

The goddess Marri-Ai is a great deity with the Dekhan Banjara, and they invoke her in their most solemn oaths. They use a broken branch of the Azaderachta Indica, the nim tree, or, as they call it, Lim Ka Dagla, in their solemn ordeals. They lay one on the ground, and will say to a woman whose virtue is in question, 'If you be not a whore, lift it;' and her lifting it or otherwise establishes her innocence or her guilt.

Their dress and appearance are singular, more particularly the women, and their social habits and customs distinctive. The men wear the usual Pagri and Dhoti, whilst the dress of the women consists of a boddice, Chuli, with long sleeves, and a petticoat or skirt hung from the waist in ample folds, consisting of coarse cotton prints of bright colours, and a sari or scarf of a similar texture, which is carelessly thrown over the shoulders, giving them a picturesque appearance, when combined with the brass and deer-horn ornaments and gaudy-coloured tassels of cotton, with which their arms, ears, nose, neck, ankles, and toes are profusely decked. They have small, well-turned hands and feet; their movements are easy, graceful, and stately, rendered slow from the quantity of ornaments they wear. The hair is parted in the centre, combed back, plaited, and ornamented with a profusion of silk or cotton tassels. They seldom change their clothes, till they are tattered and torn, and are only renewed by a new suit. The women possess considerable natural charms, are as active as the men in their business avocations, and they carry burdens when travelling, chiefly their children, provisions, or utensils. They are capital needlewomen, making their own jackets and petticoats, and frequently embroider these tastefully. The material used by the women of some branches of this tribe is manufactured from the fibre of a species of nettle, which is woven into cloth for themselves, and these are tastefully dyed in various colours, to suit their peculiar taste in this respect, frequently over-gaudy. They visit the most remote and hilly regions and lone hamlets, to collect and transport grain and other commodities to more civilised parts; no jungles or wild beasts deter them from travelling. In some districts they are addicted to thieving and thuggi. They settle their own disputes, either by arbitration, or by the decision of their naiks, and seldom or ever complain of their fellows. Their code of laws prescribes punishments for all crimes, the verdict of which, when carried out, is never disputed. Their priests exercise the power of life and death over the community, but this is masked under the cloak of religion and supernatural agency; and, as a tribe, they are bound to secrecy whenever the extreme penalties of their laws are carried into effect. Unchastity is strictly punished with death; frequently both the woman and man suffer when detected, and their corpses are buried or burned together, and neither the justice nor execution are ever complained of. They recognise no Civil Authority, keep aloof from settled races, interfere with no one, and allow of no interference among them in the matter of their laws or customs, etc. As carriers, distance and climate have no difficulties for them. They undertake extensive engagements in exporting merchandise, chiefly grain, cotton, cloths, oil-seeds, etc., and carry them out with the utmost good faith. They never play false when once the work is undertaken by them; no instance has been known of goods entrusted to their care having been robbed. They are looked upon by other classes of natives with a superstitious dread, so that they can traverse the wildest and most jungly tracts with impunity and perfect security. It is reported that the Banjara of the hill districts of Bisram, Cuttack, and Jeypore, practise the Meriah sacrifice, as also do those who trade between Nagpur and the coast. Dr. Shortt, from personal inquiries in Orissa, Nagpur, Hyderabad, South Arcot, Vizagapatam, Jeypore, etc., was satisfied that sorcery, witchcraft, human sacrifice, and infanticide prevail among different clans of the tribe. Each community is localized by the term of 'Tanda,' having its own leader, who is said to lead a peculiar ascetic life. On occasions of sickness among themselves, or murrain amongst their cattle, the priest is consulted, and should he attribute such visitation to sorcery, he fixes the guilt on some individual belonging to the community, when the supposed evil-doer is immediately ruthlessly seized, and murdered in the manner dictated by the priest, to abate the evil. The execution is coolly and deliberately carried out in the most summary manner, and the deed is buried in oblivion. The practice of infanticide is in vogue among them, in consequence, it is said, of the large sums of money required to ornament their girls, in addition to the large dowries which they have to bestow on marriage. It is reputed that the practice is carried out by placing the newborn infant in an earthen vessel or chatty, the mouth of which is tied over with cloths steeped in a decoction of turmeric, and ornamented with flowers, some trifling ceremonies being carried out. The chatty is taken to some remote place in the jungles, and there buried. Some of the Khond tribe carry out a similar practice as regards their female children.

The Banjara generally possess large herds of cattle, which they convert into pack animals; even cows are made to carry burdens, which, as a rule, no other class of natives do; and it is no unusual thing to see among a herd of Banjara bullocks several cows laden with burdens, with young calves at their heels. One or more of their best bullocks are selected as leaders, their horns and the crests of their pack-saddles are ornamented with cowries, scarlet cloths, peacocks' feathers, tassels of cotton variously coloured, etc.; their necks are encircled with a band of scarlet cloth or leather, to which is fastened numerous bells of sizes, and as they walk the bells give out a monotonous sound. The selected animal is supposed to be deified, forming the protector of the herd, and is termed Guru Bail. The jingle of the bells and the ornamentation of the animals are said to frighten away beasts of prey in their lonely and jungly marches. The cattle are let loose as soon as the march is over, to enable them to pick up what they can by browsing in the vicinity. The Banjara is independent of villages generally in his travels. As soon as the encampment is fixed on, he unloads his bullocks, and packs the loads in tiers, and over them he stretches an awning of cloth or a cumbly, as protection from the weather. At night, the cattle are tied round the packages in a circle; in the midst, the Banjara lights a fire and lies down to sleep. He is up at sunrise, loads his bullocks, and proceeds to the next stage; the distance travelled is generally from 10 to 15 miles a day. On these journeys, one or more of their women accompany them.

These men were the great grain carriers of the Moghul armies, and came down with them into the Dekhan early in the 17th century. Two brothers of the Charans, one of the three great tribes into which the Banjaras are divided, are said in the year 1730

to have possessed 180,000 bullocks, which carried Asof Jah's provisions for him during his raids. So much were these carriers prized by that Wazir, that he gave to these two brothers, Jhangi and Bhangi, the following prescriptive rights, engraved on copper in gold letters:—

'Rangan ka pani,
Chapar ka ghas,
Din ka teen khun muaf,
Aur jahan Asof Jah ke ghore,
Wahan Bhangi Jhangi ke bail.'

Or—

'Water from the pots of my followers,
Grass from the roofs of their huts,
Three murders a day pardoned;
Only where Asof Jah's cavalry are,
There must Jhangi Bhangi's bullocks be.'

This was to induce them to keep up with the army, and stop their complaints of want of grass and water for their cattle. The descendants of the house of Bhangi still possess the above engraving.

Witchcraft still obtains among them. There is a hut set apart in nearly every Tanda, and devoted to Mittu Bhukia, an old freebooter. No one may eat, drink, or sleep in this hut, and it is simply used for devotional purposes. In front of this hut is a flagstaff, to which a piece of white cloth is attached. Worship and preparation is always gone through before the commission of crime by those who worship Mittu Bhukia. By all criminals Mittu Bhukia is worshipped as a clever freebooter; but he is more thought of south of the Wardha. The white flag in front of a hut is a sign that the Tanda worships Mittu Bhukia, and it should therefore be watched carefully for days, when they are suspected of having committed crime.

The men who have agreed to and arranged the particulars regarding the carrying out of their scheme, meet at night at this hut, where the image of Satti is produced. Ghi is put into a saucer, and into this a wick is placed, very broad at the bottom and tapering upwards. This wick standing erect is lit; an appeal is made to Satti for an omen, those worshipping mentioning in a low tone to the god where they are going and what they purpose. The wick is then carefully watched, and should it drop at all the omen is propitious; all immediately get up and make an obeisance to the flag, and start then and there for the business they have agreed on. They cannot return to their homes before they start, because they must not speak to any one till their business has been carried through. When engaged in a robbery, if challenged, the men who have gone through the ceremony may not reply. If any one of them reply the charm is broken, and all return home. They must again take the omens and worship again, or give up the attempt altogether. But they generally prefer to make certain of the man who is venturesome enough to challenge them, by killing or injuring him so severely that he cannot meddle with their other arrangements. If one of the gang sneeze on the road, it is also fatal to the enterprise; they must return to their Tanda at once.

Predatory races in the Mahratta country and North Canara district are said to assume the dress and ostensible occupations of the Banjara. The Bahu-Rupa Banjara (many guises) may be of these pretended tribes. The Turki subdivision has the Aliya and other branches. The Bhukyava subdivision claim to have been Rajputs from Central India. Their name is said to be derived from Vana, a forest, and jara, forest wanderer. Banjara women wear the same personal ornaments as are on the figures in the caves of Karli.—*Wilson's Glossary; Baron Hugel's Travels in Kashmir and the Panjab*, p. 81; *Mr. (Sir George) Campbell*, p. 107; *Dr Shortt's Report; Pioneer.*

BANJARMASSIN, a province of Borneo.

BANJER. Jav. An inundation.

BANJHKORA, a tract of country near the Yuzufzai possession, along with Buner, Bajawar, Astor, and Swat.

BANJI. Hind. Quercus incana, heavy oak.

BANK. Banco, Armen.; Banke, Dan.; Banque, Fr.; Banken, Ger.; Banco, Italian; Banco, Port.; Banc, Saxon; Banca, Sp.; Banck, Sw. There have been banking transactions from the most ancient times. Mr. George Smith purchased for the British Museum 2500 dated tablets, which enable us to follow for several centuries the monetary transactions of the great Babylonian banking firm of Egibi and Son. The series goes back as far as the reigns of Sennacherib and his son Esar-Haddon. The Greek and Roman mints furnished the early coinages of the Argive king Pheidon and of Servius Tullius. To the earliest of the Greek trapezitæ, Philostephanos of Corinth, Themistocles entrusted 70 talents (£16,000). Of other Hellenic bankers were Archestratos, and his clerk and successor Pasion, the most famous among the powerful Athenian money-dealers. At Sparta there was Glaucus, the story of whose late but genuine honesty is given in Herodotus. The discovery at Pompeii of 132 tabellæ found in the house of the banker Lucius Cæcilius Jucundus, gives the latest records of his payments to the exchequer of the doomed city, being dated A.D. 62. The Latin words Argentarii, Mensarii, and Nummularii are derived respectively from argentum, which means silver, from mensa, a table, and nummus, a piece of Roman money. Banking, as understood by the moderns, took its origin during the existence of the Florentine republic in the middle ages. The Bank of Venice commenced business in 1157. The Bank of England was first chartered in the reign of William and Mary in 1693. In India, most of the banking business has been in the hands of Hindus; they do little as depositaries, but are chiefly lenders. They number 118,000 adult males, as bankers proper. The first banks in India were started respectively at Calcutta, 1770; at Madras, the Carnatic Bank, in 1791; and at Bombay only as late as 1840. The present Bank of Bengal was opened for business on the 1st May 1806. It is therefore the oldest and most successful of all the banks that have ever existed in India. The Government of India being the owners of a large number of its shares, it has always received the vigilant supervision of various officers of Government. Since it commenced operations, its average rate of dividends has been about twelve per cent. per annum. One year it paid as high as twenty; another year, when heavy frauds had taken place, they fell to two and a half. There are now, 1882, about twenty-four banks in various parts of the E. Indies, in Madras, Bombay, Culcutta, Rangoon, Singapore, Hong-Kong, and other towns; and great British houses and houses of Hindus of the Vais and

Bhattya castes are also doing a large banking business, as banks of deposit, banks of discount, and banks of circulation. The latest charter is entitled The Presidency Banks Act, No. XI. of 1876. The liability of shareholders is limited to the amount of their shares; the transactions of the banks, except as agents, are confined to India and Ceylon. Those in which the Indian Government are interested are called public, while those not so conducted are said to be private, and depend on the honour, reputation, and good name of men in high position in private or public life. Their capitals are as follows, viz.:—Bank of Bengal, Rs. 2,00,00,000; Bank of Madras, Rs. 50,00,000; Bank of Bombay, Rs. 1,00,00,000.

BANKA. HIND. A large sword used in athletic games; also a large vice for table use. Banka is a musical instrument, also the upper piece turned from the performer, forming it into the shape of the letter S.

BANKA. TEL. Gum, gum arabic; also any viscous plant, and applied to species of different genera. Banka-baddu, Vitis Linnæi, *Wall.* B. Chettu, Zizyphus, *sp.* Banka Nakkera, Cordia myxa, *L.*; and B. pavili, Portulaca, *sp.*

BAN-KAHU. HIND. Vitex negundo.

BANKAL, a weight in the Straits of Malacca at Singapore, 835 or 836 grains, at Penang somewhat less.—*Simmonds.*

BAN-KATTI. HIND. In the land rules of India, the rights acquired by clearing jungle land and bringing it under cultivation.

BAN-KHA. BURM. In Amherst, a timber, colour grey, used for house posts and other common purposes. Terminalia belerica, *Roxb.*

BAN-KHARA, also Baraundha and Mudi. HIND. Lands on which cotton was grown during the past season.

BANKOK is about 27 miles up the Menam river of Siam. It is built upon an island, in lat. 13° 58′ N., and long. 100° 34′ E., on both branches of the river, generally with 7 fathoms water close to each side, and navigable for vessels up to 250 tons at all seasons of the year. The river is the highway for communication with all parts of the country, though several ancient canals have connected rivers in the interior and made passages to the coast. It is the capital and seat of trade in Siam; is 14 miles in direct distance from the sea, or 25 miles following the windings of the river. The walled city is on the east bank. All the well-to-do people live in wooden houses, while the poorer class occupy huts composed of bamboos and palm leaves. Many of the people have their permanent homes on rafts moored along the banks of the river. Numbers of shrines and temples and pagodas are to be seen in every direction, built with the most durable materials, and in the most costly manner. Bankok is supposed to have a population of about 200,000, of whom three-fifths are Chinese, and the remainder are Siamese, Peguans, Laos, Cambojans, Tavoyans, Cochin-Chinese, Malays, Mahomedans, Hindus, and Christians, the descendants of Portuguese born in the country.

BANKS. In the oceans on the south of Asia are several extensive banks, some of them full of peril to sailors, but from which fishermen draw large quantities of fish, Agar-agar, a marine lichen extensively used in China, trepang or sea-slug, and mother-of-pearl shell, etc. A continuous submarine bank extends all along the E. side of Asia from lat. 8° S. to 6° N. It is 1200 miles from N. to S., and 1500 from E. to W., and embraces Borneo, Java, Sumatra, and the Malay Peninsula. This vast area is all under 100 fathoms deep, but the greater part from the Gulf of Siam to Sumatra and Java is under 50 fathoms.

Borneo and the Philippines are connected by two narrow submarine banks, over the northern of which rises Palawan, and the Sulu islands over the southern.

Formosa is connected with the mainland by a submerged bank under 100 fathoms, including Hainan to the S.W., and Japan on the N.E., and under 200 fathoms, including Madjico and Loo-Choo islands.

To the east of the great bank which stretches out from the Malay and Siamese peninsulas, as far as Java, Borneo, Sumatra, and the Philippines, is another bank, which unites N. Guinea and the Papuan islands, as far as Arru, Mysol and Waigiou, with Australia. The Australian bank commences near the N.W. Cape, and extends in a N.E. direction to New Guinea, where it terminates at the base of the high but narrow mountain range that unites the eastern and western parts of that island, and separates the Banda Sea from the Pacific. It is at this point that the edge of the bank is most remote from Australia, the distance to the nearest point of the N. coast being 400 miles. It appears again on the S. coast of New Guinea, near Torres Straits, and extends along the N.E. coast of Australia, the Great Barrier Reef being on its outer edge. The Arru Islands and New Guinea are thus united to the continent of Australia; and the kangaroo, long supposed to be peculiar to Australia, is found both in the Arru Islands and on the southern part of New Guinea.—*A. R. Wallace*, pp. 349, 373.

BANKSIA ERICIFOLIA. Its dried cones are used by the natives of Australia for retaining fire.—*Bennett*, i. p. 61.

BANNA. HIND. Viburnum fœtens.

BANNER LATI-GACH'H. BENG. Cathartocarpus fistula, *Pers.*

BANNERS.

Alam, ...	ARAB.	Bhaota, Jhenda,	HIND.
Bannière, ...	FR.	Bandiera, Insegnia,	IT.
Fahne, Panier, . .	GER.	Bandera, ...	SP.

Banners are in use with all military, and for designating the religious ceremonials of all the races and nations and religions of Asia. They are of various shapes and sizes, and of different colours; and the phrases so familiar to Europe as to lowering and displaying the colours are in use in Asia. In India, the invocation Angriz ka bhaota kaim, May the British flag stand fast, is common. The Yuzufzai Afghan, in a war, advanced against the British with 'scarlet' banners, though scarlet is a forbidden colour to Mahomedans. It is unlawful for them to use it on banners or standards; and it is not known how these strict Mahomedans so far transgressed the 'traditions of the elders' in this matter. The Tartar armies of China are arranged under the separate banners of their leaders.

BANNI. HIND. Payment in kind.

BANNU, a British district in the Panjab, lying between lat. 32° 10′ and 33° 15′ N., and long. 70° 26′ and 72° E. Area, 3786 square miles; and population in 1868, 287,547. The Indus passes

through the district, and the Bannu valley is drained by the Kurram and Tochi, which unite and join the Indus. The annual rainfall is 11·8 inches. The population is now almost wholly Pathan, but remains of a Grecian occupation are found, also of a later Hindu race. At Akra, and other places in the valley, coins are found with Greek or corrupted Greek inscriptions. In 1865, at Rohri, the river laid bare coins, and heads of statues with the unmistakeable well-shaped features of Grecian art. Broken Hindu images also are found. The Marwat, a noble race, but haughty and fiery, hold the southern part of the valley. There are 26,222 Hindus, of whom 20,809 are Arora, and 493 Sikhs. The Marwat are good agriculturists.—*Imp. Gaz.*

BÁNNU. JAHR. Callicarpa incana.

BANNUCHI. MALEAL. Vitex negundo, *L.*

BANOG, a hill to the west of Mussoori, 7545 feet above the level of the sea, in lat. 30° 28′ 29″ N., and long. 78° 3′ 23″ E. The river Jumna flows around the northern face of Banog and Badray, and bounds the settlement of Mussoori on the west. Mussoori was first resorted to as a sanatorium in 1823.

BANOTSARG is the Hindu ceremony of marrying a newly-planted orchard or wood to its neighbouring well, without which it would be held improper to partake of the fruit. The form is gone through of marrying the salagram fossil, a type of Vishnu, to a branch of the tulsi plant (Ocimum sanctum), the type of a nymph beloved by Vishnu or Krishna; one man carrying the fossil represents the bridegroom, another holding the plant the bride. It is the usual marriage ceremony somewhat modified. See Jalotsarg.

BANS. HIND. Species of Bambusa; the large hollow bamboo, Bambusa arundinacea; any bamboo. Bans-ka-Chanwal, bamboo seed. Bans-Phor, a low caste race of basketmakers, lit. bamboo-splitters, though cane also is worked by them.

BANSA. HIND. A grass which grows in rice fields and fields of urd (Phaseolus mungo), used as fodder for cattle.

BANSA or Vasa. HIND. Adhatoda vasica; Tephrosia purpurea, *Pers.*

BANSA or Vansa. HIND. Any tribe or race of people.

BANSH-PAT-LAL-NUTI. BENG. Amarantus atro-purpureus. Bansh-pat-nuti, A. lanceolatus.

BANSLI. HIND. A flute.

BANSLOCHUN. HIND. Tabashir; a silicate deposited in the joints of a bamboo. It is said to be found in old bamboos only, and about one bamboo in three yields it. Used by natives as a stimulant and tonic, in doses of about five grains. It is a very pure kind of silex. Some of it approaches opal in appearance and composition.

BANSMATTI RICE is the best in the Panjab; that of Bora, in the Peshawur district, is also highly esteemed; properly Bas-marti.

BANSUR. HIND. A weed growing in the Doab, near the Jumna, difficult to eradicate from arable land, and very injurious to growing crops.

BANSWARA, a state in Rajputana of 1500 square miles. It is ruled over by a chief with the title of Maharawal. He is a Sesodia Rajput; but the population (in 1875, 150,000) are nearly all Bhils, and of a wild and turbulent character. The town is in lat. 23° 32′ 34″ N., and long. 74° 29′ E. It has 33 feudatories. Banswara was originally part of Mewar, but became independent of it prior to the establishment of the supremacy of the British Government, who recognised it as a separate state. In 1812, the chief of Banswara offered to become tributary to the British Government on condition of the expulsion of the Mahrattas; but no definite relations were formed with him till September 1818, when a treaty (No. LV.) was concluded, by which, in consideration of the protection of the British Government, the Rawul agreed to act in subordinate co-operation and settle his affairs in accordance with the advice of the British Government, to abstain from disputes and political correspondence with other chiefs, to pay a tribute equal to three-eighths of his revenues, and to furnish troops when required.—*Treaties*, etc., iv. p. 177.

BANT, a race of Canara, who believe that persons who die a violent death become demons, called paisachi.

BANTA-CHAUDAS. HIND. A village game played in the N.W. Provinces on the 14th of Kuar-Sudi. A rope (barra), thicker than a man's arm, is made of makra grass, and that village party in whose quarter the rope is broken, or by whom the rope is pulled out of the hands of the opponents, remain the champions during the ensuing year, and retain possession of the rope.

BANTAM, a province of Java. The first voyage made by the Dutch was in 1595, in which year their first fleet with Houtman (who had been previously employed by the Portuguese in the East India service) sailed direct to Bantam. At this period the Portuguese were at war with the king of Bantam, to whom Houtman offered assistance, in return for which he obtained permission to build a factory at Bantam.—*Raffles' Hist. of Java*, i. p. 22.

BANTAREA, wood rangers, formerly holding rent-free lands in quittance of police duties in the northern parganas of Gorakhpur.—*W.*

BANTI CHETTU, Tagetes patula, *L.*

BANTU, a great race on the eastern side of Africa. To the Bantu family, in its eastern, middle, and western branches, are respectively ascribed, first, the so-called Kafirs and Zulus, with the Bechuanas and Matabele of Livingstone, and the Suaheli and Wanyamwesi of the Tanganyika route; secondly, the tribes of the Lualaba and Ulunda central region, to which Commander Cameron and Mr. Stanley found their way; thirdly, the nations of Lower Guinea and Angola, of whom Captain Burton and Mr. Winwood Reade reported. The unity of race among the various inhabitants, from the Victoria Nyanza in the east, and from the Gaboon of the west coast, to the exceptional Bosjesmen and Hottentots at the Cape, is a fact of high importance. These populations, generally speaking, have more capability than the Gold Coast and Slave Coast Negroes of receiving permanent impressions of a civilising character; the missionary experiences among them have not been so unfavourable. Their pastoral and agricultural industry, where they are not exposed to the cruel persecution of kidnappers for the slave trade, provides amply for their secure subsistence.

BANU, a terminal honorific name of the Afghan women, as Arjamand Banu Begum.

BANUR-KULAY. BENG. Canthartospermum

pauciflorum. Banur-Lathee, Cathartocarpus fistula. Banur-Pala, Aglaia polystachia.

BANYA. HIND. Also pronounced Vania and Wania, the b and v and w being frequently substituted for each other in many dialects of India. This race or caste are known to the British as Banians or Banyans. They are a Hindu people of the Vaisya caste, following wholesale and retail trade, but the Marwari, Kshatriya Rajputs, also adopt the title. Of all Hindu sects, the Banya and the lingaet abstain the most rigidly from eating flesh; hence probably is derived the term Banyan day on board ship, the ration of that day, which, when on full allowance, occurred once a week, including no meat. The Banya are a very important race. Every hamlet in India contains the shop of the Banya, who is the dry grocer, and sells meal and the fine flour of wheat, with suji or semolina, millets, meal of millets, rice, split peas, and pulses of many kinds, for all these are used in the diet of the people, which is almost exclusively farinaceous. He sells also parched rice and parched peas, also gram or horse pulse, and generally every article of food except vegetables and meat, with which he has no concern, except perhaps dried fish and prawns. Besides these, he has condiments, salt, chillies, black pepper, green and dry ginger, garlic (but not onions) and asafœtida, a small taste of which is used with a peculiar lichen, by Brahmans and other high caste Hindus, to flavour made dishes. He has also spices, cassia, cardamoms, cloves, and mace, sugar and gur, or unclarified sugar. He has often to sell on credit, from which the usual disputes arise; and as he lends money also, usually at 3 per cent. per mensem, with compound interest, the Banya is a most indispensable, and yet the most disliked person in the Hindu community. In the 10th century of the Christian era, an attempt is said to have been made by the famous raja of Bullala, in the ancient Bengal metropolis at Gaur, to degrade the Banya caste, probably from differences of religious opinions and sectarian feelings, of which, however, nothing whatever is known beyond the bare tradition of the fact. Their opulence and enterprise have always kept up the respectability and dignity of the class. The body from Gaur who settled in Satgong in the Hoogly district during the last three centuries, have been trading with the Portuguese of Hoogly, with the Dutch of Chinsurah, the French of Chandernuggur, and the British at Calcutta. The Mullicks of Calcutta belong to them. But the Banya of Bengal have ceased to wear the sacrificial thread.

Throughout the wildest parts of the mountain ranges on the N.W. Frontier, throughout Afghanistan and Baluchistan, to the frontiers of Russia, Banya shopkeepers are to be found. The Marwari who take Vani as their designation, though found everywhere in British India, form no part of the permanent population. The N.W. Provinces are entirely in the hands of Banya, who point to the west as the districts whence they come. Gujerat, Malwa, and the Bombay Presidency are full of them. They are numerous all through Hyderabad in the Dekhan. They are not warlike, but engage in shopkeeping and mercantile transactions and banking business. They are acute men, and excellent accountants.—*Sir G. Campbell; Travels of a Hindoo.*

BANYAN. ANGLO-HINDI. A merchant, a shopkeeper. The word is supposed to have been obtained from the Gujrati word Vannio, trading classes.—*W.*

BANYAN TREE is the Ficus Indica, the Barka-jhar of Southern India, the Arbor de Rais of the Portuguese. It throws down aerial roots, which support the larger branches, and these again throw down other roots, till, as Milton wrote (Paradise Lost, ix.), the tree becomes

'Such as at this day, to Indians known,
In Malabar or Dekhan, spreads her arms,
Branching so broad and long, that in the ground
The bended twigs take root, and daughters grow
About the mother tree, a pillared shade,
High overarched and echoing walks between.
There oft the Indian herdsman, shunning heat,
Shelters in cool, and tends his pasturing herds,
At loopholes cut through strictest shade.'

Several of these trees have attracted attention from their dimensions. Four miles distant from Fort Saint David, was one under the shade of which Mr. Ives quotes Mr. Didge as computing that ten thousand men might stand without incommoding themselves. Dr. Frayer saw one of those admirable trees, near Surat, in the year 1673. In the Botanical Gardens at Calcutta, a great banyan tree has been long the pride and ornament of the garden. In 1857, Dr. Falconer ascertained it to be only seventy-five years old. People were alive nearly to that year, who remembered well its site being occupied in 1782 by a date-palm, out of whose crown the banyan sprouted, and beneath which a fakir sat. This tree, for the thirty-four years from 1834 till 1863, had not increased in size, having been lopped under some misapprehension, and when paced by the editor in 1863, its dimensions were identical with what he had found in 1834, viz. 100 yards in diameter and 360 in circumference. The banyan seed hardly ever vegetates on the ground, but its figs are eaten by birds, and the seeds deposited in the crowns of palms, where they grow, sending down roots that embrace and eventually kill the palm, which decays away. Had the Calcutta tree been growing in 1849 over the great palm-stove at Kew, only 30 feet of each end of that vast structure would have been uncovered. When the banyan tree embraces a date or palmyra or cocoa-nut tree, and the latter are seen growing out of it, this is called by Hindus a marriage of the trees. These are encouraged, and many are to be seen near the Kistna river, on the left bank to the N. of Karnāl. As the banyan tree gets old, it breaks up into separate masses, the original trunk decaying, and the props becoming separate trunks of the different portions. Lady Faulkland, writing from the western coast, tells us that about 8 miles from Waee was a banyan tree, covering a space of ground of $3\frac{3}{4}$ acres. The shade was complete; and separate picnic parties might take place under it, and not interfere with each other. There were countless avenues, or rather aisles like those of a church, the pale-grey stems being the columns, which, as the sun fell on them, glittered in parts like silver; and here and there were little recesses like chapels, where the roots from the boughs formed themselves into delicate clustering pillars, up and down which little squirrels were chasing each other, while large monkeys were jumping from bough to bough, the boughs cracking and creaking as they leaped. At Mhuwa, in the Sattara collectorate, were two trees, one 450

yards in circumference, the other 350 yards. They were known to be 200 years old, and may be double that age.—*Hooker, Him. Jour.* ii. p. 246; *Ouseley's Travels*, i. p. 80; *Pennant's Hindoostan*, ii. p. 31; *Postans' Western India*, i. p. 182; *Lady Faulkland's Chow-Chow.* See Ficus Indica.

BAN ZARDAK, a fortress in Kirmanshah, immediately overhanging the town of Zohab. This is the stronghold of Kolwan, to which Yezdejird, the last of the Sassanian kings, fled after the capture of Ctesiphon by the Arabs. It is a noble specimen of the labour bestowed.—*Rawlinson.*

BAOBAB. ENG. Adansonia digitata. One was seen near Gumer in Fasshol, 95 feet in circumference. Its inner bark, stripped off, beaten and dried in the sun, can be made into paper. They are to be seen in the Peninsula of India, growing as curiosities. In Western Africa, the trees grow to an enormous size. The fruit resembles a gourd in form, and contains a pleasantly acid pulp. Trees are found, especially between the Senegal and Gambia, with a circumference of 70 to 90 feet. One seen by Humboldt was estimated by him as being 5150 years old.

BAO CHAN. DUKH. Psoralea corylifolia.

BAOLI. HIND. A well, corruption of Baori; also an ear ornament.

BAONEE, is the only Mahomedan state in Bundelkhand. Nawab Ghazi-ud-Din Khan, grandson of Asof Jah Nizam-ul-Mulk of Hyderabad in the Dekhan, received from the Peshwa a grant of 52 villages near Kalpi, of 49 of which, at the time of the British occupation of Bundelkhand, his son Nasir-ud-Dowla was in possession. In 1863, as a reward for various liberal measures adopted by the ruling Nawab, and particularly the abolition of transit duties within the limits of his state, Government sanctioned an addition to his complimentary titles. The state is said to cover an area of 127 square miles, with a population of 20,000 souls, and to yield a revenue of one lakh of rupees.—*Treaties*, p. 231.

BAORA, a predatory vagrant tribe on the Bhutti territory and western parts of Dehli. They resemble the Kanjar and Gundheela, and subsist chiefly by stealing. Baora of Gujranwala are also called Hujra.

BAORI of the Jangle Mahal are a low caste of cultivators and palanquin-bearers. The Baori has the heron as the emblem of their tribe; its flesh must not be eaten by them. Colonel Dalton considers that the fact of Baori being still in possession of Ghatwali tenures as ancestral, shows that they had once a proprietary interest in the soil.—*Wils. Gloss.; Dalton, Ethnol.* p. 327.

BAP, HIND., father. Bap-re, the British say Bobbery, an exclamation of pained surprise.

BAPAI-PANDU. TEL. Carica papaya.

BAPANABURI. TEL. Ehretia buxifolia, *R.*

BAPANS, also Bapaoti. HIND. Paternal inheritance.

BAPARITI. MALEAL. Thespesia populnea.

BAPCHI, seed of a small bush found near Ajmir; very mucilaginous, cooling, and demulcent; taken in sherbet.—*Gen. Med. Top. of Ajmir.*

BAPHALLI. HIND. Convolvulus pluricaulis.

BAPHIA NITIDA, the African camwood dye.

BA-PHOLA. Dr. Stewart gives 'Ba-phola' and Baphor as the vernacular names of a species of colchicum in the Salt Range; the seeds, he says, are called 'isafgol,' which seems the ordinary Plantago.—*Masson's Journeys*, ii. 338; *Stewart; Honigberger.*

BAPOTA is from Bap, father, and the termination 'ot,' of or belonging to, and by which clans are distinguished, as Kurran-sot, descended of Kurran; Mansin-got, descended of Man Sing. The ryot (cultivator) is the proprietor of the soil in Mewar. He compares his right therein to the a'khye d'hurba, which no vicissitudes can destroy. He calls the land his bapota, or patrimonial inheritance. He has Menu in support of his claim, in the text, 'Cultivated land is the property of him who cut away the wood, or who cleared and tilled it;' an ordinance binding on the whole Hindu race, and which no international wars or conquest could overturn. A Brahman may spill his blood on the threshold of his dwelling, or in the field in dispute, which will be relinquished by the owner but with his life. The Pat Rani, or chief queen, on the death of prince Umra, the heir-apparent of Mewar, in 1818, bestowed a grant of 15 bighas of land, in one of the central districts, on a Brahman who had assisted in the funeral rites of her son. With grant in hand, he hastened to the Jat proprietor, and desired him to make over to him the patch of land. The latter coolly replied that he would give him all the prince had a right to, namely, the tax. The Brahman threatened to spill his own blood if he did not obey the command, and gave himself a gash in a limb; but the Jat was inflexible, and declared that he would not surrender his patrimony (bapota) even if he slew himself. In short, the ryot of Mewar would reply even to his sovereign, if he demanded his field, in the very words of Naboth to Ahab king of Israel, when he demanded the vineyard contiguous to the palace: 'The Lord forbid it me, that I should give the inheritance of my fathers unto thee.'—*Rajasthan*, i. 494, 510.

BAPPA, son of Nagadit, when only three years old, was conveyed to the fortress of Bhander, where he was protected by a Bhil of Yadu descent. Thence he was removed for greater security to the wilds of Parassur. Within its impervious recesses rise the three-peaked (tri-cuta) mountain, at whose base was the town of Nagindra, the abode of Brahmans, who performed the rites of the 'great god Siva.' In this retreat passed the early years of Bappa, wandering through these alpine valleys, amidst the groves of Bal, and the shrines of the brazen calf. Several of the twenty-four Gehlot tribes issued from the founder, Bappa. Shortly after the conquest of Chitore, Bappa proceeded to Saurashtra and married the daughter of Esupgol, prince of the island of Banderdiva. With his bride he conveyed to Chitore the statue of Vyan-mata, the tutelary goddess of her race, who still divides with Eklinga the devotion of the Gehlot princes. The temple in which he enshrined this islandic goddess yet stands on the summit of Chitore, with many other monuments assigned by tradition to Bappa. Bappa signifies merely 'a child.' He is frequently styled Syeel, and in inscriptions, Syeel Adhes, 'the mountain lord.' The Mori prince, from whom Bappa took Chitore, was of the Tak or Takshac race, of whom Nágnéchá or Nágání Mata was the mythic mother, represented as half woman and half serpent, the sister of the mother of the Scythic race, according to their legends. According to Sir H. Elliot, when Mahomed bin Kasim, the general of Walid,

overran Gujerat about A.D. 718, and advanced to Chitore, Bappa met and entirely defeated him, and after this he was raised to the throne of Chitore, where his descendants still reign. After a long and prosperous reign, Bappa abdicated and departed to Khorasan. In the reign of Khoman, his great-grandson, Mahmun, governor of Khorasan, invaded Chitore, but was defeated and expelled by Khoman after 24 engagements.—*Elliot, Hist. of India; Tod's Rajasthan*, i. p. 594.

BAPUNGA. TEL. Psoralea corylifolia.

BAQLA, from Baqa. ARAB. Beans. Baqlat-ul-Malek, fumatory; Fumaria officinalis.

BAQUAIS. FR. of Mauritius. Pandanus odoratissimus. See Pandanus.

BAR. PERS., HIND. A Mahomedan court, a tribunal. Bar-i-am, public audience-hall. Bargah, place of audience. Bari, a hedge, an enclosure for a garden; a dwelling-house; a homestead. Bariah, a married woman. Bar-kanya, a bride.

Bar, an intoxicating liquor prepared in western India from the Calotropis gigantea.

Bar. PERS., HIND. A load; an occasion. Bargir, a trooper not providing his horse, but serving on one supplied by the State or by a contractor; also infantry soldiers.

Bär. HIND. Ficus Indica, the banyan. Of Murree hills, Quercus dilatata. A solid bamboo, the Bambusa stricta. Bar of Hazara hills, the cotton plant.

Bar. PANJ. Large sandy wastes between the several rivers of the Panjab, cultivation being confined to belts on each bank. The plants growing on them resemble those found on the wastes bordering on the Caspian Sea; and most of the genera which abound in the southern steppes of Russia have representatives on the Bar. Species of salsola, salicornia, and sueda cover every patch of saline land in the Panjab, and are largely used for the manufacture of sajji, or impure carbonate of soda; kurreel (Capparis aphylla), jhau (Tamarix Indica), the furash (Tamarix orientalis), Zizyphus vulgaris, which compose almost the whole tree vegetation of the Bar, have analogous species on the shores of the Black Sea and the banks of the Volga.

BARA. HIND. Wind; metaphorically, Cholera morbus.

BARA-BANKI, a town and district in Oudh. The district is of 1769 square miles, with a population of 1,112,165. The district has been fought over from prehistoric times, between professors of Buddhism, Brahmanism, Mahomedanism, and the British, the latest efforts being in 1857-8, when the queen of Oudh took refuge amongst its people. 'I have seen,' then wrote the British general, 'many battles in India, and many brave fellows fighting with a determination to conquer or die, but I never witnessed anything more magnificent than the conduct of these zamindars.' A remnant is there of the ancient dominant Bhar, with Ahir 96,857, Pasi 74,303, Kurmi 134,687. The poppy is largely grown; in 1873, 7111 acres were under cultivation. The average yield of opium, 1400 maunds or 1025 cwt., for which the Government paid, at 10s. the seer, £2800. Other races are the Chamar, Khsathen, Brahmans, Mahomedans.

BARABAR. In Bengal, at 19 miles to the north of Gaya by the road, there are several groups of granite hills, called Kauwa-Dol, Barabar, Nagarjuni, and Dharawat. All of these possess some Buddhistic remains; but the most interesting are the caves of Barabar and Nagarjuni, which have been hewn out of the solid rock. The Barabar caves are now known by names connected with Brahmanism. The Lomas Rishi and Satgurra are the largest; next in size, Gori Koobha or Nag Arjun, Visvamitra, Karna Chopa or Kurn Chopar, the Sudama or Nigop; they are seven in number. The largest, the Nagarjuni, is 46 feet by 19 feet 5 inches. Next to it are the Lomas Rishi and Sudama. Six of them have inscriptions, in the oldest form of the Pali character, identical with that used in Asoka's lats. They all seem to have been completed between B.C. 252 and 214, during a great part of Asoka's reign. The Lomas Rishi has no inscription, but it seems to have been formed in the 3d or 4th century A.D. On Barabar highest peak is a temple with a lingam sacred to Siddheswar. At the base of the rugged peak of Kauwa-Dol is an enormous figure of Buddha.—*Dr. Fergusson.* See Baratgaon.

BARA BATSALI. TEL. Vitis setosa, *Wall.*

BARA-BHAO. HIND. Lit. largest price rate, a form of loan, by which a cultivator, borrowing, undertakes to repay with interest at the highest rate of the season. Suppose a farmer, at the beginning of the season, when wheat is at 20 seers the rupee, borrows 10 rupees on bara-bhao at 5 seers interest; and supposing grain subsequently at any season range up to 25 seers, he will have to pay 1¼ man as interest added to 6¼ man as principal, in all, 7½ man, having borrowed only a few months previously what was equal to 5 man. This rate of interest is about 33 per cent. for the short loan.

BARA-BRAHMAN, also styled Maha-Brahman, a class of Brahmans in northern India, in humble avocations, performing the funeral rites of strangers.

BARADARI. HIND., from barah, 'twelve,' dari, 'a door.' A house having twelve doors, an open building, a summer house, pavilion.

BARA GALI, a small sanatorium in the Hazara hills, on the road from Abbotabad to Marri.

BARAGOZA, the modern Broach. A native of this city was in the embassy from King Pandyon to Augustus at Antioch. His name is given as Zarmano Chidus or Zarmanochegus. He accompanied Augustus as far as Athens, and there immolated himself before the emperor.—*Cal. Rev.*

BARAHA or Varaha. BENG., HIND. The boar avatar of Vishnu. See Varaha, a hog.

BARAHAT and Gopesvara, two towns in Garhwal, from which were obtained two bronze tridents, with inscriptions of about the 7th century.

BARAH BHUIYA, a dynasty which Colonel Dalton believes once ruled in Assam. The country to the north of the Brahmaputra, from one end of the valley to the other, is full of great works ascribed to this people. Buchanan Hamilton, in his account of Dinajpur, narrated a tradition that twelve distinguished persons of the Bhuiyiya race came to the Koladyne river, the boundary between Kamrup and the ancient Matsyadesh, took up their abode there, extended their sway, and executed great works.—*Dalton.*

BARAH-SADAT, a powerful tribe of Syuds on the eastern parts of the Muzzaffurnuggur district. Some of their ancestors served Humayun, Farokhsir, and Aurangzeb.

BARAH-SINHA or Burdiya of Bengal, eastern

and northern skirts of India, the twelve-tined stag, Rucervus Duvaucelli of Cuvier.

BARAH-THAKURA. Twelve small hill states between the Jumna and Sutlej. See Baraich.

BARAK. HIND. A flag planted on land newly taken up.

BARAK, amongst the Hazara, a cloth of camel's hair.

BARAK, the horse on which Mahomed ascended to heaven in his dream.

BARAK or Surma, a tributary to the Brahmaputra. It is an offset from the Jiri, which leaves in lat. 24° 43′ N., long. 93° 13′ W., through Cachar and Silhet, S.W. into the Megna. Length 200 miles. Banks low and marshy along the valley of the Cachar. The Barak is navigable for steamers, and is the chief means of communication between Cachar and Silhet. Its affluents, the Jiri, Chiri, Jatinga, Chengar, Khol, and Kato-Khal, are navigable for country boats.

BARAK, one of the three sons of Zirak, the ancestor of the Barakzai, of which tribe Dost Mahomed Khan, of Kābul, was the head.

BARA KUTA, a fish of the Arabian Sea, with numerous teeth.

BARAL. HIND. Artocarpus lakoocha.

BARA-LACHA, a pass in the Kangra district, lat. 32° 49′ N., long. 77° 28′ E., and 16,500 feet above the sea, but can be crossed by ponies and laden yaks. The Bara-lacha range of mountains, which forms the watershed between the Indus and its first affluents, is regarded by Alexander Cunningham as the western continuation of the Himalaya. The Eastern Himalaya divides the waters of the Tsang-po from those of the Ganges and its tributaries. The Western as well as the Eastern chain separate the great Hindu family of India from the Bot of Tibet. Some mixed races are found to the south of each chain; the Lahuli and Kanawari to the west, and the Gurkha and Bhutani to the east. The inferior mountains of the eastern chain generally run at right angles to its axis, whereas those of the western chain are mostly disposed in subordinate parallel ranges. There are thus two distinct and independent ranges to the south of the Western Himalaya, both stretching in the same general direction from north-west to south-east, which may be termed the Mid-Himalaya, and the Outer and Sub-Himalaya,—the term Siwalik being that applied to the lowermost sandstone ranges.—*A. Cunningham.*

BAR-AMADAH. PERS. A vestibule, an entrance hall, a verandah.

BARA-MAHAL, a fertile district in southern India now known as the collectorate of Salem. It contains soils impregnated with soda. It is a plain elevated about 800 feet above the sea.

BARA MARECA. MALEAL. Dolichos cultratus; Canavalia gladiata.

BARAMOOLA, a pass into Kashmir leading through the valley, and by which the Jhelum leaves the valley. It is open all the year round for horses and foot-passengers. It is in lat. 34° 10′ N., long. 74° 30′ E., and is the only pass into Kashmir practicable for an army. The town is on the right bank.

BARANDA, a hill deity.

BARANGAN. MALAY. Sulphuret of arsenic.

BARANGI. HIND. Clerodendron infortunatum.

BARANGIA, a genus of mammals of the family Mustelidæ, tribe Semi-plantigrada, and order of the Carnivora. B. Nipalensis, *Gray*, is of Nepal. Lutra barang, of the Malayan islands, has been placed by Dr. Gray into the genus Barangia, otters with hairy muzzle, rather long toes, and rudimentary claws.

BARANI, land dependent on the rains. Barani, a rain-coat, so called from baran, rain; an overcoat; generally pronounced in southern Persia as baroon and barooni. Both Barani and Oima are overcoats; the former, confined to men of some rank, is an ample cloak, with large sleeves, that shrouds the whole person, and is made, according to the fancy and means of the wearer, of coarse or fine broad-cloth, of shawl, or even of velvet, lined with every kind of material, from the richest furs down to the coarsest chintz, and embroidered, often very richly, with silk, gold, or silver. The Oima is more commonly used, and is more exclusively calculated for riding. It somewhat resembles a lady's riding habit, fitting tight to the shape from the neck to the waist, where it is gathered into plaits, and swells out above the girdle, falling in ample folds to the feet. It is generally made of broad-cloth, varying in quality.—*Ouseley's Tr.* ii. p. 94; *Fraser's Journey into Khorasan*, p. 69.

BARANKI CHETTU. TEL. Butea superba.

BARANO, of KAGHAN. Quercus annulata.

BARANUS. HIND. Rhododendron arboreum.

BARAPATALU. TEL. Indigofera glandulosa, *Willd.* It abounds in the north-west parts of Rajahmundry; also I. trifoliata, *W. and A.*

BARAR. HIND. A blight which affects rice crops.

BARARI, of CHENAB. Capparis spinosa, *L.*

BARAS. ARAB. A kind of leprosy so called.

BARAS. HIND. A year. Baras-Ganth, annual knot; birthday, on which day a knot is tied on a cord kept for that purpose.

BARAT. ARAB. Marriage procession. The Shab-i-Barat, or night of record, is a Mahomedan festival held on the night of the 14th of the month Shaban. In the north of India, lamps are lighted and prayers said in behalf of deceased ancestors.—*Wilson.*

BARATGAON, near Gaya, is the ancient Nalanda. It was celebrated for its monastery, now a mass of brick ruins, 1600 feet long by 400 feet deep. Ten thousand monks and novices of the eighteen Buddhist schools here studied philosophy, law, science, medicine, and practised devotion. It was three times destroyed by opposing sects.—*Imp. Gaz.* See Barabar.

BARAT-KHAND. The channel which separates the island of Dwarica from the mainland. It is filled up, except in spring tides.

BARA-WAFAT. ARAB., HIND. The great death; a solemn festival on the 12–13th of the Mahomedan month Rabi-ul-Awal, on which date, A.H. 11, Mahomed died; also called Weadat-i-Sharif, otherwise called the 'day of death,' or 'death day.' In some large towns, especially those in the north, where there are educated men, daily meetings are held from the first to the twelfth day of Rabi-ul-Awal, when the more learned deliver lectures on the different events that occurred during the lifetime of their great and esteemed master and friend, which events are contained in the Koran. On the eleventh day, the ceremonies, etc., are performed with great magnificence, and the whole hall in which the party is assembled

is beautifully lit up for the occasion. Every fact of the prophet's life is then rehearsed by the lecturer, in order to excite their feelings at the loss of their great master. In the evening, a very grand procession, resembling that of the Maharram, passes through many of the streets in the town. During the procession may be seen a good display of fireworks of every description. The following day the richer Mahomedans light their houses up very beautifully, and sit up the greater part of the night reading the Koran, etc. Much food is also distributed to the poor.

BARAYI, of Benares, betel-leaf and betel-nut sellers.

BARBADOES ALOES. See Aloes. Barbadoes or Bourbon cotton, Gossypium Barbadense. Barbadoes Flower Fence, Poinciana pulcherrima.

BAR-BAGAL. HIND. Pteropus Edwardii.

BARBARA, a Kaolin used in Dehli for making porcelain.—*Powell.*

BARBARAMU. TEL. Acacia Arabica.

BARBARIAN.

Fan, E, ...	CHIN.	Gya, ...	TIBET.
Barbaros, . . .	GR.	M'hlecha, . . .	SANSK.
Alienus, ...	LAT.		

The Greeks applied the term Barbaros to everything foreign, and to every race not speaking Greek, and it was afterwards taken up and used by the Romans. It was a term similar to the Gentile of the Jews, to whom every person not circumcised was a Gentile; to the Hindu, every man not twice born is a M'hlecha; to the Mahomedan, every man not believing in Mahomed is a Kafir; to the Chinese, every one not a Chinese is a Fan or E. Arabs observe that Indians, unless brought young into the country, never learn its language well; and they have a term to express the vicious pronunciation of a slave or Indian,—Barbarat-ul-Hunud, the barbarism of the Indian. The Greek 'Barbaros' appears to be derived from the Sanskrit Varavaraha, an outcast, a barbarian, a man with curly hair. Ajam in Arabic literally means foreign; but in the southern part of Arabia, Al Ajam is applied to the opposite part of the coast of Africa. By the Turks, Persia is Bald-ul-Ajam, or Ajamistān; and the north-eastern coast of Africa is Bar-el-Ajam. The Arabs divide the world into two great bodies,—first themselves, and secondly 'Ajami,' *i.e.* all that are not Arabs.

E means barbarian or foreigner, and it is almost certain that the term was formerly applied by the Chinese strictly in this sense. Dr. Morrison, an eminent Chinese scholar, rendered the letter E as foreigner; but in subsequent translations he changed, and rendered it Barbarian. Mandarins of Fu-chu-fu, however, distinctly stated that the word was equivalent to, and synonymous with, foreigner, and that there 'was nothing whatever offensive in the term.' At Ningpo, on Mr. Lindsay objecting to being called E, he was called 'Yuen,' another term for a foreigner. The Chinese also called the British 'Hung Mou Yin,' literally Red-bristled Man. The gentlemen of Lord Macartney's embassy were frequently asked by the Mandarins if they were Hung Mou Yin. The British were also called by the Chinese 'Quoi,' which means devil or spirit. The Si-fan races of western China get their China name from the words meaning western aliens, and is applied by them to the people of Sakyul, Ando, Tho-chu, Gya-rung, and Manyak.

Gya, in the Tibetan, means a stranger, a foreigner, hence Gya-filing, a Frank foreigner.

The Arab, the Persian, and the Moghul races, who speak the Urdu tongue, designate the natives of India as the Kala-Admi, or black men.—*Playfair's Aden; Burton's Mecca*, ii. 26, 254; *Muller's Lectures*, p. 84.

BARBARIKE EMPORIUM is supposed to be the ruined town of Bambhara or Bhambūra, on the head of the Ghara creek, the site of the most ancient seaport of Sind.—*Cunn. Anc. Geog.* p. 294.

BARBARY, a region of Africa, between the Atlantic Ocean, the Mediterranean Sea, and Egypt. It is 2200 miles in length and 500 in breadth, containing the countries of Barca, Tripoli, Tunis, Algiers, Fez, Morocco, Tafilet, and Bald-ul-gerid. It was known to the ancients by the names of Mauritania, Numidia, Africa Proper, and Libya.

BARBECUE, drying grounds for coffee.

BARBER.

Hajjam, Isla-Saz, .	HIND.	Mangalan, Mangali,	TAM.
Nai, Nhavi, . . .	,,	Mangala, ...	TEL.

Amongst Hindu barbers there are many different sections. They are considered a low caste of Sudras. A Hindu poet says, 'Among the sages Narada, among the beasts the jackal, among the birds the crow, and among men the barber, is the most crafty' (Ward, iii. p. 122). The barbers' wives cut the nails and dye the feet and the hands of the Hindu women, and are midwives. The castes of Teling barbers in Madras are the Reddi Bummala, Natum Mungala, Sree Mungala, Chāta Cooroo, Pongkanatu, Saljara Mungala, Arava Mungala, Palay Mungala, Beree Mungala.

BARBERRY, plants of the Himalaya and Neilgherries, species of the genus Berberis. Russout, which is used among natives for sore eyes, is extracted from the roots. Its virtues have of late been much extolled as a remedial agent in fevers, but beyond being a good tonic in weak digestion consequent on fever, it possesses no antiperiodic powers, and will never be equal to quinine or the bark of the Bibiree green-heart tree of British Guiana, a large forest tree attaining an altitude of 60 feet, and found on the rocky hill-sides on the borders of the South American rivers, and belongs to the Laurel tribe. The active principle in Warburg is extracted from the Bibiree, and forms the essence of the drops given in those severe forms of jungle fever seen at Mysore and in the Wynad.

BARBET, birds of the family Megalaimidæ, comprising the genera Megalaima, Cyanops, and Xantholæma. The species in S.E. Asia are Megalaima virens, the great barbet; M. lineata, *Viell.*; M. caniceps, *Franklin;* M. viridis, *Gm.;* and M. Hayi; Cyanops Asiatica, *Lath.;* and C. Franklinii, *Blyth;* Xantholæma Indica, *Lath.;* X. Malabarica, *Blyth;* and X. rubri capilla, *Gm.* In the Tenasserim mountains it swarms from 3000 to 5000 feet elevation, not higher nor lower; and from the first level it suddenly and entirely supplants M. lineata, the Pokoung of the Burmese. As long as day lasts, the woods amongst the Danma hills resound with its cry—Piow, piow, piow, etc. etc. Another barbet, resembling apparently M. Indica, is also pretty common from 1000 to 3500 feet, but it settles solely on the summits of the highest trees, calling

out Tapral, tapral, tapral, by the hour together. The greater red-headed barbet (Megalaima Indica, *Lath.*; M. Philippensis, var. A. *Lath.*) gives out from its throat an incessant din, in sounds which resemble the blows of a smith hammering a caldron, and is known by the British in India as the coppersmith.—*Tennant's Ceylon*, p. 242; *Tickell.*

BARBOSA. Odoardo Barbosa was a cousin of Magellan, was with him at the capture of Malacca, and accompanied him in his circumnavigation of the globe. In 1515 he wrote a book, entitled The Coasts of East Africa and Malabar, in which he describes these coasts, also Bijanagar, Bengal, Orissa, Further India, the Indian Archipelago, and China, and the trade of the eastern seas as it was found by the Portuguese on their first entering them. He gives a detailed account of the trade in rubies, diamonds, emeralds, and other precious stones; also of the drugs and spices, the perfumes and dyes. He describes Cambay as a remarkably well built city, in a beautiful and fertile country, filled with merchants of all nations, and with artisans and manufacturers like those of Flanders. He speaks with much precision of Sumatra. On the death of Magellan, he was elected joint commander of the Spanish Expedition.—*Elph.* p. 427; *Marsden's Hist. of Sumatra*, p. 8.

BARBUS, a genus of fishes. B. mosal, *B. Ham.*, and B. Neilli, *Day*, of the south of India, are known as the Mahaseer.

BARCHA. HIND. Quercus floribunda.

BARCH-HA. HIND. A spear or lance with a wooden stock, carried by fakirs; also the lance of cavalry soldiers.

BARD.

Barde, Poète, . .	FR.	Bhat-Raj, . . .	HIND.
Bart, Wideshaken,	GER.	Vate, poeta, . . .	IT.
Bardai, Bardeit, .	HIND.	Poeta, Vardo, . .	SP.

The Bardai of the Rajput is the prototype of the bard of the Saxon races, reciters of warlike poetry, of whom Tacitus says, 'With their barbarous strains they influence their minds in the day of battle with a chorus of military virtue.' The Bards of India are the Bhat and the Charun. The Bhat are found all through Peninsular India, where they are respected, though not reverenced. The Bhat or Bards of Central India are of three sorts,—the Magadha or historian, the Sata or genealogist, and the Bardi or court minstrel, whose duty in older times it was to salute the king or chief in the early morning, wishing him long life and prosperity. Bards from their sacred character are often employed as convoys of travellers, and of their property in tandas or caravans. Throughout Rajputana they are regarded as a sacred order, and as the hereditary guardians of the history and pedigree. They chant their own praises in plain or legends from the mythology of India.

BARI claim to be Kshatriya, whose occupation is to proclaim the titles of kings and be their panegyrists.

BARAM. In Malwa and Gujerat, it was usual through the country to hire a Charan to protect them, and if he perished in the attempt, he stepped forward waving his sword for horses and footmen, and denouncing in verse the curse of God on all who should injure him. In Kashmir practicable protection of the holy men was afforded on the right bank. If the Charan failed, he stabbed himself to the heart. Elphinstone.

BARANDA, a hill district in Malwa, lat. 23° 10′ N., long. 74° 30′ E., which gives its name to a petty native state. The district has an area of 290 square miles, and, in 1872, a population of 107,139 souls. It is a level plain just below the last slopes of the Himalaya. During the 17th and 18th centuries, it changed hands amongst Mahomedan and Mahratta chiefs, but in 1801 was ceded to the British. In 1805, 1816, 1837, and 1842, there were disturbances, and in the Mutiny it was in rebellion from the 31st May 1857 to the

BARANGAN. MALAY. Declaring that his blood should not be spilt in vain, declaring that his blood should not be spilt in vain, if all failed, he was bound to protect them, and if all failed, he was bound to the heart. Elphinstone.

BARANGI. HIND. Cleft to the heart. Elphinstone.

BARANGIA, a genus of at and Charan of the west of India were revered as bards, and in some measure as heralds, among the Rajput tribes. In Rajputana they conducted caravans, which were not only protected from plunder, but from legal duties. In Gujerat, they carried large sums in bullion through tracts where a strong escort would be insufficient to protect it. They were also guarantee of all agreements of chiefs among themselves, and even with the government.

Their power is derived from the sanctity of their character and their desperate resolution. If a man carrying treasure is approached, he announces that he will commit traga, as it is called; or if an engagement is not complied with, he issues the same threat unless it is fulfilled. Malcolm mentions that Charans, particularly of the Maru class, who are mendicants, attended at feasts and marriages in great numbers, and were in the habit of extorting large sums, at the latter, by threats (if not satisfied) of sprinkling their blood on the parties met on this joyous occasion; and these threats had been too often carried into execution to make them be deemed idle by the superstitious Rajputs. The Charan women are distinct from all the other population, both in dress and manners. They often resided in separate villages; and the traveller was surprised to see them come out in their long robes, and attend him for some space, chanting his welcome to their abode. The Charans are everywhere treated by the Rajputs with great respect, the highest rulers of that race rising when one of this class enters or leaves an assembly. Brahmans are less esteemed than the bard.—*Tod's Rajasthan*, i. 39, 67, 540; *Burton's Scinde*, p. 302; *Malcolm's Central India*, ii. p. 135; *Elphinstone's Hist. of India*, p. 364; *Hindu Theatre*, ii. p. 275; *Infanticide*, p. 78; *The Hindoos*, p. 75.

BARDWAN, a town in Bengal, in lat. 23° 14′ 10″ N., and long. 87° 53′ 55″ E., built on the left bank of the Damodar. It gives its name to a revenue division of 12,719 square miles, with a population of 7,286,957, and through which the rivers Damodar, Dhalkesor, Khari, and Ajai flow. In the 16th, 17th, and 18th centuries, it was successively held by Mahomedans, Hindus, and Mahrattas, but it was ceded to the East India Company in 1760, and since the close of the 18th century it has been under a permanent settlement. Its coal mines at Raniganj, about 44 in number, its sari and dhoti silk fabrics, its iron, gold, silver, and brass wares, and its agricultural produce, form its sources of wealth. Its coal area is about 500 square miles. About 564,933 tons of coal are yearly raised. The Maharaja of Bardwan is the oldest and wealthiest of the Bengal zamindari chiefs, and the family keep up a regal state. They have been uniformly friendly with the British.

BAREILLY, a city in the Rohilkhand division of the N.W. Provinces, in lat. 28° 22′ 9″ N., and long. 79° 26′ 38″ E., which gives its name to a British revenue district. The district has an area of 2982 square miles, and, in 1872, a population of 1,507,139 souls. It is a level plain just below the last slopes of the Himalaya. During the 17th and 18th centuries, it changed hands amongst Mahomedan and Mahratta chiefs, but in 1801 was ceded to the British. In 1805, 1816, 1837, and 1842, there were disturbances, and in the Mutiny it was in rebellion from the 31st May 1857 to the

7th March 1858, when the city was retaken. Its best cultivators are the Kurmi, Lodh, Murai, Jat, and Chamar. Mahomedans number about 306,682 souls. Hindus, 1,197,583,—Brahmans, 76,442; Rajputs, 44,669; Baniya, 30,726; Ahor, 47,238; Chamar, 132,798; Kurmi, 166,280.—*Imp. Gaz.*

BARG. PERS. A leaf of a tree, hence—

Barg-i-amrit-phal, leaf of Citrus limonum.
,, i-anab, leaf of Zizyphus jujuba.
,, i-bart, leaf of Calamus draco, or Pterocarpus draco.
,, i-hanna, leaf of Lawsonia alba.
,, i-gul, also Gul-barg, rose leaf.
,, i-murad, leaf of Myrtus communis.
,, i-tambul, *Pers.*, Betel leaf.
,, i-wasma, Indigofera tinctoria.

BARGAH. HIND. A royal court. Bargahi, an attendant or servant at court, or at the houses of Hindus of rank. There are many in Gorakhpur and Mirzapur. See Bar.

BARGIL. HIND. Ortolan.

BARH, an effigy placed upon the funeral pile, when a Hindu woman burns herself, after her husband's decease in a distant place.

BARHADRATHA. According to Chevalier Bunsen, a dynasty of 17 kings of India, who ruled 220 years, viz. B.C. 866 to B.C. 647. One of them, Brihadratha, was father of Jarasandha. The kings of Magadha were of six dynasties; the first was that of Barhadratha, of the line of Pandu, the first of which was Jarasandha, a contemporary of Yudishtira and Krishna.—*Bunsen*, iii. 547.

BARHAI. HIND. A carpenter. The carpenters of British India are mostly Hindus, and, with the goldsmith, stonecutter, blacksmith or iron-smith, and brazier, form the five Hindu artisan classes. Only in the Presidency towns a few Parsees and Christians are employed on the finer and more elaborate work.

BARHANDI. HIND. Microlonchus divaricata.

BARHANG. PERS. A medicinal substance sold in all the bazars of Persia, useful in dysentery. It somewhat resembles linseed, and is made into a tea like linseed tea, with the addition of a teaspoonful of oil of sweet almonds. Diet is restricted to rice and a mash of almonds and sugar.

BARHOUL, a town of Rajputana belonging to the Barholia, Bhriga-bansi Rajputs.—*Wilson.*

BARI. HIND. Manured land near villages. An enclosure, a tower. Any enclosed piece of ground; a plot for kitchen garden, sugarcane, or other produce.

BARI, a Hindu race in Woon. In Oomraoti there are 17,240 of them, a thirtieth part of the population.

BARI of Chenab. Gossypium Indicum, *Lam.*

BARI, a caste of men employed to make spear torches. They also act as barbers, and in the Oudh service had the character of good soldiers.

BARI or Baria, a Koli tribe of cultivators in Rewa Kanta, Gujerat, Dekhan, and Konkan, on both banks of the river Mahi. They work the mica and cornelian mines, and manufacture catechu.—*Ind. Ant.*

BARI. HIND. Lapidaries' polishing paste.

BARIARA. HIND. Sida cordifolia; S. acuta.

BARI-DOAB, a district of the Panjab, in which Multan, Lahore, and Amritsar are situated. It has the sanatorium of Dalhousie, near which is the large forest of Kala-top. Montgomery district, south of Lahore, is also in the Bari-Doab. It is between the Beas and Gharra on the east, and the Ravi and Trimab on the west. The Bari-Doab consists of an elevated central dorsal plateau, called Ganj-i-Bar, or bald tract, in the Manja or middle part. This, on both sides, makes a sudden drop, there called dhaya, down to a flat alluvial tract of several miles in width, running along either river, and producing tamarisk and jhand. The soil of the Ganj-i-Bar is intensely arid, and often saline, and produces only jal and some salsolaceous plants, with a few bushes of jhand. On the occasion of heavy rain in its upper part, the Ravi and Beas become flooded, and injury results to the low-lying land on the borders of the latter river. The Ravi, in July 1873, rose 12 feet in two days, and came down at 7½ miles an hour. The Bari Doab canal is 212 miles in aggregate length. It cost £1,251,443.—*Cal. Rev.*

BARID SHAHI, a dynasty which ruled at Beder from A.D. 1498 to 1572. The kings were—

Kasim I.,	A.D. 1498	A.H. 904	Kasim II.,	A.D. 1569	A.H. 997
Amir I.,	,, 1504	,, 910	Mirza Ali,	,, 1572	,, 1000
Ali,	,, 1549	,, 945	Amir II.,	,, ?	?
Ibrahim,	,, 1562	,, 990			

BARIJ. SANSK. Lotus.

BARIJAMU or Barjapu chettu. TEL. Erythrina Indica, *Lam.*; moochy wood.

BARIK ERANDI. HIND. Small-seeded var. of Ricinus communis.

BARIKI. TEL. Adiantum lunulatum, *N. L. Burm.* Sapium cordifolium, *R.* Hiræa Indica, *R.*

BARIK TIL. DUK. Sesamum orientale.

BARI-KUDU-VADU, also Barki. TEL. A village menial, servant, messenger, watchman, scavenger.—*W.*

BARILIUS RUNGOSUS. *Day.* A fish in the rivers below Kotagherry, called the Indian or spotted trout. B. barila, *Buch. Ham.*, of the rivers of Bengal and Hind, is the bhola or trout. B. barna, *B. Ham.*, is also called Bali bhola, Bahri, Bareli, and Barna.

BARILLA, soda, kelp.

Kali, ... ARAB.	Barrilha, Solda, . PORT.
Soude, Barille, . . FR.	Socian, ... RUS.
Sajikhar, Khar, GUJ., HIND.	Applacaram, TAM., TEL.

Barilla, kelp, salsola soda, and natron are all carbonates of soda. Barilla is prepared by burning sea-weed and the plants that grow in the marine lagoons or salt-water lakes of most of the seaboards of South-Eastern Asia. In the Archipelago, quantities are produced by the settled populations or by migratory fishing races, and it is largely brought to India from the Persian Gulf. In India, barilla is obtained from Salicornia Arabica, *W.*, of Sunderbuns and the Coromandel coast, and from S. Indica, *W.*, of Malabar. The genus Mesembryanthemum is rich in alkaline carbonates, and usually frequents the seashore. Dr. Roxburgh was of opinion that the two species of Salicornia and one of Salsola, which are extremely abundant on the Coromandel coast, might be made to yield barilla sufficient to make soap and glass for the whole world. There are now more economical processes for procuring this substance from dhobi's earth (native carbonate of soda), and from sea salt. But Dr. Helenus Scott received the gold medal of the Society of Arts, for sending from Bombay the mineral alkali, the Saji Matti of Bengal, the Applacaram of the Tamil people, which occurs in immense quantities in many parts of Bengal, especially in the districts of Monghir, Purnea, and Cawnpur. It contains from 40 to 50 per cent. of carbonate of soda, with organic

matters, clay, sand, and oxide of iron. The salts can be extracted by washing the mineral without incineration, but the organic matter is dissolved at the same time, and gives a deep brown solution from which pure crystals cannot be obtained. The firing destroys this substance, and then the solution is colourless; but care must be taken not to push the heat beyond low redness, for the alkali at a higher temperature combines with the sand and clay, and the whole runs into a green glass, insoluble in water. The earth of a large tract of unproductive land in the Puttoocottah and Trevandy taluqs of Tanjore is greatly impregnated with impure carbonate of soda, and a small export trade goes on of dhobi's earth. In the years 1826 to 1830, the late Mr. Hart and Dr. Macleod worked it on the large scale, and about 1000 tons of barilla, containing 25 per cent. of pure alkali, and equal to the best Spanish, was the estimated produce. In Europe, this salt is prepared either by burning sea-weeds and lixiviating the ashes, the product being termed kelp and barilla, or by decomposing common salt by sulphuric acid, and then roasting the resulting sulphate with chalk, sawdust, and fragments of iron. The mass when washed gives the carbonate of soda. The celebrated lake of Loonar produces six principal varieties of natron salts, to which the natives give the following names: — 1. Dulla; 2. Numuck Dulla; 3. Khuppul; 4. Pappree; 5. Bhooskee; and 6. Mahd Khar. Dulla and Numuck Dulla are used for dyeing silks, fixing colours,—also as medicines, and in the manufacture of bangles. Of Khuppul, there are two kinds, one of greater value than the other, and this salt is used in fixing the red dyes of cloth. Pappree is used in the manufacture of bangles, of which there are two manufactories near the lake. When these are in full operation, bangles are manufactured in large quantities, each man being able to manufacture from 600 to 700 daily. The eyesight of these men fails soon, owing to the entire want of protection from the glare of the furnaces.—*Scientific Records of the Madras Government; O'Shaughnessy.*

BARI-MAI. HIND. Galls of Tamarix Indica.

BARING. HIND. Myrsine Africana.

BARINIKA, also Bari-venka. TEL. Trophis aspera, *Retz.*

BARINKA. TEL. Epicarpurus orientalis.

BARISAL, a town in the district of Bakarganj, in Bengal, 136 miles from Calcutta, to the north of the Twenty-four Parganas. Barisal guns, a term applied to thundering noises which are heard occasionally in the delta of the Ganges and Brahmaputra.

BARJ, of Kangra; Zizyphus flexuosa, *Wall.*

BARJALA. BENG. Sida cordifolia, *Linn.*

BARJAPU CHETTU. TEL. Erythrina Indica.

BARJURI, root bark of a climber found in Rajwara; tasteless. One-fourth of a tola is a dose; is given to women after child-birth, in 'luddoo;' said to augment the secretion of milk, to relieve the after-pains, and to strengthen.—*Gen. Med. Top.*

BARK.

Kusker, ... ARAB.	Scorza, ... IT.
Pattaya, ... CAN.	Kulit Kayu, . MALAY.
Ecorce, ... FR.	Patta, . . . MALEAL.
Baumrinde; Barke, GER.	Barco, Corteza, . . SP.
Chal, Post, Patta, HIND.	Pattay, Patta, TAM., TEL.

The barks of trees are largely in use in medicine and the arts in all parts of the world. In the arts, the bark of the oaks, of species of Rhus, of the Acacia Arabica, of species of Eucalyptus, are largely used in tanning; and that of one of the oaks furnishes the cork of commerce. The wattle bark of Australia is largely used; in India, that of the Acacia leucophlœa is employed as an ingredient in the distillation of arrack, and that of A. Arabica in tanning. Many barks of the plains of India furnish useful basts for cordage; and cloth is obtained by extracting the layers of cellular tissue which form a tubular sheath enclosing the woody parts of other plants. Species of Grewia, Hibiscus, and mulberry of the East Indies furnish these most abundantly, as also do the Eriodendron anfractuosum and the Acacia robusta, some of them being woven into cloth. The barks of species of cinchona, now introduced into India, have long been employed in medicine, as also that of Michelia champaca. See Bast.

BARK of Kābul, a soft fabric of camel's hair. Bark shutri, camel-hair cloth.

BARKA, a non-Aryan race of India.

BARKALA, an inferior tribe of Rajputs in Balandshahar.

BARKAT. HIND. A blessing. Ap-ke-dua-ki-barkat-se, By your prayers and blessing.

BARKER, LIEUT. I. N., wrote on the Volcanoes in the Red Sea. Altitudes near Tadjoura Groups. Bom. Geo. Trans. 1844.—On the Islands of Mushakh, in Eastern Africa, when visited in 1840, with map of the Somali coast. Lond. Geo. Trans. 1848, vol. viii.—On the Eruption of the Volcanoes of Saddle Island in 1846. Bom. Geo. Trans. 1847, 1849, and 1851; Lond. Geo. Trans. 1846.—On the Geographical and Geological Characters of the Gulf of Tadjoura, with a chart. Lond. Geo. Trans. 1849.—*Dr. Buist's Catalogue.*

BARKHAN, a district of Baluchistan, occupied by the Khidrani.

BARKHAST. PERS. The breaking up of an assembly; the departing of a visitor.

BARKHAUSIA REPENS. *Smith.*

Hu-hwang-lien, . CHIN. | Ko-ku-lu-tseh, . CHIN.

A plant of Kan-suh and Shen-si, in China; root used as an astringent.—*Smith*, p. 33.

BARKING DEER of Nepal, Cervulus moschatus.

BARKUK. PERS. Armeniaca vulgaris.

BARLAAM and Joasaph or Josaphat, a story supposed to have been written by Joannes Damascenus to give a simple exposition of the principal doctrines of the Christian religion, and a disquisition on the merits of the principal religions of the world,—Chaldæan, Egyptian, Greek, Jewish, and the Christian. It is a novel, and the story was taken from the Lalita Vistara, the legendary life of Buddha. He gives in it the four drives of Buddha, so famous in Buddhist history. The pillars or towers raised to commemorate these drives were still standing at Pataliputra at the times of Fa Hian's and Hiwen Thsang's visits to India. The story became a most popular book during the middle ages. In the east it was translated into Syriac, Arabic, Ethiopic, Armenian, and Hebrew; in the west it exists in Latin, French, Italian, German, English, Spanish, Bohemian, and Polish. As early as 1204, a king of Norway translated it into Icelandic; and at a later time it was translated by a Jesuit missionary into Tagala, the classical language of the Philippine Islands. In the Eastern and Western Churches, Barlaam and Josaphat have both risen to be saints; in the

Eastern Church the 26th of August is the saints' day of Barlaam and Josaphat, and in the Roman Martyrologium the 27th November is assigned to them.—*Max Müller, Chips*, iv. p. 186.

BARLERIA, a genus of plants of the natural order Acanthaceæ. The following species occur in the East Indies—bispinosa, ciliata, cœrulia, cristata, cuspidata, Courtallia, dichotoma, Hochstetteri, polytrichæ, longifolia, prionites, nitida, obovata, hirsuta. Some of these are cultivated as flowering plants. B. Roxburghii grows in the northern parts of Bengal. B. dichotoma is the sada jati of Bengal.

Barleria cœrulia, *Roxb.* iii. 30.

Dasi, ... BENG. | Nilambaram, . . TEL.

A shrub cultivated for its numerous large and beautiful light blue flowers. It is a native of the moist, shady valleys amongst the mountains of the Northern Circars, Bengal, Nepal, and Burma.

Barleria cristata, *Linn.*

Tadrelu of . . JHELUM. | The leaves—Bansa, SIAH.

A very large ramous shrub of the Panjab and Silhet.

Barleria longifolia, *Linn.*

Gooshura, . . . HIND. | Neermooli vayr, . TAM.
Itchoora, . . . SANSK. | Neergobbi vayroo, TEL.

Generally found growing in moist situations. The root is supposed to have virtues similar to the root of the Solanum Indicum.—*Linn.; Ains.*

Barleria prionites, *Linn.*

Kant'ha-jati, . . BENG. | Mulu-goranta, . TEL.
Koletta vitla, . MALEAL. | Konda gobbi, . . ,,
Kuruntaka, . . SANSK. | Pachcha mulu-gor-
Shem muli, . . TAM. | anta, . . . ,,

One of the most common and at the same time most elegant of the small shrubby plants of India. It is in flower all the year round, and every soil and situation seem to suit it. The juice of the leaf is slighly bitter, and rather pleasant to the taste, and is a favourite medicine of the Tamil practitioners, in those catarrhal affections of children which are accompanied with fever and much viscid phlegm; it is generally administered in a little honey, or sugar and water.—*Ainslie.*

BARLEY.

Shair; Dhourra, . ARAB. | Dasawri; Jao, HIND. PERS.
Chama (unhusked), BHOT. | Orzo, ... IT.
Grim, Nas (husked), ,, | Ma-jo (unhusked), . KASH.
Meh, Mau-meh, . CHIN. | Hordeum, . . . LAT.
Ryg, ... DUT. | Fatschmea, . . . RUS.
Orge, ... FR. | Cebada, ... SP.
Shoreh, ... HEB. | Surmo; Zezi; Sowa, SPITI.

Barley is largely cultivated in Europe, Asia, Africa, and America; but there are several species, viz. H. cœleste, distichon, hexastichon, jubatum, maritinum, murinum, and vulgare, some one or other of which is preferred in different localities. It is extensively grown in the north of India, occasionally on the Neilgherry mountains, and in the hill regions in the south. Two kinds are grown in Oudh on light soils, and not irrigated. The kind called Jau is grown everywhere; the other, called Dasawrie, is grown on the banks of rivers. It is there sown in October, sells for 2 or 2½ maunds for 1 rupee, and in Gujerat was for many years one of the cheapest grains. In the Panjab, in the Sutlej valley, Hordeum cœleste and H. hexastichon are grown at an elevation of 15,000 feet, the beardless variety of H. cœleste being most esteemed. Barley constitutes one of the Burmese seven kinds of saba or cereal grasses. Hordeum distichon, or two-eared barley, is that commonly cultivated in Britain. As met with in commerce, the seeds or grains are usually enclosed in the paleæ or husks; denuded of these they form 'Scotch or pot barley;' when rounded they constitute 'pearl barley;' and this again reduced to powder is called 'patent barley.' In 100 parts the following were found in Bombay bazar barley, unhusked:—Moisture, 8·00 per cent.; Nitrogenous matter, 10·94 per cent.; starchy matter, 77·14 per cent.; fatty or oily matter, 1·65 per cent.; mineral constituents (ash), 2·27 per cent.

The best test of barley is its fitness for malting; and breweries now exist in full working order at Murree, Kussowli, Simla, Naini Tal, and also in the Neilgherries. The native indigenous barley of the Neilgherries is unfit for making malt, and it yields only ten bushels per acre; whereas the English seed barley yielded on the Neilgherries thirty-five bushels per acre. The barley of Afghanistan has always been remarkable for its good quality, being rich in flesh, muscle, and bone forming elements, as proved by the strength, bone, and muscle of the Afghan horse, galloway, and powerful ponies or yaboos. Tibet barley sent from India to Scotland was not considered worth the trouble and expense of culture. One hundred pounds of good barley judiciously malted will yield 8 lbs. of malt. The bushel of malt weighs 35 lbs.; and the distiller of pure malt whisky calculates on obtaining 2 gallons of proof spirits from 1 bushel of malt in average years. Hence a block of Indian compressed malt, weighing 105 lbs., represents 6 gallons of proof whisky.—*Hassall; Mason's Tenasserim; M'Culloch; Cleghorn's Panjab Report.*

BARLEY SPROUTS.

Meh-ya, ... CHIN. | Meh-nieh, . . . CHIN.

BARLOW, SIR GEORGE, BARONET, a Bengal civilian, succeeded Lord Cornwallis as Governor-General, from the 10th October 1805 to the 31st July 1807. He was afterwards Governor of Madras, and during his administration the officers of the Madras Army mutinied. He wrote Ten Tracts on his Government in India.

BARMA. CHENAB. Taxus baccata.

BARMECIDES. The Beni Barmek, an old noble Persian family, who, before they embraced Mahomedanism, had been the custodians of the sacred fire. Khalid-ibn-Barmek became wazir to Ibn-us-Safah, the first of the Abbassi khalifs, and his son Yahya succeeded him in that office. His grandson Jafar was the constant companion of Harun-ur-Rashid. The vicissitudes of this family were very great, even in oriental life. They were Dehgans or heritors of the land. Jafar was the constant companion of Harun-ur-Rashid, abroad in all Harun's nightly walks, and at home along with Abu Nawaz the jester-poet, and Masrur the black headsman. Jafar was distinguished for his eloquence, his gentleness, his generosity, and high intellectual attainments. Harun gave his sister Maimūnah to Jafar as a wife, under a promise of continency, which was not kept, and Arzu, a slave of Rashid's wife Zobaidah, told Rashid that children were born. How Jafar fell is variously related, but all the stories show that Harun's jealousy of Jafar's power induced him to assassinate his friend. Harun slew Arzu; ordered Masrur to bring masons in the evening, then slew his sister, buried her in her own rooms, and ordered Masrur to kill

and put the masons in sacks, and throw them into the Tigris. On Thursday, when Jafar waited on Rashid he was graciously received, and allowed to return home; but Masrur was sent to recall him, to take him into a tent and behead him. Jafar seeing the object of it, pleaded with Masrur, and induced him to go for fresh instructions, but finding Rashid determined, Masrur returned and beheaded Jafar while praying, and flung the bleeding head at Rashid's feet. Rashid wept sorely, but he sent to Medina for the two sons of Jafar and Maimunah, wept over but killed them too, and buried them in a pit with the box with their mother's remains. Yahya, Jafar's father, and Al-Fadhl, Jafar's brother, were imprisoned, all their property was confiscated, and more than a thousand of the Barmecides were slain.

BARMHOTAR. HIND. A free grant given to Brahmans for religious purposes. Barmhpuja, land given to Hindu priests, resumable at will.

BARNA. HIND. Cratævia tapia; C. religiosa.

BARNACLES belong to the genera lepas, otion, balanus, and scalpellum.

BARNAK, an opprobrious name given by the Turks to their Christian converts. The word is derived from Burmak, to twist, to turn.—*Burton's Mecca*, i. p. 33.

BARNAK BRAHMAN. BENG. A Brahman who performs ceremonies for the lower castes.

BARODA, a city in lat. 22° 17′ 30″ N. and long. 73° 16′ E., is the capital of the territory of the Gaekwar, to which it gives its name, and includes all the parts in Gujerat belonging to the family. The area is 4399 square miles, and its population 2,000,223, 91·27 per cent. being Hindus, with 46,544 Srawak or Jains, 8·3 per cent. Mahomedans, and the Parsees are 7238. Other races are Bhatela Brahmans, Kunbi, Rajput, Koli, Bhil, Bhat, and Charan. Its lands are much intermixed with British territory. The principal rivers are the Saraswati, Sabarmati Mahi, Nerbadda. The ancient name of Baroda is Chandanavati, having been, it is said, founded by Chandun, raja of the Dor tribe of Rajputs, not unknown to legendary lore. But, like all ancient cities of India, it has borne various names. Chandanavati, 'the City of Sandal-wood,' was changed to Viravati, or 'Abode of Warriors;' and again to Barpotra, or 'Leaf of the Bar,' perhaps from some fancied resemblance in its circumvallation to the shape of the leaf of the sacred banyan tree. From this the transition to Baroda was simple, and the Gaekwars seem inclined to let it rest under its present designation. This family sprung, in 1720, from Damaji Gaekwar, Sirdar Bahadur. He was an officer under Khandi Rao Holkar. The family title is Sena Khas Khel Shamsher Bahadur. The population of Baroda city is 112,057.—*Tod's Travels*, p. 245.

BAROLLI, in Central India, not far from the falls of the Chambal, has three Hindu temples, one with a pillared porch. It has also a chöri, or nuptial hall, in which a Huna (Hun) was married to a Rajputni.—*Fergusson*, iv. p. 50.

BAROS, Tapas, and Singkel are three Dutch settlements on the north-west coast of Sumatra, south of Acheen. Baros is a place of some trade, in lat. 1° 56′ N. Its principal exports are camphor and benzoin. Baros camphor is much prized by the Chinese.

BAROTHI, a tribe of Ahirs in Mynpuri.

BAROZA or ganda barosa, the oleo-resin exuding from the 'chil,' or Pinus longifolia.

BAROZHI, residents in the town of Koork in Sibi, a semicircular bay, 25 miles across, in the hills N.E. of Dadur, and irrigated by canals from the Narra river.

BARPHALLI. HIND. Euonymus fimbriata, E. Hamiltonii.

BAR PUSHTUN, the upper, higher, or western Afghans dwelling west of the Khaibar pass.

BARPYAL. HIND. of Sealkote. Land left for a year fallow after an exhausting crop.

BARQANDAZ or Burkandaz, HIND., PERS., from Barq and andaz, literally lightning-thrower. An armed policeman, a matchlockman, a peon armed or unarmed.

BARRA. HIND. A rope used on the Banta Chaudas day, the 14th of the Kooar Sudi.—*Ell.*

BARRA. HIND. Large, great. Barra masur, Ervum hirsuta. Barra elachi, Elettaria cardamomum. Barri bach'hali, Vitis setosa.

BARRACKPUR, a civil and military station in the Twenty-four Parganas of Bengal, in lat. 22° 45′ 40″, long. 88° 23′ 52″, on the left bank of the river Hughli, 14 miles by rail from Calcutta. It has a residence for the Viceroy. Lord Auckland, when Governor-General, endowed a native school at this place. Its population, 9591. The natives call it Chanak, after Job Charnock, who founded Calcutta. In 1824, the 47th B.N.I., when ordered for Burma, mutinied here; and in 1857, 29th March, the sepoys of the 34th Bengal N.I. openly mutinied.

BARRACKS for soldiers in India are built of stone or brick, and those of Burma and Singapore are of wood, raised on piles above the ground. Barracks generally had, from the first, been ground-storeyed, but latterly the principle has been adopted of building them of two storeys, with verandahs, and using the lower storeys for day purposes.

BARRADA or Baradi, the Chrysorrhœa or 'Golden Stream' of the ancient geographer, is the river of Damascus. As soon as it issues from the cleft in the mountains, it is immediately divided into three smaller courses. The largest, which is the middle one, runs directly to the city, and is there distributed to the different public fountains, baths, and cisterns; whilst the other two, branching off right and left, contribute mainly to the luxuriant vegetation which adorns the environs. South-east of the city their scattered waters unite again into one channel, and, after flowing towards the eastern hills for two or three hours, are finally lost in a marsh, which, from one side view, appears like a small lake.—*Robinson's Travels*, ii. p. 115.

BARRAGE, a great dam constructed at the point of the delta of the Nile, near Cairo, with the object of distributing the waters of that river throughout Lower Egypt. It was a conception of Mahomed Ali, and was executed by a French engineer, and has proved one of the most successful forms of artificial irrigation. It has raised the waters of the Nile by 15½ to 21 feet, and has irrigated 100,000 acres of Lower Egypt. There was in 1863 a heavy rise in the Nile, under which several parts of the Barrage gave way; but these were repaired, and the Barrage strengthened, and it resisted a heavier rise which occurred in 1866. —*C. Millet*, p. 23.

BARRAL. HIND. Artocarpus integrifolia.

BARRAL. HIND. Himalayan sheep, the Ovis

ammon; the wild snow sheep of Kamaon and Garhwal. See Capra; Ovis.

BARRANKI. TEL. Trophis aspera, *Retz.*

BARRE. HIND. Safflower seed.

BARREN ISLAND, in lat. 12° 16′ N., long. 93° 54′ E., in the Bay of Bengal. It is a volcano of small extent, and covered with trees, except near the crater. It is a conspicuous object, and white scoriæ are always visible, and sometimes smoke is to be seen. The cone is 975 feet above the sea level. The diameter of the island is 2970 yards, or 1¼ mile.

BARRIER REEF is a term usually applied to the vast reef which fronts the N.E. shore of Australia, also to that on the W. coast of New Caledonia; but the same kind of reef occurs off Tahiti, in the Society Archipelago and Caroline Archipelago. The great barrier reef, which runs north and south, at a distance of 7 to 18 miles, from the Queensland coast, is submerged in parts generally to a shallow depth, with here and there a sandbank or island with vegetation, or a channel open to the sea. The water within the barrier reef is everywhere studded with islands, islets, coral banks, and hidden reefs. The Australian reef extends, with a few interruptions, for about 1100 miles, at from 20 to 90 miles distant from the land. The enclosed sea is from 10 to 60 fathoms deep, with a sandy bottom.

The barrier reef on the W. coast of New Caledonia is 400 miles long, and for many leagues seldom approaches within 8 miles of the shore. A barrier reef 33 miles long lies about two miles off the northern shore of Rossell Island.—*Darwin; Moresby*, p. 3.

BARRINGTONIA ACUTANGULA. *Gærtn.*

Stravadium rubrum, *D.C.*	Eugenia racemosa, *Linn.*
Meteorus coccineus, *Lour.*	,, acutangula, *Linn.*
St. coccineum, *D.C.*	
Hijjul, ... BENG.	Sjeria Samstravadi, MAL.
Tiwur, . . . BOMBAY.	Ella-midella-gass, SINGH.
Kyai-tha, . . . BURM.	Kadami, . . . TAM.?
Samandar Phal, . HIND.	Kanapa, Kanagi, TEL.

This large, handsome tree, with dark, scarlet-coloured flowers, belongs to the natural order Myrtaceæ. In appearance it is like a well-shaped, regular, middle-sized oak; it flowers about the beginning of the wet season. It is met with in the hotter parts of Ceylon, up to no great elevation. It grows in Saharunpur, the Morung hills, Bengal, Chittagong, in both the peninsulas of India, and is plentiful in the Tharawaddy district. The wood is of a red colour, hard, of a fine grain, used in constructing carts, and equivalent to mahogany, but tough to work, and short-grained. Dr. Mason says the tree is very abundant in the Tenasserim forests, of which it is a great ornament. The seeds are used in native medicine.—*Drs. Royle, Voigt; Roxb.; Th. Zeyl.* ii. p. 119.

BARRINGTONIA RACEMOSA. *Roxb.*

Butonica sylvestris alba, *R.*	Eugenia racemosa, *L.*
Samudra pu maram, MALE.	Deyamidella, . . SINGH.
Samstravadi, . . ,,	Samudra pallam, . TAM.

This stout timber tree is a native of Ceylon, where it grows in the warm, moister parts of the island up to an elevation of 1500 feet, also in the Moluccas, Penang, the delta of the Ganges, and Malabar. Its root is slightly bitter, and is considered by the Hindus to be aperient, cooling, and febrifuge.—*Flora Andhrica; Voigt; Thwaites; Roxburgh.*

BARRINGTONIA SPECIOSA. *Linn.*

Butonica speciosa, *Lam.*	Maumea Asiatica, *L.*
Kayai-gyee, . . BURM.	

This large beautiful tree is a native of Ceylon, on the sea-shore between Galle and Matura; of the Tharawaddy districts of the Pegu forests, the Tenasserim Provinces, the Malay Archipelago, Singapore, the Moluccas, and the South Sea Islands. It is very plentiful in Pegu. Its wood is red, hard, of a fine grain, and equivalent to mahogany, and used in making carts. Ainslie says its seeds are employed in Java for intoxicating fish.—*Drs. O'Sh., M'Clell., Roxb., Voigt.*

BARRI TUAR. HIND. Cajanus Indicus.

BARROW, a monumental heap erected as a grave mound over the dead of the Celtic and Scythic races. The Romans styled this a tumulus. But it is not known that any such have been found south of the mountain range that runs from the Caspian sea to China. Raised to a considerable height, the barrow was a noble, and has been the most enduring, sepulchral monument. In such the remains of the departed were placed on the surface of the ground, and the earth heaped up. The Scriptures tell us that the body of the king of Ai, slain by Joshua, was placed at the entrance of the city, and over it was raised a great heap of stones. Herodotus mentions the barrow of Alyattes, king of Lydia, which has been identified by modern travellers. It was 1300 feet broad, and nearly a mile in circumference. Burial-places, surrounded by circles of stones, are found in the Nagpur province, in the Nizam's territories, in the Coimbatore, Madura, and Neilgherry districts, in the hilly country of Chutia Nagpur, and in many places in great numbers. Those opened near Kamptee contained iron implements, with broken pieces of pottery. The stones of those of Europe and India have similar cup marks.—*North American Review.*

BARROW, JOHN, author of Travels in China.

BARSANGA. BENG. Bergera Konigii, *Linn.*

BARSAT. HIND., PERS. Rain, rainy season. Barsati, scrofulous sores which break out on horses in the rainy season.

BART. HIND. of Kaghan. Prunus padus.

BARTAKOO. BENG. Solanum melongena.

BARTAM. MALAY. Eugeissonia tristis, *Griffith.* A palm growing on the hills about Ching, Malacca, and Penang, used in Penang in making mats for the sides of houses, also for thatch, and for all the purposes to which those of the Nipa fruticans are applied.

BARTANG. HIND. Plantago major.

BARTH. HIND. A kind of alloyed metal.

BART'H or BART, a Hindu fast-day, during which certain grains and pulses, called phalaha, are lawful food.

BARTHEMA. Ludovico Barthema (Vartoma), a native of Bologna who travelled in the east. He began his travels and visited Mecca in A.D. 1503, and in 1505 he visited Malacca.

BARTHOLOMEW DIAS had a squadron fitted out for him by John II. of Portugal, and, setting sail in August 1486, was the first who rounded that famous cape to which, from the storms he encountered, he gave the name of Cabo dos Tormentos, or Cabo Tormentosa.—*India in the 15th Century.* See Dias.

BARTHUA. HIND. Hymenodictyon excelsa.

BARTOLOMEO. Fra Paolino da San Bartolomeo, born at Hof, in Austria, A.D. 1748, a bare-

footed Carmelite, a member of the Academy of Velitri, and Professor of Oriental Languages in the Propaganda at Rome. He resided in different parts of the East Indies between 1776 and 1789, and wrote his Voyage to the East Indies, with an Account of the Manners, Customs, etc. of the Natives, and a Geographical Description of the Country, which was printed at Rome in 1796, a German edition at Berlin in 1798, and in London, by W. Johnston, in English in 1800. His name prior to embracing a monastic life was John Philip Wesdin. He published a Sanskrit Grammar at Rome in 1794. His travels were chiefly along the Coromandel coast.

BARTONDI. MAHR. Morinda citrifolia.

BARTONIA AUREA, one of the Loasaceæ, a beautiful garden flower of a yellow and white colour, opening at night, effusing a sweet odour.

BARTRIHARI, the author of a metrical Sanskrit grammar. His aphorisms are entitled Karika.

BARTUNG, seed of a bush, brought to Ajmir from Dehli, considered cooling and astringent, used in sherbets in diarrhœa.—*Med. Top.*

BARU. MALAY. Kawal, JAVAN. A gossamer-like substance, found at the base of the petioles of the gomuti palm, the Arenga saccharifera. It is imported into China, where it is applied like oakum for caulking, also for tinder.

BARU. HIND. Reed.

BARUGADAM. TEL. Indigofera glandulosa.

BARUKZAI, an Afghan tribe, an offshoot from the Abdalla; the Mahammadzai, one of its clans, furnish the present sovereigns to Afghanistan.

BARUL, in the Bardwan district, has a great deposit of iron ore of excellent quality. Mr. Smith estimated that 6½ millions of tons of iron could be obtained from each square mile.

BARUN. SANSK. Cratævia tapia.

BARUNGI. HIND. Quercus dilatata; Quercus ilex.

BARUT, also Daru. HIND. Gunpowder.

BARUZAI, an Afghan tribe N.E. of Dadar.

BARWAIK, a class of hereditary watchmen or Chaukidars, introduced into the S.E. extremity of the Bhabar to guard and patrol that region.

BARWAR, a class of people in the North-West Provinces of India employed in cleaning and selling rice; also a tribe of Rajputs in Gorakhpur and the adjacent Zillahs.

BARWA SAGAR, a small town in the Jhansi district of the North-West Provinces, so called from an artificial lake (sagar), formed by an embankment about 1200 yards long, and containing two craggy islets. It was constructed in 1705 to 1737 by Udit Singh, raja of Orcha.

BARWEZA. TRANS-INDUS. Heteropogon contortus, *R. and S.*

BARWUTTIA, in Kattyawar, is one expatriated, from 'bar,' out of (bahir), and wattan, a country; and it means either an exile or an outlaw, according to the measure of crime which caused his banishment from his country.—*Tod.*

BARYALA. Baryara, HIND. Sida cordifolia.

BARYTA, Sulphate of, or Heavy spar, occurs near Kurnool in the Ceded Districts, and at Landour.

BARZAD. HIND. Galbanum; gum-resin.

BARZHA. HIND. Armeniaca vulgaris.

BARZ-KATUNI. ARAB. Spogel seeds.

BARZUYEH, physician to Khusru Nushirwan, king of Persia, contemporary of the emperor Justinian. He translated into Pehlevi the Panchatantra or Hitopadesa, the source of the Kalila o Dumna. He travelled to India, got the book, and also brought back translations of medical books. He declined all rewards except a dress of honour, and only stipulated that an account of his life and opinions should be added to the book. The account is a kind of 'religio medici' of the 6th century, and shows us a soul dissatisfied with traditions and formularies, striving after truth. Fardusi, in his Shah Namah, gives a somewhat different account of Barzuyeh. In a preface of later date by Ali, son of Alshah Faresi, the names of Bidpai and king Dabshelim are mentioned.—*Chips*, iii. and iv. p. 168.

BAS. HIND. A perfume, or a disagreeable odour. Basi, smelling, putrid, stale. Badbas, bad smell.

BASAAL. MALEAL. Embelia basæal, *D. C.*

BASALT, a rock of the older volcanic series, of a black colour, and homogeneous in appearance, containing 91-2 per cent. of silica, alumina, and oxide of iron. It occurs, columnar, in several parts of British India, in the great volcanic tract of the Dekhan, at the hill fort of Gawilghur, and on the banks of the Nerbadda. That vast volcanic formation extends over more than 200,000 square miles, and conceals, breaks up, or alters all the other rocks from beneath which it has forced its way. South of the Godavery, basaltic dykes burnt through granite, argenite, porphyry, gneiss, hornblende, slate, generally with an east and west direction.—*Colonel Sykes; Carter's Geol.; Western India.*

BASANT or Basanta. HIND. The spring-time. The Suevi, or Suiones, erected a celebrated temple at Upsala, in which they placed the statues of Thor, Woden, and Friya, the triple divinity of the Scandinavian Asi, the Tri-murti of the Solar and Lunar races. Thor, the thunderer, or god of war, is the analogue of Har, or Mahadeva, the destroyer; Woden is Budha, the preserver; and Friya is Oomia, the creative power. The grand festival to Friya was in spring, when all nature revived; then boars were offered to her by the Scandinavians, and boars of paste were made and eaten by the peasantry. Similarly, Vasanti, or spring personified, the consort of Har, is still worshipped by the Rajput, who opens the season with a grand hunt, led by the prince and his vassal chiefs, when they chase, slay, and eat the boar. Personal danger is disregarded on this day, as want of success is ominous that the Great Mother will refuse all petitions throughout the year. In Tamil countries, on the day that the sun enters Aries, bands of twelve young women, of the non-Hindu races, perambulate the streets. They have a basket of shavings which they surround, and bending low they circumambulate, clapping their hands and singing; in this they represent the twelve signs of the zodiac, with the sun in the centre.—*Tod.*

BASANTI. HIND. A bright, pale lemon-yellow colour, the favourite colour of Krishna; also the yellow garment worn by Hindu religious mendicants, also by Rajputs when about to sacrifice themselves in a hopeless conflict. This forlorn hope is termed the jauhar.

Basanti-mail Surkhi, yellow colour with crimson tint. Basant-Panchmi, a Hindu seasonal festival

about the 9th February, in honour of Basanth, the spring, in Hindu mythology personified, and an attendant of Kama, the god of love. The basanth or spring songs, and the megh or cloud songs of the monsoon, are full of melody. A spring festival is observed at Lucknow. See Vassanth.

BASAT. HIND. Goods, property. Basati, pedlar's wares, pins, looking-glasses, antimony, pumice boxes, etc.

BA-SAUH. TIB. A cross between a bull and a yak cow.

BASAVA. In the south-west of the Peninsula, about the 12th century, there sprang up a new saiva sect, between whom and the followers of Ramanuja a religious war was carried on, during which the raja of Kalyan was killed, and his capital destroyed. The founder of the new sect was Basava, son of a saiva Brahman. While yet a boy, he refused to assume the sacred thread, because the initiatory rites required adoration of the sun; and in A.D. 1135 he fled from his home, accompanied by his sister, to Kalyan, the capital of Karnatika, whose ruler was of the Jaina religion. Here he joined his maternal uncle, a Brahman, and the raja's minister, who gave him employment, also gave him his daughter in marriage, and Basava became prime minister on his uncle's death. He had great influence over his king, to whom he is said to have lent his sister. He spared no efforts to extend the views of his sect, and the bulk of the people from north of Kalyan to Mysore adhered to him. But king Bajal opposed the movement, and was assassinated by two fanatics, on which the Kalyan kingdom closed. The views put forward by Basava were to change the worship of Siva. The linga, as an emblem of Siva, was always to be worn on the person, and called Jangama Linga, or locomotive linga, or living linga, in contradistinction to the linga erected in the Saiva temples, called Sthavara Linga, or the stationary linga. Basava inculcated the doctrine of the equality of all men; that the distinctions of castes were brahmanical institutions; that man is the living temple of the deity; that women should be protected, and permitted to teach their doctrines, unchasteness alone causing her to forfeit her claims to respect. Basava is said to have disappeared at a Saiva lingam temple, at the Kapila confluence of the Kistna and Malparba, but his sister's son, Chinna Basava, extended the sect. His followers are known as the Jangam sect, also Lingaet, Lingadhara, Lingawant, and Linghamat. They are Vira-Saiva Hindus, holding the doctrine of the Aradhya Brahmans, and carry the lingam enclosed in a gold or silver casket suspended from the neck, or bound round their arms, folded in a cloth or handkerchief. Nearly all the Hindus speaking Canarese are of this sect, and their numbers may be estimated at about 6,000,000. They are almost exclusively engaged in civil avocations, and are rigid vegetarians. They are perhaps the most bigoted of all the Hindu sects. In their early career they persecuted the Jaina sect.—*Dowson; Garrett.*

BASAVA, the name of Nandi, the sacred Vahan bull of Siva, in Canarese.

BASAVI. TEL. The Murli of the Mahrattas; Deva-Dasa women devoted to the gods in the Hindu temples. The Basavi women are usually devoted to the god Siva, and become prostitutes. But they are also called Linga Basavi, or Garudu Basavi, according as they are devoted to one or other deity. They are called also Jogni, also Murli, and are married sometimes to a knife, sometimes to an idol. In many parts of the south of India, the low non-Aryan castes thus devote their young women, in order that they may follow prostitution openly, under the cloak of a religious rite, and they are very numerous in the Canarese, Mahratti, and Telugu countries. It is not easy to trace the origin of this custom; but at the Myletta festivals, which were connected with the worship of Baal or Moloch, the women, as slaves to the goddess, were obliged to purchase exemption from being sacrificed, by prostitution. Almost all the Jewish prophets down to Jeremiah complain that this service was carried on in the high places by the Jews.—*Bunsen*, iv. p. 210. See Deva-Dasa; Jogi; Murli.

BASDEO, a kinsman of Krishna.

BASELLA ALBA. *Linn.* White basil.

Badruj-ul-abiaz,	ARAB.	Canjang kire,	TAM.
Poi, Safed poin,	BENG.	Kuka tulasi, Bat-salla-kura, Alla-batsalla,	TEL.
White nightshade,	ENG.		
Safed Tulsi,	HIND.		
Wahlea,	MAHR.	Pedda, Karu, Polam, Bach-chali,	,,
Vishwa-tulasi,	SANSK.		

This is a twining plant, with succulent stems and leaves. It grows all over India and Burma, and is much cultivated. Natives of the Coromandel coast reckon five varieties of it, three of which are cultivated, and two wild, the Yerra or Pota-batsalla, the Matu-batsalla, and the Pedda-batsalla. Roxburgh regarded these as varieties of one species, and B. Japonica *Burmann*, another.—*R.*

BASELLA CORDIFOLIA. *Lam.* Red basil.

B. lucida, *Linn.*		B. rubra, *var.* cordifolia.	
Puin-Shaq, Pui,	BENG.	Buttu-Passalei Kirai,	TAM.
Rakto-Puin,	,,	Alla batsalla,	,,
Malabar nightshade,	ENG.	Bach-chali kura,	TEL.
Upo'daki,	SANSK.	Poti batsalla kura,	,,
Ma-pat-niwiti,	SINGH.		

Flowers small, rose-coloured. Much cultivated all over India; its excellence as a vegetable is celebrated in the Sanskrit slokam: When the upo'daki appears along with its minister, the tamarind, away! away! ye other vegetables.—*Fl. And.*

BASEND. HIND. An edible root in the jhils of Rohilkhand.

BASGI, a tribe whose men and women are singers at the temples.

BASH. TURK. The head of a man.

BASH. PERS. Living. Bud-o-bash, means of living. Khūsh-bash, in easy circumstances.

BASHA, the female of the Accipiter nisus, *Linn.*, used in hawking, a native of Khorasan, with gulab eye, small. The male is called Bashin, also Bishia.

BASHA, the highest civil and military title in Turkey; a governor of a province, a counsellor of state; there are now many grades. It is the Turkish form of Pasha.

BASHAHIR, a tributary hill state in the Panjab, area 3320 square miles, population 90,000. The interior hills are covered with the finest forests of deodars. At Nachar the size of the trees is immense. Many cedars may be seen over 20 feet in girth, and from 100 to 150 feet high. It is ruled by a Rajput family whose dominion also extends over Kunawar. It commences a very little north of Kotgarh, and occupies the south side of the river Sutlej and the mountain slopes above

it, as far east as the confines of Kunawar. The valley of the Sutlej, in the western part of Bashahir, from Rampur downwards, has an elevation of little more than 3000 feet, Rampur, 140 feet above the bed of the river, being 3400 feet above the level of the sea. The river at the height of the rains is an impetuous torrent of great size.—*Thomson's Travels.*

BASHAN of Scripture, the modern Hauran.

BA-SHARRA. Arab., Hind. According to law, a sect of fakirs.

BASHI. Turk. A commander, Minbashi of 1000, Oubashi of 10, and Yuzbashi of 100 horsemen. Bashi-bazouk, irregular cavalry, called Hyta along the valley of the Tigris and at Mosul, and Bashi-bazouk in Roumelia and Anatolia. They are collected from all classes and provinces. The Hyta-bashi, or chief of the Hyta, is furnished with tazkara orders for pay and provisions for from four or five hundred to a thousand or more horsemen. They find their own arms and horses, although sometimes they are furnished by the Hyta-Bashi, who deducts a part of their pay until he reimburses himself. The best Hyta are Albanians and Lazes, and they form a very effective body of irregular cavalry. Their pay at Mosul is small, amounting to about eight shillings a month. They are quartered on the villages. When a Hyta-bashi has established a reputation for himself, his followers are numerous and devoted.—*Layard, Nineveh*, i. p. 38.

BASHKARA-CHARYA, a Hindu mathematician, born A.D. 1114.

BASHO. Tib. Sweet currants.

BASI, a drink prepared in the Philippines from sugarcane.

BASIAN, a branch of the Gaur taga tribe.

BASIL, Ocimum basilicum and O. minimum. Herbs used in salads and soups; raised from seed; require little care in the culture.—*Jaffrey.*

BASILEUS, a Greek title assumed by the Bactrian kings. See Baliyus.

BASILISK, a Saurian reptile belonging to the Iguanian family, and comprises only two species. One of these, the crested basilisk, the Basaliscus Amboiensis, *Daudin*, B. cristatus, *Bory*, of Amboyna and the islands of the Indian Archipelago, is upwards of three feet long, of a green colour, marked with white lines on the head and neck, brown on the back and tail, and silvery white on the belly, irregularly dotted with numerous white points. It keeps in the vicinity of rivers and fresh-water ponds, where it loves to bask on the branches of the trees which overhang the stream. On the first appearance of danger it drops into the water, and conceals itself beneath some rock or stone, whence it may be taken with the naked hand or a noose, for it is a timid animal. Its flesh is white, and as tender as chicken, and in taste is said to resemble venison. The female deposits her eggs in the sand, and leaves them to be hatched by the sun, paying no attention afterwards to her young progeny.

BASIM, a town in Berar which gives a name to a revenue district of 2958 square miles, with a population of 301,284, mostly Hindus of the Kunbi caste. The Hatkar or Bargi-Dhangar race, in the hills north of the Pain Ganga, a robust race, with a bold, independent bearing, furnish the Naiks of the district. Their power was broken by Brigadier Sutherland, who ordered to be hung all who failed to surrender within a given date. They allow the hair on their face to grow. If a man die in battle or the chase, his body is burned with his feet to the east, otherwise he is burned sitting, with his legs crossed, and a small piece of gold in his mouth. Widows can contract a pat marriage. A man has only one lagan, but can have several pat wives. They worship Khandoba. They do not eat the cow or pig. The town is in lat. 20° 6′ 45″ N., long. 77° 11′ E., and is 1758 feet above the sea.

BASING, a diadem used by Hindus of the Bombay Pesidency at their weddings. It is an ornament peculiar to weddings. Both bride and bridegroom wear it as a head-dress. It is invariably made of tin, and coloured and decorated with false pearls. The richest Hindus, from Parbhus downwards, wear them, as religion prescribes it. It is tied with silk or cotton at the back of the head. Brahmans wear them made of flowers, and they are then called Mundōl. The rich have the centre made of silk, flowers, and cotton braid, the pendants on each side being always made of flowers, particularly of the Mogri plant (Jasminium sambac), which is white, and the ends are set off with red. The poorer classes decorate their Basing with paper. It is placed on the heads of the bride and bridegroom on the second day of the marriage ceremony, to avert or counteract the evil eye.—*W.*

BASKANOS OPHTHALMOS. Gr. Evil eye.

BASKETS.

Tavon; Teng, . .	Burm.	Kuta, ...	Maleal.
Tokra, ...	Hind.	Canasta, ...	Port.
Bakul; Kranjang; Ambung, . .	Malay.	Canastas, Canastos,	Sp.
Raga; Bronong, .	,,	Kude, ...	Tam.
		Gampa, ...	Tel.

In use in most countries, made of various shapes, and from such materials as the district can furnish, —bamboo, rattans or canes, leaves, and midribs of the cocoanut, the date palm, and the palmyra tree, also those of the Vitex negundo; Ferreola buxifolia, Elate sylvestris, are in use in S.E. Asia. Arundinaria falcata, A. donax, Bambusa stricta, Cotoneaster obtusa, Phœnix sylvestris, Indigofera heterantha, Melica *sp.*, Parrotia Jacquemontiana, Pinus Gerardiana, P. longifolia, Rhus cotinus, Saccharum sara, Salix alba, S. Babylonica, S. viminalis, S. vitellina, Tephrosia purpurea, Vitex negundo. Throughout British India, basket-weaving and mat-making are trades with humble non-Aryan races, as the Yerkal, the Kurchi Korawa. A basket in Arabia and Burma (Teng) is a dry measure.

BASKING SHARK, Selache maxima.

BASL. Arab. Allium cepa; an onion.

BASMA. Hind. Indigofera tinctoria.

BAS-MATI. Hind. The finest quality of rice; that of Kangra is celebrated; but fine rice in other districts, also, is called bas-mati. It is a very white, long, thin grain, and fragrant when boiled. The name seems to be from two Hindi words,—bas, smell, odour; marna, to give out.

BASNA. Hind. Agati grandiflora.

BASOKA. Beng. Adhatoda vasica.

BASOTI. Hind. Colebrookia oppositifolia.

BASPA RIVER, an impetuous stream, a feeder of the Ganges. It runs in a beautiful valley. The climate is intermediate between the dry one of Spiti and the moist one of Garhwal.—*Cleg. Panj. Rep.* p. 41.

BASRAH or Bassora, in lat. 30° 30′ N., long. 47° 33′ E., a town in the province of Baghdad, on the right bank of the Shatt-ul-Arab. It has about 12,000 inhabitants. It is built on a canal, about 1½ miles from the river. The banks are fringed with walnut, apple, mulberry, apricot trees. It is called by the Arabs Al-Sura, from Be-al-Sura, signifying the stony soil on which it is built. Khalif Omar, in A.H. 15, wishing to combine the commerce of India, Persia, and Arabia, and secure that of Sind and Gujerat, laid the foundation of this place near to the confluence of the Euphrates and Tigris. The united stream, called the Shatt-ul-Arab, empties itself at the distance of 80 miles into the Persian Gulf, and commands the navigation of the surrounding countries with the coast of India. The site of Basrah is low, and from this circumstance is much subject to inundation when the river overflows its banks. Caravans of Persia and Arabia, and merchants from all nations, resorted here for the sake of traffic,—Greeks, Jews, Armenians, Banyans, and Moors.

BASSAD. Arab. Coral.

BASSADORE POINT is the N.W. extremity of Kishm, in lat. 26° 39′ N., long. 55° 22′ E. It was once a flourishing settlement of the Portuguese. It was made the headquarters of the Indian Naval Squadron in the Persian Gulf in 1824, and continued so until 1864, when that service was abolished.—*MacGregor*, iv. p. 67.

BASSANA. Hind. Agati grandiflora.

BASSANT DENDLU of Beas. Hypericum perforatum, *L.*

BASSAR. Hind. of Kanawar and along the Sutlej. Capparis spinosa; European caper.

BASSARI MARA. Can. Ficus infectoria.

BASSEIN, a town on the banks of the western branch in the Irawadi delta, in lat. 16° 46′ N., and long. 94° 48′ 10″ E. It names one of the revenue districts of British Burma, with an area of 6517 square miles, pop. 322,689 souls. The Bassein creek is subject to the bore; the creek joins the Rangoon and China Buckne rivers.

BASSEIN (properly Wasi), a town and port in India, in long. 72° 51′ 20″ E., lat. 19° 20′ 20″ N. The mouth of the river is in lat. 19° 18′ N., long. 72° 49′ E. Bassein is an ancient and now desolate city, 30 miles from Bombay, on the Gora Bunder river. The old fort of Bassein was built by the Portuguese in the early part of the 16th century; it was taken after a protracted siege by the Mahrattas in 1739, and by them utterly devastated. In 1780 it was captured by General Goddard, but in 1782 restored; and in 1818, on the defeat of Baji Rao, it was again resumed. Pop. 9356.

BASSES. The Great Basses, called Raman-Paaj by the natives of India, is the name of a ledge of silicious limestone rocks, nearly a mile in extent, elevated a few feet above water, on which the sea breaks very high in bad weather. According to native tradition, a pagoda of brass was formerly erected thereon; but at present only a long flat rock appears, which is completely covered when the surge runs high. This dangerous ledge is about 9 miles from the shore, in lat. 6° 10′ 5″ N., long. 81° 28′ E. There is a safe channel between it and the main, with about 7 to 14 fathoms. The Little Basses are in lat. 6° 24½′ N., long. 81° 54′ E., and 21 miles N.E. ½ E. from the Great Basses. They consist of a ledge of rocks a little above water, with others contiguous, and straggling rocks projecting under water a great way from the dry ledge. It is distant from the shore 6 or 7 miles; the channel inside the Little Basses is not safe for large ships. The Basses are believed to be the remnants of the great island of Giri, swallowed up by the sea (Mahawanso, ch. i. p. 4). They may possibly be the Bassæ of Ptolemy's map of Taprobane.—*Horsb.; Tennant, Ceylon*, p. 309.

BASSIA, a genus of plants of the natural order Sapotaceæ. B. Parkii, *Don*, is an African tree; B. sericea, *Bl.*, is a tree of the Mauritius; and B. cuneata, *Bl.*, a tree of Java.—*Dr. Mason.*

BASSIA BUTYRACEA, *Roxb.*, Butter tree.

Falwa; Phalawara, Hind. | Yel-pote, . . Lepcha.

This tree has smallish white flowers, grows on the Almora hills, in Nepal, and also in the lower hills and warm valleys of eastern Kamaon. Extreme height 30 feet, with large umbrageous foliage. Timber light and useless. Its fruit is eaten by some. The product that has commercial value is the solid oil which is expressed from the kernels,—a beautiful white, solid fat. The kernels are bruised into the consistence of cream, put into a cloth bag, and a stone put on the top to express the oil, which immediately hardens, and is of a delicate white colour, but melts at a temperature above 120° Fahr. It is used as a lubricant in rheumatism. It keeps for months. In Rohilkhand sugar is obtained from this tree.—*Roxb.; O'Sh.; Royle, Ill. Him. Bot.; Exh.*, 1862; *Voigt; Hooker, Him. Journ.* See Shea Butter; Vegetable Butter.

BASSIA ELLIPTICA. *Dalzell.* Indian gutta.

Isonandra acuminata. *Cleghorn.*

Pachonta, ... Can. | Pauchontee Pala, . . Tam.

A majestic tree, 100 feet high, and up to 12 feet in girth, common in all the moist sholas of the Western Ghats of Madras, up to 3000 or 4000 feet. The timber is hard, not unlike sal in its grain, and takes a good polish. It is much employed by planters for building purposes, and might be used for furniture. A sort of gutta exudes from the trunk, which is known as pala gum, or Indian gutta-percha. It might be used as a bird-lime, or for encasing telegraph wires.—*Cleghorn's Forests; Beddome, Fl. Sylv.* p. 43.

BASSIA GRANDIS. *Thw.*

Isonandra grandis, *Thw.* | Meeria, ... Singh.

A very large tree in Ceylon, Central Provinces, and Saffragram district, at an elevation of 36,000 feet. The seeds yield an oil similar to that of Bassia longifolia.—*Beddome, Fl. Sylv.* p. 254.

BASSIA LATIFOLIA. *Willd.* Mahwa tree.

Mahula, ... Beng.	Maduka, ... Sansk.
Mahwa, . Beng., Hind.	Kaat Illipi, . . . Tam.
Moho, ... Mahr.	Epi, Ippa, . . . Tel.
Poounam, . . Maleal.	Ippa chettu, . . ,,

This tree grows in the mountainous parts of the Circars, in Bengal, the Terai, Oudh, Gwalior, Panjab, Malwa, Nagpur, and Gujerat. It is planted near the Oudh villages in groves. The tree is common all over the Bombay jungles, both on the coast and above the ghats. It is abundant in parts of the Nurpur pargana of the Kangra district, where the two small talukas of Mau derive their name from the prevalence of the tree. This tree attains a height of 50 feet and a girth of 12 feet. A cubic foot unseasoned weighs 77 to 80 lbs., and 60 lbs. when seasoned; its sp. gr. 1·056. In the Circars it is never felled

by the natives, and it is also preserved in Nagpur, on account of its large fleshy flowers, which are dried and eaten raw by the hill tribes, and are fermented and used in distilling mahwa arrack. The flowers in the Panjab sell at 50 seers the rupee for this purpose. The flowers are sweet-tasted. It flowers in the hot season. Jackals are particularly fond of them. They fall spontaneously as they ripen, and are gathered and dried by a few days' exposure in the sun; when thus prepared, they much resemble a dried grape, both in taste and flavour. Either eaten raw or dressed, they afford a wholesome, strengthening food.

Mahwa oil, obtained from the kernels of the fruit, is solid at 95°, is an article of common consumption in India, and may often be met with under the names of Mowha or Yallah oil in the London market. The cost of the oil extracted is 3 rupees per maund. The proportion of oil yielded by native process is about half the weight of the seed; it so much resembles ghi, or clarified butter, that, being cheaper, it is often mixed with that commodity, and used in victuals. It is burned in lamps, and applied externally as a remedy for wounds and all cutaneous eruptions. The timber in Nagpur is from 10 to 20 feet long, and in girth 4 or 6 feet; and attains its full size in 80 years. The character of its wood seems to vary in different localities. In the Panjab, its wood is described as of a cinnamon colour, hard, close-grained, heavy, and durable, and good for building purposes. Captain Sankey says that in Nagpur it is of a pinkish colour, and weak; while, from being invariably rotten at the heart, 4 to 6 inches square of really good sound timber is all that can be reckoned on, and it is eagerly devoured by white ants. Dr. Gibson, however, says that the wood, particularly the large logs brought from the Baria forest and Kuperwunje hills, is extensively used for house and cart purposes in Gujerat, but seldom appears in the market in Bombay. Mr. Powell says that the tree gives a good and durable wood, but small; and though not abundant in the Panjab, the wood is hard and strong, and in request for naves of wheels, carriages, etc.—*Roxb.; Voigt; Birdwood; Exh.*, 1862; *Powell's Panjab; Cleghorn's Report.*

BASSIA LONGIFOLIA. *Willde.* Wild sapota.

Kan-Zau, . . . BURM.	Ennai Karrai maram? TAM.
Ellupi, . . . MALEAL.	Yeppa? Ippa; Pinna, TEL.
Mi-gass; Tel-mi, SINGH.	Oodooga of . WYNAD.
Illupa; Elupa, . . TAM.	

This good-sized tree attains to a height of 50 feet and 6 feet in girth. It grows in the hotter parts of Ceylon, especially in native gardens, in Coimbatore, on the Malabar coast, in the Wynad, in the Bombay forests north of the Goa border, and in plantations along the southern coast of Coromandel. It is a good deal like Bassia latifolia, but its leaves are narrow, and its flowers much more fleshy. It flowers in the month of May, and the seed ripens in August and September. The oil stains linen or woollen cloth as animal oil does; the fatty substance of B. butyracea, when rubbed on cloth, leaves no trace behind. The wood is as hard and durable as teak-wood, but not so easily worked; nor is it procurable of such a length for beams and planks, except on clay ground, where it grows to a considerable height, but in such a soil does not produce so many branches, and is less fruitful than when in a sandy or mixed soil. They require little attention and watering, and being of so great use, there should be plantations of them on high and sandy grounds, where no other fruit tree will grow. A cubic foot when unseasoned weighs 70 to 75 lbs., and when seasoned 60 lbs.; sp. gr. 0·960. Mr. Rohde says that Ippi wood of the Telugu country is valued for keels of ships, and for planking below the water line. Exposed to the wind and sun in the log, it rends into strips, but it is considered a good wood for treenails, for platform carts, and for the more substantial parts of furniture, and it is comparatively free from the attacks of the Teredo navalis. In the Wynad it is an ordinary-sized tree, and its wood is much used on the Malabar side for building and spars. Dr. Wight says, in Coimbatore it is much used in the construction of carts, where great strength is called for. In Ceylon its wood is said to last from 25 to 80 years, weight 61 lbs. to the cubic foot; and is there used as keels for dhonies, for bridges, and in house-building. The seeds contain about 30 per cent. of oil of a bright yellow colour; 12½ lbs. of seed, in the ordinary native rude way of expressing, produce 2 gallons (English) of oil. The oil or its seed might form an important article of export. It makes excellent candles and soap. Its chief use is, however, for burning in lamps, and when fresh, as a substitute for butter in native cookery. In medicine, the oil is used externally to cure cutaneous disorders; and the leaves, milk of the green fruit, and bark, are boiled in water and used as a remedy in rheumatism.—*Drs. Wight, Cleghorn, Roxb.; Thw.* iii. p. 175; *Beddome.*

BASSIA PARKII, the Shea tree or Stea tree of Africa, called also the African butter plant, might be introduced into India. A solid oil is obtained from its fruits by drying them in the sun, and then boiling the kernels in water.—*Veg. King.*

BAST. PERS. From bāstān, to fasten, a sanctuary, a refuge. Like Kedesh of Galilee, Shechem of Samaria, and Hebron in Judea, the sanctuaries of Kum, and the Great Mosque in particular, are famous places of refuge (or bāst, as it is termed) for all persons who have committed crimes, or fallen under the royal displeasure. Such is the sanctity of the holy Fatima's mosque, that the king himself dare not arrest a criminal who has there sought protection. The Persian custom of bāst somewhat resembles that of the Jewish cities of refuge, the Alsatia of London, the precincts of Holyrood at Edinburgh and Westminster, etc. The custom prevailing in the East, of having places of asylum, owes its origin probably to the Mosaic law concerning the six cities of refuge. Formerly the whole mahalah, or quarter of Bidabad, was reckoned bāst, or sacred. The principal mosque, the stables of the king and nobles, and other places, are asylums. Kum, in lat. 34° 45′ N., long. 50°29′ E., is a ruined town in Irak-i-Ajam, in Persia, 80 miles on the road from Teheran to Isfahan. It was taken by the Afghans in 1772. The tomb of the sister of Imam Raza is there, its bars of solid silver and gates gold plated. Kum is the most celebrated of the sanctuaries of Persia, and Shias frequently fly to it for shelter.—*Morier; Kinneir; K. Abbott; Malcolm; Ouseley; Taylor; MacGr.* iv. p. 276; *De Bode's Tr.*

BAST is the Sha of the Burmese, and Nar, HIND., TAM., TEL. The bast of plants is the liber or cellular tissue, consisting of tough elongated vessels,

which can often be separated and converted into fibrous material, and made useful for cordage and matting. That best known to Europe is a product of Russia, and obtained from the lime or linden tree, the Tilia Europea, and converted into mats and shoes. In the East Indies, species of grewia, of hibiscus, and of mulberry, are remarkable for this product; and the Theng-ban-sha, the Pa-tha-you-sha, the Sha-phyu, the Ngau-tsoung-sha, Sha-nee, and Eegw-ot-sha are basts of Arakan. The basts of Akyab and Burma are Heng-kyo-sha, Dam-sha, Thanot-sha, Wapreeloo-sha, and Sha-goung, and others, all used in preparing cordage for boats, nets, etc.; wholesale market price, 2 rupees 8 annas per maund, and all are of the inner bark of large trees. The Sha-nee, Sha-phyu, and Theng-ban-sha of Akyab are more plentiful, and used in preparing cordage for boats, nets, etc., and wholesale market price, 1 rupee 12 annas per maund. The Guand-young-sha of Akyab is used for cables and strong nets, the wholesale market price being 3 rupees 4 annas per maund; and all these fibres are much used by the inhabitants of that province.

The Glam tree bark is from the Melaleuca viridiflora, Malacca. The Talee trap (Artocarpus, *sp.*) is used for fishing-nets at Hassang.

The Talee Taras is of Singapore; and there is a bast used as twine in Siam.

The bark cloth of the Malay Peninsula and Keda is manufactured by the Semang, an oriental Negro tribe; and that of the Celebes (Kaili) is made from the bark of the paper mulberry. Mr. Jaffrey, at the Madras Exhibition of 1857, exhibited a very powerful bast from the Eriodendron anfractuosum. A bast or nar from Acacia robusta, has been used for all purposes to which Russian bast is applied in gardens in Europe. The material is strong, tough, and durable, also pliable when wetted; this bast could be procured cheaply and in large quantities, as the roots, when the trees are cut down, throw up numerous young shoots to the height of from 6 to 12 feet in one year. The bark of this tree is also a powerful tan.

BASTAR, a feudatory state, situated between lat. 20° 37′ and 17° 46′ N., and long. 80° 18′ and 82° 21′ E., is 170 miles long and 120 miles broad, with an area of 13,062 square miles, and 78,856 souls. The people chiefly Gond. The raja is of a very ancient family, and claims to be of the purest Rajput blood. In Bastar, the leaf-ordeal is followed by sewing up the accused in a sack, and letting him down into water waist deep; if he manage in his struggles for life to raise his head above water, he is finally adjudged to be guilty. Then comes the punishment. The extraction of the teeth is said in Bastar to be effected with the idea of preventing the witch from muttering charms; but in Kamaon the object of the operation is rather to prevent her from doing mischief under the form of a tiger, which is the Indian equivalent of the loup-garow. The people are little advanced in civilisation. The Gond are the most numerous; the deities are Danteswari or Mauli, also Mata. Human sacrifices were made to the former, but since 1842 arrangements to prevent such have been adopted. The dress of the Gadwa women is very peculiar.

BASTARA. Hind. Callicarpa lanata.

BASTARD, an Anglo-Indian term employed to designate some plants and animals which have resemblance to others;

Bastard Aloe, Agave vivipara.

Bastard Cedar, Cedrela tuna; Guazuma tomentosa; Chickrassia tabularis; Soymeda febrifuga.

Bastard Ebony, in Ceylon, is their Kadem-Beriye, probably a species of Dalbergia.

Bastard Floriken, one of the smaller species of bustard, the genus Otis.

Bastard Mahogany, Cedrela toona.

Bastard Poon, Sterculia fœtida.

Bastard Sago Palm, Caryota urens.

Bastard Teak, Chiri Teku, Tel., is a term applied to the Erythrina Indica, *Lam.*, or 'Moochy wood,' on the Nagari hills. The Yánádi give it to Dillenia (now Wormia) bracteata, *W. Ic.* 358, and it is given also to Butea frondosa; in Bombay the Ban-Teak or Ben-Teak (literally wild teak), being the Lagerstræmia microcarpa.

BASTI. Hind. A hamlet, a village, a town, from Basna, to inhabit; a Jain temple.—*Elliott.*

BASTINADO, the Fellek of Egypt, or Chob-Khūrdan, literally stick-eating, of the Persians.

BASTRA. Hind. Callicarpa lanata.

BASU. Beng. An honorific suffix in Bengal to Kayasth families, which Anglo-Indians pronounce Bhose. See Kayasth.

BASUK. Beng. Adhatoda vasica.

BASUNTEE. Beng. Hiptage madablota.

BASWAPUR. See Diamond.

BAT.

Pien-fuh, Tien-shuh, Fuh-Yih, . . . Chin.	Sham Gadhal, Barbhagul, ... Hind.
Crosier, ... Fr.	Trazza, Papistrello, It.
Fleder Maus, . . . Ger.	Vespertilio, . . . Lat.
Nukteris, ... Gr.	Taoos Pachi, . . . Tam.
Ataleph, Othelaph, Heb.	Gabbi Lal, . . . Tel.

The bat is mentioned in Lev. xi. 19, Deut. xiv. 18, Isa. ii. 20, and Baruch vi. 22, and is generally referred to as an unclean animal, or as illustrative of unsightly things. With the Chinese the bats are regarded as creatures of good omen; and they believe that by eating preparations made of the bat, the eater will acquire the long life and excellent eyesight of the animal. The fruit bats (Pteropus), or flying foxes, as they are often called, constitute a well-marked section of the bats belonging to the warmer parts of the old World. They are frugivorous, and do great damage in gardens and plantations. The families and genera of the Cheiroptera of South-Eastern Asia are arranged by naturalists as under:—

Fam. Pteropodidæ; *Genera*, cynopterus, pteropus.
Fam. Vampyridæ; *Genera*, cœlops, hipposideros, megaderma, rhinolophus, rhinopoma.
Fam. Noctelionidæ; *Genera*, nyctinomus, taphozous.
Fam. Vespertilionidæ; *Genera*, barbastellus, kerivoula, lasiurus, murina, myotis, noctulinia nyctophilus, nycticejus, plecotus, scotophilus, vespertilio.

Some bats of Ceylon, as Rhinolophus affinis, *var.* rubidus, *Kelaart*, Hipposideros murinus, *var.* fulgens, *Kelaart*, also H. speoris, *var.* aureus, *Kelaart*, have brilliant colours,—bright yellow, deep orange, and a rich ferruginous brown inclining to red. The Pteropus Edwardsii, *Geoff.*, is eaten by natives of India and Ceylon, and its flesh is said to resemble that of the hare.

Of nine species of bats sent by Captain Hutton from Missouri, four were European, and included in the Fauna Britannica. These were Barbastellus communis, *Gray*, Myotis murinus, *Geoff.*, M. pipistrellus, *Schreber*, and Scotophilus scrotinus, *Schr.* See Cheiroptera; Mammals.

BAT. SIAMESE. A Siamese coin, to which foreigners apply the term Tikal.

BATA of Sutlej, Fluggea virosa; in Hindustan, Andropogon muricatus.

BATA BANG, a province between lat. 12° and 13° N. on the western bank of the Mekong. All the rest either forms part of Cochin China or is tributary to it.—*Moor*, 193.

BATABI NEBOO. BENG. Citrus decumana.

BATAGUR, a genus of tortoises of the family Emydidæ, order Chelonia. B. lineatus, Berdmoreii dhongoka, occilata, Thurgii, and trivittata occur in India. See Reptilia.

BATAI. HIND. From Batna, to divide. The division of a crop between the cultivator and the landlord; any share into which the crops may be divided on the Metayer system. The landlord's share varies from one-sixth to one-half. There is the batai kankut, the batai-khaliani, batai noasia. At the batai-khaliani all entitled to shares or perquisites (Anjali) assemble. These participators are almost the same as the Baluti of the Mahrattas, and are—

Patwari or watcher.	Fakir or religious mendicant.
Taula or weighman.	Lohar, blacksmith.
Dehwal or Holi burner.	Barhai, carpenter.
Purohit or domestic priest.	Nao, barber.
Pandit or astrologer.	Dhobi, washerman.
Bhat or bard.	

BATAN, one of the Bashee group of islands. The natives are well-proportioned, of a copper colour, and medium stature. They are very ugly; their hair is black, and cut short. Their usual dress consists of a piece of cotton passed round the loins, and a peculiar-looking conical hat, surmounted with a tuft of goat's hair. In rainy weather they wear a cloak of rushes, through which the water cannot penetrate. The sole covering of the women is a piece of cotton cloth, fastened below the bosom, and reaching down to the knee.—*Marryat, Ind. Archip.* p. 26.

BATANA. HIND. The pea; Pisum sativum.

BATANGI, of Hazara and Murree hills, Pyrus variolosa, wild pear.

BATAR NIBU. BENG. Citrus decumana.

BATAS, HIND., also Batasa or Batasha. A kind of light sweetmeat, so called from being made with potash (batasha). Sugar cakes; little cakes of refined sugar, much used in India in the ceremonial of marriages. In Hindu mythology, Ganesha is often represented eating batasa.

BATAS-MUNDLEE. BENG. Robinia candida.

BATATAS, a genus of plants, of the natural order Convolvulaceæ. B. cissoides, edulis, paniculata, pentaphylla, and viscida have been cultivated in India; B. bignonioides of Cayenne and B. heterophylla of Cuba are also known. Four small roots of a batatas were sent from Australia by Mr. Dowdeswell, and planted by Mr. Rohde at Guntur, whence it was largely distributed, and has been in daily use as a vegetable, preferred to the common sweet potato, as being less sweet and more farinaceous.—*Juries' Reports, M. E.; Voigt; Hogg, Veg. King.* 536.

BATATAS EDULIS. *Choisy.* Sweet potato.

Convolvulus batatas, *Mich.*
Ipomœa batatas, *Lam.*
Convolvulus esculentus, *Spreng.*
,, edulis, *Thunb.*
Ipomœa catesbii, *Meyer.*
Var. α. erythrorhiza, red-rooted.
β. leucorhiza, white-rooted.

Shakr-kand-alu, . BENG.	Sharkar Kanada, SANSK.
Ka-Zwon, . . . BURM.	Rakt-alu, ... ,,
Ka-Zong-oo, . . ,,	Gagar-Lahori, . SINDH.
Thim-bo-Nyan, . ,,	Batata Kaka (yellow), ,,
Ghenasa, . . CAN., TEL.	Valli Kalangu, . . TAM.
Kissing Comfits, . ENG.	Sukkarai-vulli, . . ,,
Natr-alu, Ratn-alu, HIND.	Chella gadda dampa, TEL.
Pend-alu, . . . ,,	Chiragadam, . . ,,
Batatas, . MALAY., MEX.	Mohanam (var. erythro-
Katela? Kastila, MALAY.	rhiza), ... ,,
Kappa kalenga, MALEAL.	Sukkara-vella, . . ,,
Zardak Lahori, . . PERS.	Gea-Sugadde, . . ,,

This is a perennial plant with creeping stems, originally a native of the Malay Archipelago, but has been distributed all over the warm parts of the world, and cultivated for its edible roots. These are long and cylindrical, and are often eaten raw by the people of India, but Europeans boil them and fry them, and they become mealy and sweet. Shakespeare makes Falstaff, in the Merry Wives of Windsor, say, 'Let the sky rain potatoes and hail kissing comfits;' for in the reign of Elizabeth, before the introduction of potatoes, the sweet potato received that name, the kissing comfits being a conserve. There are two kinds, those with red and those with white roots, the red being most esteemed. In Brazil they yield a spirit called Vinto de Batatas. There are two or three varieties cultivated in the Tenasserim Provinces; they are very abundant, but inferior both in size and quality to the sweet potato of the southern states of America. — *Mason; Merry Wives of Windsor; Roxb.* i. 483; *Voigt; Hogg.*

BATATAS PANICULATA. *Choisy.*

Convolvulus roseus, *H.B.*	I. mauritiana, *Jacq.*
C. paniculatus, *L.*	I. quinqueloba, *Willd.*
C. gossipifolius, *Spreng.*	I. gossipifolia, *Willd.*
C. insignis, *Spr.*	I. eriosperma, *Beauv.*
Ipomœa paniculata, *R. B.*	I. insignis, *And.*
Bhuin Kumra, BENG. HIND.	Chiri gummudu, . . TEL.
Phal Modeka, . MALEAL.	Nalla nela gummudu, ,,
Bhu-chakra-gada, . TEL.	Gummudu tige, . . ,,
Nela gummudu, . . ,,	Deo Kanchanam, . . ,,

Grows all over India, the Archipelago, New Holland, the tropical parts of South America. Roots are purgative.—*Roxb.; Voigt.*

BATATAS PENTAPHYLLA. *Ch.*

Convolvulus hirsutus, *R.*	C. aphyllus, *Viviani.*
C. munitus, *Wall.*	Ipomœa pentaphylla, *Jack.*

Konda gummada gadda; Pala Nela gummuda, TEL.

Grows all over the south of India, in the Archipelago and islands of the Pacific.

BATAVIA, the ancient Jakatra, situated on the banks of the large river Tji-li-wung in Java, has always been the capital of the Dutch possessions there. The islands of Java and Madura in 1880 had a population of 19,797,077 souls, 19,542,835 being islanders, 10,528 Arabs, and 206,914 Chinese; and Batavia district, 941,347. Batavia town is in lat. 6° 9′ S., long. 106° 51′ E., 60 miles E.S.E. of the Straits of Sunda. Batavia was founded by the Dutch in 1619. It was taken by a British force from India in 1811, but restored in August 1816. It is the residence of the Governor-General of Netherland India, is defended by a citadel and a large garrison, and has an extensive marine arsenal. The bay and harbour are well adapted for commerce, and a considerable trade is carried on in pepper, rice, sugar, coffee, indigo, spices, hides, and teak-wood. The chief imports are opium and piece-goods. The anchorage is sheltered by the islands at the mouth of the bay.—*J. Ind. Arch.; Bikmore*, p. 56.

BATCHIAN, a large island fronting the S.W. part of Gilolo. It is about 52 miles long by 20, and is separated from Gilolo only by a narrow strait. Obi, Batchian, and the three southern peninsulas of Gilolo, possess no true indigenous population. The Batchian Malays differ very little from those of Ternate. Their language, however, has more of the Papuan element in it, with a mixture of pure Malay, showing that they are formed from stragglers of various races. The Orang Sirani (qu. Nasrani or Suryani) are Christians of Portuguese descent, like those of Ternate. Many of these have a Portuguese physiognomy, but their skin is generally darker than that of the Malays. They speak Malay, with a large number of Portuguese words and idioms. A third race is the Galela men from Gilolo; and a fourth race is a colony from Timor, in the eastern peninsula of Celebes. They have a very light complexion, open Tartar physiognomy, low stature, and a language of the Bugis type. They are an industrious agricultural people, and supply the town with vegetables. They make a good deal of bark cloth, similar to the tapa of the Polynesians. A cylinder of bark is taken off and soaked and beaten till it be as thin and as tough as parchment. It is used for wrapping up clothes; also dyed with a bark dye, and sewed into jackets. The Orang Sirani are very fond of dancing. In three hundred years they have changed their language and lost all knowledge of their nationality, but in manners and appearance they are almost pure Portuguese. Everywhere in the east, where the Portuguese have mixed with the native races, the offspring are darker in colour than either of the parent stocks. This is the case with the Orang Sirani, and with the Portuguese of Malacca. This is not the case in South America, where the Mameluco, the offspring of the Portuguese and Indian, is often fairer than either race, but always fairer than the Indian. Batchian is the most eastern point in the globe inhabited by any of the quadrumana. Cynopithecus nigrescens, found all over the Celebes, is abundant in some parts of the forest of Batchian. Cuscus ornatus, *Gray*, the Belideus ariel, or little flying opossum, and the civet cat, Viverra zebetha, *Wall.*, are found in Batchian. Carpophaga perspicillata is the great green pigeon. Semioptera Wallaceii, *Gray*, is a paradise bird; the general olive plumage of the male is very sober, but it has a pair of white feathers about six inches long sticking out straight from each shoulder, and the crown of the head is glossed, and pale metallic violet. Lorius garrulus, a red lory; Charmosyna placentis, little lorikeet; Goeffroyus cyanicollis, a green bird of the parrot tribe; Eurystomus azureus, a deep blue roller; Nectarinea auriceps, a golden-capped sunbird; Tanysiptera isis, racquet-tailed kingfisher. Nicobar pigeon occurs in Batchian, New Guinea, the Kaioa islands, and in small islands near Macassar and Borneo. Batrachostomus crinifrons, a goat-sucker of Batchian and Moluccas. Among insects, the Pieris aruna, a fine butterfly of a rich chrome colour. Megachile pluto, *Smith*, a wasp-like insect with immense jaws, like a stag beetle.

Batchian has gold, copper, and coal; hot springs and geysers occur in it. It consists of sedimentary and volcanic rocks and coralline limestone, with alluvial plains. The hills are abrupt, and mountains lofty; the climate moist, and a grand and luxuriant vegetation.—*Bikmore*, 299; *Wallace*, ii. 19, 23.

BATE, also written Beyt, or Pirate's Isle, a low island of considerable size, forming the extreme northerly point of the Saurashtra peninsula, in lat. 22° 24′ N., and long. 69° 20′ E. Even at the Greek invasion, the Sangara of Bate were daring, reckless pirates, notorious men steeped in crime, and hardened in defiance of all human law. According to the mythological hero-worship of the Hindus, it was in Bate that Krishna or Kanya acted the part of the Pythian Apollo, and redeemed the sacred books, slaying his hydra foe the Takshac, who had purloined and concealed them in one of those gigantic shells whence the island has its name.—*Postans' Western India*, ii. 4, 5.

BATELA or Botilla, on the Malabar coast, a coasting (one-masted) sloop of 30 to 85 tons burden; the Batela of Sind is described as a flat-bottomed boat.

BATHING.

Sar Nahana, Ghussal, HIN.	Sth'nanam, . TAM., TEL.
Hamam lena, . . ,,	Abhi-angana, . ,,

Bathing amongst the Jews, Mahomedans, and Hindus, is a religious rite; and in Turkey, Egypt, and Persia, public baths are established in the principal cities. Mahomedans have two kinds of ablution, or lustration; the 'Ghussal,' or legal washing, is for all classes, after any kind of bodily uncleanness, such as the pollutio nocturna, menses, coitus or child-birth, for until purified it is unlawful to eat, pray, touch the Koran, or go to the mosque. If the legal Ghussal be not needed, nevertheless, before prayer, the Wazu or washing, in a prescribed manner, of the face, hands, and feet is indispensable. It occupies two or three minutes. The Wazu is only adopted when any minor cause of impurity, as in performing the natural functions, has occurred. Where water is not to be had, the Teyammum, or rubbing the face, legs, and hands with fine dust or dry sand, suffices. In Persia, periods are allotted for women to go to the bath. Ouseley notices that the bath-horn, Buq-i-Hamam, is sounded to announce that the city baths are heated and open for the reception of women,—this bath trumpet being sometimes a horn, sometimes a conch shell. In British India there are no warm baths, either for Hindus or Mahomedans; in the larger towns, and in club-houses, there are a few private swimming baths for Europeans. Hindus generally resort to a river-side or tank; and Mahomedans and the Christians bathe in their own enclosures.

The priests of ancient Egypt purified themselves by bathing in the morning in the waters of the Nile. The lustration of the Jews is described in Mark vii. 2–5, where he mentions that when the Pharisees saw some of the 'disciples eat bread with defiled (that is to say, with unwashed) hands they found fault; for the Pharisees and all the Jews, except they wash their hands oft, eat not, holding the tradition of the elders. And when they come from the market, except they wash, they eat not; and many other things there be, which they have received to hold, as the washing of pots and pans, brazen vessels, and of tables.' And up to the present hour the Hindu ritual is almost identical.

The Hindu purification after child-birth is performed on the 16th day; Mahomedans adhere to the Hebrew forty days. The Hindu

Sth'nanam is ordinarily performed once daily, in the early morning, their evening ablution not involving the head, but from the neck. The Abhiangana Sth'nanam of the Hindus is that, generally twice a week, in which the head is anointed with oil, and corresponds to the anointing of the Jewish ceremonial, and to the Indian Mahomedan's Sar-Nahana, or head-washing, of which perhaps the initiatory head-washing rite of certain craftsmen in Great Britain is a remnant, as possibly may, similarly, be the feet-washing as a marriage ceremony. In Britain, the bride's feet are washed; and in the south of India the engaged son-in-law performs the ceremony (palal-kal-kazhu-viradu, TAM.) of washing his intended father-in-law's feet. Along the banks of the Ganges at every large place, crowds of nude men and women are to be seen at certain hours of the day, bathing close together. Mr. Layard tells us that amongst the Tiyari of the Nestorians, the girls and women bathe, unrestrained by the presence of men, in the streams or at the doors of their houses. In Japan there are bathing-houses, in which, at Hakodadi, both men and women of the lower ranks assemble. Mr. Hodgson tells us that on one occasion, at Yedo, the bathers of both sexes indiscriminately sallied out to see them pass. When Mr. Alcock went, preceded by a band of music, to the Governor's Yamun, all the bathers of both sexes came out, to gratify their curiosity by a good long gaze on the novel spectacle. Amongst the Maori of New Zealand, both sexes bathe together in the hot waters of the volcanic region.

The functions of the skin cannot be preserved in healthy activity, nor the changes of climate effectually guarded against, without the frequent use of the bath. The warm, tepid, cold, or shower bath, as a means of preserving health, ought to be in as common use as a change of apparel. On a large scale, baths are economically heated by steam. The sickly, the aged, the weak, and the intemperate should avoid the use of the cold bath, which should seldom be used in the higher table-lands of India, even by the strong.—*Sonnerat's Voyage*, p. 161; *Hodgson's Nagasaki*, 252; *Layard's Nineveh; Robinson's Travels*, ii. 149; *Ouseley's Travels*, i. 301.

BATHO, a deity of the Cachari race.

BATHU, also Bathua. HIND. Chenopodium album, much grown in the hills of the W. Himalaya. In the Panjab, Amarantus frumentaceus.

BATIN. Each Jakun tribe is under an elder, termed the Batin, who directs its movements, and settles disputes.

BATIR. HIND. Quail.

BATKAR. HIND. Celtis Caucasica.

BATMAN, a weight of Asiatic Turkey, equal to 20½ lbs.

BATN-BAD-BATN. ARABO-PERS. From generation to generation; a form of granting land.

BATNULKAR, a tribe of weavers in the Madura and Tinnevelly districts, who speak a slang dialect.—*Wils.*

BATOO BARRA, a river of Sumatra, in lat. 3° 14′ N., and long. 99° 37′ E. Its people have been found treacherous to ships. They catch turtle, collect their eggs, and prepare fish and eels.

BATOOLA. HIND. Cicer arietinum.

BATOR NIBU. BENG. Citrus decumana.

BATOTI. HIND. Diseased pulse, caused by the east wind.

BATRACHIA, a sub-class of animals of the class Reptilia, including all the frogs. It is arranged by some naturalists into three orders, (1) Batrachia salienta, (2) B. gradienta, and (3) B. apoda. The order B. salienta has the families Ranidæ, Discoglossidæ, Rhinodermatidæ, Bufonidæ, and Polypedatidæ; the order B. apoda has but one family, Cœciliidæ. Mr. A. R. Wallace arranges the Amphibia into the orders (1) Pseudophidia, (2) Batrachia Urodela, and (3) B. Anoura, the last comprising the frogs and toads. A few Batrachians, such as the Siren of Carolina, the Proteus of Illyria, the Axolott of Mexico, and the Menobranchus of the North American lakes, retain their gills during life; but although provided with lungs in mature age, they are not capable of living out of the water. Such Batrachians form an intermediate link between reptiles and fishes.—*Tennant's Ceylon*, p. 320; *A. R. Wallace, Distribution*, i. 101. See Frogs; Reptiles.

BATRACHUS GRUNNIENS. *Linn.* The natives attribute poisonous qualities to these fishes, and reject them even as manure. The creaking sound they emit has been noted by Buchanan. They are capable of living a considerable time out of their element.

BATSALI-KURA. TEL. Portulaca quadrifida.

BATSNAB BISH. BENG. Aconitum ferox.

BATTA. HIND. Difference or rate of exchange, extra allowance. A mutiny occurred in the Bengal army in consequence of an order, dated 1st January 1766, abolishing double batta for the officers of the army. They were ordered to send in their resignations by the 1st May 1766. The mutiny was suppressed by Lord Clive.

BATTA or Battak, a collection of tribes inhabiting the interior of that part of Sumatra which lies between Acheen and the now decayed empire of Menang Kabou. They are under separate chiefs. The Batta in the north of Sumatra occupy from the country of the Rawa on the river Rakan on the east side, Natal on the west side, as far north probably as the latitude of Diamond Point on the east, and Gunong Abong-Abong on the west, and border on the Achinese. Their total number is 357,860, but others have estimated it at 1½ million. The Battas of Mandheling and Rertibi are muscular, square-built, and strong, but averse to all severe labour. The men are generally better built than the women. Real beauty amongst the women is rare. The Batta have a true and keen memory, and in their assemblies have now a grave and now a lively eloquence, which generally remains free of bombast. Insanity is hereditary in many families. They have polygamy; young and married women are chaste. The Batta loves palm-wine, is honourable, humble to superiors without being slavish; he will not suffer defamation or insult. He is frugal, but hospitable. But he is fond of gambling; is covetous, and exceedingly lazy. He is intrepid and courageous in the chase.

The more barbarous and indolent tribes are in the interior of Batu-bara, Assahan, Beelah, and Panei. The Batta alphabet has nineteen letters, and they write from the bottom to the top, in the reverse of the Chinese way. Their language bears a great resemblance to Malay. To a considerable knowledge of letters, of useful arts, and tolerable

industry, some tribes add cannibalism. Moor, Leyden, Marsden, and Crawfurd first brought to notice that they are cannibals. Sir Stamford Raffles mentions in his Memoirs, p. 427, that he had been informed that the old people quietly suspended themselves by their hands from the branch of a tree, and then children and neighbours danced around them, exclaiming, 'When the fruit is ripe then it will fall.' And when the old, unable to hold on longer, fell to the ground, they all cut them up and eat them. Most writers, but lately Captain Low, in No. 3 of Journal of Royal Asiatic Society, describe them as cannibals. The Karau Karu tribe in the districts bordering on Acheen are not cannibals. The Padimbola tribe (Mr. Anderson terms the tribe Perdimbanan) were the most barbarous and most addicted to eating human beings. Other Battak eat prisoners of war and criminals as a punishment, also eat their aged and infirm relatives; but the Padimbola waylay travellers, kill and eat them. A chief stated as the manner of eating the criminals and prisoners, that three posts were fixed in the ground; to the middle one the body of the prisoner or criminal is fastened, and his arms and legs are extended to the two others, in the figure of a St. Andrew's cross. On a signal being given, every one entitled to share in the feast, rushes on him with hatchets and knives, and many only with their teeth and nails; he is thus in a few minutes entirely cut or torn to pieces; and so keen are the guests, that they often wound each other's hands and fingers (Moor, p. 128). The lives of criminals are redeemable. Polygamy is practised to a great extent, but each wife has a separate hearth in the one-roomed house. Women and children can be sold by the husband and father. Their dead are buried with much ceremony; the bodies of persons of rank being retained for a long time, and finally buried with a sacrifice of animals.—*Memoirs*, p. 427; *Newbold, Brit. Settlements*, ii. 370; *Moor*.

BATTAL. HIND. Euonymus fimbriata, or E. Hamiltonii; in Kaghan, it is Pyrus aucuparia.

BATTAR. HIND. A person who performs the ritual worship of a Hindu idol.

BATTEDOMBE. SINGH. Calyptranthes caryophyllifolia.

BATTEE SAL. HIND. Dipterocarpus alatus.

BATTI. HIND. A candle, a pastille; a roll or stick of sealing-wax, lacquer, or any other substance made up in this form.

BATTIA, a Hindu sect who worship Vishnu and his incarnations, as Ballaji at Panderpur and Tripati. They have a great reverence for their guru, whom they style maharaja, and place at his disposal tan, man, and dhan,—body, mind, and means,—and recently in Bombay scandalous immoralities regarding, and carelessness of, their women were disclosed. They are generally merchants, and some give annually 5 or 10 per cent. of their profits. In Bombay, in 1881, there were 9417. See Ballaji; Bhattia; Vallabha-Charya.

BATTICALOA, a small town on an island, long. 81° 49′ E., and lat. 6° 42′ N., on the east coast of Ceylon. Its estuary abounds in crocodiles.—*Yule, Cathay*, ii. p. 451.

BATTLE-AXE of Thor is the cross. Pattee is the swastika cross of the Buddhists, and the monogram of Vishnu and Siva. Thor's symbol of governance was the last letter of the Samaritan alphabet, the tau or tao in its decussated form. It is the mark which the prophet Ezekiel (ix. 4) was ordered to place on the foreheads of the faithful in Judah; and Indian women still place it on their stores of grain. It is placed on the jars of the water from the Ganges and Indus, and in the south of India is the emblem of disembodied Jain saints. It is the mystical Tao Sze of the Chinese Buddhists, is the chief ornament on the sceptre of the Bon-pa deities of Tibet, and is expressed on the Artee or musical bell borne by Bal-govind.

BATTLES OF INDIA. Anciently, the Sodha and Rahtor Rajput and the Jharija of Gujerat dismounted in the presence of the enemy, and fought on foot. After the fatal battle of Kadasiya, the Persian general Takharjan dismounted to fight with Zahir, the Arab champion. This was a common practice of Europe in the middle ages. The emperor Conrad's cavalry followed it in the second crusade, and the English when fighting at Northallerton the battle of the standard. Sir John Hawkwood, a knight of Edward III., introduced the practice into Italy; and the English followed it in the battle of Crevant and Verneuil. Of the chief battles and sieges in India from which British supremacy has resulted, are that at Plassey, by Lord Clive, in 1757, against the Mahomedan power in Bengal,—Plassey being the name given to the battle-field, from the circumstance that it was covered with the pulas tree Butea frondosa. The siege of Seringapatam in 1799 was of importance; also the battles of Assaye and Argaum, fought by Sir Arthur Wellesley in 1803 against the Mahrattas. In 1803, Alighur and Laswari, both won by Lord Lake and General Fraser against Sindia's battalions of Mahrattas, trained by Perron. The battle of Deeg in 1804; Mahidpore, in 1817, against the Mahrattas; Ashti, in 1818, against the Mahrattas. In 1819, Asirgarh; in 1824–25–26, against the Burmese; and in 1826 Bhurtpur fell. In 1840 and 1842, against the Chinese; 1845, against the Amirs of Sind by Sir Charles Napier. In 1846, against the Sikhs at Sobraon; 1848, Multan; and again, in 1849, against the Sikhs at Gujerat, and in 1856, in south Persia. In 1857 and 1858–59, in northern India, at Dehli, and Lucknow, against the native soldiers in revolt, and nearly the whole of Hindustan and Oudh in rebellion. The war progress of the British in India has been by dissimilar military tactics. When in the field, as with Lord Clive at Plassey, with Sir Arthur Wellesley at Assaye, with Lord Lake at Laswari, Futtehghur, and Afzalgarh; in 1818 at Nagpur; in 1824–25–26, in Burma with Sir Archibald Campbell; in China, 1841–42, under Lord Gough; against the Sikhs, at Gujerat, under that commander; and against the Persians, in 1856, under Sir James Outram; in 1880, by Sir Frederick Roberts at Kandahar,—the battles were won by boldly throwing the stable British troops, however few in numbers and after long marches, against the less coherent native levies, however numerous; and in the siege operations against Seringapatam, against Gawilghur, and against Bhurtpur both in 1805 and 1826, by persevering determination. Lord Clyde's operations of 1858–59, however, were marked by the wary methodical movement of vast bodies against the revolted soldiery and rebellious races; by the measured, ponderous, but slow tramp of splendid infantry, with the cavalry

and artillery in aid. The only cavalry movement of note that occurred, was after the battle of Cawnpur, when, on the 9th December 1858, Sir Hope Grant, with the 9th Lancers, some native cavalry and horse artillery, moved 25 miles to the Sheo-rajpore ghat on the Ganges, and attacked the flying rebels, defeating them, and capturing all the guns, without, on his side, a single casualty. Sir H. Rose had defeated the army of Gwalior before that city on the 20th; and on the 21st June 1858, Sir Robert Napier, with the 14th Light Dragoons, some native cavalry, and a battery of artillery, not 600 in all, went in their pursuit, and came up with the 6000 rebel sepoys, with their 30 guns, at Jowra Alipur, where he charged into the thickest of the enemy, and completed their dispersion. But of the 100,000 native soldiers who revolted in May and June 1857, though many died from disease, probably not more than 40,000 from first to last were killed or wounded. In that revolt, from May till the 30th September of 1857, the British soldier, aided by the few native troops who remained staunch, in all 45,000 British and 60,000 native, had to struggle for their lives against 120,000 sepoy troops and an equal number of civil rebels, every one of whom in Oudh and Rohilkhand had been born a soldier. The first aid that the British got was from the Sikh levies sent by Sir J. Lawrence from Lahore. In all, the British and native troops rose to about 150,000 before the end of 1857; and before July 1858 there were 80,000 British soldiers in India. But up to September 1857, the smaller number of 45,000 British and 60,000 natives had to combat for their lives against not less than 300,000 combatants, 120,000 of whom had been regularly trained soldiers or partially trained police. Before the end of September 1857, Dehli had fallen, and the part relief of Lucknow before the receipt from Great Britain of other aid than a wing of the 5th Fusiliers and the 90th Light Infantry.

The real relief of Lucknow took place on the 6th December 1857. After Lord Clyde's arrival, Lucknow remained to be besieged, and captured, Cawnpur to be released from the Gwalior Contingent, and Oudh and Rohilkhand cleared from the armed rebellion; and under Sir Hugh Rose, Central India was restored to British supremacy. Towards September 1857, and from that time onwards, British troops came in (and amongst the first of these came Lord Clyde), at first in small bodies, and then in large, until the entire reinforcement of 50,000 men had arrived from Britain to re-establish in the east British supremacy. As a matter of history, it may be well to record here the strength of British soldiers in India in the years preceding and succeeding the revolt.

Year.	In India. British Soldiers.	Year.	In India. British Soldiers.	Year.	In India. British Soldiers.
1852	48,709	1859	106,290	1865	71,880
1853	46,933	1860	92,866	1866	65,764
1854	47,146	1861	84,294	1867	65,467
1855	46,093	1862	78,174	1868	61,897[2]
1856	45,104	1863	76,085	1869	64,858
1857	45,527[1]	1864	74,961	1870	62,939
1858	54,000				

[1] Of these, 5000 in Persia. [2] Of these, 4000 in Abyssinia.

Throughout British India generally, the object of those with whom the British from their first entry on the arena had come in contact,—the Mahomedans, Mahrattas, Sikhs, Sindians, and Afghans,—had been personal, either to gain new lands, or to hold such as were in their possession; and impressed by the habits and customs of age, they have mostly been ready to yield or retreat when pressed, with the belief that they could regain or return when opportunity recurred; for, except the Sind Amirs, not one of all the ruling powers in India and its borders, with whom the British came in contact, had possessed authority in the country longer than the British themselves.

The battles fought by the British in the 18th century were chiefly for existence and a standing ground, and the names of the great Lord Clive, Colonel Lawrence, Sir Barry Close, Lord Cornwallis, General Harris, General Wellesley, Sir David Ouchterlony, General Gillespie, Lord Lake, Lord Gough, Sir Donald Stewart, Sir Frederick Roberts, have been conspicuous amongst others of their countrymen.

The Karnatic came into the British possession, partly by gift, partly by treaties, and in part as the result of battles fought in the 18th century against Mahomedan and Hindu princes and chiefs, whom the French aided. Amongst these may be enumerated Sholinghur, taken 27th September 1781; Negapatam, surrendered 18th November 1781; battle of Cuddalore of 13th June 1783.

The taking of Bangalore from Tipu Sultan on the 21st March 1791, gave a permanent position in Mysore, but it was eight years later, when Seringapatam was stormed, on the 4th May 1799, that the country came under British control, by the replacement on the throne of the relative of former Hindu rulers.

The campaign of 1803 commenced on the 7th August. It was directed against Sindia and Perron and the Bhonsla raja of Berar. These two Mahratta powers had 72 regular battalions officered by Frenchmen, and 200,000 troops untrained, but from the sources whence they were drawn, such took even a higher social standing than their soldiers of the line. Before the end of December there were gained by the British four battles, amongst which were Assaye, and Argaum, and Laswari; the British completed eight sieges and storms, and effected the almost total destruction of the 72 trained battalions, the dispersion of the rest of their armies, the capture of 738 pieces of cannon,—the British force being about 55,000 regular troops, amongst which were 10,000 British soldiers. To effect these results, Sir Arthur Wellesley had been moving northwards, taking Ahmadnaggur the key of the Dekhan, taking Gawilgarh in the Vindhya, also Asirgarh; while Lord Lake moved southwards, fighting the battle of Laswari, against the battalions of Sindia and Perron. At that time, also, Jeswant Rao Holkar, when he opposed the British in 1803, had 100,000 regular troops, amongst whom were 60,000 light horse, and 130 guns, with the fortress of Chandore and Galinghur. From the tactics adopted, this moveable force baffled the British commanders and all the military power of India from April 1804 till the 15th February 1805. On the 2d April 1805, Jeswant Rao Holkar was again defeated by Lord Lake, who marched all night, and at daybreak entered Holkar's camp, which he completely broke up. In this, in going and coming, Lake marched 50 miles. Lord Lake

subsequently, in December 1805, marched in his pursuit 405 miles in 43 days, from Secundra to the Beas river at the Rajghat. In Jeswant Rao Holkar's final overthrow, Lord Lake marched 350 miles in a fortnight to reach Dehli, which Sir D. Ouchterlony was defending against Jeswant Rao Holkar. But on Holkar's abandonment of Dehli on the 14th and 15th October 1804, Lord Lake followed him, and at length, with a small body of 3000 British horse and artillery, amongst which were the 8th and 27th dragoons, made a forced march of about 48 miles, defeated the forces of Holkar, about 60,000, near Farrakhabad, followed 10 miles in pursuit, and returned to camp, making a journey of about 70 miles in 24 hours, with a loss of 22 dragoons killed, and 20 Europeans and natives wounded.

Amir Khan, the Rohilla chieftain of Rohilkhand, forsook the raja of Bhurtpur, but was followed by General Smith, whom Lord Lake sent in pursuit. After a march of 700 miles in 43 days, Amir Khan's army was overtaken and defeated at Afzalghar, at the foot of the Himalayas, on the 2d March 1804, and Amir Khan was conveyed across the Ganges and Jumna in March, but he rejoined Holkar's camp under Bhurtpur.

Dehli, battle of,	11th Sept. 1803
Alighur, assault of the fortress of,	4th Sept. 1803

The Jat rulers of Bhurtpur were inclined to side with Jeswant Rao Holkar. Bhurtpur is on the borders of the desert of Rajputana. When besieged by Lord Lake in 1805, with 10,000 regular soldiers, four determined assaults were made on January 9th and 22d, and February 20th and 21st, but in each instance repulsed, though at the close, the besieged, on the 10th April 1805, yielded to terms. In those four fruitless attacks, the British loss was 3203 killed and wounded, of whom 103 were officers. In 1825, however, during the Burmese war, puffed up by the belief that their mud fort was impregnable, they again drew down the anger of the Indian Government, and it was again besieged, and, on the 18th January 1826, successfully stormed by Lord Combermere. Agra city was taken on the 17th, and the fortress on the 19th October 1803. Sir David Ouchterlony, a general officer of the Bengal army, for 8 days defended Dehli against the Mahratta Jeswant Rao Holkar, repulsing repeated assaults, though with open breaches, till on the night of the 15th October 1804, on the approach of Lord Lake, Holkar withdrew. From that time the Moghul emperor of Dehli became a stipendiary of the British. The Nepal war ended on the 12th March 1816. It was successfully conducted by Sir David Ouchterlony; but there fell General Gillespie, who had relieved Vellore when it was seized by rebels in 1808, and who had distinguished himself in Java in August and September 1811. Several tracts in the mountain valleys of the Himalaya were then ceded to the British Indian Government.

The territories on the north-west part of peninsular India have been chiefly acquired from the Mahratta rulers, as the results of war and victories gained, and fortresses taken. Bombay island came by gift from Portugal, as part of the dower of king Charles the Second's bride. The principal battles were in the beginning of the 19th century, and, in 1817, 1818, and 1819, fought by General Wellesley, Sir Thomas Hislop, and Sir Thomas Munro. Of these—

Ahmadnaggur, surrender of city,	11th Aug. 1803
Assaye, battle of,	23d Sept. 1803
Gawilgarh fort.	
Berhampore surrendered,	16th Oct. 1803

Ahmadnaggur city was taken by Sir Arthur Wellesley on the 11th August 1803, and immediately afterwards he received the surrender of the fortress, long regarded as the key of the Dekhan.

Poona, city of, taken,	19th Nov. 1817
Seetabuldee, battle of,	26th and 27th Nov. 1817
Nagpur taken,	26th Nov. 1817
Do. re-taken,	30th Dec. 1817
Jubbulpur, battle of,	19th Dec. 1817
Mahidpur, battle of,	21st Dec. 1817
Corygaum, battle of,	1st Jan. 1818
Copauldrug, storm of,	14th May 1819
Chanda, siege and storm of,	20th May 1818
Amulnair, surrender of,	30th Nov. 1818
Asirgarh, siege of,	30th Mar. 1819
Do. surrendered unconditionally,	9th Apr. 1819

Sind fell to the Indian Government, from the Mahomedan Talpur dynasty, after the battles of Meeanee, on the 17th February 1843, and of Hyderabad, on the 24th March 1843, both fought by Sir Charles Napier, and this gave the course of the Indus up to Multan. The Panjab was twice engaged in war with the British Indian Government, in 1845, and again in 1849, after which the entire Sikh dominions were incorporated with those of British India, and a rapid increase of its resources followed.

Moodkee, battle of,	18th Dec. 1845
Ferozshah, battle of,	21st and 22d Dec. 1845
Aliwal, battle of,	28th Jan. 1846
Lahore, annexation to the British,	16th Dec. 1845
Do., occupied by the British,	22d Feb. 1846
Do., treaty of,	9th Mar. 1846
Sobraon, battle of,	10th Feb. 1846
Multan, city of, taken by storm,	2d Jan. 1849
Do., unconditional surrender of Moolraj and garrison of,	22d Jan. 1849
Chillianwalla, battle of,	13th Jan. 1849
Gujerat, battle of,	21st Feb. 1849

Political difficulties with the Barakzai chief, Dost Muhammad Khan, induced the Indian Government, at the close of 1838, to resolve on displacing him, and replacing the deposed king, Shah Shuja ul Mulk. This was done after a series of successes and severe reverses, in one of which an entire British Indian brigade was destroyed by climate and the sword. It was the greatest disaster that ever befel the army of India. The chief battles fought were:—

Ghazni, capture of,	23d July 1839
Do., re-capture of,	6th Sept. 1842
Kabul taken,	7th Aug. 1839
Do., re-occupation of,	16th Sept. 1842
Khelat, storm and capture of,	13th Nov. 1839
Jalalabad, battle of,	7th Apr. 1842

In 1878–79, political difficulties again led to war, and Kābul, Ghazni, and Kandahar were again occupied, and battles fought, in which Sir Donald Stewart and Sir Frederick Roberts were victorious.

The territories held by the British, west of the Indus, consist of a strip on the bank of that river, and, in Arabia, the peninsula of Aden, taken on the 19th January 1839.

The possessions east of the Ganges have fallen to the British arms from two powers. The first to engage in hostile operations were the Burmese, from whom, after a series of operations in 1824, 1825, and 1826, territories in Assam, in Arakan, and in Tenasserim were gained. But war again recurred in 1852, and further territories were annexed at the mouth of the Irawadi; so that

from the mouth of the Indus to Singapore, almost the entire seaboard became British territory. The principal occurrences were:—

1st War.

Rangoon taken,	11th May 1824
Cheduba, taken from the Burmese,	27th May 1824
Tavoy taken,	15th Sept. 1824
Mergui taken,	15th Sept. 1824
Martaban taken,	30th Oct. 1824
Kemmendine taken,	9th Dec. 1824
Rungapore taken from the Burmese,	21st Feb. 1825
Arakan, capture of,	19th Mar. 1825
Donabew taken,	2d Apr. 1825
Prome, Burmese defeated near,	1st Oct. 1825
Melloon, Burmese defeated at,	19th Jan. 1826
Burman Empire, peace with,	19th Feb. 1826

2d War.

Rangoon taken,	5th Apr. 1852
Martaban,	5th Apr. 1851
Bassein,	19th May 1852
Pegu, capture of,	3d June 1852
Prome,	9th Sept. 1852

With China there have been two wars, in 1841 and again in 1859 to 1860–1, from which several small districts were ceded to the British. In the earlier war the chief battles were as under:—

Chusan, capture of,	5th July 1840
Do., re-capture of,	1st Oct. 1841
Chuenkee, taking of,	7th Jan. 1841
Bogue Forts, taking of,	26th Feb. 1841
Canton captured and ransomed,	25th May 1841
Amoy, capture of,	26th Aug. 1841
Chinhae, capture of,	10th Oct. 1841
Ningpo taken,	13th Oct. 1841
Ching-keang-fu, battle of,	21st July 1842
Chapoo, capture of,	18th May 1842

Ceylon, long a Portuguese and Dutch territory, was taken by the British at different times, viz.:

Colombo taken,	16th Feb. 1796
Kandy taken,	18th Feb. 1815
Kandian country, British entered the,	11th Jan. 1815

The central parts of peninsular India have several times needed coercion. At Kittoor, a battle was fought on the 23d October 1824, and the fort was besieged and taken on the 5th December of that year. Badami fort was taken by storm on the 18th February 1818, and was again captured on the 10th June 1841; and as a continuation of the same events, Punalla and Powanghur were captured on the 1st December 1844.

Kurnool, held by a feudatory Pathan chief, lying between the Ceded Districts and the Hyderabad territory, was surrendered to the East India Company on 15th December 1815, but on the 18th October 1839 was again taken possession of, and on the same day a battle was fought at Zorapore, a few miles off, the nawab of Kurnool taken prisoner, and the territory annexed.

In 1834, cruelties carried on for a long series of years by the raja, brought on him the hand of the Indian Government, and, after a series of operations, Coorg was captured, after a battle, on the 8th April 1834.

In the interval of one hundred years here reviewed, the British India troops, under the East Indian Company's administration, were composed both of European and native soldiery, armed according to the European mode, as artillery, cavalry, and infantry, and similarly disciplined, but aided by levies of horse and foot with a less perfect or less extensive organization, and termed irregular. In the early wars there were few or no European soldiery, and but small bodies of native troops; but these gradually increased with expansion of territory and more concentrated opposition, and the European and native forces in India were in the years

	Europeans.	Natives.		Europeans.	Natives.
1839–40,	35,604	199,839	1858–59,	106,290	196,243
1842–43,	46,726	220,947	1864–65,	71,880	118,315
1856–57,	45,522	232,224			

In 1857, the revolt of the Bengal native army occurred, and the policy since then has been to augment the European arm, remove all sepoys from the scientific corps, and reduce their numbers. The composition of the Indian army in 1857 and 1865 was as under:—

	Europeans.						Natives.			
	Artillery.	Cavalry.	Infantry.	Staff H. & C.	Engineer Sappers.	Invalids, Veterans, Warrant.	Artillery.	Cavalry.	Infantry.	Engineer Sappers.
1857	6,944	3136	33,254	..	..	..	8963	30,473	185047	..
1865	13,672	6274	48,945	1406	438	1145	1465	14,674	99353	2823

In their opponents, the British forces have had to encounter clouds of horse, as in the Mahratta camps; brave foot-soldiers, as in the Afghan, Gurkha, Sindian, Sikh, Tartar, and Mongol; and native armies trained by European officers, Italians, French, and Germans. But those with the native rulers have appeared in the field with every weapon and armour of defence mentioned in history, swords and spears, shields, bows and arrows; and up to 1867, in Hyderabad, soldiery with bows and arrows were still to be seen passing in review in the war pageant of the Nizam's Langar, and are the national weapons of several races in the Vindhya and Satpura hills.

The chief sieges, battles, etc., of the British, in S.E. Asia, have been as under:—

Aden captured,	19th Jan. 1839
Agra, city of, taken,	17th Oct. 1803
Agra taken,	19th Oct. 1803
Ahmadnaggur, surrender of city of,	11th Aug. 1803
Alighur fortress, assault of,	4th Sept. 1803
Aliwal, battle of,	28th Jan. 1846
Amoy, capture of,	26th Aug. 1841
Amulnair, surrender of,	30th Nov. 1818
Arakan, capture of,	19th Mar. 1825
Arcot, taken by Lally,	4th Oct. 1758
Asirgurh, siege of,	30th Mar. 1819
Do., surrender of,	9th April 1819
Assaye, battle of,	23d Sept. 1803
Bangalore taken,	21st Mar. 1791
Badami, storm and surrender of fort of,	18th Feb. 1818
Do., capture of,	10th June 1841
Banda taken	9th Aug. 1810
Berhampore, surrender of,	16th Oct. 1803
Bassein,	19th May 1852
Bhurtpur stormed,	18th Jan. 1826
Bogue Forts, taking of,	26th Feb. 1841
Bourbon Island taken,	9th July 1810
Burman Empire, peace,	19th Feb. 1826
Calcutta taken,	2d Jan. 1757
Canton captured and ransomed,	25th May 1841
Chanda, siege and storm of,	20th May 1818
Chandernuggur taken possession of,	14th Mar. 1757
Chapoo, capture of,	18th May 1842
Cheduba taken from the Burmese,	27th May 1844
Chinhae, capture of,	10th Oct. 1841
Ching-keang-fu, battle of,	21st July 1842
Chillianwalla, battle of,	13th Jan. 1849
Chuenkee, taking of,	7th Jan. 1841
Chusan, capture of,	5th July 1840
Do., re-capture of,	1st Oct. 1841
Colombo taken,	16th Feb. 1796
Coorg, battle and capture of,	6th April 1834
Corygaum, battle of,	1st Jan. 1818
Copauldrug, storm of,	14th May 1819
Cuddalore, battle of,	13th June 1783
Cuttack taken,	14th Oct. 1803

Dehli, battle of,	11th Sept. 1803
Donabew taken,	2d April 1825
Ferozshah, battle of,	21st and 22d Dec. 1845
Fort William taken,	5th Feb. 1757
Ghazni, capture of,	23d July 1839
Do., re-capture of,	6th Sept. 1842
Do., do.,	1880
Gujerat, battle of,	21st Feb. 1849
Hyderabad, Sind, battle of,	24th Mar. 1843
Java,	Aug. and Sept. 1811
Jalalabad, battle of,	7th April 1842
Joudpore taken,	29th Sept. 1839
Jubbulpur, battle of,	19th Dec. 1817
Kábul taken,	7th Aug. 1839
Do., re-occupation of,	16th Sept. 1842
Do., do.,	1879
Kandy taken,	18th Feb. 1815
Kandian country, British entered the,	11th Jan. 1815
Kemmendine taken,	9th Dec. 1824
Do. re-taken,	1852
Khelat, storm and capture of,	13th Nov. 1839
Kittoor, battle of,	23d Oct. 1824
Do., siege and capture of,	5th Dec. 1824
Kurnool, surrender of,	15th Dec. 1815, 18th Oct. 1839
Lahore, occupied by the British,	16th Dec. 1845
Do., annexation to the British,	22d Feb. 1846
Do., treaty of,	9th Mar. 1846
Manilla taken,	27th July 1762
Martaban taken,	30th Oct. 1824
Do.,	5th April 1851
Mahidpore, battle of,	21st Dec. 1817
Mauritius surrendered,	2d Dec. 1810
Maharajpore and Puniar, battle of,	29th Dec. 1743
Meeanee, battle of,	17th Feb. 1843
Melloon, Burmese defeated at,	19th Jan. 1826
Mergui taken,	15th Sept. 1824
Moodkee, battle of,	18th Dec. 1845
Multan, city of, taken by storm,	2d Jan. 1849
Do., surrender of Moolraj and garrison,	22d Jan. 1849
Nagpur taken,	26th Nov. 1817
Do. re-taken,	30th Dec. 1817
Negapatam surrendered,	13th Nov. 1781
Nepal war, end of,	12th Mar. 1816
Ningpo taken,	13th Oct. 1849
Pegu, capture of,	3d June 1852
Pondicherry taken,	1761
Poona, city of, taken,	19th Nov. 1817
Prome, Burmese defeated near,	1st Oct. 1825
Prome,	9th Sept. 1852
Punalla and Powanghur, capture of,	1st Dec. 1844
Rangoon taken,	11th May 1824
Do.,	5th April 1852
Rungapore taken from the Burmese,	21st Feb. 1825
Seringapatam stormed,	4th May 1799
Seetabuldee, battle of,	27th and 29th Nov. 1817
Sholinghur taken,	27th Sept. 1781
Sobraon, battle of,	10th Feb. 1846
Tavoy taken,	15th Sept. 1824
Zorapore, battle of,	18th Oct. 1839

At Waterloo, the total force, British and allied, under the Duke of Wellington, amounted to 69,686, out of which there was a grand total killed of 4·2 per cent.

The Indian returns show the following ratios :—

1803. Assaye,	1 to 3	1845. Maharajpore,	1 to 6
1804. Dieg,	1 ,, 4½	1846. Battles of the Sutlej,	1 ,, 5
1817. Mahidpore,	1 ,, 6	1848. Chillianwalla,	1 ,, 7
1817. Sitabuldi,	1 ,, 4½		
1818. Corygaum,	1 ,, 3½		

The loss of the defeated in every affair, except perhaps the last, greatly exceeded that of the British. Seringapatam, in 1799, was stormed and captured by 4376 men, in two columns. The loss in the assault was 1031.

	Killed.	Wounded.	Missing.
European officers,	22	45	0
,, N. C. O. and soldiers,	181	122	22
Native soldiers,	119	420	100

Of the officers, 25 were killed and wounded in the assault. Lord Lake, with an original force of 9000 men, augmented afterwards by the force from Bombay, according to Major Hough, appeared before Bhurtpur in January 1805. During four successive assaults, each increasing in desperation, Lord Lake was repulsed, with loss of 2910 killed and wounded.

First assault,	456	Third assault,	894
Second do.	573	Fourth do.	987

There were of officers killed 15, and 85 wounded. Major Thorn gives the loss, in all the operations, at 3100 men and 102 officers, killed and wounded. —*Major Hough; War Office Statistical Report; Havelock's Three Main Questions; Material Progress in India*, 1865–66; *The Lancet*, Sept. 10, 1853.

BATU. Arab. Croton tiglium seed.

BATU BERALA, a stone idol highly venerated by the Dyaks, who suppose the slight elevation on which it is placed to be the residence of a great spirit, in whose honour, once a year, the Dyaks are said, at this spot, to hold a great feast, bringing pigs and provisions from their villages for this purpose. It is the workmanship of a people who had attained to some degree of skill in the art of working stone. One discovered at a point of the river about 6 miles above the town of Sarawak, called Battu Kawa; another on the Samarcand river, near Ledah Tanah, and called by the Malays, Battu Berala, or the Idol Stone.

BATUKA BHAIRAVA, in Hindu mythology, an inferior manifestation of Siva, described in the Viswasara-dhara Tantra, and represented as a well-formed naked youth mounted on a dog.

BATU NAKIT. Jap. Bezoar.

BATURI. Can. Argemone Mexicana.

BATU ZARD. Pers. Amarantus cruentus.

BATWARA. Hind. The partition or division of an estate held by several joint proprietors.

BAU. Hind., also called Murasa and Mandwach, in N. India, a zamindar's perquisite or fee whenever the daughter of any cultivator in his village is married.

BAU or Ba, a section of the Binjara at the foot of the Himalaya.

BAUHINIA, a genus of plants of the natural order Fabaceæ; the generic name was given to it from the twin form of the leaf, in honour of the twin brothers Bauhin. The number of species is considerable; and some are shrubs, and some are trees which yield useful woods, astringent gums, fibrous barks. Dr. Hooker mentions that a thousand feet above Punkabaree in the Outer Himalaya the prevalent timber is gigantic, but scaled by climbing Bauhinias and Robinias, which sometimes sheath the trunks or span the forest with huge cables, joining tree to tree. In the Tenasserim Provinces, also, a scandent species creeps up to the tops of the highest trees. The flower-buds of almost all the Bauhinias are eaten by the natives of India. The seeds taken from the huge pods of B. racemosa are eaten in the hills of the N.W. Himalaya. The pods look like pieces of thick undressed leather, about a foot long and an inch or two broad; they are placed over the ashes of a fire till they roast and split open; the flat soft seeds are taken out and eaten; the flavour is pleasant, but the seed is not wholesome. The woods are often of a dark colour. The following are the principal species :—

Bauhinia acuminata, *L.*, mountain ebony.
B. Candida, *Ait.* not *Roxb.*

Chitka, Kanchan Chakta, . . . BENG.	Velutta mandarum, . . . MALEAL.
Ma-ha-hlæ-ga, . . BURM.	Vellai munthari, . TAM.
Cuchunar, . . . HIND.	Deo-Kanchana, . TEL.
Duolo Kunchun, . MAHR.	

This handsome shrub, with large pure white flowers, grows in the Mauritius, Ceylon, Assam, both peninsulas of India; is rare in Coimbatore; is cultivated in the Bombay side, as also in the Panjab, the Dekhan, and Tenasserim. It grows rapidly from seeds, and flowers in the second or third year. The flower-buds yield an excellent vegetable for curries. The flowers are very handsome when open, being almost pure white, with a sweet odour. It reaches a fair size, and gives a wood of a good quality, but seldom of scantling sufficient for house purposes.

Bauhinia brachycarpa, *Wall.*, the Bwai-jin of the Burmese, attains to nearly three or four feet at Taong-dong and in the Tenasserim Provinces; its wood is white-coloured, and adapted for fancy work and cabinetmaking.

Bauhinia diphylla, *Buch.*

Pa-lan, ... BURM.	Yepi of Nellore, . TEL.
Authi, ... TAM.	Apa, ... ,,

This small tree grows in Burma, on the banks of the Irawadi at Yenan-gheun and Taong-dong, also at Masulipatam, Cuddapah, Guntur, and Nellore. Its flowers are pure white, of middling size. The natives make temporary ropes of its bark for securing thatch, matting, or fences. The barks of several other Bauhinias are used similarly. Ara nar is the bark of B. parvifolia, of which matches for matchlocks are made.

Bauhinia Malabarica, *Roxb.*, the Bo-ay-gy-in of the Burmese, a native of Malabar, where it blossoms in October and November. It also grows in Assam, and is common in the plains of British Burma, where its wood is used for the cross pieces of harrows, house posts, etc. A cubic foot weighs 42 lbs. The average length of the trunk to first branch is 15 feet, and average girth at 6 feet from the ground is 4 feet.

Bauhinia parviflora, *Vahl.*, the Kosundra of the Panjab. A great climber in the Siwalik tract. Timber of a small size, from 5 to 6 feet in length, and 2 to 3 feet in diameter. Its gum is used medicinally.

Bauhinia purpurea, *L.* B. Coromandeliana, *D.C.*

Deva Kanchan, . BENG.	Shegapu Munthari, TAM.
Sarul-mara, . . . CAN.	Bodanta Chettu, . TEL.
Chovana Mandaru, MAL.	Pedda-are, . . . ,,

A tree with very large, deep rose-coloured, fragrant flowers, which appear at the commencement of the rains. It grows in the Mauritius, Coromandel, Burma, Assam, and Oudh, the Kheri pass, Garhwal, and Kamaon, also in Canara and Sunda, both above and below; most common near the Gungawallee creek. It attains a large size in the mountains of India. Its timber is hard, close-grained, and very durable, and of a fine reddish-brown colour, and can be had in lengths of 12 to 15 feet, and 30 to 35 inches in girth. It is strong, and good for agricultural implements, but seldom large enough for building.

Bauhinia racemosa, *Lam.* not *Vahl.*

B. parviflora, *Vahl.*	Piliostigma racemosa, *Hoch.*
B. spicata, *Kon.*	

Ban-raj, ... BENG.	Myla, ... SINGH.
Bwai-jin; Hpa-lan, BURM.	Atcha maram? . . TAM.
Mawil Ghila; Malu, HIND.	Malu? Mali-jhun? TEL.
Apta; Patwa, . . MAHR.	Patwa Mawal, Are, ,,
Murta, ... PANJ.	Adavi avisa, . . ,,
Vanna-raja, . . . SANSK.	

This immense climber is found all over British India, all through Burma, and along the forests of the Siwalik hills and the hot valleys of the Himalaya, from the Doons of the north-west to the valley of Assam. Its flowers may be seen hanging in elegant festoons from the tops of lofty trees. The bark when stripped off is of a reddish-brown colour, and the natives of the mountains make ropes of it; the stems are usually cut in July and August; the outer bark, being stripped off, is thrown away, and the inner is used for ropes as wanted, by being previously soaked in water, and twisted when wet. It is also said to be boiled and beaten with mallets, which renders it soft and pliable. The fibre makes very strong ropes, but rots if kept constantly in water. Major Swetenham describes its strong coarse ropes as answering well for suspension bridges. Its bark is also made into matchlock matches. The wood is small, but the heart-wood is exceedingly hard and fine. The leaves are eaten by buffaloes, etc., and are used for packing, and for making umbrellas, being put between strips of bamboo, so as to overlap each other. They are also favourite leaves for the platters, used at the marriages of Brahmans, etc.

Bauhinia scandens, *Linn.*, Rod Bauhinia.
B. lingua, *De Cand.*

Myouk-hlæ-ga, . . BURM.	Naja balli, . . MALEAL.
Esculapian Bauhinia, ENG.	Gunda gilla of . SYLHET.

This trailing, climbing Bauhinia has small whitish flowers, which turn to a yellowish colour. It grows in the Konkans, Moluccas, Assam, is not uncommon about Gowhatti, and is a commom species at Sylhet, where it runs up over trees of the largest size. It is remarkable for its contorted stem, and is said to have formed the type of the snake rod of Esculapius which he brought with him from India. Its fibrous bark is made into cloth and rope, but the fibres are harsh and stubborn.

Bauhinia tomentosa, *Linn.*

Ma-ha-hlæ-ga-wa, . BURM.	Petan, ... SINGH.
Yellow Bauhinia, . ENG.	Kat-atti, ... TAM.
Kanchana, . . MALEAL.	Triviatputram, . . ,,
Usamaduga, . . SANSK.	Tiru vala connay, . ,,

A native of Ceylon, Malabar, and Coromandel; bears a large sulphur-coloured flower; and the upper petal has usually a deep purple spot on the inside. It is a large shrub, never exceeding 12 feet in height. Wood very hard, but too small to be of any great value in commerce. This, like the B. racemosa, has a strong, very dark-coloured wood, hence the names Kat-atti, wild ebony. Even the younger branches show the heart-wood very dark brown; the bark of this is also employed as extemporary cordage. Native practitioners prescribe the small dried buds and young flowers in certain dysenteric cases; they have little sensible taste or smell, though the leaves, when fresh and bruised, have a strong but not unpleasant odour. Their astringency is probably due to the presence of tannin.

Bauhinia Vahlii, *W. and A.*

B. racemosa, *Vahl, Roxb.*	B. scandens, *Roxb.*
Chamboolee, . . DUK.	Boila, ... NEPAL
Malu, ... HIND.	Adda, ... TEL.
Mahwal, ... ,, ?	Shyalee, ... URIA.

This is an immense scandent shrub, with a circumference of stem of 1½ feet, and largish white flowers, that turn yellow. It grows in the Thull Ghats, ravines at Khandalla, Morung mountains, in the Dehra Doon and Kamaon; it abounds in the jungles in the North-West Provinces of India, and near the mountains of Ganjam and Gumsur, and yields a fibre which is extensively used in rope-making. The leaves are a foot in length and breadth, and have rounded lobes; they are used as platters for eating from, and for making the 'tallari,' or small umbrellas worn on the head; also for packing and lining baskets, and for house thatch, and bark for ropes. Legumes pendulous, from twelve to twenty inches long, covered with a brown velvet down. The kernels of the large and broad pods have a sweet astringent flavour, and are eaten like almonds by the natives. When the husks are fresh, the natives roast them to get at the kernels; when old, they open of themselves. The kernels possess tonic and aphrodisiac properties.

Bauhinia variegata, *Linn.*, Mountain ebony.

Var. *a.* Bauhinia purpurascens, *Roxb.*

,, *b.* ,, candida, *Roxb.* not *Ait.*

Irkumbalitha, . . CAN.	Chovana-mundari, MAL.
Kuchnar, Kuvidara, HIND.	Kuvidara, . . . SANSK.
Kolar, Sona, . . ,,	Segapu Manthari, TAM.
Kanchan, . . . MAHR.	Borodha, . . . URIA.

An ornamental tree with variegated flowers. It is sparingly found in the Bombay forests, and there it never reaches a size for a 10-inch plank. The wood, however, is hard and good. In Ganjam and Gumsur it is tolerably common, and used for firewood. Common in Burma and at Ajmir. When in blossom the tree is very splendid, and the fragrance delightful. The flower-buds are eaten as a vegetable. Its buds are sold fresh in the bazar at Lahore as a vegetable, which are eaten prepared with animal food.

Var. *a.* Purpurascens.

Bidal, ... BENG.	Ma-ha-hlæ-ga-ni, . BURM.
Rakta-kanchan, . ,,	Segapoo Munthri, TAM.
Kuvidara, . . . SANSK.	

A tree with beautiful large purple flowers, four petals light purple, the fifth deep purple tinged with cream and red. It is one of the most stately of the Bauhinias, and grows in the Peninsula of India, in Serampore, Pateram, Monihari, and Purannya.

Var. *b.* Candida.

Kana-raj, ... HIND.

A shrub with large flowers, with four white petals in its flowers and one with a sulphur colour within. It grows in Nepal, Oudh, Bengal, Assam, Islamnagar, and Prome.—*Drs. Ainslie, Brandis, Cleghorn, Gibson, Hooker, Honigberger; Madras Museum; M'Clelland, Mason, O'Sh., J. L. Stewart, Riddell, Roxb., Royle, Voigt, and Wight; Elliot, Fl. Andh.; Jaffrey; Drury, U. Pl.; Madr. Ex. J. Rept.; Capt. Macdonald; Mendis; Beddome.*

BAUJHONOO. URIA? In Ganjam and Gumsur, a scarce tree, of extreme height 45 feet, circumference 5 feet, and height from ground to the intersection of the first branch, 22 feet. The wood is strong, and used for bandy wheels.—*Captain Macdonald.*

BAULEAH, a boat of the Ganges river.

BAULU of Chenab. Coriaria Nepalensis.

BAVA-KHANI, a gold coin of Persia, value Rs.5.

BAVENA. CAN. Melia azedarach.

BAVER. SIND. Vachelia farnesiana.

BAVUNGI. TEL. Celastrus paniculatus, *Willd.*

BAWA. MAHR. Cassia fistula.

BAWA. HIND. A son; a mode of address among the fakir or darvesh sects. Bawa Boodun alias Hyat Qulundur. See Baba Boodun. Bawa ud Deen, a venerated saint. Bawa piare ke fuqeeran, a class of devotees.

BAWADA. HIND. A herb of N. India, used in rheumatism.

BA-WA-NET. BURM. Gendarussa vulgaris.

BAWANG. MALAY. Onion, Allium cepa. Bawang-putih, garlic, A. sativum.

BAWAR, a section of the Koli tribe of Rajputana. The Bawar, Bawari, and Baora or Bhaora are possibly parts of some great race, which were dispersed in prehistoric times. The Bawari are predatory, and scattered throughout India. Wilson describes them as robbers by profession, and known in different places by different appellations, but call themselves Bawari, and using a dialect which is said to be spoken in parts of Gujerat. They seem to be the Bhaora of Southern India, who are styled Harn-pardi and Harn Shikari, and are the wild fowlers of the jungles and forests. The Bawari of Central India are excluded from the tribe if they kill a heron or a dog. In regard to the heron, it is the emblem of the tribe, and its flesh they must not eat. A race called Bauri are swineherds.

BAWEAN, or Lubek island, forms a portion of the residency of Sourabaya. It is in lat. 5° 90′ S., and long. 112° 38′ W. (Greenwich), and contains about 44 English square miles. The country in general is very mountainous, and it is only near the sea that some plains are found, on the largest of which, about 3½ miles in circumference, the principal village, Sangkapura, is situated. The Bawean race are probably descendants of the Madurese, whose language with a few modifications prevails, though they differ from them in dress; but in this respect agree closely with the Bugis. The inhabitants of the Dessa Dipanga employ the Javanese language. The people come every year to Singapore to serve as grooms, labourers, and drivers. Coal is found in Dessa Kalompe; hot springs occur all over the island, one with a temperature of 125 Fahr.—*Journ. Ind. Arch.*, No. 7.

BAWR. PUSHT. A leopard.

BAYA. HIND., Ploceus Philippensis. JAV., Crocodile. MAHR., Cassia fistula. HIND., in the Lower Doab and Rohilkhand, a person appointed in the bazars to measure grain.

BAYAZID, lat. 39° 24′ N., long. 44° 20′ E., a town in Asiatic Turkey, 140 miles S.E. of Erzerum on the S.W. of Ararat. It gives its name to a province. The reigning family are Kurds of the Zilanli tribe; Russia destroyed what could not be carried off.—*MacGregor.*

BAYAZID ANSARI, a religious reformer, who founded the Raushenai sect. He appeared among the Yuzufzai Afghans about the latter part of the 16th century. He set aside the Koran, and taught that nothing existed except God, who filled all space, and was the substance of all forms. He soon formed a numerous sect, and established his authority in the Suliman and Khaibar hills, and over the neighbouring tribes. His followers were defeated with great slaughter, and he died soon after of grief and vexation. His sons dug up his bones, and bore them in an ark at the head of

their column; but they ceased to be formidable beyond their hills till about A.D. 1585, when Jallala, one of the youngest, assumed the command, and exercised it with such vigour, that the ordinary government of Kābul was found incompetent to resist him. Akbar's action against him was suspended, in consequence of the total rout of the army he sent under Zain Khan and raja Birbal against the Yuzufzai. Jallala took Ghazni A.D. 1600, but was soon driven out, pursued, and killed. The sect, however, survived, and Jahangir and Shah Jahan continued their wars against them. Bayazid was nicknamed Pir-Tarik, or the saint of darkness.—*Leyden's Account of the Raushenai Sect, As. Res.* vii. p. 363.

BAYBERRY TREE. Eugenia pimenta.

BAYENGI. HIND. Wool of the Tibet sheep.

BAYGOONA. URIA? A Ganjam and Gumsur tree, leaves used in fever.

BAYLA NAVA MARAM. TAM. Dinduga tree, Andersonia, *sp.*

BAY OF BENGAL. See Bengal.

BAZ. HIND. A falcon.

BAZAR. HIND. A market-place. In Egypt and in most cities of Asia, most of the great thoroughfare streets and many others have a row of shops along each side, not communicating with the superstructures, which latter are divided into separate lodgings, inhabited by different families, and seldom by the persons who rent the shops beneath. These streets are called in Arabic 'S'ook.' A whole street of this description, or a portion of such street, mostly contains shops appropriated to a particular trade, and is called the S'ook of that trade. In general the shop is a small recess or cell, about 6 or 7 feet high, and between 3 and 4 feet wide, the floor of which is even with the top of a raised seat of stone or brick, called 'mastabah,' between 2 or 3 feet high and about the same in breadth, upon which the shopkeeper usually sits. The front of the shop is furnished with shutters, which, when closed at night, are secured by a wooden lock. Those in India are usually held in an open street or open quadrangle, and are attended to by men. Those of Burma are large wooden or iron buildings, and the sellers are almost exclusively women, the women of Burma generally being active commercial agents. In all oriental countries it is the custom for the purchaser to seek out the seller, and to make an offer for what he wants. These two customs are opposed to the practice in Europe; and where the purchaser is a stranger, and ignorant of the ordinary value of the article he is purchasing, that of the East leads him into overpaying, and to his regarding orientals as lying impostors.

BAZ BAHADUR, an officer of the Afghan kings, who held Malwa at the time of Akbar's accession (A.D. 1556). He was defeated and expelled by Adam Khan, an officer of Akbar. Baz Bahadur had a Hindu mistress, who is said to have been one of the most beautiful women ever seen in India. She was as accomplished as she was fair, and was celebrated for her verses in the Hindi language. She fell into the hands of Adam Khan on the flight of Baz Bahadur; and finding herself unable to resist his importunities and threatened violence, she appointed an hour to receive him, put on her most splendid dress, on which she sprinkled the richest perfumes, and lay down on a couch with her mantle drawn over her face. Her attendants thought she had fallen asleep, but on endeavouring to awake her on the approach of Adam Khan, they found she had taken poison, and was already dead.—*Khafi Khan, Tr. of a Hind.* p. 198.

BAZIGAR and Nut, jugglers, acrobats, and tumblers. The Nut may be considered as the gipsies of Hindustan. Both are wandering tribes, and have each a slang language; they live principally by juggling, fortune-telling, palmistry, and other means, and are alike addicted to thieving. The gipsies are governed by their king, the Nut by their nardar bouthah. They appear to be equally indifferent on the subject of religion, and in no respect particular in their food, or the manner by which it is obtained. According to a list furnished by Captain Richardson, the languages adopted by these tribes would appear to possess a very strong affinity to each other. The Bazigur are subdivided into seven castes, viz. the Charee, At'bhyee'a, Bynsa, Purbuttee, Kalkoor, Dorkinee, and Gungwar, who intermarry. They say they are descended from four brothers. They practise the Mahomedan rite of circumcision; they regard Tan-Sin as their tutelar deity; consequently they look up to him for success and safety in all their professional exploits. These consist of playing on various instruments, singing, dancing, tumbling, etc. The two latter accomplishments are peculiar to the women of this sect. The notions of religion and a future state among this vagrant race are principally derived from their songs, which are beautifully simple.—*Cole. Myth. Hind.* p. 313.

BAZIN. Père Bazin, a Jesuit, who accompanied Nadir Shah as his physician in the last years of his life. When Nadir was assassinated in June 1747, on the following morning, the Afghans and Uzbaks, 4000 in number, led by Ahmad Shah, Abdali, unaware of their master's death, and in the hope of rescuing him, fell on the Persians, but had to retreat to their native country, which they did in good order. Bazin was a spectator of the action, 'au milieu des balles et des sabres.'—*Lettres Edifiantes*, vi.

BAZIRA, Aornis, was the place fixed on by the Greek dynasties for a military garrison. There were military colonies of Macedonians established, at Alexandria ad Caucasum, Arigæum, and Bazira, and garrisons at Nysa, Ora, Massaga, Peuceleotis, and at Aornis, a mountain range, supposed by some to be the mountain of Mahaban in the Pir-Panjal or Mid-Himalayan range. See Awur; Bactria.

BAZU-BAND. HIND. Armlet.

B'DELLIUM. ENG., FR.

Aflatun; Mooql,	ARAB.	Gugul,	GUJ., HIND.
Kara-wa,	BURM.	Bedolah,	HEB.
Kia-muh-yoh,	CHIN.	Gugula,	SINGH.
Badleyun, B'dellion,	GR.	Kungiliam,	TAM.
Madelkhon,	,,	Guggilam,	TEL.

This fragrant gum-resin, as met with in commerce, is the product of various trees. Dr. Ainslie, i. p. 29, was not inclined to regard it as a product of any of the trees of India, and pointed to the Darakht-i-mukul of Persia as the plant producing it. That of Africa is from Balsamodendron Africanum; the Sicilian B'dellium is obtained from the Daucus Hispanicus, *D. C.*; but in all essential properties these are identical with the

Gugul of the Indian bazars, a product of the Commiphora Madagascarensis, *Lindley*, the Amyris commiphora, *Roxb.*, the Balsamodrendron commiphora, *Wight and Arnott*, and a native of Sylhet, Assam, and Madagascar. At the Madras Exhibition of 1855, two varieties of the B'dellium from the Amyris commiphora, were exhibited, the solid gum, and the balsamic fluid, as obtained from the tree. The Indian Gugul much resembles myrrh, and is said to be largely exported as that drug. Dr. Royle considered the Gugul as identical with the B'dellium of commerce, and indicates the Greek names of B'dellium, Badleyun, and Madelkhon, as the Β'δελλιον and μαδελχον of Dioscorides. The B'dellium of Genesis ii. 12 and Numbers xi. 17 is supposed to have been the gum-resin of Balsamodendron Roxburghii, *Arn.* (B. pubescens, *Stocks?* and B. Mukul, *Hooker*). B'dellium, in Bombay, is imported from Cutch and the Persian Gulf. It is re-exported to China and to England under the name of myrrh. B'dolach of Scripture (Gen. ii. 12, Numbers xi. 7) is supposed to be B'dellium gum-resin of Balsamodendron Roxburghii or musk. — *Ainslie; Birdwood; O'Sh.; M. E. J. R.; Royle's Ill. Him. Bot.; Faulkner.*

BE. PERS. Without. Be-charagh, without a lamp, deserted. Be-samajh, without discretion. Be-baq, an acquittance in full. Be-dana, a seedless grape; also a sort of mulberry.

BEAD PLANTS. Several plants in India produce bright-coloured seeds, used as beads. Amongst these is the red seed with a black eye of the Abrus precatorius, Sweta Koonch, BENG., Gondamani, TAM., which is also used by the Burmese as a weight. The Karen in the southern provinces cultivate one or two species of Job's tears for the seed. The Pwo clan plant a species yielding round seeds, which are used to ornament the borders of the men's tunics, but they are never seen on a woman's gown. The Sgau, on the contrary, cultivate a species bearing an oval seed, and use them merely for embroidering female dresses. In Province Amherst, the Pwo seldom appear in their native costume, and many deny that their tribe ever had any other than that which they now wear, which is Burmese. Abrus precatorius seeds are strung together as beads, necklaces, bracelets, and other ornaments, also as rosaries, hence the name precatorius. The common variety are red with a black spot, whilst other varieties produce various-coloured seeds. The white sort resemble pearls. Bruised into a fine powder, goldsmiths use it to join together the more delicate parts of golden ornaments. The shining scarlet seeds of the Adenanthera pavonina are used as weights by jewellers, and are made into ornaments, in the form of beads, bracelets, etc. The round, hard black seeds contained in the hairy pericarp of the Canna Indica are made into necklaces and other ornaments. The Utrasum beads are the very rough seeds of the Elæocarpus lanceolatus, (Utrasum, TAM.; Oodraj, DUK.). They are brought to India from Java, of which country the tree is a native, are about the size of small nutmegs, and are made into bracelets for European ladies. The saiva Brahmans and the pandārams, religious devotees of the saiva sect of Hindus who live by alms, wear them round their heads and necks, and form them into rosaries. The dark-coloured oval seeds of the Caryota urens are made into buttons, and are used as beads by Mahomedans (Koondel-panei munnie, TAM.; Erimpanna, CAN.). The dark-coloured roundish seeds (Koddapanei munnie, TAM.) of the Corypha umbraculifera are used as beads by the Dassari wanloo, Hindu devotees who live on alms. The Tulasee beads (Tulasee vayr munnie, TAM.; Toolsi kemunke, DUK.) are made from the root of the holy basil, Ocimum sanctum, a plant sacred to Vishnu, and held in esteem by all his worshippers, many of whom wear it round their necks and arms. A very handsome bead is made by polishing the betel-nut, called by the Tamil people Paak munnie.

BEADS.

Munniara, . . .	GUJ.	Kulkuru, . .	MALEAL.
Manke, ...	HIND.	Mane, ...	TAM.
Mani-Mani, . .	MALAY.	Pussalu, ...	TEL.

Beads are in general use in all countries for personal ornament, as necklaces, ear and nose droops, and for ornamental work, and are made of glass, ivory, wood, the inferior and the precious gems; cornelians, onyxes, rubies, emeralds, pearls, seeds, alabaster, magnesite, nacre, coral, gold, steel, and date stones are all used as beads; rosaries likewise consist of beads. Glass beads are manufactured in China for export to India and the Archipelago, and are largely exported from England to Africa, sometimes to the value of £10,000 to £20,000.

BEAMI. MALEAL. Herpestris monniera.

BEANS.

Baqla, ...	ARAB.	Fave, ...	IT.
Tau, ...	CHIN.	Fabæ, ...	LAT.
Feves, ...	FR.	Boobii, ...	RUS.
Phul, ...	HEB.	Habas, ...	SP.
Bohnen, . . .	GER.	Peennas,	HIND., TAM., TEL.

The various kinds of beans cultivated in the gardens of Europe are largely grown in India, —Vicia faba or Windsor beans, and the various species and varieties of phaseolus or French beans. China is rich in many kinds of bean, some of them indigenous. A bean grown at Shan-tung has its oil and oil-cake largely imported into Shanghai and Ningpo, its oil-cake being used as manure. French beans are of white, black, and yellow colour. The dwarf white bear sooner than the other sort, which require sticks at least six feet high, and strong. The Portuguese bean or chevaux-de-frise pod has four fringed angles, the edges jagged. Broad and Windsor beans should be sown in the cold weather, in drills the same as peas, each bean at six inches apart, the rows sufficiently separated to admit a person to pass between them for picking, weeding, etc.

Bitter bean, the Hu-lu-pa and K'u-tau of the Chinese, are small, pale, reddish-brown seeds of a leguminous plant, introduced into the south of China.

Bean-curd, Tau-fu of the Chinese, is largely used as a condiment in China. It is an emulsive preparation of a species of Dolichos, D. soja. The bean is boiled and skinned, and ground with water to a pulp, which is strained, and water added. In this state it resembles bonny clabber or curdled milk, and is called tau-fu-hwa, or bean curd jam; the water is sometimes all strained off, and it is then sold in slices, or small seeds called hwang-tze are added. The Rev. Mr. Gray says the bean flour is sifted through coarse calico, and then through a finer sort, and is then boiled for an hour over a slow fire, until it

thickens to a consistence suitable as food; it very much resembles blanc-mange.

Bean-sprout, the Tau-ya of the Chinese, are the germinating sprouts of the Dolichos soja bean, artificially raised by the Chinese in large quantities for wood in winter. — *Smith, Chin. Mat. Med.; Gray*, ii. 136.

BEAR.

Dub, ...	ARAB.	Ursus, ...	LAT.
Hiung, ...	CHIN.	Riksha, ...	SANSK.
Dob, .	ETHIOP., HEB.	Deep, ...	PERS.
Ours, ...	FR.	Oso, ...	SP.
Arktos, ...	GR.	Karadi, ...	TAM.
Rich; Balu, . .	HIND.	Gudelgu, ...	TEL.
Orso, ...	IT.		

The bear is of the genus Ursus, of the mammalia a plantigrade animal. Four Indian species are known, viz. U. Isabellinus of Horsfield, U. labiatus of Blainville, U. Malayensis of Raffles, and U. Tibetanus of Cuvier. U. Isabellinus is, according to Gray, the U. Syriacus of Hemprich and Ehrenberg, and that known to Himalayan sportsmen as the brown, red, yellow, white, grey, silver or snow bear, or Tibetan snow bear, and is the Harput of Kashmir, for it inhabits Tibet and the snowy regions of the Himalaya and high Central Asia generally.

U. labiatus, *Blainville*, is found all over India, Ceylon, and Assam, and is the Balu or Reech. It has received several scientific synonyms, attaching it to the genera Bradypus and Melurus; and its names in English, five-fingered sloth, sloth bear, and ursine sloth, have corresponded. It is readily domesticated. When wild, it lives on roots and honey.

Ursus Malayanus occurs in Arakan, Malay Peninsula, Sumatra, Java, Borneo, and in Indo-Chinese countries generally.

U. Tibetanus, the black bear of Himalayan sportsmen, inhabits the forest region of the Himalaya, and is very rare in Tibet, though met with in its eastern forests. It seems identical with U. Isabellinus. The brown and black bears never associate, and when they meet, one invariably attacks the other; the black seems always the assailant.

Bear-gall, Hiung-tan, CHIN. In China, a soft, black, sticky bolus-like substance, having a bitter aromatic flavour. It is very costly, but seldom genuine. It is given in homœopathic doses in abdominal and hepatic ailments.

Bear's-grease. To prepare it, cut off the fat in long strips, and put these into empty bottles; when filled, cork down the bottles, and place them all day in the sun. The fat soon melts, and now looks like oil, but when cool, becomes quite firm and white. Capital for cleaning guns, for it prevents rust; scented with bergamot, etc., it is much prized for the hair.

Bear's-paw, Hiung-fan, CHIN., is regarded in China as a great delicacy.—*Williams' Middle Kingdom*, p. 249; *Smith; Gray; Adam; Blyth.*

BEAR. The Great Bear in astronomy is the Dab-i-Akbar of Persian astronomers.

BEARD.

Bart, ...	DAN., GER.	Barba, ...	LAT.
Baard, ...	DUT.	Resh, ...	PERS.
Darhi, ...	HIND.	Thàdi, ...	TAM.
Barbe, ...	FR.	Gadamu, ...	TEL.

The beard is worn by most Mahomedans, and by several of the Christian sects of the East. In Europe, from the 12th to the 15th century, the Christian clergy wore the beard long, till the laity began to follow the example, when Leo x. ordered the priests and abbots to shave. Most Mahomedans of the Shafeia school, however, clip their moustaches exceedingly short; some clean shave the upper lip, the imperial, and the parts of the beard about the corners of the mouth and the forepart of the cheeks. In anointing the body, the beard is also attended to; and in the utterance of any holy name or prayer, Mahomedans rub their hand down over their face and mouth and beard, catching as it were the sacred sound, and filling the beard with it.

The Persians and Afghans have a magnificent growth of hair on their faces. The Sindian and Baluch have also a good quantity. The emperor Akbar so disliked the use of beards, that he would scarcely admit a person into his presence who wore one. Beards are dyed black or red with henna (Lawsonia inermis), or blue with indigo. Many of the Sikhs and Rajputs wear the beard, but, generally speaking, Hindus and Burmese shave off the hair of the face. In western Asia, in ancient times, they had figures of bearded women, the symbolical representation of the union of the male and female principles in nature-worship. This is plainly the intention in the statues of the Aphrodite Barbata, which are to be seen occasionally in the museums. The Goddess of Love of Cyprus was Asiatic and oriental. Dr. Bartel calls her a Semitic deity of Assyrio-Phœnician origin, identical at first with the Ashtaroth of these peoples.—*Galton's Vacation Tourists*, p. 351; *Burton's Mecca*, ii. p. 333; *Elphinstone*, 472.

BEARER. ANGLO-HIND. A palanquin-carrier; also a house servant.

BEAROOT, hunting eagle of the Kirghis.

BEAR-PIG, or hog-badger, Arctonyx collaris.

BE-AR-WOOD or Biar wood, of Meera forest, Abbottabad, Hazara; Pinus longifolia.

BEAS, a river of the Panjab; this and the Jhelum, Chenab, Ravi, and Sutlej, form the Panjnad, that joins the Indus near the southern extremity of the province. It is the Bibasis of Ptolemy, the Hyphasis of Arrian, and Hypasia of Pliny; it was also known as the Beah and Veya, and now locally by its Sanskrit name Vipasa, corruptly Bipasha. It is, however, also said to take its name from a sacred pool at its source, called Vyas Rishi, situated in the Rotang pass, at the head of the Kullu valley. It rises in the snowy mountains of Kullu, on the south verge of Rotang (Ritanka) pass, lat. 32° 24′, long. 77° 11′, 13,326 feet above the sea, runs south to Sutlej, at Endrasa length 290 miles. Its chief tributaries and affluents are the Parbati; Sainj, 38; Gomati, 55 miles; Ul; Gaj. About 10,000 square miles are drained by it. The scenery of the Beas valley is particularly beautiful, and differs from that of the Sutlej and Chenab. Above Sultanpur there is abundance of kail trees (the dhar-chil of Chamba), elm, maple, oak (two species), and walnut. On the Parbati, not far from the sacred hot spring of Mani Karan, there is a considerable supply of box (Buxus sempervirens), also of 'Shamshad' of the Cupressus torulosa (twisted cypress), and of the olive (Kahu). A large forest of chil (Pinus longifolia) is found below Karsole on the Parbati. In the higher slopes there are dense forests of the less valuable pines, and of the alpine oak, Quercus semicarpi-

folia. There are gold washings in its sands. From Manôli forest to Larji the fall appears to be nearly 60 feet per mile. From Larji to Mandi, a distance of 25 miles, the fall is 1000 feet, or 40 feet per mile. From Mirthal, a distance of 150 miles, the fall is only 1600 feet, or 10·06 feet per mile. Polyandry prevails in the Beas valley, but the general immorality is ascribed to the large numbers of Yarkandi traders.—*Arrian; History of the Panjab*, p. 15; *Hook. et Thom.; Mrs. Hervey's Tartary*, i. p. 85; *Cunningham; Cleghorn's Panjab Report*, p. 84.

BEAUMONTIA GRANDIFLORA, *Wall.*, the Echites grandiflora of Roxburgh, one of the Apocynaceæ, is a gigantic climbing shrub, growing in Chittagong, the Khassya hills, and Nepal; flowers in February, and is very showy; found by Dr. Hooker in the Terai east of Siligori, ascending the loftiest trees, and clothing their trunks with its splended foliage and festoons of enormous funnel-shaped white flowers. B. Jerdoniana, *R. Wight*, of the Coorg jungles, attains similar heights. —*Roxb.; R. Brown; Hooker, Jour.* i. p. 401.

BEAVER.

Hai-Kau, . . . CHIN.	Castoro, ... IT.
Bièvre, ... FR.	Castor, ... SP.
Biver, ... GER.	

Neither the large nor the little beaver occur in India; but the tails of the latter, the Ondatra Americana of Tiedmann, the Castor Zibethicus of Linnæus, Fiber Zithicus of Cuvier, Ondatra of Lacepede, the musk-rat of Canada, and musquash of the Cree Indians, form a considerable article of import into India, being regarded by some races as aphrodisiac.

BEBBEH, the chief family of the Kurd clan of Kermanj; the members are the hereditary chiefs of the clan, hence their whole territory and the people are now called the government of the Bebbeh or Baban. The clan was originally established at Pizhder in the northern mountains, near Sikeneh, on the frontier of Persia.—*Rich's Kurdistan*, i. p. 80.

BEBEHAN, one of the three districts of Fars, the other being Laristan and Fars proper.

BEBINA. HIND. Mussænda frondosa.

BEBRANG. HIND. Myrsine Africana. Bebrang khatai, Nepeta ruderalis.

BECHE DE MER. FR. Sea slug, sea worm.

Sea ginseng, ANGLO-CHIN.	Trepang, ... ENG.
Sea cucumber, . . ENG.	Bicho-de-Mar, . . PORT.

Trepang, the esculent Holothuria, or sea cucumber of the seas of the Archipelago, sells at Singapore at 18 to 70 dollars per pikul. One species, the H. tremula, is abundant on the reefs at Raiatea, Tahiti, and is 6 to 8 inches long, and 2 to 4 inches broad. Another species is 3 feet long, with a cylindrical body. A settlement of Sandwich islanders was formed on Fenning's Island in the N. Pacific to collect trepang for the China trade. That of the Torres Straits is assorted into the red fish, which bring £140 per ton at Sydney; the black fish, £120; and the tent fish, £80.—*Moresby*, p. 136. See Holothuria; Trepang.

BECHETI. HIND. An Indian variety of the Camelus dromedarius.

BECHIACORI, a wood of Nepal, called also Sulla and Surrendhool, or Dhoobkee, on account of its resinous quality. Its branches are used as torches; the fragrant turpentine which it yields is employed in sacrifices and in medicated salves; and its wood is converted into rafters for houses. —*Smith's Nepal*, p. 67.

BECHNE-WALA JOGI, a sect of Jogi pedlars and mendicants.

BECHUNDI or Beh-chandee. HIND. In Raepore, this substance, if pulverized, resembles arrowroot, and is made use of by natives on their bart or fast days, prepared in various ways. It is obtained from the glutinous matter which issues from the stems of a jungle plant, after being soaked in running water for some days. The Gond race prepare the Beh-chandee. It can be had in any quantity in the Jubbulpur bazar, but most of it comes from Mundla and Seonee. It appears to consist of the dried sections of a farinaceous root containing bassorin, and allied in composition to salep.

BED.

Lit, Couche, . . FR.	Letto, ... IT.
Bitt, ... GER.	Cama, ... SP.
Bichana, Palang, . HIND.	Paddu-kai, Kattal, TAM.
Charpai, ... ,,	Mancham, . . . TEL.

John v. 8, 9 says, 'And the man took up the bed and walked.' The bed of an oriental is seldom anything besides a carpet or mat, or a felt as thick as a bed quilt. Men carrying such bedding may be seen daily on the highways. The Hindus of the south of India usually sleep on the floors of their houses, but all of them have night dresses in which to sleep, that of the women being generally a loin-cloth like a kilt, called Padawi, TAM., Koka, TEL., made of cotton or of the fibres of one of the hemp plants, though many lie down in their day dress, as in Exodus xxii. 27. Mostly all Mahomedans in India use cots to sleep on, when able to afford them, and every Mahomedan bride takes a cot or charpai to her husband's house, as part of her 'jahez' or furnishings. In Burma the poorest person sleeps on a cot with mosquito curtains.—*Ward, Hindoos.*

BED. HIND., PERS. Salix, *sp.*, the willow, also Calamus rotang, the cane rattan.

Bed-i-Anjir, the castor-oil plant.

Bed-i-Mushk, Salix Ægyptiaca, S. Caprea. Willow-flower water is the arak-i-bed-i-mushk.

Bed-Khist is a species of Salix.

Bed-Laila, S. tetrasperma.

Bed-Majnun is the S. Babylonica.

Makhan bed or pakhan bed, Saxifraga ligulata.

Bed-ul-Ashar, Calotropis gigantea.

BEDAK, also Baid. HIND. A Hindu physician.

BEDALI or Bedalika. HIND. Griffithia fragrans.

BEDA-TIGE. TEL. Ipomœa pes-capræ, *Sweet.*

BEDDOME, COLONEL, a Madras military officer, wrote on the snakes, the ferns, and timber trees of the Madras Presidency. His Flora Sylvatica of the Peninsular trees, a work of great research, gives also notices of Ceylon trees.

BEDEE. Of the Sikh sects, the highest class are the Bedee, as being descended from Guru Nanak, the founder of the sect. They form, by virtue of their descent, the hereditary priesthood. They are to be found in all parts of the Panjab: in the districts lying at the base of the Kangra hills, at Gujranwalla in the middle of the Rechna Doab, at Gogaira on the Ravi, and at Shahpur on the Jhelum, and a few at Rawul Pindi; they are also occasionally to be met with to the south of the Sutlej. But their home and stronghold is at a town named after their founder, Derah Baleæ Nanak, on the Ravi, near Buttalla. So notorious

had been the crime of infanticide among them, that a Bedee was generally known by the opprobrious title of Kooree Mar, or 'daughter-slayer.' The Bedee adopted as their patronymic the name of the tribe to which their ancestor Nanak belonged. But there are Bedee still of that original tribe, who are not descendants of the Guru, nor, indeed, Sikhs at all. With these men pride alone prompted to the crime. The fear of poverty arising from marriage expenditure would have little weight with them, as, unlike the impoverished Rajputs, they were generally men of wealth and affluence; they held fertile jaghirs, and their priestly coffers were well filled with the offerings and dues of their race. But in defence of the unnatural custom, which they did not attempt to deny, they, like the Rajput races, were ready with a traditionary obligation laid upon them by an indignant ancestor. The story is thus given by Major Herbert Edwardes:—'When a bridegroom and his party were departing, the two sons of Dharm Chund accompanied them to give them rooksat. The weather was hot, the party out of temper, and they took a malicious pleasure in taking the young Bedee farther than etiquette required. When the lads returned home footsore, Dharm Chund asked if the Khutra had not bid them to turn back sooner. The boys said "No," and it was then that the old man, indignant at all the insults which the bridal of his daughter had brought down upon him from an inferior class, laid the inhuman injunction on his descendants, that in future "no Bedee should let a daughter live." The boys were horror-stricken at so unnatural a law, and with clasped hands represented to their father that to take the life of a child was one of the greatest sins in the Shastras. But Dharm Chund replied, "that if the Bedee remained true to their faith, and abstained from lies and strong drink, Providence would reward them with none but male children, but, at any rate, let the burden of the crime be upon his neck, and no one else's." And from that time forth Dharm Chund's head fell forward upon his chest, and he evermore walked as one who bore an awful weight upon his shoulders. With consciences thus relieved, the race of Bedee continued for three hundred years to murder their infant daughters, and if any Bedee, out of natural feeling, preserved a girl, he was excommunicated by the rest, and treated as a common sweeper.'—*Browne's Indian Infanticide*, pp. 115–117.

BEDER. In the tract lying between the Mysore, the Hyderabad, and the Mahratta territories, are several petty sovereignties, such as that of the Nawab of Banganapilly, a Syud family in the east of the Ceded Districts; until 1839, the Pathan nawabs of Kurnool ruled on the right bank of the Tumbudra river; further west is the Reddi chief of Gadwal; the Mahratta chief of Sundur, one of the Ghorpara family; the Kshatriya Raja Narapati of Anagoonda, the descendant of the great king Rama of Vijianagar, who was overthrown by a combination of the Mahomedan kings of Golconda, Kulburga, Bijapur, and Ahmadnaggur; the Pathan nawabs of Shahnur, the Ghorpara chieftains of Gujundurghur, and Akalkot, and at Ghurgunta, and Beder Zorapore, are the descendants of that Beder soldier, Pid Naek, to whom Aurangzeb, for aid given at the siege of Bijapur, granted a small territory in the Raichore Doab. The Beder race now have only these two small sovereignties. Some of them in Zorapore are tall, well made, robust men. A small body, engaged in cultivation, occupy the plateau of Ramandrug. The town of Zorapore is in the centre of a rocky amphitheatre, admirably suited for a predatory band. They are fond of the chase, and hunt the wild boar with large dogs. They are in various stages of civilisation, but those in Mysore are perhaps most advanced. In parts of Mysore they form a considerable part of the population, and have many poligarships. Their name is variously pronounced,—Beder, Baida, Baidara, Waida, Vedda, Vedar, Veddar, Vedan, and Bedan. They are the race that gave their name to the Pindara, who harassed Central India for nearly fifty years. Some of them have become Mahomedans.

The Beder of Zorapore and Ghurgunta drink spirits, eat the hog, crocodile, porcupine (Sarsal), manis (Ali), iguana, bullock, cow, buffalo, cat, rat, bandicoot (Mus giganteus), and jerboa rat. Beder families often devote their daughters to some idol. She is branded with a seal (Muddirai), and becomes a Basavi or Murli. Their men often become Dasari, who are celibates, and subsist on alms. Wilson describes the Mysore Beder as a race who live by the chase, as hunters, fowlers, and are considered in Mysore as coming originally from Telingana. Many of the Bedera are grain carriers. Until the middle of the 19th century, a small tribe of Baidara-wanlu, or Beder people, remained in Bellary; they were Mahomedans, kept numerous little horses, which they used for carriage. They were great carriers, and had been of use in several military operations, and a small body then occupied the Ramanmulla hill.

BEDER, in lat. 17° 53′ 6″ N., long. 77° 34′ E., a walled town in the Dekhan, near the right bank of the Manjera, 75 miles N.W. of Hyderabad. The top of the minaret is 2350 feet, and the base is 2250 feet, above the sea. Beder was the capital of the Bahmani dynasty, which ruled up to the middle of the 16th century. This dynasty joined the quadruple confederation, formed with the Nizam Shahi, king of Ahmadnaggur, the Adal Shahi, king of Bijapur, and the king of Gulburga, to overthrow the Hindu sovereignty of Bijanagar, near Bellary, when the sovereign Rama Raja was defeated, taken prisoner, and beheaded at Kala Chabutra. Beder is surrounded by a great curtain, now much dilapidated, and on one of its bastions is an old welded gun, 21 feet long. Many great cupola tombs are on the plain to the S.W. The inhabitants, in 1866, were few and poor. Beder, Bijapur, Berar, Golconda, and Ahmadnaggur, in the 16th century, were five independent Mahomedan kingdoms, but about the time of Baber's invasion Beder was absorbed by its more powerful neighbours. In 1572, Berar was absorbed by the Nizam Shahi dynasty. A peace was concluded here between Salabut Jung and Baji Rao in 1751.

BEDER WARE is a tutanague work which has been described by Drs. Heyne, Buchanan Hamilton, and Smith, and Captain Newbold. It is a metallurgical compound of considerable interest, and the articles made of it are admired for the elegance of their form, as well as for the gracefulness of the patterns with which their surface is covered. Though the groundwork of this composition appears of a blackish colour, its natural

colour is that of pewter or of zinc. Dr. Heyne informs us that it is composed of copper 16 oz., lead 4 oz., tin 2 oz. These are melted together, and to every 3 oz. of the alloy 16 oz. of zinc are added, when the alloy is melted for use. But to give the whole the black colour which is esteemed, probably from bringing out the pattern, it is dipped into a solution of sal-ammoniac, saltpetre, common salt, and blue vitriol. Dr. B. Hamilton saw of zinc 12,360 grs., copper 460 grs., and lead 414 grs., melted together, and a mixture of resin and beeswax introduced into the crucible to prevent calcination. It was then poured into a mould made of baked clay, and the article handed over to be turned in a lathe. Artists then inlay flowers or other ornaments of silver or of gold. They first smear it over with sulphate of copper and water, which gives the surface a blackish colour, and enables the artist more easily to distinguish the figure which he draws; this he does with a sharp-pointed instrument of steel, and cuts it with small chisels of various shapes, and then with a hammer and punch fills the cavities with small plates of silver, which adhere firmly to the Bedery. It is then polished and stained, as described above. The various articles made from it are vases, wash-hand basins and ewers, hookah-bottoms, spittoons, cups, and dishes, small boxes, and weights. These are inlaid commonly with silver, but sometimes with gold. The patterns are usually as much to be admired as the forms of the vessels. Though usually called Bedery, it is manufactured at other places. According to Captain Newbold, the mould of the vessel is first prepared, in the usual manner, of clay turned into shape on a wheel; over the smooth surface of the mould a coat of wax and rosin in equal proportions, with a little oil, is laid, of the thickness of the sides of the vessel required; over the wax another thick coat of clay is applied. Gradual heat is next resorted to, to harden the clay part of the mould, but principally to melt out the wax, which of course leaves a vacuum in the space it occupied. Into this space the molten alloy is poured, cooled, the mould broken, and the vessel in rough taken out, polished, and set aside, to receive a black colour, preparatory to inlay, from a smearing of Mor tuta (blue vitriol). The alloy itself is of a pewter white colour, and is composed of the following proportions:—1 seer Just (zinc) to 1 Chittak or 6 Shahi pice weight of copper. The pattern of the ornamental device to be inlaid, either in silver or gold, is next drawn lightly with a steel point on the blackened surface of the vessel, and then cut out to the depth of the inlay required, with a tiny delicately-pointed chisel, worked by a small hammer. A thin bit of paper is pressed into the excavated pattern to receive the impression; taken out and placed upon a thin plate of silver (the inlay), which is itself laid out evenly on a bed of mixed wax and rosin, and cut into the exact shape of the impression. The cut-out bit of silver is then pressed into its corresponding cavity engraved on the side of the vessel, and firmly inserted by means of a steel point. This done over all parts of the vessel, it is again polished preparatory to receiving its finishing coat of black. This is done by subjecting the vessel to a gentle heat, and smearing it with a mixture composed of — 1 tola (b'hur) Shorah ki Mutti (saltpetre), 3 masha Nousadur (sal-ammoniac), ground up into the consistence of cream with brackish water. After allowing this mixture to lie upon the vessel for a few hours, it is washed off with a little brackish water. The inlaid silver devices are little altered in colour, but the intervening portions of alloy remain of a permanent dead black. He witnessed the whole process of inlaying, and could not help admiring the precision, lightness of touch, and celerity with which it was performed by a lingaet, which caste and a Jaina were the only persons skilled in the art. It seems divided, however, into three branches,—the mould maker, smelter, and inlayer. In 1867 there was only one family. Beder ware does not rust, yields little to the hammer, and breaks only when violently beaten. According to Dr. Hamilton, it is not nearly so fusible as zinc or tin, but melts more easily than copper.—*Royle, Arts, etc., of India*, p. 471; *Letter from Captain T. J. Newbold to Major-General Fraser; Dr. G. Smith in M. E. J. R.*

BEDI. HIND. A pulpit.

BEDISA TIVVA. TEL. Vitis latifolia, *R.*

BEDNUR, also called Hyder Nagar, also Nagar, a town 4000 feet above the sea, in Mysore, formerly a large and populous city of great strength, but the population in 1871 was 1295 souls. It was taken by Hyder in 1763, and again in 1783 by General Matthews, whose army was afterwards attacked by Tipu, and the whole destroyed or made prisoners. When sacked by Hyder, the booty obtained is said to have amounted to twelve millions sterling. Hyder established a mint, and here struck the first Hyderi pagodas.

BEDNUR, at the foot of the Aravalli hills, within the bounds of Mewar, had, as one of its ancient chieftains, Rao Soortan, of the Solanki tribe. He was a lineal descendant of the famed Balhara kings of Anhalwara, who were expelled from Anhalwara in the 13th century, and migrated to Central India, where they obtained possession of Tonk-Thoda and its lands on the Bunas river; but Lilla, the Afghan, deprived Soortan of Thoda, and restricted him to Bednur. His daughter is distinguished in Indian annals.—*Rajasthan*, i. 673.

BEDOLI. HIND. Pederia fœtida.

BEDOUIN, the Badawi of the Arabs, may be described as comprising those in the desert bordering on Yemen, Hejaz, Palestine, and Syria, and along the banks of the Euphrates; also those of the Najd, and central provinces of Arabia, all of whom migrate but little (?); those who have crossed the Euphrates, and those who migrate or roam all over the deserts.

The *Shammar* emigrated from Jabl Shammar, in the 17th century, into the northern desert, and they were forced across the Euphrates by some tribes of the Anazah. They have four great tribes,—Jerba, Fadagha, Salama, and Es Safuk.

The *Anazah* are the greatest and most powerful of the Bedouin populations. They are a great people, pastoral, nomade, dwellers of the desert. They claim descent from Adnan. They were dispossessed of Najd by the Wahabis in the early part of the 19th century, and they migrated largely to the north, occupying the deserts between Syria and the Euphrates in summer, and returning to the south as far as Najd in the winter, bartering for grain and goods with the merchants of the border towns of Syria, such as Damascus, Hamah, Homs, and Aleppo. The different Anazah tribes

have each their own separate pastures, and trade with different towns. The profits of the Aleppo merchants alone have been stated at £50,000 a year. They are proud of their race, and despise the Turk, but often fail in their mercantile agreements. They have two divisions of the Bisher, the Walad Ali and Jelas. Abd-ul-Wahab, the reformer, belonged to the Mekran, a branch of the Messalyke Anazah. When they migrated to the north, they forced the Shammar across the Euphrates, after fierce battles, and hostilities continue. Some have remained in Najd, some are in the desert east of Palestine and S. Syria. The Walad Ali at Khaibar are masters of all the Haj route from Syria. They migrate north to the Harun and Damascus. They are rapacious and predatory. It was the Walad Ali who defeated the French troops under Kleber. They have many fine horses. Other clans or tribes are the Bani Sahar, Amur, Amarah, Erfuddi in Najd, Ruullah and Jelas, who migrate from Damascus. The *confederate* tribes are the Fadan, who are predatory; and other clans and tribes are the Shmeilat, Hrissa, Adjadjara, Al Ghabun, and Jedaa, the seven Sabaah tribes; the Abadat, Duam, and others.

Obaid and Tai, ancient and still powerful tribes, are in the neighbourhood of Mosul, where they sell their wool, for they are rich in live stock. The Tai came from Yemen to the Tigris.

Montifitsh, Al Hindi, and Slaid, tribes of Irak or Turkish Arabia, are scarcely in Arabia. The Montifitsh are fishermen, and breed horses. Al Hindi are wealthy. They are agricultural and pastoral, sowing, and returning to reap in autumn. The Slad are cultivators; have a breed of large white asses, much used in Syria. The Tai at one time settled in Yemen. Hatem, one of the tribe, was celebrated for his generosity. The Tai had seven families.

Mowali, of the northern desert, came from Hejaz, and their shaikh claims to be descended from the Abbassi khalifs. The strife for the district between the Shammar and the Mowali lasted fifty or sixty years.

The *Hadadin* are peaceable, wealthy shepherds.

The *Weldi* are agricultural, on both sides of the Euphrates. They were formerly in Mesopotamia; some are tributary to the Shammar, and some to the Anazah.

Abghedat is a wealthy tribe, dwelling in tents, both pastoral and agricultural.

Beni Khalid, a numerous tribe, which has spread from Hassa to many parts of the desert.

Ferdoon, *Ghes*, and *Lahep* (the last a Mowali clan) are nomade, but grow grain.

Sohni are carriers, and have some wealth. They make soda.

Banu Said, north of the Shass, on the right bank of the Euphrates, are wholly predatory, riding horses in their forays; do not cultivate, nor breed horses, nor trade.

Subha, on the right bank of the Euphrates, below the Weldi. They are constantly at war with the Shammar of Al Jazirah, and on that account are protected by the Anazah. They have large flocks of sheep and camels, and have good horses. Some families grow grain.

Al-Glat, Al-Medjadama, Al-Bala, Al-Meshahada, Al-Basheikh, Al-Basalim, are small tribes of no military repute.

Hernandi, a warlike branch of the Koresh tribe of Mecca. Many of them in Syria are employed as irregular horse.

Aghel tribe are carriers. They are numerous, and have large herds of camels; travelling and settling all over Arabia as agents or pedlars.

Bedouin tribes who dwell permanently among the mountains only rear sheep; the camel-breeding Bedouins migrate with the seasons. The Bedouin is described by Chateaubriand (Itineraire, i. 421): 'La tête ovale, le front haut et arqué, le nez aquilin, les yeux grands et coupes en amandes, le regard humide et singulièrement doux.' Every Bedouin grows his hair unshorn from infancy. The young men plait their locks on each side; they never wear the fez; every Bedouin smokes. Bedawi are really the inhabitants of Central Arabia. Reading and writing are almost unknown to them, but they speak the purest and softest Arabic, and the Meccans and others resort to them to obtain a just pronunciation. The Bedawi pronunciation is best, that of Mecca and Hejaz next, and after these come that of Baghdad and Yemen.—*Major R. D. Upton, Gleanings from the Desert of Arabia*, p. 204; *Lady Anne Blunt*, ii. 164.

BEDYA, a migratory predatory tribe found in most Bengal districts, usually under the special surveillance of the police. They are a branch of the Bazigar or Nat, and sometimes call themselves Manjhi and Mahali. They are migratory jugglers, fortune-tellers, rope-dancers, beggars, and fowlers, and have a slang language. They submit to circumcision, and call themselves Mahomedans, but they have many Hindu customs and idolatrous practices, and consult Brahmans on particular occasions. Though scattered, homeless, and migratory, they are in communities in different localities. —*As. Soc. Res.* ii. 458; *Dalton, Bengal*, 326.

BEE.

Abeille,	Fr.	Ape, Pecchia,	It.
Bune,	Ger.	Abeja,	Sp.
Deburah,	Heb.	Tenu,	Tam.
Shahd-ki-mekhi,	Hind.	Tena,	Tel.

Bees have long been domesticated by several races. The hive bees vary greatly in colour and size, but, except the Ligurian bee, the species are almost identical. The Egyptian bees are geographical varieties. In the rural economy of Kashmir, every farmer has several hives in his house, and in some houses as many as ten. A provision for hives is made in cavities in the walls, cylindrical, and extending quite through the wall. This tube is lined by a plastering of clay mortar about an inch in thickness, and the mortar is worked up with the chaff or husk of rice, or with the down of thistles, which latter is employed also for clay mortar in general. The dimensions of a hive are, on an average, about fourteen inches in diameter, and, when closed at both ends, about twenty or twenty-two inches in length. That end of the cylinder nearest to the apartment is closed by a round platter of red pottery ware, a little convex in the middle, but the edges are made flush with the wall by a luting of clay mortar, and the extremity is shut by a similar dish, having a circular hole, about a third of an inch in diameter, in its centre. When the honey is taken, the master of the house, with a few strokes of the point of a short sickle, disengages the inner platter of the tube. Having placed some burning straw upon charcoal in a dish, and holding the dish close to the mouth of the hive, he blows the smoke

strongly against the combs. The bees hurry through the outer door, when the farmer, introducing the sickle, cuts down the combs nearest to him, leaves undisturbed about one-third of the combs close to the outer door, and then replaces the inner platter. Not above one-hundredth part of the community is destroyed. The produce is less than the ordinary yield of a good swarm in England. The honey is light-coloured, and of a taste as pure and as sweet as that of Narbonne. The peasantry of Kashmir eat it raw, or mixed with various articles of common food, whilst the most wealthy substitute it for sugar in preserving fruits. It is customary to take the hive every year, and the end of September or beginning of October is found the best season for this operation, a little time still remaining for the bees to add to the portion left for their support during five months. The bee of Kashmir is almost domiciled; is a little smaller than that of Europe, though a little larger than the domesticated bee of Kamaon and of Garhwal. Occasionally the honey made by the Bhoura bee of Garhwal is intoxicating. The Bhoura is compelled to take a more extensive range, and, in the scarcity of food during the short summer, to be less select in regard to its quality.

The bees at the marble rocks of the Nerbadda are the Apis dorsata, and are said to be easily irritated from March to July. On one occasion they attacked an Englishman, Mr. Biddington, and in trying to escape them he was drowned. Captain Forsyth mentions (p. 40) that one of his baggage ponies was stung to death. Writing from Colombo, Ceylon, Mr. Benton says he had seen two native races of bees there, and the comb of a third. One is stingless, but worthless. One race is Apis Indica, and the other Apis dorsata. The latter is certainly a wonderful bee; builds in the open air, on branches, often making combs six feet long; and thirty natives have each taken a load of honey from the same tree. Writing from Java, he had seen two of its combs. These were three feet by three and a half feet, and were one and a half inches thick when the brood was reared, and had about twenty cells to the square inch.

Bees in Abyssinia build their combs in the trunk of the baobab, and the honey is deemed of superior flavour.

In Ceylon, bees are all wild. They collect largely from the nelho. Their nests hang from the boughs of the trees, and a man ascends with a lighted torch of green leaves, which creates a dense smoke, and he smokes off the swarm from the comb, which is a beautiful circular mass of honey and wax, generally about eighteen inches in diameter and six inches thick. The bee-hunter being provided with vessels formed from the rind of the gourd, attached to ropes, now cuts up the comb and fills his chatties, lowering them down to his companions below. When the flowers of the nelho fade, the bees leave the district.

A small bee called 'hei-ying-koee,' or 'fly bee,' is found in the valley of Munnipur. The honey is excellent. Another species, very large, forms its nest in the ground, and is dangerous to the unwary traveller. Instances have occurred of individuals having fallen into these nests, and having been stung to death. The Munnipuri, when they come upon a bee of this species, catch it, and, having attached a thread to his body, let it loose. By means of the thread its flight is observed, and it can be followed to the nest. The spot is marked, and fire having been procured, the bees, otherwise so formidable, are easily destroyed, and the comb filled with the young obtained. Another and larger bee of Munnipore forms its nest dependent from the branch of a tree, or under the shelter of a wall, the nest being of a most beautiful substance resembling marbled paper.

The bee of the Indian Archipelago suspends its nest from a branch of a tree, in which position they may be seen forming masses of considerable bulk. Certain trees become favourites, and are selected by the bees year after year for many generations, although often disturbed by the taking of their nests. In Borneo these trees become private property among the eastern tribes, and are handed down from father to son. Bees are hived in Borneo, and beeswax is sold at £5, 10s. to £7, 10s. per 133-1-3 lbs.

The Chinese keep off bees by a few dry stems and leaves of a species of artemisia, which grows wild on the hills, and which is largely used also to drive the mosquito out of the dwellings of the people. This plant is cut early in summer, sun-dried, then twisted into bands, and it is ready for use. At the commencement of the operation, one end of the substance is ignited, and kept burning slowly as the work goes on. The bees hover about, but apparently quite incapable of doing the slightest injury.—*Fortune's Residence; Moorcroft's Travels; M'Culloch; Records of the Government of India, F.D.*, pp. 32–3; *Baker's Rifle*, pp. 304–5; *Indian Field.*

BEEBEE or Bibi. HIND. Any lady, a lady of the Mahomedan races. Beebee Fatima, daughter of Mahomed, was wife of Ali. See Begum.

BEEBEE of Cannanore is the ruler of that neighbourhood, and exercises authority over three of the islands of the Laccadives, all of which formerly belonged to her ancestors. The Beebee is a Mopla Mahomedan, and the senior female member of the family takes the title and position. It is related that in some former time a party of Mopla merchants came upon a number of Nair women while bathing, who hastily snatched up their clothes and ran off, but the apparel of one young woman was accidentally carried away, and as she could not quit the water, a Mopla gave her a cloth to cover herself, which is equivalent to being her husband, and they were married. The girl was the only member of a rich house, and the Cherical raja bestowed on her a tract of country, with the arrangement that it should be held with the title of Beebee by females only.

BEE, CARPENTER, a name given to a hymenopterous insect, the Xylocopa tenuiscapa of Westwood (X. latipes, *Drury*), which perforates large beams of timber, as also trees, by boring holes through them. On one occasion, at Kurnool in the Ceded Districts, one of them was seen to kill a sparrow by a single thrust of its sting. Any intruder within the precincts of their nests instantly becomes an object of suspicion and attack, and as the unlucky sparrow was flying towards the corner of the hospital, the bee assailed it, struck it with its sting, and the bird fell dead. On raising the skin from the bone, a small reddened spot on the temporal part of the skull indicated the point at which the sting had entered.

BEEDUL. BENG. Bauhinia purpurea.

BEE EATER, several species of birds of the genera Merops and Nyctiornis.

BEE-EW. BURM. A very abundant timber of Tenasserim, not identical with Thee-bew-tha. Its maximum girth is 3 cubits, and length 22 feet. When seasoned it sinks in water. It is a very hard, strong wood; used in rice mills, where great strength and durability are indispensably required; recommended for handles of tools.—*Dance.*

BEEF.

Nin-juh, ... CHIN.	Gosht; Gai ka gosht, HIN.
Kind-fleisch, . . GER.	Carne di bue, . . . IT.

The flesh of the bull, bullock, or cow is in use amongst Mahomedans and non-Aryans and Christians in India. The flesh of cattle that have died is largely used by the Burmese, and by all the shoemaker and Pariah races. Beef is never eaten by any of the Hindu sects; many never even pronounce the word, though in the time of the Vedas the Gao-medha or sacrifice of the cow was common. Menu authorizes the consumption of animal food at all seasons, with the slight restriction of first offering a bit of it to the gods, or manes, or guests. Hence, also, Goghna, or cow-killer, became the term in use to designate a guest; and he names amongst other animals all quadrupeds, the camel excepted, that have but one row of teeth.

Surabhi, in Hindu mythology, is a celebrated cow, obtained, with other of the fourteen products, at the churning of the ocean; and daughter of Surabhi is a common expression to designate a cow. In Valmiki's preparation for the reception of Vasishta described in the Uttara-rama-charitra, Bhandayana says:

> 'Why, know you not
> The Vedas, which enshrine our law,
> Direct the householder shall offer those
> Who in the law are skilled, the honeyed meal,
> And wish it flesh of ox, or calf, or goat?'

The Vana-Parva of the Mahabharata mentions buffalo flesh as openly sold in the market.

BEEF-WOOD, from the Casuarina muricata, a hard, close-grained, reddish wood, variegated with dark and whitish streaks. It is chiefly used in England in forming borders to work in which the larger woods are employed. It is procured from N. S. Wales, and is imported into the United States in considerable quantities, for various purposes where a hard, heavy wood is required; the Tenasserim coast can furnish almost any quantity of this timber, which is very little used there. Roxburgh says it resembles toon in appearance. The Burmese call it by the same name as the pine.—*Faulkner; Mason.*

BEEGAH or Bigha, a land measure in use in India, but varying in length. In Northern India it is 3025 square yards, or five-eighths of an acre. In Bengal, 1000 square yards, or little more than one-third of an acre. There is a kuch-ha and a puckha beegah, the former one-third or one-fourth of the latter. The following are some of the local beegahs in every 100 acres:—

Farrakhabad,	175·12·0	Azimgurh, Ghazipur,	154· 6·8
Gorakhpur,	192·19·7	Bijnore,	187·19·5
Allahabad, Azimgurh,	177· 5·15	Upper Doab (Kuchha),	582· 3·0

The smallest beegah, says Sir John Malcolm, may perhaps be computed at one-third, and the largest at two-thirds, of an acre. The common beegah in Central India is sixty guz square, which, taking the guz at thirty-two inches, is fifty-three yards one foot. This makes the contents 3200 English yards, very nearly two-thirds of an English acre. But the guz used in land measure is often not more than twenty-eight inches, which reduces the beegah to about half an acre.—*Malcolm's Central India*, ii. p. 35; *Elliot, Supp. Glos.* pp. 53, 54. See Khiraj; Weights and Measures.

BEEGHOTO, a tract of country occupied by the Ahir and the Chauhan Rajput. It includes Rewapee, Bawul, Kanon, Patody, Kot Kasim, and part of the Baraitch jaghir.

BEEJARA SULA. SANSK. Cashew-nut.

BEEL-JHUN-JHUN. HIND. Crotalaria retusa.

BEEMAH, a tributary to the Kistna river. It rises in lat. 19° 5′ N., long. 73° 33′ E., in the table-land of the district of Poona, 3090 feet above the sea, and runs S.E. into the Kistna, length 510 miles. It receives the Goor, 100; Neera, 120; Seena, 170; Tandoor, 85 miles. About 29,000 square miles drained. At Coreygaum, where it is enclosed by trap banks, it runs with great violence in the rains. Before it joins the Kistna, it runs through the stratified, fossiliferous rocks of the centre of the Peninsula.

BEEMBOO. BENG. Coccinia Indica.

BEEN or Vina, a sort of sitar, but having two dried hollow pumpkins (Cucurbita melopepo, *Willde*) fixed to the end of it, with five or seven steel strings; described by Sir William Jones in the Asiatic Researches.

BEENA, a form of polyandric marriage in Ceylon, in which the wife continues to reside with her brothers, and her husband takes up his lot with her.

BEER. SIND. A berry growing in Sind, which is pounded, mixed with water, and parched in pots, and used as a substitute for gram.

BEER, a fermented liquor made from the malt of barley, and flavoured with hops. At nearly all periods in the world's history, and among nearly all nations, the art of making a fermented drink from some kind of grain appears to have been known; but of all the cereals, barley is the best adapted to the making of beer. Beer used in India is mostly imported from Great Britain, in hogsheads and in bottles. Captain Ouchterlony, about 1850, established an experimental brewery in the Neilgherry hills. It is still brewed there, also at Bangalore, Simla, Kussowlee, and other places, and used extensively by the local residents, who, apart from the difference of price, prefer it to English-brewed ale. The natives of India only sparingly drink the British beers, but all the hill races brew beers for themselves. In the United Kingdom and Ireland, about 50 gallons per head per annum are consumed. The Kakhyen prepare Sheroo from rice; it resembles small beer. The Lepcha, Lushai, and Naga have a similar beer. The Barman con-gee is a beer which the Khyen and Karen also use. The Naga also prepare moad from rice; and the Khamti and Singpho of the Hukong valley distil a spirit called Sahu.—*Tom. Un. Rev.; Ind. Daily News.* See Ale.

BEERA or Beeree. HIND., Pan-ka-beera. A small packet of betel leaf folded up to contain spices, catechu, calcined shell-lime, and pieces of the areca or betel-nut.—*Tod's Rajasthan*, i. pp. 327, 413.

BEERA. BENG. Asclepias rosea.

BEERSHEBA is 20 miles south of Hebron. Its name means 'the well of an oath, or the well

of seven,' because here Abraham made an alliance with Abimelech, king of Gerar, and gave him seven ewe-lambs in token of that covenant to which they had sworn (Gen. xxi. 28). A Roman garrison was here in the time of Eusebius and Jerome. The limits of the Holy Land are often expressed in Scripture by the terms 'from Dan to Beersheba,' the former being the northern, the latter the southern, extremity of the land.

BEERTIA. BENG. Panicum Italicum.

BEER-us-SOMAL, country of the Somali to the south of Cape Guardafui.

BEESHA ELEGANTISSIMA. *Hasskarl.* A tall, slender bamboo of the mountains of Java, up to 4000 feet.—*V. Mueller.*

Beesha Rheedii, *Kunth.*

Bambusa baccifera, *Roxb.*
Melocanna bamusoides, *Spreng.*
,, Rheedii, *Stend.*

Bish-Bans, . . . BENG. | Pagu-tullu, . . RAKHOI.
Beesha, . . . MALEAL. |

A bamboo growing in the peninsula of India, Bengal, and Chittagong.

Beesha stridula, *Moon.* The Ochlandra stridula, *Thw.*, is very common about the low country in the south of Ceylon, at Badagam, and elsewhere, called Batta; the leaves make an excellent thatch.

Beesha Travancoria, *Bedd.* The Irul of the Tamil people. This magnificent species of elephant grass is abundant on the S. Travancore and Tinnevelly mountains, at 3000 to 5500 feet elevation, where it covers many miles of the range, often to the entire exclusion of all other vegetation; in open mountain tracts it generally only grows from 6 to 8 feet in height, but is close and impenetrable, elephants even not attempting to get through it; inside sholas and their outskirts it grows to 15 feet high, and is much more straggling. —*Roxb.* ii. p. 197; *Thw. Zeyl.* p. 376; *Beddome, Fl. Sylv.* p. 234.

BEESWAX.

Mom; Peela mom, . HIND. | Ten Mazhacu, . . TAM.
Lilin, ... MALAY. | Mynum, ... TEL.

Beeswax is more or less yellow, and has an odour of honey; it is brought into the market, after allowing the honey to drain from the honeycomb, and then boiling the combs in water, frequently stirring to prevent burning. The wax thus obtained is melted a second or a third time, and pressed through hair bags of increasing fineness, allowing the molten substance to drop into cold water to firm it and prevent sticking. Another process, however, is to put the combs into a pot with water and nitric acid, one quart of the former to one ounce of the latter, and after boiling it allow them to cool; the pure wax floats on the surface, and two layers of dregs settle, the inferior one being almost worthless. Wax is sometimes adulterated by peasemeal. Beeswax is exported from India. In the Indian Archipelago the natives collect the wax from the nests in the forests, disregarding the honey, which is little in quantity, and worthless. The islands of Timor and Timor Laut afford beeswax in sufficient quantity to form an important article of export. It is a considerable article of exportation from the islands of the Archipelago, chiefly the wilder part of them, where the consumption is small. In the eastern parts of China, where the product of the tallow tree (Stillingia sebifera), and beef and hog's tallow in the south, are used in the manufacture of candles, wax is only employed to incase the tallow or lard, which, from the heat of the climate and its unclarified condition, never becomes hard. About 130 tons are annually taken to Britain from Africa, America, and India, and sold at £5 to £7 the cwt. Beeswax and camphor are exported largely from Bintulu and Serekie, at which towns these commodities are collected by the Mahomedans.—*Morrison; Crawfurd; Low's Sarawak; Poole's Statistics; Balfour's Commercial Products.*

BEETLE, the Chargol of the Hebrews. Beetles belong to the Coleoptera class of insects; they are very numerous in tropical India. The blistering beetles of India are species of Mylabris; their market value in Britain is low, only 5s. 8d. the pound. The largest beetles are only found within the tropics, those of the Eastern Archipelago being the largest of all. Mr. Wallace in eight years collected about a thousand species there. The Longicorns, strangely mottled, spotted and rugose, abound where timber trees have been recently felled; their antennæ are sometimes excessively long and graceful. The family Buprestidæ generally rest on the midrib of a leaf, and the naturalist often hesitates before picking them off, so closely do they resemble pieces of bird's dung. Many of the family Curculionidæ have the wing-cases and other external parts so excessively hard, that they cannot be pinned without first drilling a hole to receive the pin. Dung-beetle is the name given in India to the dung-feeding Lamellicorn beetles. They roll up pieces of excrementitious matter into the form of balls, in which they enclose their eggs, and the balls serve for the food of their young. The balls are sometimes one or two inches in diameter, and the beetles stand on their fore feet, head down, and pushing from behind with their hind legs, roll them along and lodge them in deep holes. One of these, the Ateuchus sacer, was revered by the ancient Egyptians as one of their sacred animals; and its image, carved in stone or metal, has frequently been found rolled up in the Egyptian mummies. The Necrophori, or sexton beetles, enter the bodies of small animals to lay their eggs in them. They burrow underneath the creature and let it sink into the earth. They bury horse and cow dung similarly. The Anthribidæ family also are very abundant in the Eastern Archipelago. They rival the Longicorn beetles in the immense length of their elegant antennæ. The Eupholi of the Papuan islands and the Pachyrhynchi of the Philippines are veritable living jewels, golden and green, with Buprestidæ, long-horned Anthribidæ; numerous Curculio, queer-shaped Brenthidæ; velvety brown or steel-blue Cleridæ; the yellow or whitish-coloured Elater or click beetle, and brilliant, metallic and leaf-hunting Carabidæ. The Copridæ and Dynastidæ correspond to the dung beetles; some of them are of great size, with immense horn-like protuberances on the head and thorax of the males, and combined with their polished or rugose metallic colours, render them perhaps the most conspicuous of all the beetle tribe. Musk beetles of many sorts, scarlet Telephori, countless Chrysomela, Hispa, and Coccinella, with strange Heteromeræ and grand Prionidæ and Lamiidæ.

Indian Beetles, is an article of commerce. It consists of the beautiful wing-cases or elytræ of the Buprestis, one of the Coleoptera. They are of a brilliant metallic green colour, and are imported

into Britain principally from Calcutta, as ornaments of khuskhus fans, baskets, etc., and on muslins to enrich the embroidery. The beetles' wings in Akyab are called Chenk Poorie and Thungon Poorie.—*Wallace, Trop.* p. 94; *Hooker, Him. Journ.; Hart.*

BEET-ROOT, Beta vulgaris.

Bette rave, Bette rouge, FR.	Barba-bietole, . . . IT.
Rothe rube, Mangold, GER.	Acelga, ... SP.
Muli, ... HIND.	

This important plant belongs to the natural order Chenopodiaceæ, which also includes spinach, orach, mercury, goose-foot, etc. Beet, under its German name of Mangel-wurzel, has afforded a new source of sugar. White Sicilian beet is mainly used for salads, spinage.

Beet Sugar, from a variety of beet-root, is now almost exclusively consumed in Austria, Belgium, France, Germany, Russia, Sweden, and largely in Britain. In Middle Europe, the average yield is 14 tons of sugar beet to the acre, and 14 cwt. of raw sugar. Imperial beet yields 10 to 20 per cent. sugar, identical with that from sugar-cane. A deeply-stirred drained soil, rich in lime, brings the saccharine variety of beet to the greatest perfection. In middle Europe, in 1880, about one-sixth of all the arable land was devoted to beet. Germany is credited with being likely to produce 510,000 tons; France with 435,000 tons; Austria and Hungary, 415,000 tons; Russia and Poland, a crop of 240,000 tons; other and smaller countries, 100,000 tons; and this will bring the grand total up to 1,700,000 tons.—*Grocer; von Mueller.*

BEG. TURK. A great man, a lord; in India, an appellation of all Mahomedans of Moghul, Turk, and Persian descent. It appears as Bey and Bai, and in the feminine as Begum. In Turkey and Turkish Arabia, Ya Bei! 'O my lord,' is prefaced to every sentence. The Shammar Arabs pronounce the word Beg, which the Constantinopolitans soften into Bey. In Chinese Tartary the Dzassaks receive pay and gifts and send tribute annually by Begs, who proceed to Pekin according to rollster, so that the whole shall have one tour in six years. These travel at the State's expense, the weight of baggage carried for them being regulated by their rank, hereditary or fortuitous. The same order of attendance at Pekin and the hunting caps is observed by the Kalkas, Alashan, and tribes of the Edsinel, and by those of Koko-Nor.—*Layard's Nineveh*, i. p. 106.

BEGADA. TEL. Nauclea purpurea, *Roxb.*; Anthocephalus Indicus, *Rich.*

BEGAMI. HIND. A good quality of rice.

BE-GAR. HIND. In India, forced labour for the repair of roads, tanks, forts, barracks, and for carrying baggage. Begari, a person so compelled to labour. The labourers are usually non-Aryans, Pariahs, and tanners. The last vestige of it, as exercised by the Government of India, was in the formation of the road leading through the Himalaya mountains to Tibet.

BEGATI KANDA. TEL. Amberboa Indica.

BEG-BANAFSHA. HIND. Root of a small plant brought from Dehli, used as a perfume in medicine, and in compounding perfumes. See Bekh.

BEGBIE, Major-General Peter James, an officer of the Madras Artillery. He arrived in India on 3d August 1822, and served in the first Burmese war, and in the Nanning expedition. He translated Beeker's Art of bringing Horse Artillery into action, De Brack's Cavalry Outposts, Migout and Berger's Essay on Gun Carriages, and he compiled the Services of the Madras Artillery.

BEGGARS, from poverty and under religious vows, are numerous throughout British India, as the Mahomedan Fakir, the Hindu Bairagi, Sanyasi, Gosai, Jogi, Satani, Jangam, Dasari, Budu-budike, Gondaliga, Domba, Panasu-makkalu or Hale-makkalu, Kalawar, Pichigunta, Mylari, Korna, Viramusti.

The Satani Hindu sect have several subdivisions; a few of their number are engaged in tillage.

The Jangam, priests of the Lingaet, wear the lingam and a necklace of Rudraksha beads; they do not permit any one but a wearer of the lingam to touch them; they smear their bodies with the ashes of cow-dung. They are permitted to marry.

The Dasari (dasa, servant of the deity) are Vaishnava devotees; in Mysore they are said to be a very bigoted and dissolute set of fanatics.

The Budu-budike are worshippers of Hanuman, the monkey-god; they pretend to consult birds and reptiles, and through them predict future events. They are of Mahratta origin, as also are the Gondaliga musician worshippers of Durga, who, at marriages, sing, and play musical instruments.

The Panasu-makkalu or Hale-makkalu are a class or caste of mendicants, who only accept charity from their own caste. Their chief locality is a village in one of the Bangalore taluqs, from which once a year they go their rounds to collect money in their beat.

The Komati, or Vaisya trading community, have a Hale-makkalu called Kanchala Viraru; they wear red clothes, and a breastplate with a likeness of Vira-bhadra. They receive one fanam annually from each Komati, and fees on marriages.

The Kurubaru or shepherd, the Agasa or washerman, the Siva-charu, Ganda golleru ryots, who wear the lingam, the Gangdigaru Ukaliga, the ordinary farmers in Mysore, and the leather-working Madigaru, have each their own Hale-makkalu. The Komati Hale-makkalu owe their origin to a sacrifice in the month Phalguna of the year Prabhava 2628 after the Kaliyuga, when all the household of Kusuma Chetti, to avoid giving their daughter in marriage to king Vishnu Vardhana of Rajamahendrapura, burned themselves. Malla, their servant, followed their example, and his descendants are the Hale-makkalu of the Komati.

Beggars of India mostly belong to sects of religionists,—Hindu, Buddhist, and Mahomedan,—who throw themselves on the charity of the world, to show their trust in God.

The Bahu-daka begs his bread from door to door.

Dori wala, of the Panjab, stretches a rope in front of a range of shops, and will not quit the place till relieved.

Tasma-wala, of the Panjab, ties a leathern strap round his neck, as if to strangle himself, and lies down on his back, fluttering the hands and feet as if in the agonies of death, till paid.

Dandi wala carry small bats (danda) in their hands, which, if not paid, they strike together, and abuse the shopmen with scurrilous language.

Uri-mar will sit down before a shop all day until paid.

Gurzmar and Churimar are Mahomedans, who carry a mace or knife, with which they wound themselves or others when urging for alms.

The Buddhist priests of Burma move daily through the towns and villages in their neighbourhood, tinkling a bell, but otherwise not asking for food for their monasteries.

Priests of Japan beg for public objects from passers-by. A small booth is erected at the roadside, and each donor's name is written on a little wooden tally, and suspended on one of the posts placed for the purpose along the road. In the Chinese province of Shantung, men who wish to live by mendicancy, voluntarily permit their legs from the middle of the calf to be mortified off. Many die in the process, but those who survive are congratulated by their friends at having acquired a means of livelihood.

Hindu ascetic mendicants wear clothes of a dull orange colour, the 'Bhugwa' tint. Three religious garments, with a begging pot, razor, sewing needle, waistband and bathing cloth, are peculiar to the Bhikshu, or Hindu mendicant ascetic. The begging pot of a disgusting Hindu sect in the Benares district of northern India, is the calvarium, or top of the human skull. A common begging pot is the half of a double cocoa-nut. The offspring of a common woman is compared to the contents of a begging pot,—Fakir ki jhule men tukra kon dala?—Who placed the portion into the fakir's begging pot, who can tell?—*Lockhart's Med. Mis.* p. 261; *Mysore Census Rep.* See Alms; Ascetics; Kashgul-i-Ali; Mendicants.

BEGGUD. Guj., Hind. Tinfoil.

BEGHRAM, in lat. 34° 53′ N., and long. 69° 19′ E., 25 miles from Kābul, and 2 miles west of Jalalabad, a ruined city, with walls 60 feet broad, of unburned brick. Masson supposed it to have pretensions to be the ruins of Alexandria ad Caucasum. Its ruins have yielded great quantities of coins to Masson and others. In the first year, 1865 of copper, and a few of silver, with rings, signets, and other relics; in the next year, 1900; in the next, 2500; in the next, 13,474; and finally, in 1837 it yielded 60,000 Greek and Roman, Græco-Bactrian and Bactrian, Indo-Parthian and Indo-Scythian, Sassanian Hindu and Indo-Mahomedan, which Professor Wilson utilized in his Ariana Antiqua, in elucidating the history of Afghanistan, Central Asia, and India. According to tradition, it was a Greek city overwhelmed by some natural catastrophe. The present Hindus call the site Balram.—*MacGregor*, pp. 202–3; *Masson's Journeys*, iii. p. 150. See Nagrahara; Opian.

BEGONIA, a genus of plants belonging to the Begoniaceæ. About 30 species have been found in the East Indies. B. Malabarica, laciniata, porrecta, diversifolia, discolor, dipetala, picta, and pedunculosa, may be named. The great yellow-flowered begonia is abundant in the Bablang pass in the Sikkim Himalaya, and its juicy stalks make sauce; the taste is acid, and very pleasant. The remarkable variegation of their large one-sided leaves renders some of them favourite foliage-plants. Among the more beautiful are B. rex, B. Griffithii, B. argentea, B. xanthina, and several garden hybrids. B. discolor, Ch'un-hai-t'ang, Chin., is an ornamental plant of China.

B. geniculata, Ramput udang udang, Malay. Its leaves are used by the Malays for cleaning and taking out rust from the blades of krisses.

B. reniformis. A herbaceous succulent plant; flowers of a pale pink colour, and fragrant. Native of the moist forests of India.—*Jack, Calcutta Journ. Nat. Hist.* v. p. 347.

BEGOON. Beng. Egg plant, Solanum melongena.

BEGTI, the Cockup. This, with the Sudjeh and Tupsi, are the fishes most largely used by Europeans in Calcutta.

BEGUM, Beebee, Bee, Nissa, Khānum, Khatoon, and Banoo, are respectful terms added to Mahomedan women's names in India. Many towns and hamlets are designated from this title,—Begum bazar, a suburb of Hyderabad, in the Dekhan; Begumabad, Begamgunge, Begumpett, a hamlet near Secunderabad. Mahomedan ladies of rank have ever been desirous of forming towns.

BEGUM SAMROO, a native of Kashmir, who succeeded to a principality by the demise of her husband, supposed to have been a European, of a name or appellation resembling Summers. She bequeathed her kingdom to the East Indian Government, and died on the 27th January 1836. See Thomas; Samroo.

BEHAR, now a province of British India, was a part of the ancient kingdom of Magadha, first held by the Barhadratha of the Indu, the Chandravansa, or Lunar race, and succeeded by other six dynasties, from B.C. 1400 to B.C. 56. The Magadha kingdom flourished from the 4th century B.C. to the 5th century A.D. It is supposed to have attained its greatest splendour in the time of Seleucus Nicator, who invaded it, and appointed Megasthenes as his ambassador at Palebrotha. The Magadha rulers encouraged arts and learning, and colonized Java and Bali, in the Archipelago. Behar was the cradle of Buddhism, and sent its missionaries to Ceylon, Tibet, Tartary, and China; and it has many Buddhist remains at Gaya and other places. From the beginning of the 13th century A.D., it continued under Mahomedan rule until 1765, when the British succeeded. It comprises the districts of Bhagulpur, Champaran, Gaya, Monghir, Purniah, Patan, Santal Parganas, Saran, Shahabad, and Tirhut; has an area of 42,417 square miles, and a population of 19,736,101 souls, of whom three-fourths are Hindus and Mahomedans. The principal aboriginal tribes are the Bhar, Cheru, Dhangar, Kanjhar, Kharwar, Kol, Mala Naiya, Nat, Paharia, Santal, and Tharu. North Behar, the ancient Mithila, corresponds to the modern Tirhut and Purniah districts. The name is supposed to be from Vihara, a Buddhist monastery. Under the British, it is one of the four provinces under the rule of the Lieutenant-Governor of Bengal, the other three being Bengal proper, Orissa, and Chutia Nagpur.—*Wilson's Glossary; Journ. B. As. Soc.* 1864; *Imp. Gaz.*

BEHAT, near Saharunpur, in the Doab. A submerged ancient town was discovered near this by Sir H. P. Cautley.—*Prin. Ind. An.*

BEH-DANA or Bihi-Dana. Pers. The seeds of the quince. They are demulcent and cooling, very mucilaginous, and are used in sherbets.

BEHEMOTH, an animal noticed in Job xl. 16, Psalm i. 10, Isaiah lxxiii. 22, xxxv. 11. 'Behold, now, behemoth, whom I made with thee, he feedeth on grass like the ox.' It is supposed to be the hippopotamus.

BEHENTA. Uria? A timber tree of Ganjam

and Gumsur. Its timber is used for axle-trees, oil presses, and rice pounders. It is also burnt for firewood, the tree being very common. The bark and leaves are used medicinally.—*Macdonald.*

BEHERA. Some of the Joodi and Johya inhabit the range called in the native annals Juddooca-dang, and by Baber, the hill of Jud, skirting the Behut. Behera city is often mentioned in the Yadu Bhatti annals. It was one of their intermediate places of repose on their expulsion from India and migration to Central Asia. Its position was minutely pointed out by the emperor Baber (p. 259), who, in his attack on the hill-tribes of Jit, Goojur, Gukker, etc., adjoining Kashmir, 'expelled Hati Gaker from Behreh, on the Behut river, near the cave-temples of Garkotri at Bikrum.' Baber (p. 294) also found the Jit masters of Sialkot—*Tod's Rajasthan*, ii. p. 233.

BEHIKAR. Hind. Adhatoda vasica.

BEHISTUN. This name is generally written Bisutun in the maps; it is now given to a small village, 21 miles west of Kirmanshah, on the frontier of Persia. It is at the foot of rocky mountains, which are covered with bas-reliefs. The inscriptions are in the Bactro-Medo, or Persian cuneiform character of the Achæmenidæ. The most important is a list of the Iranian nations subject to Darius in the Naksh-i-Rustam, which the Persians attribute to the chisel of their famous sculptor Ferhad. Enormous marble capitals of columns are to be seen at Behistun. There are two tablets, the one containing a mutilated Greek inscription, declaring it to be the work of Gotarzes; the other, a Persipolitan sculpture, adorned with nearly 1000 lines of cuneiform writing, exhibiting the religious vows of Darius Hystaspes after his return from the destruction of Babylon, on the revolt of its Udapati or governor, Nebuchadnezzar, the son of Nebunet. Both C'tesias and Isodore mention a statue and pillar of Semiramis at Baptane, but the sculptures of Semiramis and an inscription in Syriac characters have wholly disappeared. Baghistan is traditionally described as the pleasure-grounds of Semiramis; but D'Anville suggested the identity of Behistun with the Baghistane of the Greeks, and there are good grounds from the ancient notices of this place, for supposing him to be correct. An oriental writer of the 15th century described the rock of Behistun from his own observation, as though it were sculptured in the form of a minaret. Certainly nothing of the kind now remains. The inscription set up here by Darius Hystaspes, commemorates his restoration of the Zoroastrian faith, after its overthrow by the Turanian magi, and also of the text and commentary of the Zendavesta itself, which had been neglected or proscribed. The inscriptions on the tablets of Darius Hystaspes are in the old Persian language, in the Babylonian, and also in the language of the Scythians in the Medo-Persian Empire. The Scythian portion of those inscriptions is distinctly of the Scythian, that is, Turanian group, as spoken in the 5th century B.C., though the people by whom it was spoken are believed by Professor Oppert and Mr. Norris to have been Medians. This Scythian part of the Behistun inscriptions bears a special relationship to the Ugro-Finnish family, which Dr. Caldwell considers to resemble the Dravidian dialects, and thinks that the ancient Scythic race, by which the greater part of Central Asia was peopled, prior to the irruption of the Medo-Persians, belonged to the Ugrian stock, and not to the Turkish or Mongolian.—*Sayce*, vii. 79; *Oppert, Records of the Past*, vii. 109; *Layard's Nineveh*, ii. 168; *Ferrier, Journ.; Bunsen*, iii. 457; *Rawlinson.*

BEHJUR. Beng. A mixture of barley and peas.

BEHKUL. Hind. Prinsepia utilis.

BEHMAN. Hind. Withania somnifera.

BEHMEN, also Lal Behmen, the dried roots of two varieties of a composite plant, chiefly obtained from Kābul. Used by the natives as a tonic in debility, in doses of 4 drachms; also in impotence, and as a deobstruent. Was formerly employed in European medicine as an aromatic stimulant.

BEHOOR, a village between Fort Saint David and Pondicherry, at which Major Lawrance, in August 1752, entirely routed the French army.

BEHOOYA. Beng. Cyperus difformis.

BEHRAM, a Parsee or Zoroastrian, who dwelt at Nowsaree, a town about 20 miles from Surat. He wrote the Kissi-i-Sanjan, a history of the Parsee migrations.

BEHUL. Hind. Grewia oppositifolia.

BEHURA. Hind. Terminalia bellerica.

BEHUSSEJ. Arab. Viola odorata.

BEHUT, a name of the Jhelum river, called also Vehut and Vitashta. It is the Hydaspes of the Greeks. As it passes through Srinagar, the capital city of Kashmir, it is in December about 70 yards broad, and from 6 to 12 feet deep, and runs about half a mile an hour. In May it rises 25 or 30 feet. It is navigable all through the valley, and on reaching the Panjab takes the name of Jhelum. In the Panjab its bed is about 750 feet above the sea. It is to the east of the Indus river, to which it runs almost parallel, but it is smaller. Behuth is said to mean unbegotten.—*Rennell*, p. 99.

BEIAT, a Persian tribe in Khorasan.

BEIGLERBEG, or, as Meninski writes it in his Institute, Beglerbeg, signifies 'lord of lords,' is a Turkish title given to the ruler of a province. Under him are the hākim or governor of a large city, the zabit or chief magistrate of a town, and the ked khuda, principal 'house-holder;' also the Kalāntăr or būzūrg, the person who, in a village, exercises authority over the other inhabitants.—*Ouseley's Tr.* i. p. 194.

BEILSCHMIEDIA FAGIFOLIA. *Nees.* A very large tree of the dense moist forests in the plains of South Canara, not much above the sea level. It has been found also in North Canara, and on the Silhet mountains in Northern India. The tree grows to an immense size, and the timber is used for building purposes. Two other species inhabit Northern India.—*Beddome, Fl. Sylv.* 185.

BEILSCHMIEDIA ROXBURGHIANA. *Nees.* Laurus bilocularis, *Roxb.*, a tree of Tipperah, one of the Lauraceæ.—*Roxb.; Voigt.*

BEIROUT was taken from the Saracens by Baldwin, the first king of Jerusalem, in A.D. 1111, but retaken 1187. Ten years afterwards, the Christians again captured it, and it was frequently ravaged during the crusades. Subsequently it fell into the hands of the Druses, from whom it was taken by the Turks, who still retain possession of it. It is the ancient Berytus. It is situated on the western extremity of a triangular point of land, projecting into the sea about four miles beyond the line of coast. It stands on a

gentle rising ground close to the sea-shore, and is about three miles in circumference.—*Robinson's Tr.*

BEIS, one of the thirty-six royal races of Rajputs who give the name to Beiswara.

BEIT, also written Bate and Bete, an island in the Gulf of Cambay, occupied by the Badhail race. It was taken possession of by the pirates of Jugut, after they had been defeated by Kutub Shah in A.D. 1482. Beit fell, after having fought twenty naval engagements.

BEI-VURMA BEWA. CAN. Azadirachta, *sp.*

BEKH. PERS. A root of any plant, but particularly if used medicinally; thus—

Bekh-Anjabaz. Red-coloured root of a plant brought from Dehli; considered cooling.

Bekh-i-Badyan. Fœniculum vulgare.

Bekh-i-Banafsha. Viola serpens.

Bekh-Karafs. Apium involucratum; Apium graveolens.

Bekh-Karpas, root of a small plant from Dehli.

Bekh-Kasni. Cichorium intybus.

Bekh-i-Marjan. Red coral.

Bekh-Mihaq. Glycyrrhiza glabra.

Bekh-i-Nilofar. Nelumbium speciosum.

Bekh-i-Pan. Root of Chavica seriboo, *Miq.*

Bekh-i-Sosan, HIND. Iris florentina.

Bekh-i-Zafran. Aristolochia rotunda.

Bekh-i-Zanjabil-i-Shami. Elecampane.

BEKHOOR-MIRIAM. ARAB. Cyclamen Europæum.

BEKHUL, also Bekhli. HIND. Prinsepia utilis.

BEKRA. MAHR. Tetraceros quadricornis.

BEKUK. In the beginning of the 18th century, an impostor made his appearance at Dehli, who produced a pretended new Scripture, written in a language of his own invention, framed from those spoken in ancient Persia, and founded a sect, in which the teachers were called Bekuk, and the disciples Ferabūd.

BEL. HIND. Any climbing plant; a tendril.

Bat-bel. Cissampelos Pareira.

Bel-ka-bij, sugar-cane, cut up for setts.

Bel-Kambi. Acacia amara.

Bel-ke Buchla ki bhaji. Basella alba.

Bel-ki pat. Leaf of Ægle marmelos.

BEL. HIND. A place where sugar-boiler pans are placed. Bel-Karahi, a sugar-boiling caldron.

BEL, also Belgar. HIND. The Ægle marmelos, or Bengal quince. The fruit contains tannin, either pure or in combination; a large amount of mucilage; a concrete essential oil; and an aromatic as well as a bitter principle. A sedative or narcotic property would also appear to exist in one or other of these. The fruit, a little unripe, is given in diarrhœa and dysentery. The decoction of the dried fruit is aromatic, slightly bitter and astringent, gummy and mucilaginous, something like a mixture of a decoction of quince and pomegranate, but bearing an aroma peculiar to the Bel. When made into jam, and eaten at meals, like marmalade, every morning, it is found very useful to women and children, whom it is injurious to accustom to continual purgation. With Hindus the leaves are sacred to Matajee (from the milk of whose breast this tree is believed to have sprung up), and they are offered to Mahadeva. The oath of Bel-bandhar, or 'the pledge of the Bel,' is one of the most sacred a Hindu can take. When this oath is taken, some of its leaves are filled with turmeric, and interchanged with solemn pledges by the parties.—*Roxb.*; *Genl. Med. Top. of Ajmir*; *Malcolm's Central India*, i. 196.

BEL. HIND. A hoe. Beldar, a labourer. The beldar of Northern India are of the Kachi, Kurmi, and Chamar races. In Southern India they are of the Wadara tribes. See Beldar.

BEL, Belos or Belus, a Babylonian deity. Bel of Babylon was the Assyrian Bilu, and the Hebrew Baal, equal to lord. The older Bel was called in Akkadian, Mul or Mul-ge, the Lord of the Abyss, and presided over the earth and underground world. The younger Bel was called Bel-Merodach. The Babylonian trinity was Anu, Bel, and Hea.

Hurman Bel, supposed by Movers to be the serpent of Bel, is explained by Bunsen to mean the combater of Bel, or struggler with Bel, called in the Canaanitish dialect Yesrael or Israel. He was the struggler with El, God, the Hercules Palamedes of the Greeks.—*Bunsen*, iv. 284; *Sayce*, p. 164.

BELA. HIND. Jasminum zambac; in Bengal, Sapium bacciferum.

BELA. HIND. Alluvial soil on the banks of a river.—*Powell.*

BELA, the chief town of Las, in Baluchistan, is built on a strong and rocky site on the northern bank of the Purali river. It is the Arma-Bel of the ancient Arab authors; also called Kara bela. It is now decayed, but coins, trinkets, and funereal jars are found near; and in the neighbouring hills are numerous caves and rock-cut temples, now ascribed to Farhad and fairies, but are the earthly resting abodes of former chiefs and governors; also near, are old Mahomedan tombs. One-third of the houses are occupied by Hindus.—*Elliot's India*; *Masson's Journeys*, ii. p. 28.

BELADUR. ARAB. Semecarpus anacardium.

BELADURI, author of an account of the early Arab invasions of Kandahar. He was so styled because addicted to the use of an intoxicating confection made from the Beladur.

BELAGANI or Balagami, a village in the Shimoga district of Mysore, celebrated for its ruined temples, with sculptures of high finish, and many inscriptions. It was the capital of the Kadamba dynasty as early as the 12th century.

BELALA or Belall, a dynasty in the Peninsula of India, whose sway at one time extended over the whole of Karnata, Malabar, the Tamil country, and part of Telingana. They claimed to be Rajputs of the Yadu branch. This dynasty ruled for 256 years in Warangal, until its capture by Mahomedans, A.D. 1323, on which two of its officers established their rule at Vijianagar.

BELAM-KONDA-SULA MANI. MALEAL. Pardanthus Chinensis, *Ker.*

BELAMUDAGAM. MALEAL. Scævola belamudagam, *Linn.*

BELAN, the ancient Amana, a large village in a valley of the Mount Amanus, about three hours' riding from Alexandretta. The pass of Belan, in the mountain called Pulæ Syriæ by the ancients, was traversed by Darius a few days before the battle of Issus. It is in the route from Anatolia and Syria.

BELANDA, a tribe in Kedah.

BELANUS. According to Colonel Tod (Tr. 253), the Syrian Bal and Belanus is the Bal-Nath (god) of the Saura, whose grand temple of Somnath is the counterpart of the Syrian Balbec, Soma-Nath

being merely a figurative appellation of Bal, as the ruler of the lesser orb, Soma or the moon.

BELASCHORA. MALEAL. Lagenaria vulgaris.

BELASPORE, a town and a district in the Chatisghar division of the Central Provinces, of which it is the most northerly. The chief town is built on the south bank of the river Arpa. The population of the district is 785,000 souls, in an area of 8800 square miles.

BEL-BANDHAR. HIND. The leaves of the Bel or Ægle marmelos and turmeric placed on an idol; a form of oath, taking these leaves off, and swearing by them. See Bel.

BELBUSSAN CHARREE, of the Astracan steppe, is a species of Galeodes.

BELDAR, a delver, a digger, from bel, HIND., a hoe, and dar, PERS., holder. This race migrate from place to place as work is heard of. They are stone-cutters, construct dry walls and wells. They have no houses, but dwell in small tents. Those from Poona wear enormous turbans, containing about 80 yards of cloth. They speak Mahratti, also Hindi. They worship Marri Ai or the Death Mother, who is known also as Sitla or small-pox, Mata, Ai, Devi, Bhawani. They sacrifice rams. They marry when they have the means, when young, bury the dead, and offer water libations and rice on the third day. They do not eat beef, but eat mutton. A few can write. They claim to be dissimilar from the Waddaru, with whom they neither eat nor intermarry. The Waddaru have two sections, one of them earth-diggers, who eat rats. The other are stone-cutters, and cart stones from quarries.

Beldar of the Uriya are tank-diggers by profession, and are all under the command of a chief called a jemadar. Under the jemadar are a number of naiks, each of whom has the command of a gang. These gangs have no settled home, but wander about the district wherever they can get work.—*Wils.*

BELEE WAULKEE. CAN. Terminalia arjuna. Belelah, PERS., Myrobalan of T. bellerica.

BELEMNITES. Lung-kuh, CHIN. Fossils, very common in the limestones of Trichinopoly, and in the Himalaya, of the genera Belemnites, Belemnitella, Acanthoteuthis, Belemnoteuthis, and Conoteuthis. Belemnites are officinal in Arabic medicine.—*Honigberger*, p. 242.

BELERIKA. MALEAL. White var. of Calotropis gigantea.—*R. Brown.*

BELGAUM, a revenue district of the Bombay Presidency, lying between lat. 15° 22′ and 16° 56′ N., and long. 74° 4′ and 75° 35′ E., with an area of 4591 square miles, and a population of 938,750 souls. The country is about 3000 feet above the sea, and the rivers Kistna and Malparbha flow through it to the east. The people are largely agricultural, of the Srawak or Jain faith, Hindus of the saiva, vaishnava, and lingaet sects, and with 91,386 Mahomedans. The Mhar race are the village watchmen. The district was transferred from the Peshwa to the British under the treaty of Poona of June 1817.

A temple in the Parasgad district is a place of pilgrimage, on a hill sacred to the goddess Yellama, visited in the full moon of November and April, commemorative in November of the death of Yellama's husband, and in April of his return to life. At one moment the pilgrims raise a deep wail, and the women break their glass bangles, in sympathy with the goddess in her widowhood.

Belgaum town, with its adjoining suburb of Shahpur, is 2260 feet above the sea, from which it is distant 70 miles. It is within 20 miles of the Western Ghats, and the rocks are limestones, sandstones, and clay-slates upraised by granite in highly vertical strata. The average fall of rain, 1850 to 1856, was 52·40 inches. It is a large British cantonment, and its climate is pleasant. Natives of India, to distinguish it from other towns of the same name, style it Shahpur-Belgaum.

BELGAUM WALNUT, fruit of Aleurites triloba. This is the Mollucca tree which produces the 'Lumbang nut.' The tree is very prolific. The nuts yield a very large percentage of oil, and, strung upon a thin strip of bamboo and lighted, will burn like a candle.—*Trans. Agri-Horticultural Society.*

BELI. HIND. Ribes leptos.

BELI, a monarch of India to whom the god Vishnu as Vamana appeared. See Vamana.

BELIKH-ZICHI. AR. Cucurbita citrullus, *L.*

BELILLA. MALAY. Mussœnda frondosa.

BELL.

Cloche, Sonnette, . FR.	Campana, . . . IT., SP.
Glocke, Schelle, . GER.	Manni, ... TAM.
Gant'hi, . . . HIND.	

Bells are largely used by Hindu, Buddhist, and Christian worshippers, about their temples and churches. The old bell of Moscow is 'Tzar Kolokol,' the king of bells. It is said that Moscow at one time had 1706 large bells, one of these being of such dimensions as to require four and twenty men merely to pull the clapper. Its weight was 288,000 lbs., or something over 120 tons. This huge mass fell from its supports, and was recast in 1654. It fell again, however, and was again broken up and recast, but with a vast quantity of additional metal, and the outcome was the great King, the 'Tzar Kolokol,' which stands 19 ft. 3 in. high, and measures 60 ft. 9 in. round, and is 2 ft. thick in solid metal, and the money value estimated at nearly £67,000. Its total weight is about 198 tons. It was long believed that the bell had been raised into some kind of belfry, but that it fell and buried itself in the earth. Experts, however, after careful examination, came to the conclusion that it never was removed from the mould in which it was cast, and which was in an enormous cavern under the Kremlin. A piece was chipped out of the 'Tzar Kolokol,' which was said to weigh eleven tons, or considerably more than half the weight of the Great Paul bell, and more than twice as large as the famous old bell of St. Paul's, which, according to tradition, once saved the life of a sentinel on guard by making itself audible as far as Windsor.

St. Paul's great bell was originally cast in the reign of Edward I., and was hung at Westminister Hall gate to tell the judges the time of day. It was at first called 'Edward of Westminster,' and afterwards 'Westminster Tom.' It was transferred to St. Paul's by William III., and was brought thither on New Year's Day, 1699. Since that time it has been twice recast, with additional metal.

Big Ben of Westminster weighs between 13 and 14 tons. Great Peter of Yorkminster was the heaviest bell previous to the time of Big Ben. Peter was founded in 1845, and weighed 10 tons,

thus eclipsing Great Tom of Oxford with a weight of about 7½ tons.

Great Paul, the new bell for St. Paul's, is by far the largest ever yet produced in England. A mass of upwards of 20 tons of metal was poured into the mould, and the bell, somewhere between 17 and 18 tons in weight, was brought to St. Paul's in May 1882.

Among the large bells cast of late years, Canada boasts one for the Roman Catholic cathedral of Montreal. It weighs 13 or 14 tons.

Clarke, in his Travels, gives an interesting account of the bells of Moscow, and of the 'king' in particular. The large bell near the cathedral is only used upon important occasions, and yields fine solemn tones. When it sounds, a deep hollow murmur vibrates all over Moscow, like the fullest tones of a vast organ, or the rolling of distant thunder. This bell is suspended in a tower called the belfry of St. Ivan, beneath others, which, though of less size, are enormous. It is 40 ft. 9 in. in circumference, 16½ in. thick, and weighs more than 57 tons. Of the great bell of all he says, 'It is truly a mountain of metal. They relate that it contains a very large proportion of gold and silver, for that while it was in fusion the nobles and the people cast in as votive offerings, their plate and money. The natives regard it with superstitious veneration.' It is white and silvery in appearance. The Emperor Nicholas had the bell raised to a granite pedestal, and there it stands now, its interior, to which access is gained through the fracture in its side, being used as a chapel.

Bells are well, and numerously, cast in all parts of the S.E. of Asia. In Burma, those in the small pagodas in form have their inferior part less widened than the bells of Europe, and they are cast with a large hole in the centre of the upper part; no tongue is hung in the interior, the bell being sounded by striking its outer surface below with a deer or elk horn. The bell at the Shooay Dagon pagoda in Rangoon was cast in 1842. Its weight is 42 tons 5 cwt. 40 lbs. (94,682 lbs.); its height, 9½ cubits; its diameter, 5 cubits; its thickness, 15 inches. Whilst the materials were being melted, devout persons threw in copper, silver, and gold in great quantities, increasing the weight by one-fourth. The bell at Mengoon, in Burma, is 18 ft. high, besides 7 ft. for hanging apparatus; it is 17 ft. in diameter, and 10 or 12 in. thick. Its weight is supposed to exceed 200,000 lbs. = 88 tons 7 cwt. 106 lbs. Considerable quantities of gold and silver were flung into the melting mass. The biggest bell in Burma is on a low circular terrace north of the temple at Mengoon. Its external diameter at the lip is 16 ft. 3 in., and its interior height 11 ft. 6 in.

A large bell is in a small monastery not far from Pekin; it weighs 53½ tons, and has on it several thousand Chinese characters in basso-relievo, constituting a Buddhist classic, which the priests, when they retire into seclusion for three years, commit to memory.

It has been asserted that Pekin has or had no less than seven, weighing considerably over 50 tons each. One bell has been reported the largest suspended bell in the world, and second only among all bells to the huge creation of Moscow.—*Bishop Bigandet, Legend of the Burmese Buddha.*

BELL, Dr. ANDREW, was the first superintendent of the Madras Military Male Orphan Asylum, when it was opened in 1789. He was the founder of the Bell and Lancaster system of teaching.

BELLA-BEK of the Waddar, Felis chaus.

BELLADONNA. Tien-kia, Chin. Atropa belladona. The deadly nightshade.

BELLA GADA. Tel. Ceropegia juncea, *R.*

BELLARY, a town and military cantonment in the centre of the Peninsula of India, equidistant from the Bay of Bengal and the Arabian Sea. The town is in lat. 15° 8′ 51″ N., and long. 76° 57′ 15″ E. It gives its name to a revenue district, which has the Mysore territory on the south and west, that of Hyderabad on the north, and Cuddapah district on the east. Since the 14th century, this district has successively been under the rule of the Vijianagar dynasty, of the Adal Shahi kings, of the Mahratta Sivaji and the Peshwas (1640), of the Moghul emperors of Dehli, of the Mahomedan rulers of Mysore, of the Nizam of Hyderabad, and finally of the British, to whom it was ceded by the Nizam in 1803. The population in 1871 was 1,668,000 souls, 92 per cent. being Hindus of the Saiva, Vaishnava, and a few of the lingaet sects. A small colony of the Beder race occupy the sanatorium hill of Ramandrug, and the Korcha-wanlu are a predatory race in the plain. The ruins of the ancient capital of Humpi are near. The country is a plain about 900 to 1200 feet above the sea, with solitary granite hills projecting from the red and black soil. The climate is very arid, the rainfall about 22 inches, but it has the rivers Tumbudra, Pennar, Hagri, Vedavati, and Chitravati; several anicuts have been built across the head of the Tumbudra, and watercourses have been led along its banks, particularly at Chitwadaghi Humpi (the ancient Vijianagar), Seiragūpah, and Rampūr. The principal reservoir is at Bookapatnam, formed by embanking the gorges of a range of hills through which the river Chitravati flows. The tanks of Daroji, Anantapur, and Shinganinalla are next in importance; but there are many ancient bunds, which were breached during the native governments, and have not been restored. About 1,037,634 acres are of the regur or black soil. Earth salt is made throughout the district; iron is largely made at Sundoor. The underlying rock in the Bellary and Cuddapah districts is granite or gneiss.

BELLA SHORA. Male. Lagenaria vulgaris.

BELLAWAN. Duk. Semecarpus anacardium.

BELLERIC MYROBALAN. See Myrobalan.

BELLEROM. Tam. A wood called in Malabar and Canara, kyndle. It resembles the angely wood. The Company's cruiser Aurora was built of this wood, procured from the forests in the north of Malabar.—*Edge, M. and C.*

BELLEW, HENRY WALTER, a medical officer who served in the Crimea in 1855, in the war against Russia, and afterwards entered the E. I. Company's service in the Bengal army, and from 1856 was employed almost exclusively on the N.W. frontier of India, in Kashmir and Afghanistan. In 1857, was a member of General Lumsden's mission to Kandahar, and wrote the journal of the mission. In 1865, published a topographical history of the Yuzufzai district; in 1868, a pamphlet, 'Our Panjab Frontier,' advo-

cating reconstruction of the British N.E. boundary, and occupation of the frontier highlands. In 1868, published a grammar and dictionary of the Pushto.

BELL METAL.

Klokspys, . . .	Dut.	Kolokinaja-mjed,	Rus.
Metal de Fonte, .	Fr.	Campanil, . . .	Sp.
Metal de cloches, .	,,	Venjalam, . . .	Tam.
Glockengut, . .	Ger.	Kantan, . . .	Tel.

An alloy, consisting of three parts of copper and one of tin, of which bells are made.—*M'Culloch.*

BELLOWS. Eng. Pankha, Hind. For household fires of India, the bamboo blow-pipe is employed. The blacksmiths of India use sheep-skins sewed, with a cleft, edged with wooden rods, which the bellows-blower opens, raises, and depresses. The Chinese bellows consist of forcing air-pumps, two cylindrical tubes of wood, of about eight inches diameter, about five feet long each, and placed vertically in the earth, contiguous to each other, with pistons inserted in each, which are alternately depressed, in the manner of churning, by a bellows-man sitting beside them. The air is pressed out of a lateral tube in each, and communicates with the forge. Above these tubes are two apertures furnished with valves to admit fresh supplies of air. Such double-nozzled bellows are in use by the Burmese, the Malays, and the Hovas of Madagascar. Those of Burma are of two bamboos four inches in diameter and five feet long, with pistons clothed with a bunch of feathers or other soft substance.—*Peschel; White's Voyage.*

BELL PEPPER, Capsicum grossum.

BELLUM. Tel. Coarse sugar, goor, jagari.

BELNA. Hind. A roller press to extract juice from the sugarcane; also a machine for cleaning cotton from its seed.

BELOO. Tel., Uria? A tree of Ganjam and Gumsur; extreme height 30 feet, circumference 3 feet. Its wood is sometimes employed for making carts; the leaves are used for making the umbrella-hat which is worn on the head by the ryots and coolies.—*Captain Macdonald.*

BELOSTOMA INDICUM, an aquatic species, attains a size of nearly three inches.

BELTANE feast was on May-day, but the word was also applied to fires kindled in honour of Bel on other days, as on Midsummer Eve, All-Hallow E'en, and Yule or Christmas.

BELUGA CATODON, *Pallas*, is placed by Gray, Gerard, Lesson, and Lacepede, as of the genera Physeter, Delphinus, Delphinapturus, and Catodon, one of the Delphinidæ found in the North Pacific, North Atlantic, and Arctic Ocean.

BELULI. Can. Allium sativum, garlic.

BELUMBU. Duk. Averrhoa bilimbi.

BELUR, an ancient city in the Hassan district of Mysore, but now only with about 3000 inhabitants. It is called in the Puranas, Velapura, and is known to the people as Dakhina Varanasi, or southern Benares. Its celebrated temple of Chenna and Kesava is adorned with carvings and sculptures from the master hand of Jakana Charya. It was erected and endowed about the middle of the 12th century, by a king of the Hoysala-Ballala dynasty, on the occasion of his conversion from the Jaina faith to vaishnava Hinduism.—*Imp. Gaz.*

BELUR TAGH is one of the many names given to the Kouen Lun chain, which forms the northern boundary of western Tibet; it is not less elevated than the Himalaya, and is covered throughout a great part of its length with perpetual snow. Dr. Thomson reached its axis in the Karakoram pass, elevated 18,300 feet. The Kouen Lun chain has been called the Belur Tagh or Bulut Tag, which Captain Cunningham regards as synonymous with the Balti mountains. It is also called Mustagh, Karakoram, Hindu Kush, and Tsun lung or Onion mountains, because of a species of Allium growing there. Its continuation is the Pamir range. At the present day, the old indigenous inhabitants of that district, and generally those of Kashgar, Yarkand, Khoten, Turfan, and the adjacent highlands, are Tajak, who speak Persian, and who are all agriculturists. The Turkoman either came after them and settled at a later period, or else they are aborigines whom the Aryans found there; but its slopes are the primeval land of the Aryans. —*Ch. Bunsen*, p. 406.

BELUTA POLA-TALI. Maleal. Crinum Asiaticum, Beluta-champagam, Mesua ferrea.

BELVIDERE, a house in Bombay, called Mazagong House, once occupied by Mrs. Draper, the Eliza of Sterne's letters. She left her husband about A.D. 1770.

BELWA, a race in Mysore who collect the juice of the palmyra, speaking Malealam.

BEM-NOCHI. Maleal. Vitex negundo. Bempavel, Momordica dioica. Bem-tamara, Nelumbium speciosum, *Willd.*

BEN. Burm. Cannabis sativa.

BEN. Hind. Eremurus spectabilis.

BENA of Kurawar. Moschus moschiferus, *Linn.*

BENA. Beng. Ardropogon muricatus.

BENABA, also Bia and Bibla. Duk. Pterocarpus marsupium.

BENA-JONI. Beng. Sporobolus diander.

BENARES, a holy city of the Hindus, is built on the left bank of the Ganges, between the Barna Naddi on the N.E., and the Asi Naddi on the S.W., and extends along the river bank for nearly 3 miles. In 1872, its population was 175,188 souls. It is in lat. 25° 18′ 31″ N., and long. 83° 3′ 4″ E. The people call it Kasi, but it is also called Varanas or Varanasi, also Ati Mukta. It is famed for its artistic work in clays, metal, stone, wood, and alloys. Benares town gives its name to a revenue division of the N.W. Provinces of India, which has the districts of Azamgarh, Basti, Benares, Ghazipur, Gorakhpur, and Mirzapur, of 18,314 square miles, and a population in 1872 of 8,179,307 souls, of whom 90 per cent. are Ahir, Baniya, Brahman, Chamar, Kayasth, Kurmi, and Rajput. The people are largely agricultural, growing rice, wheat, barley, oats, peas, cotton, bajra, sorghum, maize, pulses, indigo. Benares town has many temples and shrines, and Hindus resort to it in pilgrimage. The river Ganges bends round the town, and the view from the river is a beautiful prospect. The Hindu temple of Vis-Eswara has been for many centuries the chief object of veneration at this town. The old temple, described by Tavernier, 1680, was partially destroyed by the Mahomedans in the reign of Aurangzeb; the present was built up by Ahalya Bai, a Mahratta princess, and is remarkable for the beauty of its minute architectural embellishment. The thick plates of pure gold with which its dome is covered, were a bequest of Ranjit Singh. The old temple was in the form of a St. Andrew's cross. Benares has been by turns Brahmanical, Buddhist, Saiva-Hindu, Sakta-Hindu, Vaishnava-Hindu, and Jaina; but at

present it is a great Saiva city, and the emblems of this deity's worship are multitudinous. Durga also, and likewise Ganesh, Surya, Vishnu, Rama, and Parasnath, all have shrines. But, though now pre-eminently a Hindu city, with many tol or seminaries, it is celebrated amongst Buddhists as the place where their great teacher first expounded his doctrine, or, as they express it, where he first began to turn the wheel of the law. This was one of the four great events in the life of Buddha; and the stupa which was built upon the spot was esteemed as one of the four great monuments of Buddhism. This stupa, now called Dhamek, is situated about 3½ miles to the north of the city, amidst an extensive mass of ruins, which are surrounded on three sides by large artificial lakes. From Benares have emanated, and still emanate, almost all new opinions on questions of Hindu theology, Hindu philosophy, and Hindu jurisprudence. The verdict of the Benares authorities is final in the Hindu world. There, Sankara Acharya won a great Saivite controversial victory; there, disguised as a Hindu boy, Faizi became initiated in the Hindu Shastras; there, at the fountainhead, did Aurangzeb try to diffuse the leaven of Mahomedanism; and there the Benares college has been erected by the British, to enlighten and form the native population with new ideas in their heads, and new institutions.

The length of the city along the river front is about 4¾ miles. The houses are built of stone, and some of them are three or four storeys high, and tastefully ornamented on the outside. The ghats, or bathing-places, are large buildings many storeys high, with handsome verandas and majestic portals; but their distinctive characteristic is seen in flights of wide stairs. The manufacture of gold and silver brocade in Benares is famed. The looms are very simple in their construction. The gold and silver pass through many hands before they are formed into thread. Brocades (kimkhab), gold woven scarves (dopatta), and silks are consigned from this city, together with a kind of yellow silk dhoti called 'pitambar,' and a dark-blue silk with white spots called 'bund;' also the silk sari or scarves, exclusively for women's wear, forming both a skirt and a scarf. Its lacquer ware is good. Two kinds of resin are used; one called rahl, is sold at eight annas the seer, and is said to be brought from Mirzapur. The finer lacquer is made of a resin called gaharba, for a seer of which one rupee and two annas are paid. There is a Maharaja of Benares; his family was founded by Munsa Ram, zamindar of Gungapore, who died in 1740, and was succeeded by raja Bulwunt-Singh, who joined Shah Alam and Shuja-o-Dowla in their invasion of Bengal in 1763. He joined the British camp, with the emperor, after the battle of Buxar, and in the arrangements made with the emperor in 1764, his zamindari was transferred from Oudh to the British Government. The insurrection of Vazir Ali occurred on the 14th January 1796. In March 1862, the Maharaja received the assurance, by sunnud, that in the event of failure of natural heirs, Government will permit and confirm any adoption of a successor made by himself or by any future chief of his state, that may be in accordance with Hindu law and the customs of his race. The Maharaja receives a salute of 13 guns.—*Aitcheson's Treaties*, p. 41; *Schlagentweit; Schonberg's Tr. in India and Kashmir*, i. p. 99; *Tr. of a Hindu; Arch. Surv. Report, B.A.S.J.* xxxii. of 1864; *Imp. Gaz.*

BENAUDHA or Benawat, a tract of country in N. India, which includes the western part of Jounpur, Azimghur, and Benares, and the southern part of Oudh. Some authorities say it extended from Baiswar to Bijapur, and from Gorakhpur to Bhajpur, and that it comprised 52 parganas, governed by a panth of 12 rajas, the Garhwar of Bijapur, the Khanzada, Bachgoti, and others.

BENCOOLEN was a principal settlement of the British, till surrendered to the Dutch in 1825 in part, for possessions in the Strait of Malacca.

BENDA-KAI. Tam. Abelmoschus esculentus.

BENDAMIR, a small town of sixty houses, which takes its name from a dyke or bund, constructed in the 10th century by Amir Azam Delemi. A flat bridge of thirteen arches is thrown over the stream, the waters of which form a beautiful cascade just beneath it. As the bed of the river is very deep, seven other dykes have been constructed in its lower course, to procure water for the irrigation of the fields. It has been made famous by the bewitching strains of Moore, whose language surpasses the reality, though, in the spring-time, Bendamir is doubtless a lovely spot:—

'There's a bower of roses by Bendemeer's stream,
And the nightingale sings round it all the day long;
In the time of my childhood 'twas like a sweet dream
To sit in the roses and hear the birds' song.
That bower and its music I never forget;
But oft, when alone in the bloom of the year,
I think, Is the nightingale singing there yet?
Are the roses still bright by the calm Bendemeer?
"No! the roses soon withered that hung o'er the wave;
But some blossoms were gathered, while freshly they shone,
And a dew was distilled from their flowers, that gave
All the fragrance of summer, when summer was gone.
Thus memory draws from delight, ere it dies,
An essence that breathes of it many a year;
Thus bright to my soul, as 'twas then to my eyes,
Is that bower on the banks of the calm Bendemeer."'

—*De Bode's Travels*, pp. 169–70; *Pottinger's Travels*, p. 239; *Ouseley's Travels*, ii. p. 326.

BENDI. Mahr. Thespesia populnea.

BENDKAR of Keonjhur, scattered throughout the southern Tributary Mahals, are colonies of an aboriginal people, often mentioned in the Hindu classics, and named Savara, Saura, or Saur, and supposed to be the Suari of Pliny, and Sabaræ of Ptolemy. The Bendkar are said to be numerous in Lehera, in Bamra, and elsewhere in the Tributary States. A paper in the Asiatic Researches of 1842 notices the Bendkar, in the Kolehan district, a clan or tribe, not exceeding 250 or 300 in number, residing entirely in a range of hills, called the Bendkar Booroo, to the north of Keonjhur and Jamdapir, the southern border of the Kolehan district. The country inhabited by this tribe is exceeding wild, being in fact one mass of almost impenetrable jungle. The Savara who occupy the country between the Kandh Maliahs or hill tracts and the Godavery, retain a primitive form of speech; but the Bendkar Savara have no language of their own, and no tradition that they ever possessed one. The form of speech used is Uriya; and those living in mixed villages conform to many customs of Hindu Uriyas of inferior castes. They worship a female divinity, whom they call Bansuri and Thakurani, to whom annually they offer goats and fowls; but every ten years each community of Bendkar offers a buffalo, a boar, a

sheep, and twelve fowls. In marriage, the girl is brought by her friends to the bridegroom's house. The young couple make two and a half turns round a pot of water, in which are mango leaves. They are then bathed together, and their hands tied together, and the ceremony is at an end. The dwellings of the Bendkar are constructed of branches and leaves, and covered with grass. Their ordinary food consists of edible roots which they find in the jungle, with berries and wild fruits, such diet being varied and improved occasionally by the produce of the chase. Their husbandry is merely scratching up the surface of the ground. Their scanty crops are raised in little plots on the hill-sides, near watercourses. They barter their maize, grain, or rice with the lowland villagers. The Bendkar burn the dead, with the head to the north. In this they vary from the Kol, who affect the south; and the hill Bhuiya, who honour the west.—*Dalton's Ethnol.; As. Res.* 1842.

BENDO, a light wood of Java, useful for canoes.

BENDU. TEL. Æschynomene Indica, *L.*

BENEDICT GOES, in 1603, undertook a journey with the specific object of determining whether the Cathay of old European travellers and modern Mahomedans was or was not a distinct region from China.—*Yule, Cathay*, i. p. cxlii.

BENG. TAM. Bignonia suaveolens.

BENGAL is the country through which the rivers Brahmaputra and Ganges flow to the bay to which it gives its name, and it gives its name also to the presidency in the Government of British India, which includes Bengal or Lower Bengal, the North-West Provinces and Oudh, the Panjab, Assam, and Ajmir, each with a local government of its own, but all subject to the general control of the Governor-General of India in Council. The area that these five provinces occupy is 591,766 square miles, and in 1878 their population was 133,024,614 souls. Also, the military forces distributed through these five provinces are known as the Bengal army, and form a large portion of the army of India, under a Commander-in-Chief, who has the supreme direction also of the armies of Madras and Bombay. The Bengal or Lower Bengal region now to be noticed is administered by a Lieutenant-Governor. It lies between lat. 19° 18′ and 28° 15′ N., and long. 82° and 97° E., with an area of 203,437 square miles. The census for 1881 gives a population of 68,750,443, as against 62,724,840 in 1872, showing an advance of 9·6 per cent. Bengal, 35,954,874; Behar, 22,897,212; Orissa, 5,184,066; Chutia Nagpur, 4,714,291. In all Bengal, the Mahomedans are 19,553,831; Hindus, 38,975,418; Christians, 90,763; Buddhists and Jains, 84,974. It is bounded on the north by Assam, Bhutan, and Nepal. On the east an unexplored mountainous region separates it from China and northern Burma. It has Burma, the Bay of Bengal, and the Madras Provinces on the south, and the plateau of the Central Provinces and districts of the N.W. Provinces are on its west. In this area are included the four provinces under notice, viz. Bengal proper, Behar, Orissa, and Chutia Nagpur. *Bengal* is flat, and intersected by the watercourses formed by the branching of the Ganges and Brahmaputra and their tributaries. The climate is comparatively equable; the rainfall ranges from 60 to 100 inches; and Calcutta mean temperature is 78°. The district between the Ganges and the Brahmaputra, extending northwards to the foot of the Himalaya, is a slightly higher tract of country, and specially suited for the growth of fibrous plants, for which the neighbourhood of Rungpur is greatly celebrated. In the districts immediately east of the Brahmaputra, including Dacca and Sylhet, the greater portion of the surface is occupied by the rich plains of Mymensing and Sylhet, through which the river Soornia meanders. The old channel of the Brahmaputra, now nearly dry, winds along by Dacca from the eastward. This tract affords a great variety of produce, such as cotton, sugar-cane, rice, and other grains.

Behar is that portion of the Gangetic plain between the Himalaya and the plateau of Central India, which is terminated at one end by the N.W. districts of Ghazipur and Gorakhpur, and at the other by the passes of Rajmahal. This tract of country comprises the Patna and Bhagulpur divisions. The people are a more manly race than the Bengali; they speak Hindi dialects; and the proportion of Mahomedans amongst them is comparatively small.

Orissa is a narrow littoral strip of country running down between the hills and the Bay of Bengal. Its people speak the Urya language, closely allied to but distinct from Bengali, and their character and manners are in many respects peculiar.

Chutia Nagpur is a table-land lying south of Behar. It is a hilly and sparsely-populated region, and not very fertile. Its eastern districts, Manbhum and Singbhum, are partly inhabited by Bengali. In Hazaribagh, Hindustani people are found, but in the west and south the people are mainly aboriginal, belonging to Kol and Dravidian tribes. The elevation of Chutia Nagpur is 3000 feet, with hills running east and west, but of little height. Sirgujah is mountainous, rising 600 to 700 feet above the level of Chutia Nagpur. Mynpat is a table-land about 30 miles south-east from Sirgujah town, and about 3000 or 3500 feet high. Palamow district is very mountainous. Hazaribagh town, 24° N., 85° 54′ E., 1750 feet. The slope of country S. towards Sumbulpore, and even depressed towards the Mahanadi, Sumbulpore town being only 400 feet. The Orissa table-land then rises on the southern side of Mahanadi, in some places to 1700 feet, backed by the chain of East Ghats. Amarkantak is a jungly table-land, lat. 22° 40′ N., long. 81° 5′ E., 3500 feet.

Bengal proper, Behar, and Orissa are in the valleys of the rivers Ganges, Brahmaputra, and Mahanadi. They are fertile, and yield every vegetable product which can feed and clothe a people, or enable them to trade with foreign nations. Amid the hilly spurs and undulations, coal occurs in vast areas, with iron and copper ore and limestone. Salt is made along the coast line. The great rivers afford facilities for the carriage of their agricultural and mineral wealth, and their annual inundations in Lower Bengal spread a top-dressing of virgin soil over thousands of square miles.

Its early history is obscure. The rajas of Bengal, capital Kanauj (Gaur?), who have been identified as the first rulers, were the family of Bhupala. Abu'l Fazl, however, enumerates three dynasties as prior to this family. The first of the Vaidya

BENGAL.

rajas was Sukh Sen, in A.D. 1063. Its last Hindu king was Lakshmanan. He had been placed on the throne in infancy, and during his long reign had been a just and liberal ruler. In A.D. 1203, Bengal was overrun by Bakhtiar, a general of Mahomed Gori, and Lakshmanan escaped to Orissa. From that time till the 18th century, it was held by Mahomedans, sometimes, as from 1199 to 1330, under the Moghul emperor of Hindustan; then for two hundred years independent; and again under the Dehli empire, until treaties entered into by the British with the emperor of Dehli, in 1765, placed Bengal and Behar under the administration of the British East India Company. Orissa was occupied, and in 1854 a Lieutenant-Governor was appointed.

The Mahomedan sovereigns were:—

Fakhr-ud-Din,	A.D. 1338	Fattah,	A.D. 1461
Ala-ud-Din,	1340	Shahzadah,	1481
Haji Elias, styled Shams-ud-Din,	1342	Firoz,	1481
Sicundar,	1357	Mahmud,	1493
Ghaias-ud-Din,	1367	Muzaffar,	1494
Sultan-us-Sulatin,	1374	Ala-ud-Din II.,	1497
Shams-ud-Din II.,	1383	Nasrat,	1521
Raja Kans,	1386	Mahmud,	1534
Jit Mal, styled Jalal-ud-Din,	1392	Sher Shah,	1537
Ahmad,	1409	Selim,	1545
Nasar-ud-Din,	1426	Adili,	1548
Nasar,	1426	Bahadur,	1553
Barbik,	1428	Jalal-ud-Din,	1560
Yusuf,	1445	Suliman Kirani,	1563
		Bayazid,	1573
		Daud,	1573

Bengal was amongst the first of the places of India with which the English East India Company traded. In 1599, an association was formed in London to trade with the East Indies, and on 31st December 1600 they obtained an exclusive charter of privilege, constituting them a body politic and corporate, by the name of 'The Governor and Company of Merchants of London trading to the East Indies.' In 1613, they were ordered by Jahangir to settle in Surat. In 1634, Shah Jahan issued a firman for two English factories to settle in Bengal; and subsequently, in gratitude for the benefits derived by one of the ladies of the zenana of Prince Shuja from the medical skill of Mr. Boughton, Shah Jahan granted the privilege to the English of free trade in Bengal. The first factory of the company had been at Masulipatam, but in 1625 it was removed to Armegon, and subsequently (1639) Mr. Day removed it to a village in the territory of the raja of Chandragiri, and erected a factory there, which was first called Fort St. George, and is known now as Madras. The regular connection of the Company with Bengal, however, did not commence until 1642, when a factory was established at Balasore, and in 1652 permission was obtained for unlimited trade without payment of customs dues, on an annual payment of Rs. 3000. In 1661, Charles II. granted a new charter, vesting the Company with power to make peace and war, and to send to England unlicensed traders; but a fresh charter issued in 1693 limited the Company's powers to twenty-one years. In 1698, a rival company was formed, called the new or English Company; but in 1702 this amalgamated with the old or London Company, and the two parties styled themselves the United Company of Merchants trading to the East Indies. During the administration of Shaiasta Khan, subadar of Bengal, the English were subjected to much oppression. Shaiasta Khan exacted a duty of 3½ per cent. on their merchandise, and his officers arbitrarily extorted large sums from the factors, till, in 1685, it was resolved to seek redress by force of arms. The hostilities of the English exasperated the Emperor Aurangzeb, who ordered that they should be expelled from his dominions. The Company's factories were seized, and their affairs were brought to the brink of ruin, when negotiations for peace were set on foot, and a reconciliation was effected.

In 1698, the English obtained permission from Azim-us-Shan, grandson of Aurangzeb, and governor of Bengal, to purchase the towns of Chuttawutty, Govindpur, and Calcutta.

In 1756, Suraj-ud-Dowla became subadar of Bengal. He had previously manifested aversion to the British, and the Governor of Calcutta having refused to deliver up one of the principal officers of finance under the Nawāb's late uncle, the Governor of Dacca, whom the Nawāb had resolved to plunder, Suraj-ud-Dowla attacked and captured Calcutta on 5th August. One hundred and forty-six British fell into his hands, and were thrust into a guard-room, since called the 'Black Hole,' where all, save twenty-three, perished in the night. On 2d January 1757, Calcutta was retaken by a force which had been despatched from Madras under Clive and Admiral Watson, and on the 4th of February the Nawāb's army was surprised and defeated by Clive. Overtures were then made by the Nawāb, and on 9th February 1757 a treaty was concluded, by which the Nawāb agreed not to molest the Company in the enjoyment of their privileges; to permit all goods belonging to the Company to pass freely by land or water without paying any duties or fees; to restore the factories and plundered property; to permit the Company to fortify Calcutta, and to establish a mint. Three days afterwards, a contract with the Nawāb, offensive and defensive, was signed. War having broken out between France and Great Britain, Clive attacked the settlement of Chandernagore, on which Suraj-ud-Dowla furnished the French with arms and money, and was preparing to make common cause against the British. At this juncture a confederacy was formed among Suraj-ud-Dowla's chief officers to depose him. The British joined this confederacy, and concluded a treaty with Mir Jafar Ali Khan, and at the battle of Plassey, which was fought on the 23d June 1757, the power of Suraj-ud-Dowla was completely broken, and on the 29th June, Jafar Ali was installed by Clive as subadar of Bengal.

In 1759, the Shahzada, afterwards Shah Alam, in consequence of some dispute with his father, the emperor Alamgir II., fled from Dehli, and entered into a league with the subadars of Oudh and Allahabad for the conquest of the Lower Provinces. The prince advanced into Behar with about 40,000 men, and laid siege to Patna. Mir Jafar was greatly alarmed by the prince's advance, and at his solicitation Clive marched with all the force he could assemble to the relief of Patna; but ere he reached that place, the prince's army had almost entirely dispersed. On Clive's return, the nawab Mir Jafar granted him as a jaghir, the quit-rent, about three lakhs per annum, which the Company had agreed to pay for the zamindari of Calcutta.

To meet his pecuniary engagements, Mir Jafar

had recourse to the severest exactions. He resigned himself to unworthy favourites; and it became necessary to depose him in favour of his son-in-law, Mir Kasim Ali Khan, with whom a treaty was concluded on 27th September 1760, by which the British obtained possession of Bardwan, Midnapur, and Chittagong. But serious disputes arose between Mir Kasim and the British regarding the right of the servants of the Company to trade, and to have their goods passed free of duty, which led at last to war. In 1764, Mir Jafar Ali agreed, in addition to the sums for which he had contracted in the recent treaty, to pay five lakhs a month towards the expense of the war then being carried on against the Wazīr of Oudh, so long as it lasted. Mir Jafar died in January 1765, and was succeeded by his son, Najam-ud-Dowla, with whom a new treaty was formed, by which the Company took the military defence of the country entirely into its own hands, and, among other conditions, the Nawāb bound himself to appoint, by the advice of the Governor and Council, a deputy to conduct the government, and not to be removed without the consent of the Council.

Najam-ud-Dowla died on 8th May 1766, and was succeeded by his brother, Syf-ud-Dowla, a youth of sixteen. Syf-ud-Dowla was succeeded in 1770 by his brother, Mubarak-ud-Dowla, with whom a new engagement was made. By this engagement the Nawāb's stipend was fixed at 31,81,991 rupees. This is the last treaty which was formed with the Nawāb. The office of subadar had now become merely a nominal one, all real power having passed into the hands of the British. In 1772, the stipend was reduced to sixteen lakhs a year, at which rate it is paid to this day.

Bengal was declared to be the chief presidency on the 16th June 1773. By the treaty of 22d February 1845 with Denmark, the British Government obtained possession of Serampore; and now, excepting the small settlement of the French nation at Chandernagore of 3 square miles, all Bengal is under British supremacy. But in 1876 there were in Bengal 150,000 estates on the roll, besides a vast number of petty revenue-free estates.

Bengal proper has an area of 84,198 square miles, with a population of 36,564,708, or 433 to the square mile. For administrative and revenue purposes it is arranged into 28 districts, viz.:—Bakarganj, Bankura, Bardwan, Birbhum, Bogra, Calcutta, Chittagong, Chittagong Hill Tracts, and Hill Tipperah State, Dacca, Darjiling, Dinajpur, Faridpur, Hugli, with Howrah, Jalpagori, Jessore, Kuch Behar, Maimansinh, Maldah, Midnapur, Murshidabad, Nadiya, Noakhali, Pabna, Rajashahi, Rangpur, Sylhet, Tipperah, and the Twenty-four Parganas.

The Hindus of Aryan descent are about 2½ millions; the aboriginal tribes, 387,157; and semi-Hinduized aborigines, 5,110,989 souls, are—

Baidya,	68,353	Chandal,	1,620,545
Kayasths,	1,160,478	Goalee,	625,163
Rajputs,	117,508	Jalya,	361,917
Brahmans,	1,100,105	Kaibartha,	2,000,000
Baniya and Ganda Baniya,	127,178	Kamar, blacksmiths,	250,285
Bagdi,	680,278	Kumhar, potters,	281,758
Baori,	199,968	Poda,	293,121
Chamar and Muchi,	393,490	Rajbansi (739,886), with Pali of Dinajpur and Maldah, and Koch of Rangpur,	1,000,000
Sad-gop,	630,000	Santal,	139,761
Sunri, vintners,	430,582	Teli, Tili, Kalu,	572,659
Tuar,	331,661	Vaishnav,	428,000
Weavers,	963,176		

The Kaibartha and the Sad-gop are the chief cultivators. The languages spoken are Bengali, Urdu, and English.

Behar has an area of 42,417 square miles, with a population of 19,736,101, or 465 to the square mile. For administrative purposes it is arranged into ten districts,—Bhagalpur, Champaran, Gaya, Monghir, Patna, Purniah, Santal Parganas, Saran, Shahabad, and Tirhut. The more important of its castes and tribes are—

Brahmans,	853,662	Musahar,	426,908
Rajputs,	1,013,676	Ahir or Goala,	?
Koeri,	985,538	Babhan,	1,001,369
Kurmi,	650,839	Kayasth,	208,935
Santal,	485,948	Dosadh,	893,989
Chamar or Muchi,	711,721	Pasi,	122,520
Bhuiya,	214,742		

Orissa has an area of 23,901 square miles, with a population of 4,317,999, or 181 to the square mile. Its four districts are Balasore, Cuttack, Puri, and Tributary States, and its principal castes and tribes—

Brahmans,	359,799	Hindu descent,	71,315
Karan, Kayasths,	123,434	Mahomedans,	74,466
Chasa,	808,515	Gaur or Goala,	225,533
Aboriginal tribes,	367,308	Khandait,	447,688
Semi-Hinduized ,,	572,595	Santal,	77,727
Hindus,	3,231,799		

The *Chutia Nagpur* area is 43,901 square miles, and its population 3,825,571, or 87 to the square mile. Its five districts are, Hazaribagh, Lohardagga, Manbhum, Singbhum, and Tributary States. Its population chiefly consists of—

Hindus,	1,750,000	Mundah,	190,095
Aborigines, viz. Kol,	1,250,000 292,039	Dhangar or Uraon,	208,343
Santal,	220,096		

The Mahomedans in Bengal in 1871 numbered 19,553,831; but this multitude is composed of many elements, masses of the aboriginal races as well as of the Hindus of Aryan descent having been forcibly compelled to profess the Musalman creed. Of that number, sixteen and a half millions are in Bengal proper; two and a half millions in Behar. In Chutia Nagpur and in Orissa they are few; but in the Bogra district they form 80 per cent. of the population; in Rajashahi, 77 per cent.; and in Pabna, 69 per cent. In the districts of Chittagong and Noakhali they form three-fourths of the population. Wherever they form a principal part of the population, they are the cultivating classes; and all the sailors of the eastern districts are Mahomedans. The Europeans and non-Asiatics are 17,135; and Eurasians, 20,279.

The Hindu population of Bengal are dark; and some are very dark, and have thick lips, with features either aboriginal or Indo-Chinese. Some have curly hair, as if related to the black, woolly-headed aborigines, who may have stretched across from the Rajmahal to the Garo hills; others of the Bengal people, especially the Urya, with the Bhuya, seem rather to have straight hair, with high cheek-bones, and complexions not very dark, suggesting an Indo-Chinese element stretching from Burma across the Sunderbuns (*C.* p. 106). Though good-looking, the mass of the Bengali are small and effeminate in appearance, remarkable

for timidity and superstition, as well as for subtlety and art. Their villages are composed of thatched cottages, scattered through woods of bamboos or of palms; their dress is the old Hindu one, formed by one scarf round the middle, and another thrown over the shoulders. They have the practice, unknown in Hindustan, of rubbing their limbs with oil after bathing, which gives their skins a sleek and glossy appearance, and protects them from the effect of their damp climate. During many ages the Bengali had been trampled upon by men of bolder and more hardy breeds. Courage, independence, and veracity are qualities to which his constitution and his situation are equally unfavourable. His mind is weak, even to helplessness, for purposes of manly resistance; but its suppleness and its tact move the children of sterner climates to admiration, not unmingled with contempt. Large promises, smooth excuses, elaborate tissues of circumstantial falsehoods, chicanery, perjury, forgery, are the various weapons offensive and defensive of the lower Ganges. All its millions do not furnish one sepoy to the native army. In Bengal and Behar, the work of labourers is done by Bhui, Rajwar, Chandal, Dosad, Hari, Bhumali, and other aboriginal tribes.—*C.* 124.

When the Aryans advanced from the westward to the plain of Bengal, it appears to have been occupied by a race of which the present non-Tibetan tribes of Assam and the Himalayan and Vindhyan range are remnants. The Bengalis, however, have never been wholly absorbed by the intruding race, though somewhat modified. In Silhet and Assam, in particular, the Bengalis retain the stamp of the double origin, and considerable numbers of the original race are still found intermixed. The principal remnant are the Koch'h; but there are also the Kachari (Bodo, Boro, or Mech), Dhimal, Raba, Hajong, Batar or Bor Kebrat, Polloh, Gangai, Maraha, Dhanuk. They are spread eastwards along the skirts of the mountains of Bhutan and Sikkim as far as Aliganj, and the skirts and low valleys of the sub-Himalaya, beyond Sikkim, contain other tribes of the same race. Including these already enumerated, Mr. Hodgson ascertained the presence of twenty-eight tribes between Assam and Kumaon, or from the Bonash to the Kali. Of these the most numerous were the Bodo or Kachari. The Koch'h and Bodo or Kachari tribes, of all the prior races, were the latest dominant ones of the Gangetic race in Bengal.

The agricultural products are rice, wheat, barley, maize, pulses of kinds, mustard, turnips, plantains, radishes, cucurbitaceous plants, Lagenaria, Luffa, Trichosanthes anguina, species of arum, sweet potatoes, capsicum, sugar-cane, ginger, turmeric, Piper betel, Areca catechu, tobacco, linseed, opium, indigo, jute, tea, silk. Rice has three harvests in one year, viz., boro or spring rice, in low marshy land, sown in October and reaped in May; aus or autumn rice, sown on high ground in April or May, and reaped in August and September; aman or winter crop, the last, is grown on low land, and is by far the largest crop. It is sown in May or June, transplanted and reaped in November, December, and January. Rice is the principal, often the sole, article of food throughout Bengal proper; pulses, vegetables, spices, oil, salt fish, and condiments being only used as a relish. The consumption varies from two-thirds to three-fourths of a seer per head per diem= 1¼ to 1½ lbs. In the mountainous districts the pulses and millets are the chief articles of diet.

Bengal suffered in the year 1770 from famine, more widespread and terrible than any which has ever befallen any other British possession, and which Colonel Baird Smith deemed to have been the most intense that India ever experienced. Dr. Hunter states the number of deaths on that occasion at ten millions.

Bengali is a highly cultivated language of Hindi origin, largely stocked with pure Sanskrit words. It is spoken throughout Bengal proper. Tirhuti on its N.E. border has a great affinity with Bengali. Bengali is the language of many millions of souls, and restricted solely to the geographical limits of Bengal, and from the cultivation which has been given to it, well deserves to be ranked as a separate language. It is spoken by about forty millions of people in the delta of the Ganges and to the west. Professor Müller mentions that nine-tenths of the Bengali and of the Hindi tongues are composed of words taken from the Sanskrit. He regards it as the modern Sanskrit, standing to its parent, the old and classical Sanskrit, almost in the same relation as the modern High German to the old High German, as the modern Italian to the language of Rome. See India.

BENGAL, several plants, fruits, and animals, with which the British first became acquainted in Bengal, have the name of that province as a prefix.

Bengal almond, Terminalia catappa.
Bengal cat, Felis leopardus Bengalensis, *Desm.*
Bengal currants, fruit of Carissa carandas.
Bengal fig tree, Ficus Bengalensis.
Bengal Florikin, Sypheotides Bengalensis, *Gmel.*
Bengal gram, also chick-pea, Cicer arietinum.
Bengal madder, Rubia cordifolia.
Bengal langur, Presbytis entellus.
Bengal monkey, Inuus rhesus, *Jerdon.*
Bengal porcupine, Hystrix Bengalensis, *Blyth.*
Bengal quince, Ægle marmelos.
Bengal root, root of Zingiber casumunar.

Bengal army is the political designation of that part of the military forces of the British Indian Empire, occupying Bengal, Assam, Arakan, the N.W. Provinces, with Oudh and the Panjab. It is distributed amongst races speaking the Persian, Pushtu, Panjabi, Hindustani, Hindi, and Bengali languages, besides the Oorya language in Orissa, and the Rakhooi in Arakan. It is composed of Europeans of the United Kingdom and of the natives of N. and N.W. India; Hindus of high caste, Hindus of low caste; Mahomedans from Hindustan, from the Panjab; and Pathans or Afghans from beyond the N.W. borders; also Sikhs, Rajputs, Gurkha, and Dogra. A revolt of the Bengal native army was commenced at Berhampore by the 19th Ben. N. I. on the 26th February 1857, and it was reorganized on the 9th September 1859. See Army.

BENGAL, Bay of. This great bay lies between the Peninsulas of India and Malacca. It receives many great rivers,—the Ganges, Brahmaputra, Irawadi, Sitang, Salwin, Moulmein river, Godavery, Krishna, Koladyn, Mahanadi, and has a coast line of about 2800 miles. Pliny does not make mention of any voyages of the Romans to the Gulf of Bengal or to the Malay Peninsula, although it is clear from Strabo, who wrote before Pliny, that the Ganges had been sailed up as high as Pali-

brotha. Ptolemy's Geography, said to have been composed about 60 years after Pliny, mentions the diamonds found on the banks of the Mahanadi or Sumbulpore river; also speaks of Arcati, the capital of the Soræ (or Sora-mandalum, from whence corruptly Coromandel), Mesolia, the district which contains Masulipatam; the river Cauvery, under the name of Chabaris. Ptolemy scatters islands over the Bay of Bengal, probably meant for the Andaman and Nicobar Islands, and mentions that most of them were said to be inhabited by anthropophagi, an idea continued by modern navigators. The Bay of Bengal is liable to be swept by hurricanes, which travel quite across the bay. Every few years there occur severe cyclones and advancing storm-waves. Of the latter, that of 1832, which swept over the islands of the delta up to Saugur, was attended with great loss of life; as also was a cyclone in 1859, another in 1864, with a storm-wave which submerged islands, and rushed along the coast in the vicinity of Masulipatam; and another in 1876.—*Rennell's Memoir*, p. 39.

BENGALI-SAN. HIND. This is identical with the Saka solar year. See Era; Fasli.

BENGAN. HIND. Solanum melongena, the egg-plant. Valayati bengan is the tomato.

BENGAN, a mountainous district in Mindoro, occupied by a Negrito race.

BENI. ARAB. When the Bedouin Arabs speak of tribes, they say Beni, which signifies the sons of some person; thus Beni Leghat means the tribe of Leghat. The word is ibn, a son, and is written bin when preceded by a proper name, and followed by the name of the father, as Hasan bin Muhammad, Hasan son of Muhammad.

BENINCASA CERIFERA. *Savi.* Gourd.

Cucurbita cerifera, *Fisch.*	Cucurbita pepo, *Roxb.*
,, hispida, *Willd.*	,, alba, *Rob.*
Kumra, Chal kumra, BEN.	Gal or mitha kaddu, HIND.
Peh-kwa, . . . CHIN.	Kumbulum, . . MALEAL.
Tung-kwa, . . . ,,	Pitha, ... PANJ.
White tallow gourd, ENG.	Kumbuli, . . . TAM.
Chinese pumpkin, ,,	Budide gummadi, . TEL.

The Seeds.

Peh-kwa-tsze, . . CHIN.	Maghz - i - kaddu, Kunda, . . . PERS.

This is one of the Cucurbitaceæ. It has large white flowers. The rind of the fruit is used as a bottle. The fruit of one variety of it forms the sounding body of the sitar; and that of another variety is used as floats for swimming rivers. Its young fruit is eaten by the people in their curries, and is often candied. The fruit is remarkable for having its surface, when ripe, covered with a white waxy exudation, which smells like rosin. Chinese gardeners make its fruit grow to a great size. In India, the tallow gourd is presented to a Hindu wedded pair. A wild variety, Teta-laoo, BENG., is poisonous.—*Williams; Voigt; Roxb.; Stewart.* See Cucurbitaceæ; Gourds.

BENJAM. SUMATRAN. Sesamum Indicum.

BENJAMIN, Benzoin.

Luban, Hasi-luban, ARAB.	Kaminan, Menian, MALAY.
Heku-kama? . . BURM.	Sambrani, . . MALEAL.
Ngan-hiang, . . CHIN.	Hasi-ul-javi, . . PERS.
Ngan-sih-hiang, . ,,	Devad'hupa, . . SANSK.
Benzoe, ... GER.	Caloowell, . . . SINGH.
Lubani-ud, . . . HIND.	Bengui, ... SP.
Belzuino, . . . IT.	Malacca sambrani, TAM.

Benjamin is a word of Hebrew origin, which has in the lapse of time been adopted for several substances now in use. In Upper India, it is the name given to the gum-resin of Boswellia thurifera, but in commerce it is generally applied to the resin of the Styrax benzoin, which grows in Siam and Java, in Sumatra, in the country of the Batak race, and in Borneo on the northern coast of the Brunai territory. The balsam is obtained, in Sumatra, by incision in the trunk of the tree, practised after it has attained the age of five to seven years. The juice which first exudes is the purest and most fragrant; it hardens on exposure to the air, and becomes brittle and semi-transparent. The resin is white and transparent at first. About 3 lbs. are given by each tree for six years. The white benjamin, termed 'Cowrie luban' in India, is a superior kind, generally met with in the form of dry, hard, grey masses, rather shining, brittle, formed of ovoid, whitish tears, like stripped almonds. The best comes to India from Sumatra. It is much used as a perfume, and as incense in places of worship, in the composition of frankincense, and in the manufacture of the pastilles called ud-batti. Benzoic acid is procured from this substance.—*Stat. of Com.; M'Culloch's Dictionary; Crawfurd, Dict.; Cat. Exhib. of* 1862; *Ainslie; Marsden's Sumatra*, 155–56; *O'Sh.* 430. See Benzoin; Resins; Styrax benzoin.

BENJAMIN, the Jewish traveller, Rabbi Benjamin of Tudela, travelled in the East between 1159 and 1173, when already the empire of the Abbasside Khalifs was rapidly declining, and the Turks were gaining the ascendency at Baghdad. He would appear not to have proceeded beyond Kish island. He describes it as the great emporium to which Indian merchants brought their commodities, and the traders of Mesopotamia, Yemen, and Persia, all sorts of silk and purple cloths, flax, cotton, hemp, wheat, barley, millet, etc., which form articles of exchange. He refers to the pearls of the Bahrein islands, and to the pepper, cinnamon, ginger, and many other spices of S. India. He places the island of Kandy at 22 days beyond Kish, and China 40 days beyond Kandy.

BENJAPATSJA. MALEAL. Tiaridium Indicum.

BENKAR. HIND. Hiptage madablota.

BENKATAN, a tribe on the E. coast of Borneo.

BENNETT. In 1851, J. W. Bennett published a Selection of Rare and Curious Fishes found on the coast of Ceylon. Bennet, F. D., author of A Whaling Voyage round the Globe. Bennet, George, author of Wanderings in New South Wales, Batavia, Pedir coast, Singapore, and China; also Gatherings of a Naturalist in Australasia, London 1860.

BENOUDHA, the country between Allahabad and Surwur, the present country of Gorakhpur.

BEN-TEAK, Lagerstræmia microcarpa.

Ven-taku, . . . CAN.	Nana, ... MAHR.
Bandara, . . . MAHR.	Bellinger, . . MALEAL.

This tree is common in the Wynad and on the Western Ghats; wood prized for making coffee cases, and much used by the native carpenters for house-building and masts for dow, pattamah, and other country vessels. It grows 90 and 100 feet long, and from 12 inches to 3 feet in diameter; it is perfectly straight, and without branches, excepting at its top; the leaves are small and very thick. This wood is not so durable as the poon; it is very much lighter in colour, and in this respect much resembles the American red oak.—*Edye, M. and C.; M'Ivor.*

BENT GRASS, species of Agrostis.

BENTHAM, a Bengal civil servant, who largely extended the knowledge of the botany of India. He published many memoirs on botanical subjects, also the Florula of Hong-Kong, and monographs of Scrophularinæ and Labiatæ.—*And.*

BENTHAMIA FRAGIFERA, the Thurnel of the Panjab, is found in Nepal and in the Sutlej valley between Rampur and Sungnan, at an elevation of 6000 feet. The wood is small; fruit is large, of the shape of a strawberry, edible, and is used as a preserve. B. floribunda extends from the eastern Himalaya to the Sutlej.—*H. et Thom.* 105, 193; *Cleghorn, Report*, 64; *Hogg, Veg. King.* p. 367; *Powell, Panjab Products.*

BENTINCK, LORD WILLIAM, G.C.B., an officer of the British army who was governor of Fort St. George, Madras, from the 30th August 1803 to the 11th September 1807. He was subsequently in military employ in Spain during Great Britain's war with France. On the 4th July 1828 he assumed the office of Governor-General, which he held until the 20th March 1835. He afterwards entered the Commons House of Parliament for the town of Glasgow, and died 17th June 1839. During his administration as Governor-General, he appointed Captain Sleeman for the suppression of thugi; sati, also, the self-immolation of Hindu women with the dead bodies of their husbands, was prohibited. Education was fostered, many English schools established; there was laid the foundation for the extensive employment of natives in the administration of justice; and in his time, also, a Legislative Council was established at each presidency. The only war that occurred was against the raja of Coorg, who by his insane-like atrocities drew upon himself the arms of British India.

BEN TREE. In India, the Moringa pterygosperma; in Egypt, M. aptera.

Ben Nut Oil.

Morunghy yennai,	TAM.	Sahujna, ...	HIND.
Morunga noona, .	TEL.		

This oil is the product of the nuts of the Moringa aptera. It is valuable on account of the lengthened period which it may be kept without contracting rancidity. In the West Indies the oil is used for salad oil. It is employed by watchmakers, and for retaining the aroma of delicate flowers. The oil is inodorous, and is therefore used by perfumers in the manufacture of scented oils. The seed of M. pterygosperma also yield an oil. M. pterygosperma is common in all parts of S. Asia; the flowers, leaves, and fruit are eaten by the natives; and the rasped root is used by Europeans as a substitute for horse-radish, to which circumstance it owes its common name of 'horse-radish tree.'—*Mason; Faulkner; Hogg.*

BENTUL. MALAY. A vegetable of Bawean.

BENU MASH. PERS. Phaseolus max.

BENZA, P. M., a native of the Ionian Islands, a Madras medical officer. He wrote on the geology of the country betwixt Madras and Neilgherries, via Bangalore; also on the geology of the Neilgherry and Koonda mountains, and notes on the geology of the Northern Circars in 1835.—*Buist's Catalogue.*

BENZOIN, Liquid.

Ngan-sih-yu, . .	CHIN.	Shwui-ngan-sih-hiang,	CH.

An oil, like treacle, sold in China in small bottles or in the pericarp of a fruit. It resembles balsam of Peru.—*Smith.* See Benjamin.

BEO. HIND. Gracula religiosa.

BEOHAR, Bepar. HIND. Money-lending, traffic, trade. Bepari, a shopkeeper.

BEP-THAN. BURM. In Amherst, a timber used for making handles for spears and swords; it is a superior wood, and looks like white Jarrool. A timber of same name in Tavoy is used for building; and the Bep-won, BURM., of Tavoy is a timber used for building.—*Captain Dance.*

BER. HIND. Amongst Rajputs, a feud.

BER. HIND. Zizyphus flexuosa, jujuba, nummularia and vulgaris.

BERA. HIND. Nima quassioides; also Glochidion, *sp.*; also Ficus Indica.

BERA. HIND. A raft or float, on which is placed a paper or tinsel boat, with the face of a female and the crest and breast of a peacock at the prow. It is set afloat with lights and music on Thursday evenings, on the rivers of Bengal, by Mahomedans, in honour of Khajah Khizr. The last Thursday of the month Bhadon (August—September) it is deemed particularly acceptable as an offering in fulfilment of a vow made in the bygone year.—*W.*

BERA. HIND. A small packet of betel-nut, catechu, quicklime, aniseed, coriander seed, cardamums and cloves, wrapped up in betel leaf. It is a masticatory used on ordinary occasions, but is also presented as a ceremonial part of a visit either to Hindus or Mahomedans.

BERAD. MAHR. A predatory tribe in the south Mahratta country, inhabiting the hills and thickets, and subsisting by chase and plunder. Wilson says they are the same as the Ramusi, but this does not seem correct. They may be the Bedar.—*Wilson's Glossary.*

BERAM. MALAY. Elephant. Beram rambut, hair of the elephant's tail.

BERAR, a province in the northern and central part of the Peninsula of India which belongs to the Hyderabad state, but was assigned by the Nizam to the Government of India to meet the pay of the Hyderabad Contingent, subject to the condition that the surplus revenue shall be paid to Hyderabad. The province is administered by a Commissioner, under the Resident of Hyderabad. It is in a broad valley lying between the Satpura range on the north and the Ajunta range on the south. It has several large towns, Akola, Akote, Amravati, Ellichpur, and others; and its population in 1867 was 2,231,565 souls in an area of 17,728 square miles. The first inroad of Mahomedans into the Dekhan was led through Berar by Ala-ud-Din, A.D. 1294; and several dynasties, the Bahmani, the Imad Shahi, the Nizam Shahi, the Mahratta Peshwas, the Dehli empire, and the Asof Jahi of Hyderabad have since held it. In 1867 the principal creeds and castes were :—

Christians, . . .	903	Vaisya, . . .	28,018
Jews, ...	16	Sudra, . . .	1,441,271
Parsees, ...	75	Out-castes, . .	301,379
Mahomedans, .	154,951	Aborigines, . .	163,059
Brahmans, . . .	49,843	Hindu sects, .	55,219
Kshatriya, . . .	36,831		

The 301,379 Non-Aryans are thus detailed :—

Mhar, viz. Somavanshi, Adhucy, Tilung, Madrasi, Ladoom, Baider, Awdhatan, Holiar, Bhilung, Pardeshi, Bhat, Hajam, Vatie, Loadey, Malvi, Gopal, Lawyaney, Mhar, Labai, Dougra,	227,824	Dhor, ...	2,948
		Kkakrob (Bungee),	543
		Chamar, viz. Varadey, Pardeshi, Marathi, Dakhnee Pudum, Holar, Hindustani, Chamar, Mochee,	19,172

Kateek, . . .	4,069	Pirastee, ...	8
Dasree, ...	243	Bahurupi, ...	232
Mang, viz. Mang, Marathi, Vereday, Rant, Tilung, Dukhnee, Ghutoley, Saradkar, Baonsee, Teeholey, Gavadey, Saveley, Devadey, Lakhari, Samus,	35,453	Pasee, ...	20
		Kaikadi, ...	3,201
		Aravia, ...	15
		Berad, ...	11
		Holar, ...	274
		Julnee, ...	2
		Monghey, ...	332
		Madgi, ...	1,718
		Paradhi, ...	5,268
Kalanki, ...	46		

The *Kshatriya* pretend to Rajput descent. Mahrattas of no particular family usually call themselves Thakur; even a Kunbi will occasionally try to elevate himself thereby; while the Purbho, Kayasth, and other castes of mixed origin and good social status are constantly invading the Kshatriya military order. The distinction is also claimed by the rajas of the Satpura hills, who assert that they are Rajputs depressed by the necessities of mountain life, whereas they are Gond or Kurku elevated by generations of highland chieftainship.

Under the heading *Vaisya* are placed all the commercial classes of Hindus, the north-country Marwari and Agurwalla, with those who are known by the general term Baniya, and a few castes like the Komati from the south, or the Lar, who do not seem to be well known out of Berar.

The *Sudra* caste in Berar, as in Mysore, all eat together, although they do not intermarry. The Kunbi and Mali eat flesh, drink liquor moderately; and their widows may always remarry if they choose, excepting the widows of Deshmukhs, who adopt high caste prejudices. The *Koshti* is a weaving caste. The *Banjara* were comparatively numerous in Berar; their occupation as carriers is rapidly going, and during their transitional stage they give a good deal of trouble to the police. The *Bhui* has recently been supposed to belong to a widely-spread primitive tribe; the *Garpugari* live by the profession of conjuring away hailstorms. The *Vidur* and *Krishnapakshi* are the same. They are descendants of Brahmans by women of inferior caste, and Krishnapakshi is only an astronomical metaphor for describing a half-breed, the term meaning literally 'dark-fortnight,' and referring to the half-darkened orb of the moon. All the Sudras of this part of India are of non-Aryan origin. The *Mhar* have been taken to be the same with the Dher, a very useful and active tribe. The *Mang* appear to be the lowest in the social scale; they are tanners, curriers, shoemakers. The paucity of the *Khakrob* or *Bhangi*, who are so numerous in Northern India, is a serious sanitary difficulty. The *Kaikari* are a tribe formerly well known for their thieving habits. The *Ramusi*, a predatory race, speak Telugu in their families, and are doubtless from Telingana. The original *Purdhan* among the Gond answered to the Bhat among the Hindus, but many seem to have settled in the plains as a separate class of Gond.

The *Kunbi*, in Berar, allot themselves into eleven classes:—Mali, Ful Mali, Jerat Mali, Haldi Mali, Wanjari, Gantadi, Sagar, Atole, Telale, Vindesa, Pazni.

With the exception of the Haldi Mali and Pazni, they have roti vya whar amongst each other, but not beti vya whar, *i.e.* they eat with each other, but do not intermarry. The Kunbi and Mali alone, of the Sudra people, are 834,588 souls.

The *Dhangar* sheep farmer race are of two sections, the Kota Pullia Dhangar, who keep sheep, and the Barji Hatkar, or 'shepherds with the spears.' The latter still hold much land on the borders of the Nizam's territory, and, until the British domination, were notorious for pugnacity and rebellion, and they still continue a quarrelsome and obstinate race. They are supposed to have come from Hindustan in twelve tribes, and been impelled by the Gonds towards Hingoli and Bassim, which locality got the name of Barah Hatia, or the twelve tribes. They now occupy the hills on the north bank of the Pyn Ganga. To die in the chase or in war is deemed honourable, and the Hatkar who are so killed are burned. The Hatkar are fine able-bodied men, independent and arrogant; many of them never shave or cut the hair of their face.

The *Bhui* are in number 17,980.

The *Banjara*, 51,982, most of whom belong to the Bhukyava tribe, supposed to have been Rajputs from Central India.

The *Aboriginal* races in Berar, 163,059 in number, are as under:—

Gond, ...	68,542	Andh, ...	28,037
Bhil, ...	2,279	Nihal, ...	2,591
Ramusi, ...	7	Korku, ...	28,709
Koli, ...	21,224	Kurki, ...	8
Arakh, ...	384	Kolam, ...	9,969
Lajar, ...	1,309		

Of the aborigines, the *Gond*, *Kurku*, and *Bhil* are the only completely preserved specimens of tribes. The two first retain their languages, while the *Bhil* tongue seems to have become extinct very recently in Berar, its disuse being probably expedited by their general conversion to Mahomedanism.

The *Gond* of Berar inhabit the Melghat and a strip of wild country along the Wardha river. They arrange themselves into thirteen sections, viz.:—

Manes.	Kahilwar.	Jaduwar.	Khatulia.
Gowari.	Thotli.	Kohalin.	Thakur.
Rajgond.	Pardhan.	And.	Buchadi.
Dalwe.			

The men and women of the Gond never associate at work, but labour apart. A Gond desirous of having a wife, and having resolved on a particular girl, takes with him a band of his comrades to the field where the women are at work, and he suddenly, alone, runs towards and attempts to capture her. His comrades will not, however, aid him to carry off the girl, unless he succeed in touching her hand before she reach the village shelter. By touching the girl's hand, the marriage contract is sealed, and cannot be broken; nevertheless the women often fight every inch of the ground, inflict the most serious hurt, and sometimes shameful defeats, continuing the contest even after the bridegroom has touched the bride's hand, and, if the village skirts be reached, the men turn out to aid the women, and pursue the attacking party back to their own village.

The *Bhil* of Berar occupy the eastern slopes of the Gawilghur range to its western extremity, and stretch far westwards in Kandesh. They belong to the Turvi clan; all now are Mahomedans.

The *Koli* are in two distinct tribes, but they are agricultural, and there are several substantial potails amongst them.

The *Andh* are also called Pradhan, and are said to be helot Gond; but they are cultivators, and do not eat animals that die.

The *Kolam* are a Gond tribe who have settled to agriculture.

The *Lajar* are woodcutters in the Satpura range.

The *Nihal* are a helot class among the Gonds.

BER-BAIT, MALAY, means to make Pantuns. A pantun consists of four lines; the two first consist generally of a simile or natural image, and the two last a moral drawn from the simile. The Malays take great delight in listening to two poetical champions pantuning at each other, till one is obliged to give in from want of further matter.—*Journ. in Arch.* v.

BERBER, a race occupying the northern parts of Africa. In the Berber group of languages, all that is not Arabic in the kingdom of Morocco, in the French provinces of Algeria, in Tunis, Tripoli, and Fezzan, is Berber. The language also of the ancient Cyrenaica, indeed of the whole country bordering the Mediterranean between Tripoli and Egypt, is Berber. The extinct language of the Canary Isles was Berber; and, finally, the language of the Sahara is Berber. The Berber languages in their present geographical localities are essentially inland tongues.—*Latham, Rep. Br. Ass.*, 1847.

BERBERAH, or Maratha, is described as a subdivision of Abhira; it is the Barbarike of Arrian's Periplus.

BERBEREH, the Mosallyon of the author of the Periplus, is a seaport in Africa, directly south of Aden, in lat. 10° 25′ 45″ N., and long. 46° 6′ E. It was the grand mart of the ancients on this coast, and is still the great outlet for the commerce of north-eastern Africa. It has a large trade in sheep, cattle, ghi, coffee, various gums and resins, and in ostrich feathers. An annual fair is held from October to April, the inhabitants meanwhile living in tents to the number of 20,000, bartering their goods with merchants of Muscat, Bahrein, Bussora, Porebunder, Mandavie, and Bombay, or carrying them over to Aden, where a ready market exists for their produce.—*Horsburgh, Blackwood's Magazine.*

BERBERIS, a genus of plants belonging to the Berberaceæ. The genus has about 60 species in China, Japan, and in India. Amongst them are B. angulosa, aristata, Asiatica, concinna, insignis, lycium, macrosepala, Nepalensis, ulicina, umbellata, vulgaris, Wallichiana, xanthoxylon. Three medicinal substances are obtained from species of this genus, —an extract known as Rusot, a tincture, and Berberine, which is the active principle of these. But it is a troublesome and an expensive process to extract it pure. It is very bitter, yellow, not easily soluble in water, more readily in spirits of wine. In Europe it has been used chiefly as a tonic in indigestion, in doses of one to six grains, but has been given up to ten grains. B. Asiatica and the B. aristata are generally used. It is from the roots of these species that the bark is stripped for making the tincture. B. concinna, *Hook. et Thom.*, B. angulosa, *Wall.*, grows at Ramri and Pindari, 9000–12,500. A small shrub only a foot and a half high, flowers solitary, red fruit, the leaves and stems very spiny. In the Ryott valley in Sikkim, at Laghep, Iris was found by Dr. Hooker abundant, and this small bushy Berberry with oval eatable berries. B. insignis, a plant of the Sikkim Himalaya, forms a large bush with deep green leaves seven inches long, and bunches of yellow flowers. B. Kunawarensis is found in Kunawar, and employed for making Rusot.—*Hooker, Journ.* i. 364, ii. 197; *Ind. Ann. Med. Sci.* 1856, 379; *H. f. et Th.*

BERBERIS ARISTATA. *D.C.* Barberry.

Var. α. Normalis.

Berberis tinctoria, *Lesch.*	Berberis angustifolia, *R.*
,, chitra, *Ham.*	

Var. β. Floribunda.

Berberis floribunda, *Wall.*	Berberis, ceratophylla, *Don.*
,, petiolaris, ,,	,, coriaria, *Royle.*
,, aristata, ,,	,, umbellata, *Lindl.*
,, affinis, *Don.*	

Var. γ. Micrantha, *Wall.; H. et Th.*

Ambarbarus; Aarghus, AR.	Zirishk, ... PERS.
Chitra, . HIND. of HIM.	Kuraskai, . . PUSHTU.

Wood—Dar huld; Dar chob, PERS.
Extract—Haziz-Hindi, AR.; Rusaut; Rusot, HIND.

This plant is widely distributed over the mountains of India, and assumes many various forms, which has led to botanists giving it a host of specific names. It is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 6000 to 10,000 feet; also on the Neilgherry and Pulney hills at from 6000 to 7000 feet, and at Newera Elia in Ceylon. The berries are much esteemed in the countries where they grow for their agreeable acid flavour. A yellow dye is obtained from the root.—*Cleghorn, Panjab Report; Ind. Ann. Med. Science.*

BERBERIS LYCIUM. *Royle.* Barberry.

Kau-ki, ... CHIN.	Chitra, ... HIND.
Raisin Berberry, . ENG.	Kashmal; Sumlu, . ,,
Ophthalmic, ,, . . ,,	Sambal, ... ,,

The root—Ti-kuh-pi, . . CHIN.

This is found on the Himalaya at 3000 to 9000 feet, at Masuri and Kaghan, but not west of Hazara. It is considered by Dr. Royle to be the Lycium of Dioscorides; its fruit is dried for currants. 'Zirishk tursh' and its yellow-juiced root and wood yield the extract called ras, rasaut, rasot, or raswat, used as an external application in ophthalmia. It is likewise considered an extremely valuable febrifuge. It is prepared by digesting in water sliced pieces of the root, stem, and branches in an iron vessel, boiling for some time, straining, and then evaporating to a proper consistence. It is principally manufactured at Nepal and the Doon; sold at 8 annas the seer. Wood too small to be of much use, except for firewood. —*Powell; Cleghorn, Panj. Rep.; Hook. et Thom.*

BERBERIS NEPALENSIS. *Spr.*

Ber. miccia, *Ham.*	Ber. pinnata, *Roxb.*
,, acanthifolia, *Wall.*	Mahonia Nepalensis, *D.C.*
,, leschenaultii, ,,	Ilex japonica, *Thunb.*

This shrub is found on the Neilgherry, Pulney, and Travancore hills, at an elevation of from 5000 to 8000 feet. It is also on the Himalaya, Bhotan, Garhwal, and Khassya mountains. The wood is small, and of little use. See Dyes.

BERBERIS SINENSIS, *Smith*, the Kau-kih of the Chinese. This and B. aquifolium furnish the drug of China called Kau-kih and Tu-kuh-pi. This is a plant of northern China; berries of a dark purple.—*Drury; Smith.*

BERBIANG. KYAN. Brother-making. See Brother; Ber; Sahibah.

BERCHEMIA FLORIBUNDA. *Wall.* The Zizyphus floribundus, *Wall.*, is a plant of the

Khassya hills, Nepal, and Kamaon. The fruit of a Panjab species is eaten by goats and men. B. aculeatus is common in the Holy Land, and called Christ's thorn, from the tradition that the platted crown of thorns was made of its twigs.—*Voigt.*

BERDA. MAHR. Terminalia bellerica.

BERDURANI, a tribe of Afghans on the north-eastern part of Afghanistan, occupying the lower course of the Kābul river, and the parts between the Indus, the Hindu Kush, and the Salt Range, touching the Ghilzai on the west, the Siahposh on the north, and the people of India on the east, the Indus being their boundary; but Peshawur is a Berdurani town. They were once a great tribe, but were removed from eastern Afghanistan to Herat by Nadir Shah.—*Papers, East India, Cabul, and Afghanistan*, p. 133.

BEREKEDE, a branch of the Asir tribe of Arabs, said to lend their wives, like the Jakuri Hazara.—*Sale's Koran.* See Polyandry.

BERENICE, a seaport established by the Ptolemys on the Red Sea, from whence goods brought from the east were conveyed by caravans 255 miles to Coptis on the Nile, and thence to Alexandria. The entire distance from Coptis to Berenice occupied twelve days. The ruins of Berenice were discovered by Captains Moresby and Carless at the bottom of the inlet known as the Sinus Immundus or Foul Bay.—*Ind. in 15th Cent.* See Saba.

BERFA. HIND. Populus balsamifera.

BERGAMOT, also Bergamotte, a name of the lime tree, Citrus limetta; also of the small pear-shaped fruit of the tree, and also of an essential oil obtained from the rind of the fruit. To prepare this oil, rasp the rind, express the raspings between flat porcelain slabs, allow the oil to settle, and then filter. The exquisite flavour of this oil is injured by distillation. It is used chiefly as a perfume; colour yellow; sp. gr. 0·888; freezes at 32°. More than 22,000 lbs. of this essence was imported into England in 1848.—*Beng. Phar.* p. 378; *Simmonds*, p. 566; *Hogg*, p. 140.

BERGERA KONIGII. *L.* Curry leaf tree.

Murraya Konigii, *Spreng.*

Karia-phalee, . . BENG.	Kareyapela, . MALEAL.
Karripak-ka-jhar, HIND.	Kristna nimbu, SANSK.
Kudia nim, . . ,,	Kara-pinchee-gass, SINGH.
Gandla, Gardala, . KANG.	Kari-vepelli maram, TAM.
Barsanga, . . MALEAL.	Karivepa, . . . TEL.
Kare-bepon, . . ,,	

A tolerably-sized tree, common throughout British India and Ceylon. It is cultivated generally in gardens for its pinnate-shaped leaves, which retain their fragrance when dry, and are used to flavour curries, mulligatawny, chutnies, etc., and are mixed in the curry pastes and powders prepared in India for transmission to England and other parts of the world. The mixture of the leaves not only imparts a peculiar flavour to these condiments, but adds a zest to them. It flowers in February and March; fruit of a deep purple colour; wood hard and close-grained. Medicinally, the leaves are considered stomachic and tonic; used raw in dysentery, and when roasted, are administered in cholera, in decoction to stop vomiting, also in fomenting. The bark and root are employed as stimulants.—*Royle.*

BERGERA NITIDA. *Thw.* The Meegong-karapinchee-gass, SINGHALESE, is a moderately-sized tree, not very uncommon in the warmer parts of Ceylon.—*Thw.* i. p. 46.

BERHAMPUR, a municipal town and military station in Ganjam, in lat. 19° 18′ 40″ N., and long. 84° 47′ 50″ E. It stands on a rocky ledge surrounded by an extensive plain, bounded on the W. and N. by a range of hills from 5 to 10 miles distant, and open to the S. and E. The district yields sugar; also silk cloth manufactured from Bengal and Chinese cocoons.

BERHAMPUR, a civil station in the Murshidabad district of Bengal, in lat. 24° 6′ 30″ N., long. 88° 17′ 31″ E., with a population of 27,110. It is built on the left bank of the Bhagirathi river, and is 118 miles from Calcutta. In the beginning of the nineteenth century, General Stewart resided here. He was wont to offer puja to Hindu idols, and to worship the Ganges. Like Job Charnock, he had married a Hinduani. It was here that, on the 25th February, the first overt act of the mutiny of 1857 occurred, in the 19th Regiment Bengal Native Infantry.—*Tr. of a Hindu*, i. pp. 68, 69; *Imp. Gaz.*

BERI, a caste in southern India following trade, and claiming to belong to the original Vaisya section. They also call themselves Chetti, or more correctly Sheti, from the Sanskrit Shreshthi, a merchant. The Beri belong to the left-hand sect, and are distinct from the Komati or Chetti of the right-hand division.—*Wilson's Glossary.*

BERI. HIND. Zizyphus flexuosa; also Z. nummularia.

BERI. HIND. Iron fetters for prisoners or quadrupeds.

BERI. HIND. A basket used to raise water for irrigation, made of leather or bamboo. It is suspended by four ropes, and swung by two men; it has various names in different parts of the country.

BERI, also Bhéri and Rana Bhéri. HIND. Leonotis nepetæfolia, *R. Br.*

BERIA, a robber tribe of Central India.

BERI-BERI, a fatal disease, often attended with swelling and burning in the feet and paralysis; first written on by Dr. J. G. Malcolmson, Madras Medical Service, 1835.—*Dr. Buist's Catalogue.*

BERING. HIND. Nima quassioides.

BERJA or Buroja. HIND. A resin from the Pinus longifolia; is rich in oil of turpentine, yielding 15 to 20 per cent., and since 1860 the natives of Najibabad and Bijnore and of the towns of Murutt and Roorkee, have distilled turpentine from it. The resin brought from the hills is sold at the markets along the foot of the ghats at Rs. 3 to Rs. 4½ per maund. At Najibabad, 19 miles from the hills, the resin sells at Rs. 5 to Rs. 5½ the maund; the turpentine distilled there at 8 to 12 annas the quart bottle; and the residue, after distillation, called soondrus, is sold on the spot for Rs. 3 the maund. This soondrus is the unrectified rosin of commerce, and is technically known as Colophane. The resin is collected by cutting triangular notches in the trees, leaving a hollowed-out space at its foot as a receiving bowl, which is filled and emptied two or three times in the year. About 1000 to 1200 maunds are brought annually to Kamaon. Each tree yields from 5 to 10 seers.

BERLI. MAHR. Caryota urens.

BERNADOTTE, king of Norway and Sweden, commenced life in the French army, and, when serving in India, he was taken prisoner by the British in a night sorti from Cuddalore in the month of June 1783.

BERNARDINO. Fray Gaspar de San Bernardino,

of the order of St. Francis, in 1611 undertook a journey by land from India to Portugal by way of Mombas and Socotra and the Persian Gulf. His narrative bears witness of the complete revolution which had taken place in the course of the trade between India and Europe, through the Euphrates valley and Syria.—*Birdwood.*

BERNIER, FRANCIS, was born at Angers, in France, about the year 1625. In 1654 he visited Syria, and passed into Egypt, residing a year at Cairo, where he suffered from the plague. Thence sailing down the Red Sea, he passed to India, landing at Surat in the latter days of Shah Jahan. He states that by the time of his arrival at the court of Shah Jahan, the various robbers whom he had met on the road had left him little money. He remained in India ten years (1658–1670?), during eight of which he was the physician of Aurangzeb, whom he accompanied to Kashmir in December 1664. About the end of February 1659, while Bernier was on his way to Dehli, he met Dara Shikoh fleeing towards Ahmadabad, after his defeat by his brother Aurangzeb. Dara's wife had been wounded in the battle, and Bernier turned back as far as Ahmadabad to attend upon her. His history of the revolution was translated into English with his Voyage to Surat; London, 1671 and 1675.—*Elph.* p. 536.

BERONDA, or Baraunda, belongs to a very ancient family of the Rajbansi caste of Rajputs. Under the rule of the Bundela chiefs, the state seems to have been held under a sunnud from Hurdi Sah. Its area, 275 square miles; population, 24,000; revenue, Rs. 45,000.

BEROSUS, a learned Chaldæan priest who lived in the time of Alexander. He visited Babylon soon after the Macedonian conquest, and he mentions a legend that the first dawn of civilisation was in southern Babylonia, and that the teachers of mankind came from the shores of the Persian Gulf. He took from the sacred books of Babylon the Chaldæan account of the Deluge, which he introduced into the history that he wrote for the use of the Greeks. It says that Obartes Elbaratutu being dead, his son Xisuthros (Khasisatya) reigned eighteen sares. Warned by Chronos (Ea) of the coming Deluge, he obeyed the injunction to build a vessel five stadia long, and five broad, in which he embarked his wife, his children, and intimate friends.

BERRAWI, a district of Kurdistan, on the Zab river. It is a long valley, and has sixteen villages of Kaldi Christians, each with priests.—*MacGregor.*

BERRYA AMMONILLA. *R.* Trincomalee wood.

Somendilla, . . . SINGH.	Tircanamalay chettu, TEL.
Halmililla; Hamaniel, ,,	Sarala devadaru, . ,,
Tircanamalay maram, TAM.	

This is a native of Ceylon, but has been introduced into the continent of India. The wood is annually imported from Trincomalee, by which appellation it is known in the Madras market. It is of a pale red colour, highly esteemed for its lightness and strength; is straight-grained, slightly pliant, tough, and little affected by the atmosphere. It is employed in the construction of the massoola boats of Madras, also for the spokes of wheels, for helves, handles, planes, frames, poles, and shafts of carriages. It is inferior to sal for spokes, and to the babul for some other purposes, but it is comparatively light, and easily worked. Dr. Helfer mentions this tree as growing on King's Island opposite Mergui, and as a light, strong, and valuable wood. Flowers small, white, with gold-coloured anthers. The tree yields the best and most useful wood in Ceylon for naval purposes. It grows straight for twenty to forty feet high, and from twelve to thirty inches in diameter. Mr. Edye said that this may be considered superior to any wood for capstan bars, cross and trussel trees, cask staves, battens for yards, fishes for masts, boat-building, etc. And he added that at Madras it was highly valued for coach-work; from the toughness and fineness of its grain it answers all the purposes of ash in England. Its specific gravity is 80·0; unseasoned it weighs 58 to 60 lbs. the cubic foot, and 50 lbs. seasoned. It is largely imported into Madras from Ceylon, in logs from 18 to 25 feet long, and 2½ to 5 feet in girth.—*Drs. Mason, Wight, Cleghorn, and Helfer; Mr. Edye; Mr. Rohde; Mr. Mendis; M. E. J. R.; Thwaites; Roxb.; Voigt; Beddome, Fl. Sylv.* part v. p. 58.

BERRYA MOLLIS. *Wall.* Petwoon of the Burmese is found on elevated ground of British Burma. Wood red, much prized for axles, the poles of carts and ploughs; also used for spear handles. A cubic foot weighs 60 to 62 lbs. In a full-grown tree, on good soil, the average length of the trunk to the first branch is 50 feet, and average girth measured at 6 feet from the ground is 7 feet. It sells at 12 annas per cubic foot.—*Dr. Brandis.*

BERRY-RAIN. On the 8th September 1873, in a shower of rain which fell on some villages on the north of Purniah, small berries fell. They were green, mottled with white streaks, and had a slight point. The outer skin or husk was thin, and came off readily. It resembled a pea in dividing into two parts. It was so full of oil that it burned with a clear flame, though green. See Blood-rain.

BER-SAHIBAH of Borneo. Brother-making. See Ber Biang; Brother.

BERSU. HIND. Leptopus cordifolius.

BERTHA, in Rajputana, a form of land-tenure. The ryots or peasantry are distinguished into Koohrya and Perja. The former are settled in Bertha proprietory, or other rent-free lands, and are not liable to be called on by Government for any services except the repair of roads, and attendance in the army upon particular occasions. The Perja, who occupy lands actually belonging to the prince, though perhaps in the immediate possession of jaghirdars, are, on the contrary, obliged to perform various services, both at the call of the jaghirdar and of the prince.—*Tod.*

BERTHOLLETIA LANCEOLATA. *D. C.*

Reshami, Reshambuti, Sarmei, . .	HIND.
Leaves—rasanna (kura sanna), . .	,,

The Indian variety of this annual plant grows abundantly in many parts of the plains up to Peshawur, in places forming thickets, up to four and five feet high. Dr. Royle pronounces the leaves to be an excellent substitute for senna; remarkable for growing with their edges vertical, and for having both sides covered with stomata. Dr. Honigberger says that they are seldom used by the hakims.—*Stewart; Honigb.* p. 243; *Royle*, p. 456; *Ill. Him. Bot.* p. 19.

BERU. DUK. Pens, writing reeds.

BERWAJA. HIND. Calligonum polygonoides.

BERYL is found in the Siberian Altai range,

but many are brought from Khotan, Ilchi, the Chinese provinces, and Ceylon. There is a beryl mine at the village of Paddioor or Patialey, about forty miles E.N.E. of the town of Coimbatore, where it is found imbedded in a vein of magnesian limestone, traversed by hornblende rock. Beryls are also found in the sands of the Irawadi. The beryl and emerald in component parts are the same, viz. silica, alumina, and glucina, coloured by the oxide of chrome. The only important difference is their colours, the emerald being of its own peculiar green, which it derives from a small proportion of chrome. Beryl retains its surface polish more perfectly than almost any other material. The Romans cut it in facets and in the form of a sexangular pyramid. The constituents of the beryl and emerald are:—

	Beryl.	Emerald.		Beryl.	Emerald.
Glucina,	15·50	12·50	Oxide of iron, ...	1·00	
Silica,	66·45	68·50	Lime, ...	0·25	
Alumina,	16·75	15·75	Sp. gr.,	2·76 to 2·73	
Oxide of chrome,	0·30		Hardness,	7·5 to 8·00	

Beryl is also said to be found at Vaniambadi, at the northern base of the Neilgherry mountains.

BES or Bais. HIND. of Hazara. Salix, *sp.*

BESAN. HIND. The flour of a pulse, such as that of gram, Cicer arietinum, compounded into a cosmetic powder, with aromatics and the flour of several pulses; is also made of pea-meal and orange-peel, and used as a detergent for cleaning the hair.—*Powell; Simmonds.* See Abir.

BESCHI, a missionary of the Church of Rome, who long resided amongst the Tamil races of the Peninsula of India. He was styled by the Tamil people, Virama-muni or Virama-munivar, the heroic devotee. He composed a poem in the style followed by Kamban, and called it Tembāvani, giving the biblical narrative of Christ, the Virgin, and Joseph.

BESH. PERS. More; hence Beshi, increase. Besh Kimat, of high price.

BESHULYO-KURUNEE. BENG. Cocculus cordifolius.

BESISI or Besisik, a Malay tribe in Kedah, in the Malay Peninsula.

BESSI of Sumatra, fruit of Averrhoa bilimbi.

BESSUS, the murderer of Darius. He was put to death in a cruel manner. His body was fastened to the ground, and the boughs of two trees were bent, and, after being fastened to one of his limbs, allowed to spring back to their natural position. They tore him asunder. This fact is mentioned by Plutarch. This mode of executing criminals was occasionally adopted in Persia, and till recently in Nepal.—*Malcolm's Persia*, i. p. 73.

BEST, CAPTAIN, a scientific officer of the Madras Engineers. *Ob.* 1851. He wrote an account of the Guntur famine of 1833 in the Mad. Lit. Trans. 1844; On the Embankments of the Godavery, in a Blue Book of 1851; On Rain Gauges, and the Registration of River Freshes, in the Mad. Lit. Trans. 1844, No. xxx. 178.—*Dr. Buist's Catalogue.*

BESTA or Bestaru. KAR., TEL. A caste of fishermen in Madras and Mysore, to which the palanquin-bearers usually belong. — *Wilson's Glossary.*

BET or Bed. HIND. Rattan, Calamus rotang; any cane. Bet-i-Majnun, also Khilaf-i-Balki, also Leila-o-Mujnun, Salix Babylonica. Bet ka P'hal, fruit of Calamus viminalis.

BET or Bent. PANJ. Land along a river subject to periodical inundation.

BETA, the beet plant genus. The leaves of B. cicla or white beet are used as salads, and their midrib as a substitute for asparagus. B. maritima, or sea beet, requires a sandy soil; used as spinach, or a pot herb. The red beet and mangel-wurzel afford abundance of amylaceous and saccharine matter. B. Bengalensis, the Paluk Sag or Palung Shak of Bengal, is cultivated in Bengal and the Northern Circars, and its leaves are used by natives in their curries; when boiled it resembles spinach in flavour. The leaves shoot out again after being cut down.—*Roxb.; Voigt; O'Sh.* See Beet.

BETA VULGARIS. *Linn.* Beet.

Shul, Sælk, Sælg, ARAB. | Paluk, Chakunda, PERS.

There are three varieties,—viridis, green; rubra, red-rooted; and alba, white. The plant is largely cultivated in India as a vegetable. See Beet.

BETADA SWAMAMKI VRIKSHA. CAN. Mimosa xylocarpa.

BETA-GANNAPPA. TEL. Nauclea cordifolia.

BETALA, in Hindu mythology, the chief of the Bhuta.

BETCH, a branch of the Kuki in Cachar.

BETE of Ternate. Caladium esculentum.

BETEEKH. ARAB. Cucumis melo.

BETEL BOXES are in use in all parts of the S.E. of Asia, of gold, silver, or other metal; and in peninsular India, about one-fifth of the people have one always in their pockets. In Burma the framework of these boxes is formed of thin strips of bamboo plaited into the shape of a box; the basket-work foundation is then coated with Theetsee varnish, painted and varnished. Every Burman has one or more of these boxes, to hold his betel, cigars, money, etc.; and their women, in addition to the above purposes, use them as jewel and dressing cases. Pagan, in Burma, is celebrated for their manufacture. Inferior sorts are made all over Pegu and in the Shan states. The higher classes of Burmese use boxes of silver, whilst the nobles of the court of Ava use gold.

BETEL LEAF.

Tambul,	ARAB.	Betela,	MALEAL.
Lau-yeh, Ku-tsing,	CHIN.	Barg-i-tambul,	PERS.
Tu-pih-poh,	,,	Tambula,	SANSK.
Pan,	GUJ., HIND.	Vettilei,	TAM.
Suro, Sirih, Sireh,	JAV.	Tamalapaku,	TEL.

The Piper betel belongs to the pepper family of plants, and furnishes the celebrated leaf of the S.E. Asiatics, in which they enclose a few slices of the areca nut and a little shell-lime. This they chew to sweeten the breath and keep off the pangs of hunger. It is also slightly narcotic. It is very easily reared in the Indian Archipelago, but in the Peninsula of India it requires manuring, frequent watering, and great care; and in the northern parts of Hindustan it becomes an exotic, very difficult to rear. The plant affords leaves fit for use in the second year, and continues to yield for more than thirty, the quantity diminishing as the plants grow older. In the Tenasserim Provinces, the Karens plant the vines on their uplands, where there are tall forest trees. The branches are lopped off, leaving only the topmost boughs, and the vines readily climb up and weave their dark glossy leaves all over the summits, making a betel vine farm a most beautiful object. Karen boys and maidens engage in this leaf harvest with great

zest; and it is not uncommon for young men, in seeking companions, to inquire who are the most agile climbers of poo-lah, or betel-leaf trees. The Karen forests produce a wild species of Piper, the leaf of which is used as a substitute for the common betel leaf. The leaves are taken the utmost care of by the dealers, and are moved every day, lest one leaf should touch another decayed one; the decayed parts are carefully clipped away with scissors.—*Mason; Roxb.*

BETEL-NUT, Areca nut, Penang nut.

Fooful, . . ARAB., PERS.	Kramuka, Guvaka, SANSK.
Sooparee, . GUJ., HIND.	Puwak, ... SING.
Jambi, Penang, JAV., MAL.	Paaku, ... TAM.
Araca, . MALEAL., PORT.	Vukka, Wakka, . TEL.

The betel, or areca, or Penang nut palm, is grown in many parts of the East Indies and the Eastern Archipelago, from the Red Sea to the Pacific Ocean, and many of the people use the kernel of its fruit as a masticatory. It is the Areca catechu; is of elegant growth, and rises with a very erect and slender trunk to a height of forty or even sixty feet, the summit terminating in a tuft of dark green foliage; the trunk is seldom more than eighteen inches to two feet in circumference. The tree produces fruit from the age of five to its twenty-fifth year; it begins to blossom in March and April, and the nuts are fit to gather in the months of July and August, and are fully ripe in September and October. Fourteen pounds is the average annual produce of a single tree. The nuts vary greatly in size, and their quality depends solely on the amount of astringent matter they contain, a point which is judged of by cutting them. If the white or medullary portion, which intersects the white or astringent part, be small, has assumed a bluish tinge, and the astringent part be very red, the nut is considered of good quality; but when the medullary portion is in large quantity, the nut is considered more mature, and not possessing so much astringency, is esteemed less valuable. The ordinary nuts have a thin brown rind, and in size are intermediate between walnuts and hazel-nuts. Their general substance is of a faint oily grey colour, thickly marked with curly streaks of dark brown or black. Betel-nuts are made into necklaces, rulers, tops of walking-sticks, and other small objects. The best betel-nut of the Madras Presidency grows in the Nuggur district of Mysore, and in Travancore. It occurs in the market sliced and in whole nuts, also boiled and raw, or split and dried hastily over a fire, or dried slowly in that manner. That used by families of rank in Travancore is collected while the fruit is tender; the husk or outer pod is removed; the kernel, a round, fleshy mass, is boiled in water. In the first boiling of the nut, when properly done, the water becomes red, thick, and of a consistence like starch, which is afterwards evaporated into a substance like catechu, and is indeed known by that name. The boiled nuts being then removed, are sliced and dried, the catechu-like substance is rubbed over them, and, on being dried in the sun, they assume a deep black colour. Whole, unsliced nuts are also similarly treated. Nuts are fit for the slicing process in the months of July and August. Ripe nuts preserved in the pod are also in use. Nuts for exportation to Trichinopoly, Madura, and Coimbatore, are prepared in thin slices, and coloured or left in their natural hue. For Tinnevelly and other districts, the nuts are simply dried. The quantity of nuts produced on the coast of Sumatra is stated at 80,000 pikuls. The quantity imported annually by the Chinese amounts to 45,000 or 48,000 pikuls, exclusive of that brought there from Cochin-China. The nut is carried by the people of the East in pouches, and presented to guests in the houses of the rich, on silver trays, wrapped in gold and silver leaf, and in this form becomes an essential part in all ceremonial visiting. Indeed, among some of the inhabitants of the Eastern Archipelago, to refuse to accept betel-nut when offered, would give irreconcilable offence. It is believed to sweeten the breath, strengthen the stomach, and preserve the teeth; and when chewed with betel leaf, the Piper betel, *Linn.*, gives the saliva a red colour, which it imparts to the lips and gums. But only some nations chew it with the betel leaf; others add to it lime, tobacco, catechu, gambir (an extract from the foliage of Uncaria gambir, *Roxb.*), and the leaves of various species of pepper. White areca nuts form an article of trade with Burma from Penang and Acheen. Ordinarily, in Malabar, they are dried or cut into two or three slices; nuts are exported in their pods to Bombay. 2000 candies on the average are annually exported from Travancore. The number of the trees of the betel palm in Travancore alone is calculated at 10,232,873. In China they are met with both cut and whole, and the imports are mostly the growth of Java, Singapore, Sumatra, and Penang.

BETEL-NUT CRACKER. Soroto, HIND. In very general use among the natives who are consumers of betel-nut; used in cracking the nut. This instrument appears never to have been imitated by British manufacturers. It is of steel, and ornamental.

BETHAL, also Pethal, HIND., of Chenab, Juniperus squamosa.

BETHANY, a small village, now called Al Azirizah, about two miles from Jerusalem, on the eastern side of the Mount of Olives. On the summit of the Mount of Olives, within the area of a mosque, is a small circular chapel, covering the stone which bears the footprint shown as that of our Lord.—*Skinner's Journey*, i. p. 215.

BETHEL of Genesis xxviii. 2, 19, a compound word, El of the Greeks (Yl in the Hebrew and Phœnician), *i.e.* God, the Strong, whence comes Elohim, literally the gods; and the Græco-Phœnician Bætylia, or sacred stones, supposed to have fallen down from heaven (Diopeteis), perhaps aerolites, which were honoured and held sacred on account of a divine power supposed to be inherent in them. Jacob rose from his dream exclaiming (ver. 17), 'How holy is this place; this is none other but the house of God. And Jacob took the stone that he had made his pillow, and set it up for a pillar, and poured oil upon the top of it, and called the name of the place Beth-el.' Bethel of the Hebrews, Bagistan of the ancient Persians, and Allahabad of the Indian Mahomedans, all mean the house or place of God. Bagistan, from Baga, God, and sthana, place.—*Bunsen*, iv. 242–3.

BETONICA OFFICINALIS. *Smith.*

Hoh-hiang, . . . CHIN. | Betony, Bishopwort, ENG.

Tops and leaves are warm anti-emetic, *Smith.*

BETOOA, also Betoya and Betosag. BENG. Chenopodium viride; White goosefoot.

BETTAMU or Bettapu, Calamus rotang, *L.*

BETTIAH, a town in the Champaran district

of Bengal, situated on the Hara river, in lat. 26° 48′ 5″ N., and long. 84° 32′ 40″ E. The Maharaja of Bettiah resides here. Mr. Hodgson notices three tall pillars or columns in North Behar, two of the pillars surmounted by a lion, and each having an inscription upon the shaft. These are at Mathiah near Bettiah, Bahra and Rediah. The Bettiah inscription is precisely the same as that of Dehli and Allahabad. The language of inscription—Pali, and character Old Pali. Date—315 B.C. The Buddhist king mentioned is Piadasi, or Asoka.—*Hodgson*, iii. p. 482, iv. p. 125.

BETUL or Baitul, a district lying entirely in the hill country, comprising the westernmost section of the great Satpura plateau. Beyond its western border the Berar country begins. It lies between lat. 21° 20′ and 22° 35′ N., and long. 77° 13′ and 78° 35′ E. The district must have been the centre of the first of the four ancient Gond kingdoms of Kherla, Deogarh, Mandla, and Chanda; but except an occasional mention in Farishta, no historical information as to the Kherla kingdom remains. It yields coal. Population in 1872, 284,055. The agricultural population consists of Mahratta, Kunbi, Pardesi, Kurmi, Desi or Dolwar Kunbi, the Bhuiyar, Mali, Kerar, Gond, Kurku, Bhil, Bharia, Gaoli, Bhuya, Mhar. The Gond have about twenty tribes and twelve sects.

BETULA, the birch genus; one of the Betulaceæ. In Nepal are B. nitida, alvoides, utilis, and acuminata, and B. cylindrostachya and B. nitida are also plants of Kamaon. The white birch yields a bark which the Kamtschadales chop up with the eggs of the sturgeon, and use as food. The sap is acid, and an agreeable beverage, and may be kept for years without undergoing fermentation. The bark of a species in Northern India is used to dye chintz red? B. acuminate, *Wall.*, grows 60 feet high at 3000 to 10,000 feet elevation in Kangra and Nepal, in the Himalaya. The wood is hard, strong, and durable.—*V. Mueller.*

BETULA BHOJPUTRA. *Wall.* Paper birch.
B. Jacquemontii, *Spach.*

Shak-shin, . . . BHOT.	Tagpa of . . LADAKH.
Burj, HIND. of Pangra.	Bhurjamu, Barjapatri,
Burjri, Burzal, . ,,	TEL.
Shag, Shakh, KANAWARA.	

The Indian paper birch was found by Dr. Wallich on the alps of Garhwal and Kamaon, in the Sutlej valley between Rampur and Sungnam, at an elevation of 10,000 to 13,000 feet; and it is a plant of Tibet, Kaghan, Pangi, Busahir, and Lahaul. It is nearly allied to Betula papyracea of North America. So long ago as the age of the Hindu dramas, about the beginning of the Christian era, the Hindus used the inner bark of this birch as paper. In the drama by Kalidasa of the Hero and the Nymph, Hind. Th. i. p. 216, Urvasi says:—

'. . . I grieve that he should deem me
Cold and unfeeling. I cannot now appear
Before I meet these charges; some reply
I'll make, a bhurja leaf, and will inscribe
My thoughts on it, and cast it in his way.'

It grows to a higher elevation than most other trees, generally above coniferous forests. The tree at times reaches 6 or 10 feet in girth and 35 feet high. The wood is used for ploughs, small bridges, etc., at altitudes and in tracts where other trees are scarce. Mr. Watson told Dr. Stewart that it is good for turning; and in Kanawar poles of it are used for carrying and swinging a heavy kind of ark in religious processions, which implies some strength and elasticity. In Ladakh the striking part of the stick for polo, hockey on horseback, is made from it. The bark peels off in large sheets, and is used also for umbrellas, and for lining the flexible tubes of hookahs. Every consignment of the ornamental papier maché ware of Kashmir reaches the Panjab packed in wrappers of birch bark. Hindu pilgrims visiting the shrine of Amrnath in Kashmir divest themselves of their ordinary clothes before entering the shrine, covering their bodies with the bharj-patra. The leaves or bark are used to cover the baskets of Ganges water sold by itinerant pilgrims. In Kangra, 'being sacred,' the bark is used for funeral piles. In Kashmir and Kamaon it is found very durable put under the earthen roofs; and it is largely used for packing apples, pomegranates, tobacco, and drugs, writing paper. It sells for three rupees a kharwar (ass-load) in Kashmir, according to Lowther. The price in Chumba was stated to be ten to sixteen seers for a rupee. Longden mentions that the old bridge at Koksar (now replaced by a more civilised one) was made of birchen twigs.—*J. L. Stewart; Royle, Ill. Him.Bot.* p. 383; *Eng. Cyc.; Elliot's Fl. Andh.; Powell, Econ. Prod. Panj.; Cleghorn, Panj. Rep.*

BETURUNGU. BENG. Peristrophe tinctoria.

BET-YA. BURM. Urtica heterophylla; also Tragia involucrata.

BEUM. TEL. Husked rice.

BEVOIBETTA PEAK, in lat. 11° 21′ N., long. 76° 43′ E., in the Neilgherry hills, is S. of the Dodabetta peak. The top of the peak is 8488 feet above the sea.—*Baikie.*

BEYA. SANSK., JAV., MALAY. Cowries.

BEYAH, according to Rennell, anciently called Beypast'ha, is the Hyphasis of Alexander.—*Rennell, Memoir*, p. 102.

BEYPOOR, 5½ miles S. of Calicut, at the N. side of the river of same name; at its mouth is the western terminus of the Madras S.W. Railway. Beypore river has 8 or 10 feet on the bar at high tides.

BEYT, or Bate, an island on the S. coast of Kattyawar, in the Gulf of Cutch, about 5 miles long. The town and fort are on its W. side. The fort is in lat. 22° 26′ 30″ N., and long. 69° 5′ 34″ E. It was taken possession of by the pirates of Jugut, after they had been defeated by Kutub Shah. In A.D. 1482, Beyt fell, after having fought twenty naval engagements. Beyt fort was taken from the Waghirs and destroyed by the British on the 15th October 1859, and its fort and principal temples blown up. It has many pagodas for the worship of Krishna, and is largely visited by pilgrims.

BEZOAR, Serpent stone.

Faduj, ... ARAB.	Goliga Muniet,. . MALAY.
Hajr-ul-bahr, . . . ,,	Pazahar-Kani, . . PERS.
Gairoon, ... DUK.	Bazr, ... PORT.
Bezoard, ... FR.	Gorochana, . . . SANSK.
Bezoarsteen, . . GER.	Visagul, ... SINGH.
Guru-chandan, . . GUJ.	Bezar, ... SP.
Zahar mohra, . . HIND.	Visha Kallu, . . TAM.
Bezzuardo, ... IT.	Pamu Kallu, . . ,,
Batu Nakit, . . . JAP.	Telu Kallu, . . ,,
Goliga, Mantika, . MALAY.	Geruda patsa rai, . . TEL.

Bezoars are intestinal concretions, some of the monkey; also of the wild boar, called pig stone; of the Indian hog, called Malacca stone, or lapis Malaccensis, or yellow bezoar, and Ceylon bezoar, lapis porci Ceylanici, which was larger and not so

scarce; also the ox bezoar; that from the goat of Peru is known as the western bezoar; the ibex produces the oriental bezoar, also called the green resinous bezoar; the camel bezoar; the serpent stone is fabled to be from the cobra; and that of the bezoar of France from the viper. There are also hairy bezoars, agagrophilos, concretions obtained from the horse, ox, and sheep, and other quadrupeds. These form in the stomachs and intestines from the accumulation of hairs swallowed by the animals in licking themselves. The hairs become felted together in balls. The word is pa-zahr, from pao, to purify, and zahr, poison. Bezoar, from the mountain goat, the boz-i-kohi, is the most esteemed in Persia. Indeed, the name was at first applied to a concretion found in the stomach of a goat in Persia. Bezoar was formerly much prized as medicine in Europe, sometimes selling for ten times its weight in gold; but since its constituent parts have been ascertained, it has ceased to be sought after. The composition differs often in the same kind of animal, as well as in dissimilar species. Oriental bezoar is formed of bile and resin; other fictitious kinds are found to be made of hair, others of wood, and some principally of magnesia and phosphate of lime. The true bezoar from Persia is counterfeited so well by pipeclay and ox-gall, that even those have been deceived who procure the genuine from the animal. The genuine throws off only a small scale when a hot needle is thrust into it; and put into hot water it remains unchanged; when rubbed on chalk, the trace should be yellow, but green on quicklime. The cow bezoar is valued in the Chinese market at from $20 to $25 a catty, and is used by the Chinese solely as a medicine. The little which is brought there is from India. In China they are called Niu-hwang; also Chau-pau, also Chah-tah. The dog bezoar is called Kau-pau, and that of the horse Mah-meh. In the interior of the Rajang district, in Borneo, are two species of monkey, which produce the batu nakit, or bezoar stone. One is large and black, with a long tail, called nakit. The other is large and red, but has no tail, and is called basi. In one out of 10 or 20 of these two monkeys, are found the bezoar. Honigberger mentions that Padzahr siah, PERS., kani zahr mohra, HIND., is a dark green serpentine; and a specimen in the Madras Museum, brought from Dehli by Mr. Charles Gubbins, as zahr mohra, is undoubtedly this mineral. Bezoar is brought to Bombay from Gujerat and Malabar in small quantities, and is chiefly re-exported to China. Ainslie mentions that it is brought to India from Ceylon, Bussora, and the seaports in the Gulf of Persia as a medicine. Bezoar is supposed by the native practitioners to possess sovereign virtues as an external application in cases of bites of snakes, stings of scorpions, hydrophobia, etc. Bezoars do not deserve the least confidence. The fadaniya bezoar of the Panjab are intestinal calculi, consisting of phosphate of lime, etc. They occur there in the intestines of various animals. — *Honigb.; O'Sh.; Crawfurd; Powell, Handbook; Morrison; Tavernier; Ouseley; Williams; A. Moquin Tandon.*

BEZOMMAR is the seat of the Patriarch, or spiritual head of all the Armenian Catholics in the East. He is assisted by several bishops, and about twenty or thirty monks.—*Robinson*, ii. 45.

BEZWARA, a small town on the banks of the Kistna, and 45 miles from its mouth, in lat. 16° 30½′ N., long. 80° 39′ E. It is surrounded by high hills, in which are a large number of Buddhist rock-cuttings, cells, caves, and steps, and is supposed to be the Dhanakaketa of Hiwen Thsang. There are also many ancient Hindu pagodas. Wherever excavations have been made, ancient Buddhist and Brahmanical remains have been discovered. This town is the head of the network of canals forming the irrigation system of the Kistna district.

BGHAI, one of the great sections of the Karen race, the other two being the Sgau and the Pwo. The Bghai clans are the Bghai-ka-ten, Bghai-ko-hta, Bghai-muh-htai, Laimay, and Manu Manan.

Bghai tribes occupy all the country from the Sitang to the Salween rivers, and from the mouth of Thouk Ye-khat creek to near the British boundary and the Shan state of Mo-bhya. They speak two distinct dialects, the Bghai and that of the Red Karen, both of which are more nearly related to the Sgau than the Pwo, there being no final consonants in either. They dwell south of the Ka. They are more savage than the other Karen tribes, and they make forays and kidnap their neighbours. Each village has a single raised and palisaded and fenced house, with a walk down the centre, and with a hearth for each family, and one with 75 hearths has been seen. A stranger can only approach with a guide. On his arrival, a place is pointed out for him to sit, and if he move, he is speared as an enemy. A ladder during the day-time leads to a trap-door. They are known as the Bghai by the Paku and Sgau. They bury their dead in coffins like those of the Chinese, made of a single log of wood, with a hollow place for the corpse.

The *Bghai-ka-ten* wear a tunic with perpendicular red bands on a white ground, and are named by the Burmese, according to their localities, Leik-bya-gie and Leik-bya-gnai, or great and little butterflies. The other division wear short white trousers, and are again subdivided into the Bghai-muh-htai, the eastern Bghai or Red Karen, who dwell beyond the eastern mountains in the valley of the Salween; and the Bghai-ko-hta, or Upper Bghai, because they reside on the rivers above them, but to these the Burmese give the name of Ka-yen Ayiang, or Wild Karen. They rear the silkworm. They eat dog's flesh without salt, and rice without vegetables. They are wretched barbarians.

The *Laimay* or Black Necks, is a small Bghai tribe N.E. of Tounghoo, whom the Bghai call Pray. Manu Manan are called by the Red Karen, Pray. They dwell between the Sgau and Red Karen.

Bghai-muh-htai, or Karen-ni, the Red Karen call themselves Ka-ya, their term for a man. The Shan call them Yang-laing, which also signifies Red Karen. The men wear short white trousers, with perpendicular black or white stripes, or black ground with red or white stripes. The women have a red or black turban, with a square cloth tied by the two corners over the right shoulder, like a Roman toga. They also have a petticoat. The men go armed, and each has a pony. Every Red Karen has his back tattooed with radiating lines; it is their mark of manhood. They dwell on a table-land several thousand feet high, undu-

lating, with good soil and many springs. Their country is the finest in southern Burma, and their villages amount to about 200, with from 100 to 400 houses in each. They are skilled in the arts, are vigorous, hoe their land, and use cattle with panniers. They use spirituous liquors largely. Many of the population are slaves. The Karen-ni are civil, good-tempered, and intelligent, but they evince great ferocity in their forays.

The *Lwai-lohug* is a Karen tribe dwelling south of the Ka-khyen, on the edge of the table-land west of lake Nyoung-Ywe, two degrees north of Tounghoo. They dress like, and are doubtless a branch of, the Red Karen.

Ying-ban is a tribe supposed to belong to the Red Karen, whose dress and language they use. They dwell about 100 miles north of Tounghoo.—*Mason, Burma*, pp. 89–91, 641.

BHABAR. HIND. Urtica heterophylla; also Andropogon involutum and Eriophorum cannabinum.

BHABAR. HIND. In Baitool, light black soil.

BHABAR, a sloping tract of country under the Siwalik hills, from 10 to 20 miles broad. The slope of the ground varies from 17 to 30 feet per mile, diminishing rapidly after the first few miles. The soil in many parts consists of a rich black mould, at the extreme north and south verges of the forest. There are occasional patches free from trees, but covered with high grass, and many spots afford good pasturage; the Bhabar is almost destitute of trees valuable for timber; and water is at such depth below the surface, that all attempts to dig wells have been fruitless. It forms the southern portion of Kamaon, and is there 10 to 11 miles broad, and it runs between the mountains and the Terai. On the south is a line of springs which marks the northern boundary of the Terai district. Up to 1850, the Bhabar was an almost impenetrable forest, given up to wild animals; but since then a large population has entered the hills.

BHABOOT. HIND. Ashes of dried cow-dung, which Hindus smear over their foreheads and bodies. See Atit.

BHABRA, near Bairath, on the road between Jeypore and Dehli. A sculptured stone was got here. It contains an edict of king Pyadasi, and specifically refers to the precepts and doctrines of Bhagavat Buddha.—*Prinsep's Tibet*, p. 155.

BHABRI. HIND. Amarantus anardana.

BHABRIA, a section of the Koli race, dwelling from Baroda north to Mahee Kanta.—*Wils.*

BHABRU. SANSK. A sacred name of Siva.

BHADA. HIND. A grass which grows in poor soil; it makes excellent fodder.

BHADARIA, a tribe of mendicants of Brahmanical descent, who profess astrology.—*W.*

BHADAURIA, a branch of the Chauhan Rajputs residing in the provinces of Agra and Etawa, and in other places along the Jumna, whence the tract is termed Bhadawar. The raja of the district claims descent from an ancient family, the members of which enjoyed high consideration at the court of Dehli from the reign of Akbar; and his pretensions are admitted by the surrounding rajas, who yield him precedence, and accept from him the tilaka or frontal mark on their accession.—*Wilson, Glossary.*

BHADON, the fifth month of the Hindu luni-solar year, August and September. On the 3d of this month, amongst Rajputs, there is a grand procession to the Chougan; the 8th, or Ashtami, is the birth of Krishna. Rajputs have several holidays in this month, when the periodical rains are in full descent; but that on the last but one (Súdi 14, or 29th) is the most remarkable.—*Rajasthan*, i. p. 581. See Nat'hdwar.

BHADRA-KALI, SANSK., from Bhadra, goodness, and Kali, one of the names of Parvati; in this form she is one of the Gramma-devata or village deities, and as such receives bloody offerings, and assists in the practice of sorcery and witchcraft.

BHADRA MUSTE. SANSK. Also Bhadra tunga gaddi, TEL. Cyperus hexastachyus.

BHADRAPADA, a Hindu month when the sun is in the sign Sinha, corresponding to the Tamil month of Auvani. See Varsha.

BHADRASENA, king of Magadha, one of the Sisunaga dynasty, B.C. 400.—*Bunsen*, iii. 538, 542.

BHAEE. DUK. Sterculia colorata.

BHAEOUL. HIND. Seemingly Grewia oppositifolia. It grows in the ravines of Simla, and at higher and colder situations. The ropes made from it are strong and durable; during the depth of winter the villagers feed their cattle on the leaves, which sell from three to five annas per load of 25 to 45 seers. It supplies a crop of twigs annually.

BHAGA, a mountain river of Kangra; it unites with the Chandra to form the Chenab.

BHAGADATTA, a king of the Yavana, who submitted to king Jarasandha.

BHAGALPUR, a town in Bengal on the right bank of the Ganges, with a population of 69,678 in 1872. It gives its name to a district of 4268 square miles, and a population of 1,826,290 persons; the soil of the district has been injured by changes in the bed of the Kusi (Cosi) river. Besides the Hindus and Mahomedans, there are 335,137 Goala, 16,468 Santal and other aboriginal races. The Oswal clan of Rajputs have two temples in the chief town. The sacred hill of Mandargiri is fabled to cover the body of the giant who was decapitated by Vishnu when he was trying to destroy Brahma, Vishnu, and Siva. It is a place of Hindu pilgrimage. It suffered from famine in 1770, 1775, 1779, 1783, and 1865–66.—*Imp. Gaz.*

BHAGANA. SANSK. The circumference of a circle. Independently of astronomical purposes, the Hindus frequently divide the circumference of the circle into twelve rasi or signs, subdivided sexagesimally into Bhaga, Cala, Vicala, etc., *i.e.* degrees, minutes, seconds, etc. Bhagana means also a revolution.—*E. Warren, Kala Sanhita.*

BHAGAR. HIND. Eriophorum cannabinum.

BHAGAT or Bhakt. HIND. A term amongst the vaishnava, now usually applied to a Hindu religious puritan, who is initiated by a necklace of beads round the neck, and a circle on the forehead. After initiation, the puritan abstains from flesh and spirits. Bhagat or Bhakt also simply means a follower or worshipper, as Siva bhagat or Vishnu bhagat, a worshipper or follower of Siva or of Vishnu. Bhagat is also a title given to the head of the math or temple of Kanoba. He works himself into a state of hysteria on the Jan'm Ashtami, and the people, believing him to be then possessed by Krishna, worship him with incense and prostration, and present sick people to be touched and cured.—*Wilson.*

BHAGATIYA, a caste in Agra, Etawa, Cawn-

pur, and as far east as Ghazipur, where they number more than 100 families; they pass their time in buffoonery, singing and dancing.—*Sherring's Hindu Tribes*, p. 276.

BHAGAVAN or Bhagwan, a name of deity, denoting God. The derivation means the primary cause of creation. Bhagwan is the name by which all Hindus recognise the Supreme Being.—*Taylor.*

BHAGAVATA, an extinct Vaishnava sect, who wore the usual marks, the discus, club, etc., of that divinity, and likewise reverenced the salagram and tulasi. The Bhagavat of the present day is one who follows particularly the authority of the Sri Bhagavat Purana. The name is from Bhagavat or Bhagavata, divine.

BHAGAVAT-GITA. SANSK. From Bhagavat, divine, and gita, a hymn, *i.e.* divine song; a Sanskrit poem in the form of a metaphysical dialogue between Arjuna and Krishna. It is an episode in the Mahabharata. It contains many fine passages, in which Krishna gives an exposition of the pantheism of the Brahmans and of the Hindu mystic theology. The Brahmans regard it as only inferior to the Vedas. It is the most intelligible and most interesting of all the Sanskrit writings. It is written in splendid metre, and belongs to a literary age. It is recognised by all Hindu sects and schools. It propounds an eclectic system. Its two leading doctrines are the adwaita philosophy of Vyasa, and the supreme importance of quietism, resembling the Stoic philosophy of the Greeks. Its author is unknown, but he was probably a Vaishnava Brahman, and its date was probably the second or third century A.D. It is later than the six Darsanas or philosophical schools. The poem is divided into three sections, each containing six chapters, the philosophical teaching in each being somewhat distinct; but the main design of the poem is to inculcate the doctrine of Bhakti (faith), and to exalt the duties of caste above all other obligations, including those of friendship and kindred. The sentiments expressed in it have exerted a powerful influence throughout India for the past 1600 years. It was early translated by Mr. Wilkins, subsequently by Mr. J. Cockburn Thompson; and there are translations into German, French, etc. Warren Hastings wrote the preface to Wilkins' translation of it. The Bhagavat Gita, the Mahabharata, and the Ramayana are to the Hindu all that the Bible, the newspaper, and the library are to Europeans. Dr. Lorinser, in an appendix to his edition of the Bhagavat Gita, compares, in parallel passages, portions of this book with that of the Christian New Testament. He is of opinion that the doctrines in this book are not only an eclectic mixture of different Indian philosophies, but have also a strong infusion at least of ideas and sayings taken over from Christianity. He is satisfied that it dates after Buddha; and there are strong reasons to believe that its composition must be attributed to a period terminating several centuries after the commencement of the Christian era. Lassen infers its age to have been in the 3d century after Christ. It is in the Gospel of John, the Acts of the Apostles, and Revelation, that the correspondence is apparent, though also Paul's Epistles to the Thessalonians and to Philemon, and the Epistles of Peter, are noticeable.—*Ind. Ant.* Octr. 1873.—*Dowson; W. Taylor; Elph.* pp. 93, 155.

BHAGAVAT PURANA, one of the sacred books of the Hindus, styled Purana, of which there are eighteen. The Vishnu Purana is that best known. The Bhagavata Purana teaches vaishnava doctrines. It is so named from its being dedicated to the glorification of Bhagavata or Vishnu. It consists of 18,000 slokas, distributed amongst 332 chapters, divided into 12 skandhas or books; and it exercises a more direct and powerful influence upon the opinions and feelings of the people of India, than perhaps any of the Puranas. Its tenth book narrates in detail the history of Krishna, and has been translated into all the languages of India. It is understood to have been written by the grammarian Vopadeva or Bopa-deva, who lived about the 12th or 13th centuries, at the court of Hemadri, raja of Devagiri (Deogarh or Dowlatabad).—*Growse*, p. 50; *Dowson.*

BHAGAVATI, SANSK., in Hindu mythology, is the wife of Bhagavan. Bartolomeo says that her figure was on the gold pagoda coin, and gave it its name.

BHAGDAR. GUJ. The headman of a village commune.

BHAGHELCUND, 'the land of the Bhaghel,' also known as Rewa; a territory in Central India, whose princes are of the Bhaghel or Bhaghela race. It lies between lat. 22° 40′ and 25° 10′ N., and long. 80° 25′ and 82° 45′ E. The Bhaghel, according to Wilson, are a branch of the Sisodhiya Rajputs of Gujerat, who migrated eastwards. Subdivisions of the tribe, under different denominations, are widely spread through Bundelkhand, Allahabad, Benares, Gorakhpur, Cawnpur, and Farrakhabad. They are also said to be of the Chauhan race, descended from Komarphal (died A.D. 1166), sovereign of Gujerat. In Gujerat there are many petty chieftains of this tribe, as Lunawarra, Mandvie, Mahera, Godra, Dubboye, etc. Another account makes the Bhaghela Rajput race descendants of Sid Rae. They also occupy Pitapur and Theraud in Gujerat. Tod says the Bhaghela Rajputs are a branch of the Solanki kings of Anhalwara.—*Tod's Rajasthan.*

BHAGIRATHI, a branch from the Ganges, in Bengal, which Hindus regard as the sacred channel of that river. It leaves the Ganges in the Murshidabad district; and at the town of Nadiya it is joined by the Jilingi, and the Hoogly is formed. Its course is frequently changing and sandbanks forming. The Bhagirathi river of Garhwal rises from the Gangotri peak, and is one of the headwaters of the Ganges, and joins the Aleknanda at Deo Prayag, to form the Ganges. The people identify that with the branch thrown off by the Ganges at Chhapgati, 1000 miles below. Bhairoghati is in a deep gorge, at the confluence of the Bhagirathi with the Jahnavi, and is visited by Hindu pilgrims from all parts of India.—*Imp. Gaz.*

Bhagirathi Peak, in lat. 30° 56′ 5″ N., and long. 78° 59′ 1″ E., in Garhwal, near the origin of the Bhagirathi river, is 21,390 feet G. T. S. in height. Herbert and Hodgson call this peak the 'Pyramid,' and give lat. 30° 54′ 6″ N., long. Gr. 79° 2′ 8″ E., height 21,379 feet.—*Schlag.*

BHAGMUTTY, a river of Nepal. Katmandu, the capital, is built at the junction of the Bhagmutty and Bishmutty.

BHAGNUR, rich alluvial lands under the Jumna.

BHAGTEEA, a dancing boy dressed up as a dancing girl.

BHAGWANA. See Baluchistan.

BHAGWARI, Guj., also Nirwa. Lands held in commune in Gujerat, Kaira, and Ahmadabad.

BHAGWEE, a cloth dyed with red ochre, used by fakirs.

BHAI. Hind. Brother, comrade, fellow-townsman, fellow-countryman, from which are many compound words: Bhai-band, relatives, connections, fellow-townsmen; Bhaiyachara or Bhai-bhant, lands held in common by relatives; a village commune owned by descendants from a common stock. Latterly, the title of Bhai was in practice frequently given to any Sikh of eminent sanctity, whether his ancestor had been the companion of a guru or not. The Behdi and Sodhi, however, confined themselves to the distinctive names of their tribes, as the Behdi called themselves Bâba, and the Sodhi sometimes arrogated to themselves the title of guru, as the representatives of Govind and Ram Das. Bhaiad, a brotherhood; a term given to the kinsmen of a Jharejah chief.—*Elliot, Sup. Glos.* p. 64; *Cunningham's Hist. of the Sikhs*, p. 65.

BHAI BHAGTOO, the founder of the Kythul family; he was a useful partisan of Lord Lake, but was subsequently reduced to comparative insignificance under the operation of the British system of escheat. Dhurrum Singh, the ancestor of the respectable Bhai of Bagreean, between the Sutlej and Jumna, was likewise a follower of Hur Rai.

BHAI-BIRRUNG, the seed of a plant brought to Ajmir from Haraoti, considered warm, and used in mesalih, and in prescriptions to promote digestion.—*Genl. Med. Top.* p. 126.

BHAI-BYA. Burm.? In Amherst, a timber used for house posts, commonly called white Jarool.—*Captain Dance.*

BHAIMI. Sansk. The 11th of the Hindu month Magha, on which day offerings are made in honour of Bhima.—*W.*

BHAINS. Hind. A male buffalo. Mhains, the cow.

BHAINSH. Hind. Salix tetrasperma.

BHAIRAVA. Sansk. The fear-exciting, from Bhaya, fear. Bhairavi, the wife of Bhairava. Bhairava is a title of Siva in his destructive character, a terrific deity, only to be satisfied by blood. According to Major Tod, there are two Bhairava, the fair and the black (Gora and Kala), who in the field of battle are the standard-bearers of their mother Kali. The sable deity is the most worshipped. The dog is sacred to him, and in sculptures he is commonly represented on one. He is also called Bajranga, or of thunderbolt frame. Mr. Ward states that under the name of Bhairava, Siva is regent of Kashi (Benares). All persons dying at Benares are entitled to a place in Siva's heaven; but if any one violate the laws of the Shastra during his residence, Bhairava grinds him to death. At the Lat of Bhairava at Benares, the Kan-phata jogi ascetics officiate as priests. A temple is dedicated to Bhyru and his wife Jayisuri at Loni, about twelve miles from Poona, to which people bitten by snakes are brought, and Hindus believe that they invariably recover. Bhyru will not even permit the nim tree, used as a preservative against the bites of snakes, to grow near the place, as all persons so bitten are under his special care. In the temple of Kylas at Ellora is a beautiful sculpture of him, bearing in his hands the damara, the hooded snake, and apparently a richly-sculptured sceptre. —*Cole. Myth. Hind.* p. 73. See Bhairavi.

BHAIRAVA JAP or Bhairava Jhao. At some distance to the north of the Jaina temples of Girnar, and above them, on the verge of the hill, stands a huge insulated rock, the Bhairava jap, or 'Leap of Death,' otherwise styled the Raja-mela-vana-pathar, the 'desire-realizing rock,' whence Hindus have often been tempted to throw themselves down, in the hope of a happy future. Laying a cocoa-nut on the dizzy verge of this rock, the victim attempted to poise himself upon it, and in another instant he was beyond humanity's reach, and his body a prey to the vultures that soar under the lofty cliff. Such suicide has long been forbidden; but only about A.D. 1850, three Kunbi, keeping secret their intentions, ascended and made the frightful leap; some Rabari had also determined to do the same, but were restrained.

Postans says the Girnar rock bears three inscriptions. The most ancient, which occupies the eastern side, are the edicts of king Asoka. The celebrated edicts are very perfect. — *Postans' Western India*, ii. p. 41; *Cal. Rev.*, 1848; *J. B. As. Soc.* vii. pp. 217-262. See Asoka; Girnar.

BHAIRAVI, fierce attendants on the goddess Kali; also ascetic female Hindus in Bengal, who personate Sakti. They take a vow of celibacy. Many of them are influenced by a sincere and enthusiastic devotion, but their reputation is not high.

BHAIRAVI CHAKRA. Sansk. Bhairavi, a name of Durga, and chakra signifies a circle or wheel. See Bhairava.

BHAIRIYA, or Redia, a small, dissolute, and disorderly caste, who wander about in the company of dancing women, and are notorious thieves and scoundrels. They are in many of the districts of the Bengal Provinces, and in Cawnpur.—*Sherring's Hindu Tribes*, p. 276.

BHAJA, four miles south of the great Karli cave in the Bhor Ghat. It is famed for its Chaitya cave excavated in the rocks. Its date is supposed to be before the Christian era.—*Ferg.*

BHAJI. Hind. Greens.

BHAJRUBHAL. Beng. Mellivora Indica, *Jerdon.*

BHAKRA. Hind. Tribulus lanuginosus, T. terrestris.

BHAKRI, a yellow earth used in coarse dyeing at Multan.

BHAKSHI. Hind. of Kangra. Gardenia tetrasperma.

BHAKTA MALA, a work in which is embodied the legendary history of all the most celebrated Bhakta or devotees of the Vaishnava order. It was originally written in a Hindi dialect, by Nabha Ji, about A.D. 1580, but was added to by Narayan Das, who probably wrote in the reign of Shah Jahan. This, termed the Mala, was added to in A.D. 1713 by Krishna Das, the additions being named the Tika.—*Wilson.*

BHAKTI, in Hinduism, signifies a union of implicit faith with incessant devotion. The doctrine of the Bhakta was an important innovation upon the old Vedic religion. The object of the Vedas, as exhibited in the Vedanta, seems to have been the inculcation of fixed religious duties as a general acknowledgment of the supremacy of the deities, or of any deity; and, beyond that, the necessity of overcoming material im-

purities by acts of self-denial and profound meditation, and so fitting the spiritual part for its return to its original source. This system was diffused throughout the old pagan world. But the fervent adoration of one deity superseded all this necessity, and broke down practice and speculation, moral duties and political distinctions. In the Bhagavat Gita, Krishna is made to declare that, to his worshipper, such worship is infinitely more efficacious than any or all observances, than abstraction, than knowledge of the divine nature, than the subjugation of the passions, than the practice of the Yoga, than charity, than virtue, or anything that is deemed most meritorious. An important consequence results from these premises,—that as all men are alike capable of feeling the sentiments of faith and devotion, it follows that all castes become by such sentiments equally pure. Amongst the Vantswara sectarians founded by Chaitanya, all persons of all castes are admitted into the sect, and all are at liberty to sink their civil differences in the general circulation of mendicant and ascetic devotees, in which character they receive food from any hands, and of course eat and live with each other without regard to former distinctions. In like manner, as followers of one faith, all individuals are equally entitled to the prasad, or food which has been previously presented to the deity; and it is probably the distribution of this, annually, at Jaganath, that has given rise to the idea that at this place all castes of Hindus eat together. See Pran-Pralap.

BHAL, or Bhal Sultan, a tribe of proprietory Rajputs in Secunderabad, Balundshahr, Hatras, and Tuppul in Alighur. The tract about Balabhipura and northward is called the Bhal.—*Elliot; Tod.*

BHALATAKI. HIND. Semecarpus anacardium.

BHALIKA, contemporary with Dhritarashtra and the five Pandu brothers. Bhalika means the Bactrian, from Balkh, the later form of the name of that city.

BHALOO. HIND. A bear. Bhalloo Soor, Arctonyx collaris, *Cuv.*

BHAMADATTA, a king of Kalinga, supposed to be the Brahmadatta, who after Buddha's death received the tooth relic at Kalinga.

BHAMAH, a race in the valley of Nepal, supposed to be an offshoot of the Newar. The Bhamah shave the head, like the Bhutia.

BHA-MANDALA. SANSK. A nimbus, an aureole.

BHAMTI, also Bhamatya; in Berar, Bhamwatya, a pickpocket, a thief.

BHAN. HIND. Populus Euphratica; grows in N.W. Himalaya and in Sind, used for rafters and turnery; also Rhus cotinus; its leaves are used as a tan.

BHAN-BHWAY. BURM. In Tavoy, a wood used for house posts, like sissoo.

BHAND. HIND. Geranium nodosum.

BHANDAK, a town 18 miles N.W. of Chanda, in the Central Provinces. The architectural remains in and around it consist of temple-caves, and in the Winjhasani and Dewala hills, the foot-print of Bhima, on the latter hill, the temple of Bhadravati.

BHANDAR, a mixture sacred to Kandoba, of powdered turmeric and another substance.

BHANDAR, a cocoa-nut tree toddy drawer.

BHANDARA. HIND. A treasury, a store, a reservoir; a guarantee, an assurance.

BHANDARA, in lat. 21° 9′ 22″ N., and long. 79° 41′ 43″ E., is the chief town of a district of the same name in the Central Provinces, through which the Wainganga flows. The population of the district in 1877 was 593,624. The aboriginal races are Gond, Kurku, Kol, Dher or Mhar, Kunbi, Ponwar, Koli, Mali, Goali, Kalar, Dhimar. The district is infamous for divorces, in which the women take the lead. The pat or concubinage is largely followed. The lingam and many animals and reptiles are worshipped. There is a large tomb near the village of Murmari, about 10 miles from Bhandara, where rest the remains of an English lady. It is held in great veneration by the surrounding villages.—*Cent. Prov. Gaz.*

BHANDER. HIND. The desert S.W. of Rajputana. See Mewar.

BHANDIBAJAN. HIND. Sageretia Brandrethiana.

BHANG. HIND.

Subjah, Subji, Sidhi, HIND. | Sukho, Sawia, . SINDH.
Banghi, . . TAM., TEL. |

The larger leaves and capsules of the dried hemp plant, Cannabis sativa. They are used by the natives of S. Asia for making an intoxicating drink bearing the same name, also for smoking; and the powdered leaves are used in infusion and in sweetmeats as an intoxicating drug. The hemp plant in tropical countries also exudes a gum, a very powerful stimulating narcotic, which it does not produce in cold countries. It is the charras of India. The dried leaves partake of this narcotic principle, and are used all over India to produce intoxicating effects. They are used for making the conserve or confection termed Majoon. Bhang is cheaper than ganjah, and, though less powerful, is sold at such a low price that for one pice enough can be purchased to intoxicate a 'habituated person.' Sidhi, Subji, or Bhang (synonymous) are used with water as a drink. It is generally used in a liquid form, and is fiercely intoxicating. One recipe, which is thus prepared, is,—hemp leaves, washed in water, 3 drachms; black pepper, 45 grains; cloves, nutmegs, and mace, of each 11¼ grains. Triturate the ingredients with eight ounces of water or milk, or with the juice of water-melon seed, or cucumber seed, and strain. Spices render it more inebriating. Another recipe is,—about three tola weight (540 troy grains) are well washed with cold water, then rubbed to powder, mixed with black pepper, cucumber, and melon seeds, sugar, half a pint of milk, and an equal quantity of water. This composition is chiefly used by the Mahomedans of the richer classes. Sidhi washed and ground, mixed with black pepper, and a quart of cold water added, is the favourite beverage of the Hindus, especially the Brijobassi, and many of the Rajputana soldiery. Under the Burmese Government at Tavoy, no one was allowed to cultivate the plant without a licence from Government. Sometimes a general permission was given, and at other times a general prohibition would be issued. Throughout India, bhang is one of the exciseable articles, and the plants are taxed for revenue.—*Williams' Middle Kingdom*, p. 106; *Powell's Handbook*, 296; *O'Sh.* p. 582. *Faulkner; Herklots; Mason.*

BHANGAR BIJ. HIND. Asphodelus fistulosus.

BHANGI. HIND. Scavenger.

Halal-Khor, . . . HIND. | Lal Begi, Khak-rob, HIND.
Mehtar Chuhra, . . ,, | Toti, . . . TAM., TEL.

A person acting as a scavenger in a household. They are often Mahomedans, and often of the tanner or Madega caste. They are found all over India, well to do, earning very large incomes, but they are becoming fewer daily, because many emigrate, and, under British rule, educate their children for higher avocations. The descriptions given of them by Wilson and Elliot are no longer applicable. One man in a small hamlet in Berar was earning Rs. 37 monthly.

BHANGI. HIND. A labourer who carries burdens with a shoulder-pole like a milkmaid; also the shoulder-pole with slings from which boxes are suspended. In the Karnatica, Tamil, and Telugu countries it is called Kavadi, changed by the British to Cowrie. In the Panjab, dandy poles, bhangy poles, and shafts are made of the timber of Acer cultratum, Bambusa arundinacea, Betula bhojputra, Cotoneaster obtusa, Ficus Indica, Fraxinus floribunda, Fraxinus xanthylloides, Grewia oppositifolia, Lagerstroemia parviflora; Quercus dilatata, Quercus semecarpifolia, Taxus baccata, and Alnus campestris.

BHANGRA. HIND. Eclipta erecta; Viscum album, Verbesina prostrata, Cleome pentaphylla.

BHANGURIA. HIND. A branch of the Gaurtaga tribe in Bulandshahr.—*Wilson.*

BHANPOORA. Near this is a small rivulet, called the Rewa, coming from the glen of the pass near which is the mausoleum of Jeswunt Rao Holkar, adjoining the scene of his greatest glory. —*Rajasthan*, ii. p. 719.

BHANR or Bahana Bhanr, also Bhand, in Northern India, mimics, buffoons, and jesters, mostly professing Mahomedanism. They are present at all joyous festivals, such as a marriage, or the birth of a son, and contribute their jokes, just as the Gaunharins contribute their dancing and song.—*Elliot; Sherring's Hindu Tribes.*

BHANSARA, a branch of the Ahir tribe.

BHANT. SANSK. Clerodendron infortunatum.

BHANTA. SANSK. Solanum melongena.

BHANWAR. HIND. Ipomœa sessiliflora.

BHANWAR, a rite which forms part of the marriage ceremony of Hindus, in which the bride and bridegroom circumambulate the sacred fire.

BHAO. MAHR. A brother, a cousin, an honorific adjunct to names, as Sadaseva Rao Bhao, who fell at Panipat, 6th January 1761. A daughter-in-law. Bhao Begum, the Begum daughter-in-law.

BHAORA, a scattered tribe in the Peninsula of India, who snare game and wild beasts. They are styled Pardhi by the Canarese, and Harn Pardhi, and Harn Shikari in the Dekhan, and the British style them the Shikari and hunter race. See Bawari. They snare wild animals, which they bring for sale into towns. They also capture the larger beasts of prey. They work in certain tracts of country, which they call their jungle, each body keeping to their own circle.

BHAOTA. HIND. A banner, a flag; frequently used, as Angriz ka bhaota kaim,—May the English flag remain secure.

BHAR. GUJ. A measure of weight in Gujerat, about 960 lbs.

BHAR. MALAY. A slab of tin.

BHAR, also written Bhur, an aboriginal race in the Benares district, of whom the Raj-bhar, the Bharat, and Bharpatwa are sections, though they do not eat together nor intermarry. They are said to have ruled in the tract from Gorakhpur to Bundelkhand and Saugor, and many old stone forts there are ascribed to them; but in that part of India they are now filling the meanest situations. On the hills to the east of Mirzapur, the principalities of Korar, Kurrich, and Huraha are, however, each held by Bhur rajas. Many of their old stone forts, embankments, and excavations are in Gorakhpur, Azimghur, Jonpur, Mirzapur, and Allahabad, and remnants of the people are still there. The celebrated fortress of Vijayagarh is still recognised as a Bharawati fort; and a pargana in Benares is called Bhadoi, properly Bhar-dai. Professor Wilson supposes it possible that the name comes from Bharata, an ancient dynastic name of India.—*Wils. Glos.; Elliot*, p. 83.

BHARADI, the Hindu goddess of learning, a name of Saraswati.

BHARADWAJA is mentioned in the Ramayana as a sage residing at Prayaga, the modern Allahabad, where a temple dedicated to him still exists on the high bank of the Ganges. In the Mahabharata, Bharadwaja is described as residing at Haridwar, and as the father of Drona, the military preceptor of the Pandava and Kaurava princes. He is also the parent of Arundhati, the wife of Vasishtha. Sir H. Elliot suggests that there may have been two saints of nearly the same name, Bhāradwaja and Bhāradwaja? In Sanskrit, the long ā indicates descent, as Sāgara from Sagara, Bhāgirathi from Bhagiratha. In the same way, Drona the son of Bharadwaj is called Bhāradwaj in the Mahabharata. See Hindu.

BHARANGI. HIND. Verbesina prostrata. The bark of the stem of this small plant is considered warm, and is used to promote digestion. —*Gen. Med. Top.* p. 126.

BHARANGI CHETTU. TEL. Clerodendron, *sp.* Bharga and Bhargni are explained to be Clerodendron siphonanthus, but evidently refer to another species of Clerodendron called Gantu bharangi, q.v.

BHARAO, HIND., from Bharava, a field of a size to require a bhara of seed. It is a term in use in the Himalaya.

BHARATA was the founder of a dynasty in the vicinity of the Indus. He was the son of raja Dushyanta and Sakantala, and was of Aryan descent. He established a kingdom amidst an aboriginal population. The original seat of the race was at the site now occupied by the ruins of Takht-i-Baki, in the country of the Yuzufzai, to the north of Peshawur. There is, however, no reliable information extant as to the extent of the kingdom he founded, but to this day India is known to the Hindus by the name of Bharata-varsha, or the country of Bharata, also called Bharata Kshetra and Bharat K'handa. Bharata is said to have been the first to establish a raj in India, but this probably means merely a new dynasty. Under this name, Bunsen, however, supposes two historical accounts. The first Bharata, a supposed son of Bhumanya, he thinks is the name of the primitive race who settled in central Hindustan, the Madhyadesa or Aryavarta. The Bharata kingdom, he thinks, seems to have been established between B.C. 2600 and 2200, when the country was over-

whelmed by the Panchala, and it was followed by an interregnum, B.C. 589. Wheeler also says that Bharata, son of Dushyanta, was of the Aryan race, and established the Bharata kingdom in Hindustan, amidst a preceding people. Some authors in Europe have lately endeavoured to apply the term Bharata to the entire of what is now India, but it probably varied in extent with the usual fortunes of nations. Under its third king, Sahotra, this kingdom became aggressive, but it ended with Samvarama about B.C. 2200, by the Bharata kingdom being overwhelmed by the advance of the Panchala, and driven westward.

After the inroad of the Panchala, a period of 300 years of anarchy ensued. From about B.C. 1900, the Panchala and Kuru became supreme, then the Pandava power. But about B.C. 1100 a bloody struggle occurred between the Kaurava and Pandava, from which a third interregnum ensued, which lasted 120 years. This period of anarchy was called the Kali yoga, B.C. 986 (886?); a new realm was founded in Magadha, and lasted down to Asoka II., B.C. 225, under various dynasties, viz.:

I. Barhadratha,	B.C. 986–647	IV. Seshnaga,	B.C. 446–379
II. Pradotya, .	,, 646–579	V. Nanda, .	,, 378–313
III. Bimbasara,	,, 578–447	VI. Maurya, .	,, 312–225

The above is from Bunsen's Egypt, pp. 590-592 of vol. iv.; but at another place he names the Barhadratha dynasty 220 years of Somapi, B.C. 886–647, twenty kings, down to Ripunjaya; Pradotya dynasty, B.C. 646–579.

A. Bhattya dynasty, B.C. 578–447, total 132 years.

1. Bhattya, B.C. 578–527, murdered by his son Ajita Satru.
2. Ajita Satru, B.C. 526–495, murdered by his son Udaya-bhadra.
3. Udaya-bhadra, B.C. 494–479, murdered by his son Anu-radhaka (Munda).
4. Anu-radhaka, B.C. 478–471, murdered by his son Nagadasaka.
5. Nagadasaka, B.C. 470–447, murdered by his successor of the house of Seshnaga (Sisunaga).

B. Seshnaga Kshatriya.

1. Seshnaga, B.C. 446–427.
2. Kalasoka, B.C. 428–401.
3. Bhadrasena, nine brothers, B.C. 400–379; the last of the brothers, named Pinjamakha, was dethroned by Nanda.

C. Nanda and his sons.

1. Nanda, not a person of princely extraction, headed a revolt against Pinjamakha, captured Pataliputra, and became king, B.C. 378.
2. Nanda's younger brother dethroned and murdered by Chandragupta, B.C. 313.

D. House of Maurya.

1. Chandragupta's accession, B.C. 312–289.
2. Vindusara, B.C. 288–261.
3. Asoka (the great), B.C. 260–225.

E. Partition and downfall.

The Seshnaga family descended from a mother of inferior rank. She had been the head of the dancers of a king of Likhavi at Vaisali, and subsequently became his wife. Seshnaga's son is properly the first Asoka; but the Brahmans, from hatred towards the second, who was the great patron of the Buddhists, called him only Kaka-Varna, the raven-black. It was he who removed the royal residence from Rajagriha in the south to Pataliputra. He was succeeded by his eldest son, Bhadrasena.

Nanda was a man of great courage, who headed a commotion in his own village.

Chandragupta (Sandracottus) was present with the army of Porus when the latter was murdered by Eumenes, the general of Eudemus II., in B.C. 317. He headed the popular party, and marched towards the Ganges. His kingdom extended from the Indus on the north, to the mouth of the Ganges and Telingana, also westwards to Gujerat, —the whole of Aryavarta. He died B.C. 289.

Asoka, the great Buddhist king, was crowned at Pataliputra in the third year of his reign, B.C. 258–259, and openly seceded from the Brahmanical to the Buddhist religion. He seems to have been converted by the son of his brother, whom he had murdered. He is said to have erected 84,000 Buddhist sanctuaries, partly temples (chaitya), partly tumuli (stupa or topes), and inscribed on rocks and pillars earnest inculcations of Buddhist doctrines.—*Bunsen*, ii. 547, iii. 539, 585, iv. 590–592.

BHARATA, one of the four sons of Dasaratha and Kaikeyi, and elder brother of Rama. Bharata's mother secured the exile of Rama, but it was arranged that after the expiration of 14 years Rama should ascend the throne, and Bharata govern Kosala in Rama's name.—*Garrett.*

BHARATA, the eldest of the hundred sons of Reshab'ha (Rooshabha), prince of Himahwa, to whom Bharata succeeded. Bharata resigned the throne to his son Samati, and retired as an ascetic to Salagrama. He regarded the soul as distinct from matter, and the gods and kings as in reality the same. From this, apparently, he disregarded caste distinctions.—*Garrett.*

BHARATI. SANSK. Speech, or its goddess; perhaps Bharadi, a name of Saraswati, the goddess of learning. The prevailing title of the later Sringagri gurus.

BHARE. HIND. A thatch grass.

BHARHUT, a village 120 miles to the S.W. of Allahabad, and 9 miles due south of the Sutna station of the Jubbulpur railway. It is in the state of Nagode in Central India, and is said to be the site of an old city named Bhaironpur, which embraced all the villages round. The ruins of a great Buddhist tope of the year B.C. 250–200 were discovered here in 1873 by General Cunningham.

BHARI. HIND. Cajanus bicolor.

BHARIYA. In Northern India, braziers, iron-workers, and metal founders, though connected by their avocation with the Thatheras and Kaseras, are nevertheless a distinct caste, and do not intermarry with either.—*Sherring's Tribes*, p. 322.

BHAROCH, known to Europe as Broach, was the Bhrigu-Kach'ha of the ancient Sanskrit, the Bharu-kach'ha of old inscriptions, and the Barygaza of Ptolemy and the Periplus. See Broach.

BHARPATWA, a branch of the Bhar tribe.

BHARPUNJA. HIND. A person who is a grain parcher.

BHARTAVA, a husband amongst the races in Malabar who follow the law of descent from the female side.

BHARTPUR, a town and fortress which gives its name to a State in Rajputana lying betwixt lat. 26° 43′ and 27° 50′ N., and long. 76° 53′ and 77° 48′ E. Its area is 1974 square miles; and in 1875 its population was 743,710. Its princes, nobles, and most of its people are of the Jat race. Its town of Kaman is sacred to the Hindus, Krishna having resided there. Deegtun is noted

for its elegant banwan or palaces. Near Khambar are three colossal Pandaon images of Baldeo, his wife, and Yudishtra, with another supposed to be a Jaina saint, and two enormous monolith columns. At Khanwa, Baber fought a great battle with Rana Sanga of Udaipur. The Bhartpur territory has been repeatedly overrun by contending races. The Jat principality was founded by a freebooter named Birj, who held the village of Sinsunni in the pargana of Deeg, and the power of this state was extended during the decline of the Moghul empire, by his great-grandson, Suraj Mull, who was killed in 1763. Suraj Mull left five sons, three of whom administered the state of Bhartpur in succession. During the rule of the third son, Namul Singh, the fourth son, Ranjit Singh, rebelled, and called in the aid of Najjaf Khan, who stripped the family of all their possessions except the fort of Bhartpur, which was held by Ranjit Singh. After much internal and external trouble, Sindia gave back to the family at first eleven, then three parganas, which now form the state of Bhartpur. In 1803, the chief, Ranjit Singh, entered into a treaty with the British; but he gave shelter to Holkar when pursued by Lord Lake after the battle of Deeg, and on refusing to deliver him up, Lord Lake's army stormed it four times unsuccessfully, on the respective occasions of the 9th and 21st January, 21st and 22d February 1805. On these assaults the losses appear to have been 456, 573, 894, and 987; total, 2910; and 15 officers killed and 95 wounded. But the chief then agreed to expel Holkar from his territory, and a new treaty was entered into. The raja died in 1825, leaving his young son, Bulwant Singh, to the care of Sir David Ouchterlony. But his cousin Doorjun Sal set aside the young sovereign, and murdered the uncle guardian.

The British Indian army, on the 10th December 1825, again assembled to besiege it. It comprised 25,295 regulars, and 1705 irregular cavalry, with 112 guns, howitzers, and mortars, and the Commander-in-Chief, Lord Combermere, commanded. The force of the enemy consisted of 20,000 Rajput, Jat, and Afghan. The fortress fell on the 18th January 1826. The British loss was 103 killed and 466 wounded. The enemy lost about 7000. Lord Combermere was made Viscount, and the prize-money amounted to 48 lakhs of rupees. 61,472 shot and shells were fired in the 26 days from 24th December 1825 to 18th January 1826. The races in northern India, owing to the failure of the attempts in 1803, had been in the belief that it was impregnable. The Maharaja has received a sunnud, conferring on him the right of adoption, and to a salute of seventeen guns. The revenue is Rs. 21,00,000. Bhartpur pays no tribute and no contribution to any local corps or contingent. The army consists of 3368 infantry, 2214 cavalry, and 313 artillery.—*Treaties*, iv. 121, 132. See Jat.

BHARTRIHARI, a celebrated poet and grammarian, who is said to have been brother of Vikramaditya. He wrote three Sataka or Centuries of Verse, called Sringara-sataka, on amatory matters, Niti-sataka on polity and ethics, and Vairagya-sataka on religious austerity. The last are said to have been written when he had returned to a religious life, after a licentious youth. They were translated into French in A.D. 1670; into Latin by Schiefner and Weber; into German by Bohlen and Schütz; into French by Fauche, and the erotic verses by Regnaud; and into English by Professor Tawney. Bhartrihari also wrote a grammatical work of high repute, called Vakya Padiya (Pradipa); and a poem, called Bhatti-kavya, is also attributed to him. His Vakya Pradipa, or metrical maxims on the philosophy of syntax, are the best known. They are often cited under the name of Harikarika, and have almost equal authority with the precepts of Panini. His Sataka or Centuries of Verse are also much admired. He is said to have become disgusted with the world on account of the infidelity of his favourite wife. He abdicated the throne, and ended his days at Benares in devout contemplation. He is also said to have been put to a cruel death by his brother Vikramaditya. His aphorisms are also entitled Karika. —*Garrett; Dowson.* See Bhatti.

BHARTRIHARI JOGI, an order of Hindu mendicants, who say that they were instituted by Bhartrihari, brother of Vikramaditya. They are reckoned as jogis, because Raja Bhart, it is asserted, was a disciple of a jogi. They carry a musical instrument in their hands, on which they play, while they sing the exploits of Raja Bhart. Their abode in Benares is principally at Raori Talao. There are many of the sect in the city. They walk about wearing the gerua-vastra, or reddish cloth worn commonly by devotees. At death they are buried.—*Wilson; Sherring*, p. 261.

BHARWAR, a tribe keeping goats, sheep, and camels, and living on their produce.

BHARWI. HIND. Imperata Kœnigii.

BHARWUTTIA, a manifestation of lawlessness almost peculiar to Kattyawar (voluntary outlawry), not yet extinguished in the province.

BHARYA, also Bharja. HIND. A Hindu wife; a second wife after the Patni or first wife; a Nair woman.

BHASAN, a class of Sudras in the Khassya hills.

BHASHA. SANSK. A language, a dialect, from Bhash, to speak. The terms Bhasha and Prakrit mean vernacular tongues. Do-basha, lit. two languages. Do-bashi, an interpreter, an agent. Bhashya, from Bhasha, a tongue; a lingual treatise. One of these treatises was written by Vallabha Acharya.—*W.*

BHASKARA. SANSK. From Bhas, light, and Kri, to do or make. A treatise on the sun, its true nature, in the Mimansa-Upanga. Also a name of the sun as the light maker. Bhaskara-Saptami, a Hindu festival in honour of the sun, held on the seventh of the month Magha (Jan.–Feb.).

BHASKARA CHARYA, a celebrated astronomer, born about A.D. 1065, who resided at Beder in the 11th century. He applied his mind chiefly to numerical science. He was a Brahman, and had only one child, a daughter, named Lilavati, to whom he dedicated his work, the Bija-ganita, and singularly it came to be called by his daughter's name. Its date is SS. 1036 = A.D. 1114. His Siddhanta Siromani (Head Jewel of Accuracy) is an astrological work, published SS. 1050 = A.D. 1128; and he died soon after, aged 65. He has had no rival in India in mediæval or modern times. Part of it was translated by Colebrooke. He has been supposed to have been acquainted with the principle of the Differential Calculus; and Dr. Spottiswoode considers that the formula which he establishes, and his method of establishing it, bear a strong analogy to the

corresponding process in modern astronomy.—*Garrett; Elph.* i. 30; *Dowson.*

BHASMA. HIND. Bhasnuam, SANSK. Ashes. Bhasma-st'hnana, smearing the body with ashes of cow-dung, a common practice of Saiva mendicants.

BHAT. HIND. Paddy; boiled rice. Curry-bhat, ANGLO-BENG., Curry and rice. Doodh-bhat, rice and milk. A nursery rhyme, in Calcutta, goes:—

'Kitsha kitsha kowa k'hai.	Baba k'hai chori.
Doodha bhata Baba k'hai.	Masalah ka thori.'

BHAT. HIND. The Bard.

Phatis, ... GR.	Vates, ... LAT.
Parat, ... HEB.	Bhatta, ... SANSK.
Bardeit, . . . HIND.	

The Bhat is the court minstrel of India, the almanac maker, the chronologist, the family bard, the astrologer, the genealogist. They are found all over India, but are numerous in and near Rajputana. The Birm-bhat and Jaga-bhat, the former at weddings, and the other at festive occasions, recite the deeds of ancestors; the latter keep the family records of Rajputs; but Brahmans often take their work, as in Rohilkhand. The Bhat, or bard of India, are of three sorts, the Magadha or historians, the Sata or genealogists, and the Bandi or court minstrels, whose duty in older times it was to salute the king or chief in the early morning, wishing him long life and prosperity. The bards, from their sacred character, were often employed as convoys of travellers and their property, in tandas or caravans. Throughout Rajputana, they are regarded as a sacred order, and as the hereditary guardians of history and pedigree. They chant their own verses, or legends from the mythology of India.

According to one fable of their origin, Mahadeva created a Bhat to attend to his lion and bull, but the bull was daily killed by the lion. On which, Mahadeva, tired with daily creating a bull, formed the Charan, equally devout as the Bhat, but of bolder spirit, and gave him charge of the animals, from which date the bull was never destroyed by the lion.

In the west of India, where the bard is identified with the Charan, his personal security was held sufficient for the payment of a debt or the fulfilment of an engagement, its violation being followed by the voluntary death either of the Bhat himself or of some member of his family, the retribution of which falls upon the defaulter.

When the Rajputs were driven westwards into their present lands, Brahmans do not seem to have accompanied them, or perhaps at the time the Brahmans were not numerous in Rajput territories, and Bhat and Charan took their places. As priests, genealogists, chroniclers, and bards, they exercise a powerful influence over the Rajput race. The Bhat, as chroniclers and bards, share power and sometimes office with the Charan, but seldom sacrifice themselves. Amongst the lower tribes of Hindus, the Bhat enjoys great and exclusive influence. They give praise and fame to those who are liberal to them, while they visit with satire others who neglect or injure their order, reproaching them with spurious birth and inherent meanness. The exactions or largesses exacted by the Bhat and Charan from the Rajput races on the occasion of marriages, were exorbitant, until about the year 1840, it was arranged that fees should be paid on a scale proportioned to means.

Bhat take the honorary title of Rao. In Oudh, the Bhat, Birm-bhat or Badi, and the Jaga-bhat, number 64,429, and they claim a Brahmanical origin. In Rajputana, every family of any pretensions retains one or more bards; and no person can go abroad without bards to proclaim his titles, achievements, or those of his forefathers, which is done in a loud tone, and the bards vie with each other in composing extravagant epithets. No person can enter a room, rise or go out of it, without suitable proclamation from the bards present. Some are good at improvising, and on occasions deliver extempore orations in verse, and chanted in wild measures, when their words have a great effect on their hearers. They occupy the exact position of the bards of Europe, inciting to peace, to war, to love, to generosity, as occasion demands.

The Birm-bhat are hired on particular occasions to recite the traditions of a family; the Jaga-bhat being the chroniclers of the family by hereditary descent, and visiting the members periodically, to take note of all occurrences regarding them. Both classes are as much dreaded for their rapacity as respected for their reputed sanctity. In some places in Upper India, the Bhat are found forming village communities, and branching into various subdivisions; some have become converts to Mahomedanism. The Bhat of the village establishment appears to be of an inferior class.

The Bhat are more immediately connected with the Rajput clans, and the Charan with the Kat'hi. The two castes will eat of each other's food, but will not intermarry. The women of the Charan and Bhat are clothed in long flowing black garments, and have a sombre if not actually horrid appearance. They do not wear many ornaments, and are not restricted from appearing in the presence of strangers; accordingly, in passing a Charan village, the traveller is sometimes surrounded by women, who invoke blessings on his head by joining the backs of their hands and cracking the knuckles of their fingers in that position over their heads. Their dress consists of a gogra or petticoat, made very full; the neck covered with a choli, which descends below the hips, and covers the stomach, but is open behind, where it is fastened with two strings; a wide muslin scarf, attached to the gogra, passes round the body and the head, completely concealing the wearer from view.—*D. J.* vii.; *Hindoos*, p. 75; *Wilson's Gloss.; Heber*, ii. p. 453; *Tod; Elliot's Suppl. Gloss.; Malcolm's Central India.*

BHAT. HIND. A soil to the north of the Ganges, highly retentive of moisture. Bhata or Bhatu, in Gujerat, is land subject to inundation.

BHATA or Batta. HIND. An additional allowance, or extra pay to servants, or soldiers, or officers; a ploughman's wages in kind.—*W.*

BHATA. HIND. Crotalaria burhia.

BHA-TA-KA. BURM. In Tavoy, a wood used for common carpentry.—*Captain Dance.*

BHATARKA, the founder of the Valabhi dynasty.

BHATGAON or Bhatgong, a district and town of Nepal; though the least considerable of the three chief towns in point of size, yet its buildings in general have a more striking appearance. Bhatgong lies nearly 8 road miles S. of Khatmandu. Its ancient name was Dhurmapatan, and it is called by the Newar race, Khopodaire; by them it

is also described to resemble in figure the dumroo, or guitar of Mahadeo. It is the favourite residence of the Brahmans of Nepal, containing many more families of that order than Khatmandu and Patan together.

BHAT-GAUR, a subdivision of the Gaur Rajputs.

BHATI, a tribe in the Lahore division of the Panjab. They were Yadubansi Rajputs, who in Akbar's time became Mahomedans.

BHATIA, between Multan and Alor, supposed by General Cunningham to be the city which Alexander built among the Sogdi. It was taken by assault in A.H. 393, or A.D. 1003, by Mahmud of Ghazni, after an obstinate defence, in which raja Bajjar, or Bijé Rai, was killed. Amongst the plunder, Mahmud obtained 280 elephants. — *Cunningham, Ancient Geog. of India*, p. 256.

BHATIYA, HIND., also Bhati and Bhatua. The poorest kind of soil in Sagur and Bundelkhand; it is of a reddish colour, and is mixed with kankar and stones. Shallow in depth, and generally exhausted after the third year, after which it requires a four years' fallow. Only the poorest grain and millets will grow upon it.

BHATKAL, a small seaport town of 5246 inhabitants, in North Canara, known to the Europeans of the 14th to the 16th centuries as Baticala, Battecala, and Baticalloa. The Mahomedans here are the Naoait, a Sunni sect.

BHAT-KATAI, also Bhat-katia. SANSK. Solanum Jacquini, *Willde;* also S. Xanthocarpum and Argemone Mexicana.

BHATKOORAL. HIND. A hard, close-grained wood, of a light grey colour, and not heavy. Scarce in the Santal jungles. Well adapted for timber bridges, where strength and toughness require to be combined with lightness.— *Calc. Engineers' Journal.*

BHATMIL. HIND. Argemone Mexicana.

BHAT-NAGAR. HIND. A tribe of Kayasths, originally from Bhatner.—*Elliot.*

BHATNAIR, a town and fort in the north of Bikanir, in lat. 29° 34′ 55″ N., and long. 74° 20′ 45″. See Bhatti.

BHAT-NIGGI. HIND. Wikstræmia salicifolia.

BHATOTAR. HIND. Lands allotted to bards.

BHAT-SHOLA. BENG. Æschynomene Paludosa.

BHATTA. SANSK. A sage; a Brahman acquainted with Sanskrit literature; literary title conceded to learned Brahmans who commit one of the Vedas to memory, so as to be able to recite the whole without book. In some parts of South India, it especially designates a Brahman who professes a knowledge of the Vedas, or belongs to a family in which they have been taught. Bhatta Acharya, a teacher of Sanskrit literature, is a title which is given to Hindu scholars who not only learn one of the Vedas by heart, but study the meaning of each verse and word, so as to be able to explain it orally. They are now very few. About 1870 there were only three or four at Benares; but they are highly respected, and on certain occasions regularly worshipped as incarnations of Vrihas-pati, the Pandit of the gods.— *Elliot; Wilson; Garrett.*

BHATTA, Batta, or Battak, a Sumatran race addicted to eating human beings. They occupy the valley of Mandeling and to the west, and the easterly portion of them are under the dominion of the Dutch. The language they use is said to be different from the Malay, and to have several dialects; but it has an alphabet invented by themselves, and in this matter they are perhaps the only human beings who have advanced to a knowledge of letters, but continued to eat each other. The writings of Marco Polo show that so long ago as A.D. 1290, they were known to be addicted to indulgence in this propensity; and Sir Stamford Raffles, in 1820, after visiting Tampanuli Bay, was informed that for a person convicted of adultery, of midnight robbery, prisoners of war, a person intermarrying with another tribe, a person treacherously attacking a village, a house, or another person, the punishment was to be cut up and eaten alive. Marsden, in his History of Sumatra, notices them. The most recent traveller, Professor Bikmore, from America, who was in Sumatra in 1865, mentions that they are an inland people, the Malays from Menangkabau having spread and occupied all the coasts. He says they believe in evil spirits and omens. On the Dutch acquiring the possession of the plain of the Mandeling valley, the Batta dwelling there were compelled to abandon their cannibalism, but all beyond Dutch territory the race still pursue their old customs. He had not, however, been able to verify that part of Sir Stamford Raffles' information which includes marrying into another tribe as incurring the penalty. The raja of Sipirok assured the Dutch governor at Pedang that he had eaten human flesh at least forty times, and that he relished it above everything that he had ever tasted. — *Bikmore's Travels*, p. 418; *Marsden's Sumatra.*

BHATTA MURTI, a distinguished Telugu poet who resided at the court of Krishnaraya. He wrote the Narasa Bhupaliam during his patron's life, but his chief poem, the Vasu Charitramu, after that patron's death. It contains florid descriptions of scenery and love affairs, and is much esteemed.—*Garrett.*

BHATTA NARAYANA, author of the Veni-Sanhara, a Sanskrit poem.— *Ward*, iv.

BHATT'HI. HIND. A distillery, a still, a boiler, a kiln, a forge.

BHATTI or Bhatti-Kavya, by Bhartrihari, is a poem in 22 cantos relating the adventures of Rama. It has been partly translated into German by Schütz.—*Dowson.* This Bhartrihari was a grammarian and poet, son of Sri Dhara Swami, not the celebrated brother of Vikramaditya.—*Ward*, iv. p. 387.

BHATTI, a Rajput tribe of Yadubansi descent. They are the rulers of Jeysulmer, which they founded A.D. 1156, and gave their name to the country between Hissar and the Garah, called Bhattiana. The tract from Loni to Kasna was called Bhatner after them. Some of them became converts to Mahomedanism after Timur's invasion. Shortly after that event, a colony migrated from near Bhawalpur under a leader Bersi, and captured Bhatner from a Mahomedan chief.—*Elliot.* The Jit and the Bhatti seem to have been so intermingled that distinction is now impossible. The Jit who resisted the advance of Mahmud of Ghazni, in a naval warfare on the Indus, are supposed by Colonel Tod to have, long prior thereto, established themselves in the Rajputana desert as well as in the Panjab, and to have had great political power, as they were reckoned one of the

thirty-six royal races. In A.D. 1205, which was twelve years after the conquest of India by Shahab-ud-Din, the Jit of the northern desert attempted to wrest Hansi from the Mahomedan empire, and Kutub-ud-Din, his successor, conducted in person the war against the invading Jit. When the dethroned queen Razzia sought their protection, they joined all their forces with their Scythic brethren the Ghikar, and marched with the queen at their head to meet her foes, but she fell in battle in the attempt to regain her kingdom. Again, it is mentioned that in A.D. 1397, when Timur invaded India, Bhatner was attacked for 'having distressed him exceedingly on his invasion of Multan,' when he 'in person scoured the country, and cut off a tribe of banditti called Jit.' The Bhatti of Jeysulmer retain their Hindu notions, though with some degree of laxity, from their intercourse with the Mahomedans on the northern and western frontiers; while those who long occupied the north-east tracts towards Phoolra and the Garah, on becoming proselytes to Islam, ceased to have either interest in or connection with the parent state. The Bhatti did not enjoy the same martial reputation as the Rahtor, Chauhan, or Sisodia, but he was deemed to equal if not surpass the Kachwaha, or any of its kindred branches, Nirooka or Shekhavat. He is not perhaps so athletic as the Rahtor, or so tall as the Kachwaha, but is generally fairer than either, and possesses the Jewish features of the Bikanir Rajputs. The Bhatti intermarries with all the families of Rajwara, though seldom with the ranas of Mewar. The late Juggut Singh of Jeypore had five wives of this stock. The dress of the Bhatti consists of a jāmah, or tunic of white cloth or chintz, reaching to the knee; the kamrband, or ceinture, tied so high as to present no appearance of waist; trousers very loose, and in many folds, drawn tight at the ankle; and a turban, generally of a scarlet colour, rising conically full a foot from the head. A dagger, shield, and sword complete the dress. The Bhattiani wear a fine woollen brilliant red gogra or petticoat, and scarf thirty feet in width. They also wear the chaori, or rings of ivory or bone, which cover their arms from the shoulder to the wrist, of value from sixteen to thirty-five rupees a set; and silver kurri (massive rings or anklets) are worn by all classes, who deny themselves the necessaries of life until they attain this ornament. The poorer Rajputni assist in the husbandry. The Bhatti is addicted to the immoderate use of opium, or umlpani 'infusion,' and the pipe. The Bhatti annals may be divided into four distinct epochs: 1st, that of Heri, the ancestor of the Yadu race. 2d, Their expulsion, or the voluntary abandonment of India by his children, with their relations of the Hericula and Pandu races, for the countries west of the Indus: their settlements in Marust'hali; the founding of Guzni, and combats with the kings of Room and Khorasan. 3d, Their expulsion from Zabulist'han, colonisation of the Panjab, and creation of the new capital of Salbahanpur. 4th, Their expulsion from the Panjab, and settlement in Mer, the rocky oasis of Maroo, to the erection of Tunnote in the Indian desert, in A.D. 731. The Bhatti are a branch of the Yadu or Jadoo race, whose power was paramount in India three thousand years ago; and the prince now governing this distant corner of India, claims descent from those Yadu kings who ruled from the Yamuna to the 'world's end' at that remote period. Colonel Tod is of opinion that the Yadubhatti is the original Yuti colony from central Asia, and that the Jit prince of Salpur was the predecessor of the Yadubhatti races.—*Tod's Rajasthan*, vol. ii. pp. 212, 285. See Sabagræ.

BHATTIAH, a mercantile race, supposed by Colonel Tod to have been one of the equestrian order converted into the commercial. The habits of the Bhattiah are like those of the Arorah, next whom he ranks as to activity and wealth. The Arorah and Bhattiah have commercial houses at Shikarpur, Hyderabad, Bombay, Surat, and Jeypore.

BHATTIANA, a tract of country in the Panjab, forming part, since 1835, of the Hissar and Sirsa districts. It takes its name from the Bhatti Rajputs. In 1795, George Thomas, who had got possession of Harrianah, obtained an influence over the Bhatti, but after the victories of Lord Lake in 1803 it passed under British rule.

BHATTYA, a Brahmanical dynasty of five kings of Magadha in ancient India, who reigned from B.C. 578 to B.C. 447, all parricides. See Bharata.

BHATU, a wandering tribe of gymnasts in the south of India. They are not numerous; they are known as Dumur in the Canarese districts, as Kollati in the Dekhan, Dumbram in Tamil, and Dumberwar in Telugu, and as jugglers and tumblers. Their young women are prostituted, or are devoted at Chinchor as Murli girls, and they reverence the idols at Triputty and Gudaloor (Cuddalore)? They keep no idols, do not respect Brahmans, and they bury the dead.

BHATULA. HIND. A hard bread from the grains of 'arhar,' 'chenna,' and 'mung,' used only by the very poor.—*Elliot.*

BHATWA. PANJ. Chenopodium vulgare and Ch. album.

BHAU. MAHR. A brother, a cousin; a title of respect, as Hari-bhau. A daughter-in-law, also a bride; bridal fees given to a zemindar by a ryot on the marriage of the ryot's daughter.

BHAU BIJA. A Hindu festival about the end of October, on the second day of Kartik, in commemoration of Yama having dined with his sister. On this festival, Hindus visit their sisters' houses, and make presents to them. Among the Brahmans, their wives and sisters worship their husbands and brothers.

BHAUCHYA, one of the 14 Hindu patriarchs who are supposed to preside successively over the 14 Manwantara of the Calpa.

BHAU DAJI, a learned orientalist, a native of Western India, of the middle of the nineteenth century. He was born near Sawantwaree in the Konkan, and educated for the profession at the Elphinstone and Grant Medical Colleges. He has written on female infanticide. He founded the Bombay Reform Association; and the Boards of Education, museums, and learned societies owe much to his exertions.

BHAU-GARDI. MAHR. Any terrible defeat.

BHAUMA, one of the names of the planet Mars; in Hinduism, the analogue of Mars.

BHAU MALLANG, lat. 19° 6′ N., long. 73° 12′ E. A hill 10 miles N.E. of Panwel, in the Konkan. Top of the hill is 2250 feet above the sea.

BHAUNAGAR, a seaport town, capital of a

native state in Gujerat, with an area of 2784 sq. miles, and a population, in 1875, of 403,754, consisting chiefly of Vaishnava and Sumast Hindus, Jains, and Mahomedans. The ruler, styled Thakur, is a Gohil Rajput. In the eighteenth century the family aided in the suppression of piracy in the Gulf of Cambay. The Thakur has powers of life and death over his own subjects. The capital has a good and safe harbour.—*Imp. Gaz.*

BHAUR. See Theatre.

BHAUTTOOI. BENG. Chrysopogon acicularis.

BHAVA or Babo, A.D. 1550, author of the Babo Prakasa, a Hindu physician who lived in the middle of the 16th century. He compiled a book for the use of practitioners, in which he gave a summary of the practice of all the best writers on medicine, and named the book after himself; it is written in a clear style, and is still greatly valued by the physicians of Northern India as a practical work on Hindu medical science.

BHAVABHUTA, a celebrated Sanskrit scholar and dramatist, with the literary title of Srikanta, he in whose throat eloquence resides. He was a Brahman, born in Beder or in Berar in the 8th century, but resided at or near Ujjaiyani. He was of the Kasyapa tribe or gotra. He describes nature in her magnificence. Some of his dramas were translated into English by Professor Wilson. He wrote the Uttara Rana Charita, a Sanskrit drama, history of Rama to the death of Ravana, and Maha-Vira Charita to the end of his life. In his drama of Malati and Madhava, he has made powerful use of the Aghòri in a scene in the temple of Chamunda, where the heroine of the play is decoyed in order to be sacrificed to the dread goddess Chamunda or Kali.—*Ward*, iv.; *Garrett; Dowson.* See Kala Priyanath.

BHAVANJI CHETTU. TEL. Psoralea corylifolia.

BHAVAYA, an itinerant actor, musician, dancer.

BHAWA. HIND. Cathartocarpus fistula.

BHAWAN. HIND. A house, a temple, a palace.

BHAWANI, written Bowany, a tributary of the Cauvery river. It rises among the hills on the western side of the Koonda, runs eastwards along the foot of the Neilgherry mountains, and is joined by the Moyar, which, together with the Pykarra, rises in the Neddawattum range, and, joining the Bhawani at Danikan Cottah, the Bhawani enters the Cauvery.

BHAWANI, also written Bhavani, wife of Siva, a Hindu goddess, to whom also the names Aparajita, Chandika, Durga, Kali, Maheswari, Parvati, Prakriti are given, according to her worshipper's opinions of her character. Durga and Bhavani are two names of Prakriti, the symbol of created nature, and as Parvati, Kali, Durga, and Bhavani, the wife of Siva bears a strong resemblance to the Isis of Egypt, to the Juno of Homer, to Hecate, to the armed Pallas, and to the Lucretian Venus. As Kali, she is the agent for her husband's decisions. She is often depicted with the pasa or string in her hands, for binding and strangling incorrigible offenders. As Durga, or active virtue, she destroyed the Asura. Bhavani, in the form of Parvati, is nature personified, in which character she is fabled, in one of the hypotheses of the Hindus, to have been the mother of Brahma, Vishnu, and Siva, and to have divided herself and become their sakti. The Saiva Hindus are worshippers of Siva and his wife Bhavani conjointly, and adore the lingam and yoni in the compound type of god and goddess. Bhavani and her consort Siva are extensively worshipped in the south of India, have a multitude of small temples, but there is little or no reverence. It would seem as if a Scythic and an Egyptian goddess, with their respective attributes and mixtures of war, love, philosophy, physiology, cosmogony, and final judgment had been amalgamated. As a war goddess, Bhavani is often invoked. Tod tells us that, in the belief of Rajputs, the double-edged sword presented by Gorakhnath in the forest of the Tiger mount, could, with the proper incantation, sever rocks. It is surmised to be the identical blade which is yet annually worshipped by the sovereign and chiefs on one of the nine days sacred to the god of war,—a rite completely Scythic. The genealogists of the family repeated to him the incantation. It is: 'By the preceptor Gorakhnath, and the great god Eklinga, by Takyac the serpent, and the sage Harita, by Bhavani, strike!' This goddess is supposed to have inspired Sivaji to murder Afzal Khan, the general of the king of Bijapur. At a conference, Sivaji struck Afzal Khan with a wagnak, and finally despatched him with the beautiful Genoese blade called Bhawani, which he always wore. That sword, down to the time of the British supremacy, had a little temple for itself in the palace of Sivaji's descendants, and it was annually worshipped by them and their household, not as a mere act of veneration for their ancestor's trusty sword, but because it was the chosen instrument of a great sacrifice; and the attendant who watched it used to say that no doubt some of the spirit of Bhawani must still remain in it. Many towns and rivers are named after her.—*Tod's Rajasthan*, i. 226; *Cole. Myth.* p. 96; *Moor, Hindu Pantheon; Sir William Jones; Paolino's Voyage.*

BHAWAR or Bhavar. HIND. Lowlands in the Terai, at the foot of the Himalaya. In the N.W. Himalaya, a forest tract below the Siwalik range. This term is not used in the Panjab. Qu. Bhabar.

BHAYEL RAJPUTS of Mewar (Bhayel, rocky hills), are descendants of Sujjun, a Puar Rajput.

BHEDAN or Basaikela, a very old Gond chiefship, now attached to the Sumbulpore district. During the 1857 mutiny the chief joined the rebels, and was killed in action.

BHEDI. BENG. A dyke, an embankment.

BHEKKAR. HIND. Adhatoda vasica.

BHEKRA. MAHR. Tetraceros quadricornis.

BHEL. HIND. Andromeda ovalifolia.

BHELA. HIND. Semecarpus anacardium.

BHELA, an ancient Hindu writer on medicine.

BHENDI, also Benday Kai. TAM. Abelmoschus esculentus. The capsules, when green, are boiled whole and eaten, or sliced and put into soup or curries; the inside is filled with albumen, and, when dressed, not unpleasant. The seed is sometimes laid upon toast with butter, pepper, and salt. Another species, A. moschatus, has a smaller capsule; the seeds when rubbed between the fingers have a strong scent of musk. The Arabs flavour their coffee with them.

BHENG. HIND. Nelumbium speciosum.

BHERA GHAT, on the Nerbadda, near Jubbulpur (10 miles), on the line of the railway to Bombay. Marble is plentiful, and easily accessible, and

has been used in a limited degree at Jubbulpur, sometimes to make lime, and other times for metalling roads. It is made up into images by natives, but does not take a good polish. A block was sent to the late Paris Exhibition, and pronounced to be equal to Italian marble for statuary purposes. At this place the river winds between perpendicular rocks of the magnesian limestone, the Marble Rocks, which in one part approach so close as to get the name of the Monkey's Leap.

BHERANDA. Beng. Castor-oil plant.

BHERBAND. Hind. Argemone Mexicana.

BHERI. Tel. Leonotis nepetæfolia, *R. Br.*

BHERIJA or Bheriga. Hind. Canis lupus, the wolf; also pronounced in the various dialects, bhera, bhara, bharya.

BHERLI. Mahr. Caryota urens.

BHERRA, Hind., also Bharra. Wheat and other grain sown together.

BHET, Hind., also Bhent. Land alongside a river, subject to periodical inundation.

BHEWNDI, a district in the vicinity of Bombay, in which reside many christianized Koli.

BHI. Hind. Cydonia vulgaris, quince.

BHIA, the marmot of the Bhot.

BHIDAIRA, the root of a small bush found in Ajmir, and brought from Dehli; has little taste; used in medicine. Women take it during pregnancy, believing it can cause the womb to rise out of the pelvis when tardy in so doing.—*Gen. Med. Top.* p. 129.

BHIHAR, a tribe which, according to local tradition, appears to have been one of the aboriginal races of Rohilkhand and the Upper Doab. They were expelled from Nerowlee Buhjoee and the neighbouring districts by the Bir-Gujar Rajputs. In the Doab they are commonly called Beimhar, and in Rohilkhand, Bihar.—*Elliot*, p. 68; *Wilson's Glossary.*

BHIKH. Hind. Alms. Bhikhshu or Bhikkari, a beggar. Three religious garments, a begging pot, razor, sewing needle, waistband, and bathing cloth, are peculiar to the Bhikshu or Hindu mendicant ascetic. The Bhikshuka in Sanskrit, in Pali, Bhikhkhu, is a mendicant who foregoes three objects of human existence,—pleasure, wealth, and virtue,—and remains constantly occupied with devotion; to abstain from all wrongdoing, call nothing his own, and to suppress desire, anger, pride, and covetousness. For the support of existence, he is to apply for alms at Brahman, Kshatriya, and Vaisya houses, after their cooking fires have been extinguished and the people have eaten; to reside but one night in a village, and not more than four nights in a city. Bhikshuni is a woman who follows the life of a Buddhist devotee; a nun. Bhikshu-griha is a cell in which Buddhist ascetics dwell.—*Garrett.*

BHIL, one of the races who early occupied India. According to Malcolm, in a Sanskrit vocabulary at least 700 years old, the term Bhil occurs to denote a particular race of barbarians, subsisting chiefly on plunder, and found more particularly in the mountainous woody tract of the Nerbadda. But there is still earlier mention of them in the Mahabharata, in which the Bhil are minutely described, and a long fabulous account given of their origin. The Caba race, now almost extinct, was famed, even in the days of Krishna, as the savage inhabitants of Saurashtra. It was a forester Bhil who mortally wounded Krishna, having mistaken him for a deer. When the Bhil was expressing his contrition for the unintentional act, he was forgiven, with the remark that it was only retributive justice, as 'in a former birth,' as the godlike Rama, Krishna had slain him. Thus Rama appears as the subjugator and civiliser of these indigenous tribes, of whom the Caba are described as plundering Krishna's family after his decease. The Bhil have been forced by the later immigrants into the forest tracts, like many such tribes in Central India, as the Kol, Gond, Mina, Mera, Chuar, Sarja, Ahir, and Goojur; many of them dwelling in the forest tracts of the Son, Nerbadda, and Mahanadi, the mountains of Sarguja, and Chutia Nagpur; many of them still only little removed from savage life, and with dialects as various as their manners.

The Bhil occupy parts of the Vindhya and Satpura ranges which form the western boundaries of Malwa and Kandesh. Their favourite abodes are the woody and rugged banks of the Tapti, the Mahi, and Nerbadda; but from lat. 20° to 25° N., and long. 73° to 76° E., is partly occupied by them, as also the neighbouring hills, where they extend in one line along the mountains to the furthest limits of Dongarpur. As a distinct tribe, they are found in the block of hills surrounding the fortress of Asirgarh, and on one side they are bordered by the Koli, and on another by the Gond of Gondwana. They occupy the petty states of Dunduka, Rompur, and Gogo, between the Mahi and the Nerbadda, and Nerbadda and Tapti, and Rajpipla N.E. of Surat.

The northern part of the chain of ghats, and the country at its base, is inhabited by the Bhil; that part to the south of Bauglan and the country at its base, as far south as Bassein, is inhabited by the Koli. The Bhil possess the eastern part of the range, and all the branches that run out from it towards the east, as far south as Poona; they even spread over the plains to the east, especially north of the Godavery, and the neighbourhood of the Warda. On the north, they extend beyond the Tapti and Nerbadda. Both the Bhil and the Koli are numerous in Gujerat. South of Poona the Bhil are succeeded by the Ramusi, a more civilised and subdued tribe, with thievish habits. To the north of Poona, in Kandesh, Malwa, and Mewar, are the chief Bhil localities. The Ramusi do not extend further south than Kolapore, or further east than Hyderabad city. The Bhil who find their way to the western coast, are known as the Dubla, or the Kala Puruj, or black men. They are to be seen in outlying portions of the Indore and Gwalior territories, in Dhar, Bakhtigarh, Jharna, Ali Rajpur, Jobat, Kattiwara, Ratanmal, Mathwar, Dahi, Nimkhera, Bara Barkhera, Chota Barkhera, Kali Baori, Barwari, Jamnia, Rajgarh, Kothide, Garhi, and Bharudpura. Mr. Forbes, a recent writer, described the Bhil as wearing few clothes, of diminutive stature, with swift and active habits, independent in spirit; eyes which bear an expression of liveliness and cunning; bold in assault, but rapid in flying to the jungles; formidable in anarchy, but incapable of uniting amongst themselves; and as by far the most numerous of the predatory races who in former days resided in the hills between Gujerat and Rajputana, and disturbed the country. Their arms are bows and arrows; they are averse to

industry, addicted to drunkenness, and quarrelsome when intoxicated. Until the middle of the 19th century, the national weapon was the Kumpta or bamboo bow, the string being a thin slip of its elastic bark. The Bhil, from ancient times, use the fore and middle fingers of their right hand to the string of their bow, holding the arrow between the two fingers. Their readiness to become predatory has marked them as bold, daring marauders, occasionally mercenaries, but invariably plunderers. They were cruelly dealt with by the Mahratta and Mahomedan governments, and were several times severely punished by the British; but by the middle of the 19th century they became more peaceable, and many of them came to the plains to live as cultivators and agricultural labourers. They came prominently and unfavourably before their British rulers in the early part of the 19th century. During the contests for supremacy in Kandesh between the Mahrattas and the Moghul, from which, in A.D. 1803, a fearful famine resulted in the country north of Ahmadnaggur, the whole of the Bhil race formed into gangs of plundering assassins, and resettling them occupied the British Government from 1825 to 1833. The Bhil clans are now in a state of great moral transition.

It was part of the ceremony of installation of Rajput princes, for a drop of blood to be taken from the toe or thumb of a Bhil or Mina to mark the tika on the chieftain's forehead. Amongst the Mina, the right of giving the blood is claimed by particular families; but this rite has been largely discontinued. The Bhil have now no separate language.

The Bhil child is named as soon after birth as possible, and the name given has generally some connection with the hour and date of its birth. If no Brahman is available, the ceremony is performed by the paternal aunt of the child, in which case it is named after the day of the week on which it was born. The parents give a feast, and distribute presents of clothes to female relations at the Holi next after the birth. The head of a male child is shaved when two or three months old. Betrothal, as a rule, takes place before the girl arrives at a marriageable age. The father of the boy seeks out a bride for his son, and arranges the dapa, or price of the girl, with her parents. This being agreed to, the girl is placed on a stool, under which six pie are thrown. One rupee, one pice, and a little rice are then put in her hand, which she throws over her shoulder, and the ceremony is completed. Marriage generally takes place as soon as the girl arrives at puberty; but it is not at all unusual for virgins of a mature age to be espoused, in which case marriage follows as soon as practicable. A Brahman usually officiates, but sometimes an elderly member of the bride's family. When the guests have assembled, the clothes of the young couple are tied together, and they walk hand in hand round the party, an offering being made to the patron saint, Gotamji, whose image is to be seen in a niche of the wall of most Bhil houses. The bride is then placed on the shoulder of each of her relations in turn, and danced about till exhausted. Polygamy is allowed, but a Bhil generally contents himself with two wives. On the death of an elder brother, the next takes his widow or widows, without the usual marriage ceremonies. An elder brother cannot take a younger's widow, who, if there is none younger still to espouse her, and she has no property of her own, must return to her parents, or be supported by her husband's next of kin until she can find another husband in another got or clan. If, however, a widow has a grown-up son, she stays with him. A woman is very particular in her relations with the opposite sex after marriage, but not so usually before. The fine imposed upon an adulterer is 240 rupees, and this is given as compensation to the husband, who may discard his wife or not as he likes. For the seduction of a virgin the fine is 60 rupees, which is given to her parents, and the man compelled to marry the girl. These cases are always adjudicated by a panchayat.

The Bhils invariably burn their dead; but in the case of the first victim to an attack of smallpox in the pal, the body is buried for a space of time to propitiate Mata, and if within a certain time no one else dies of the disease, it is disinterred and burnt. The corpse is generally burnt if possible near a river, and the ashes, with the exception of a bone or two, thrown into it; two or three days afterwards, an earthen pot containing rice is placed on the spot; but if the cremation took place some distance from a river, the ashes are simply heaped up and the pot of rice placed on the top. The bones recovered from the ashes are subsequently thrown into either the Samlaji river in Mahikanta, the Gotamji in Banswara, or the Mahi, where it flows by the temple of Baneshwar in Dungarpur, all of which are considered sacred; for until a bone or two of the deceased find their resting-place in one of these sacred streams, the spirit is supposed to remain on earth and haunt the surviving relations. A few days after the death, one of the deceased's relations often announces that he has been told in a dream that the spirit rests on a certain hill, when the relatives erect a platform there, and deposit on it a quantity of liquor and rice. Ten or twenty days after the cremation, the friends of the deceased assemble at the house of the next of kin, who spends some 40 rupees' worth of liquor on the occasion. On their arrival a quantity of Indian corn is set to cook; and in the meantime the company shave one another and drink the liquor provided. When the corn is ready, the host gives each a dhak (Butea frondosa) leaf full of it, and dismisses them.

The symbols of worship are cairns, usually on the hill-tops; the worship of Siva and his consort, as symbols of terror and darkness; the construction of stone platforms, on which stand blocks of stones smeared with red paint; the sacrifice of animals and horse effigies. The cairns are piles of loose stones, on which are arranged a number of stone or burnt-clay effigies of the horse; oil-lamps are burnt on them in fulfilment of vows, and pieces of cloth are generally hung over them. The first of all goddesses in the tracts is Samuda Mata, whose sthan is near the village of Dhelana, about eight miles north of Khairwara. Mahadeo and Hanuman are worshipped everywhere. Local deities are also numerous. The effigies of the horse are small, hollow clay images, with a hole behind, through which the spirits of the deceased are supposed to enter and travel up to paradise. On arrival there, the horse is made over to propitiate the local deity, and swell his train of war-horses. These effigies are mostly found on hill-

tops, placed by persons who have purchased them at certain shrines, where they are made. There is a tradition among the Bhils that human sacrifices were offered up in ancient times, but there is no trace of the practice at the present day. Goats now form the sole sacrifices, and are eaten by the worshippers after Mata is supposed to be satisfied. The priests, called waiti and jogi, are Bhils. They eat and drink with the rest.

They believe in ghosts and departed spirits. They wear charms and amulets on the right fore-arm to keep spirits at a distance. Witchcraft is firmly believed in; there are bhop or witch-finders in every large pal. Before a woman is swung as a witch, she is compelled to undergo the ordeal of plunging her hand into boiling oil, or of keeping her head under water until an arrow shot from a bow is brought back by one of the spectators. If she pass through this unharmed, she is released, otherwise she is swung. The process of swinging is conducted by first tying a bandage of red paper over the victim's eyes, and then swinging her head downwards from the bough of a tree until she confess or die. If she confess, she is taken down, and either killed with arrows, or turned out of the pal. The Bhil believes to a limited extent in transmigration of souls, particularly of bad spirits, and that the spirits of the dead haunt places they lived in during lifetime. Eclipses and other celestial phenomena he believes to be the gods diverting themselves, and he adopts, without well knowing why, the Hindu rite of making hideous noises during an eclipse. A cat crossing a Bhil's path when starting on any particular business, will send him home again at once. The Holi Dasera and Dewali festivals are strictly kept; the first especially is the occasion of much drunkenness and excesses. It is kept up for ten days or more; dances take place; rude jests are made, and the women attack and stop travellers till they release themselves by paying a fine. At all festivals and before a fight, the men dance the ghanna ring dance. The drummers stand in the centre, and the dancers revolve in a circle with sticks in their hands, which they strike alternately against those in front and behind. Time is kept with the drum all through, and as the performers get more excited it becomes lively, and they jump about wildly; their long hair falls down, and every now and then one of them disengages himself and dances a pas inside the circle.

Bhil houses are comfortably and fairly built of interwoven bamboos or loose stones, and are often capacious and tiled. They are invariably constructed on a small rising ground or slope of a hill; and each homestead generally consists of several houses for cattle and grain, all within a single enclosure. The furniture comprises a charpoi, large pots for the storage of grain, and a bamboo cradle. The men wear nothing but a dirty rag round the head (the hair being plaited and fastened with a wooden comb), and a waist-cloth of limited length. They are usually bare-footed; are very fond of earrings; the whole lobule of the ear is often bored along the edge, and loaded with little rings; but the favourite ornament is a large ring which passes behind the ear from top to bottom. The richer men are fond of jewellery, and silver waistbelts, etc., are by no means rare. Those who can afford it possess guns and swords, but the national weapons are bows and arrows. The bow is made entirely of bamboo, except two links of gut which fasten on the string, likewise made out of split bamboo. The arrow is a reed tipped with an iron spike; the quiver a piece of strong bamboo matting. The women often wear on their arms and legs the lac and glass churis of the poorer Hindus, but their peculiar bracelets and bangles are made of brass. Four rings of this metal are generally worn on each arm and leg, and there is also a W-shaped ornament worn by married women on the ankle. The young women wear only necklets of beads, and children are kept without dress almost to the age of puberty. All cases and quarrels amongst Bhils are settled by a panchayat, and a fine is the invariable punishment. The fine for murder is 240 rupees; and until this is paid a blood-feud is carried on between the relatives of the murderer and his victim. A man suspected of treachery is indiscriminately plundered and ejected from the pal, but he can re-establish himself by paying the fine awarded by a panchayat on his case.

Fights between one clan or village against another are generally indulged in to avenge a murder or affronts, or to assert some right. Before active measures are taken, the patriarch of the village or pal is consulted, and if he decide for war, the Kilki, or Bhil assembly call—a peculiar whirring noise made by placing the hand in front of the mouth—is sounded, or the drum beaten, which gathers all the inhabitants of the pal together, male and female, in an incredibly short space of time. Drinking is then deeply indulged in, and, when worked up to a sufficient state of excitement, they sally forth with their women in front, and on arrival at their opponents' pal an encounter is soon brought about by means of a shower of stones and abusive language, in which the women take a prominent part. When opposed, the women of both parties draw on one side, and the fight commences with bows and arrows. The women on the other side give any wounded man drink or any assistance he may require, and it is a point of honour not to injure the wounded in any way while the fight is going on. After the fight, a panchayat assembles, and the feud is generally closed by the payment of a fine, in which case the opposing parties make friends by drinking opium out of each other's hands. The Bhils principally subsist on the produce of their cultivation and of their cattle, of which large numbers are kept. They also cut and sell grass, and manufacture baskets, screens, and winnowing-fans out of bamboos. They are still to a certain extent predatory, but a great improvement in this respect has taken place of late years. The jogi of some pals are said to occupy themselves in making a coarse description of blanket. The staple commodity is Indian corn. The ground is merely scratched below or near the hut of the labourer, and the seed thrown in broadcast. The fields are surrounded by temporary hedges of thorn bushes to keep off animals. Irrigation from wells is not undertaken by Bhils; but for the cultivation of rice, walls of loose stones, earthed up with soil, are built across the narrow valleys in the hills, and a series of terraces thus formed. The following gods were worshipped by the Bhils of Jebuah:—

Kali, on many occasions.
Hati-powa, at the Dewali and Dasara feasts.

Waghacha-Kunwar, to protect them against wild beasts.

Halk Mata, for success in predatory journeys.

Khorial Mata, for protection of cattle from plundering and sickness.

Devi Kanail, for a good harvest.

Behyu Baji, for rain.

Ghora Raja, against plunderers.

Hallam, by the Malwa Bhils at the annual pilgrimage to the large hill of Retna Wal in Bariya.

Chamconda Mata, goddess of harvest, and the first of every grain is offered to her.

Havin Wana Mata, against murrain and lameness among cattle.

Sita Mata, and Ghona and Bhadri Bae, goddess of smallpox.

Bhulbag Mata, during epidemics, in cholera.

—*Sir J. Malcolm, Tr. R. As. Soc.* i. p. 70; *Elphinstone's India*, pp. 366-7; *Malcolm's Central India*, i. p. 518; *Coleman; Elliot; Wilson's Glossary; Tod's Travels*, pp. 34-39; *Tod's Rajasthan*, i. p. 724, ii. p. 217; *Treaties*, iv. 454; *Latham; Wheeler's India*, p. 85; *Friend of India; Forbes' Rasamala; Captain C. E. Yate in Rajputana Gazetteer.*

BHILALAH, a tribe of Central India, claim a descent, by their father, from the Rajputs, their mother being of the Bhil tribe.—*Malcolm*, i. 550.

BHILSA, a town in India, in lat. 77° 50′ E., and long. 23° 39′ N. It is famous for Buddhist topes. There are five or six groups of topes, containing sixty distinct and separate examples. The Sanchi group has several topes. The largest of them is a stupa, raised to mark a sacred spot, and is not a daghoba or shrine containing a relic. At Sonari, 6 miles distant, is a group of eight topes; at Satdhara, 3 miles further on, is a tope 101 feet in diameter, and a smaller one from which relics of Sariputra and Moggilana have been obtained. A numerous group is at Bhojpur, 7 miles from Sanchi, and 5 miles west of Bhojpur. At Andher, a little village 10½ miles S. of Bhilsa, and 5 miles W. of Bhojpur, is another. Their age is supposed to be between 250 B.C. and A.D. 100. The principal of the remains is known as the great tope at Sanchi. The smaller ones are known from General Cunningham's descriptions in his Bhilsa Topes.—*Cunningham; Fergusson.*

BHILU. Burm. Amongst the Burmese Buddhists, a spirit, a ghost.

BHILWAN, also Bhilwara, a district in Central India, taking its name from the Bhil race.

BHIM or Bheem, a prince of Mewar who was celebrated for activity, and could, while his steed was urged to its speed, disengage and suspend himself by the arms from the bough of a tree. To one of these experiments, however, he owed his death, as he dislocated his spine in a feat of strength.—*Tod's Rajasthan*, i. p. 392.

BHIMA, the second of the five Pandava brothers. He was of great bodily strength, ferocious courage, wrathful and abusive, and a gross feeder. He fought in the Mahabharata war against the Kaurava, and killed several of his opponents. On the eighteenth and last day of the fighting, he struck down Duryodhana by a foul blow, for which his incensed brother Yudishtra struck him, and angered Arjuna and Bala Rama.—*Taylor; Garrett; Dowson.*

BHIMAH, a river of the Mahratta country, which joins the Kistna. It is often confined to a narrow bed, as at Korygaon. Bhima Terai is the valley of the Bhima river, famed for its breed of hardy ponies or small horses. The breed is known in Northern India as the Bhimrathali. Mawa, the horse which bore Holkar in many a desperate strife, was of this breed. The head is a model, exhibiting the highest quality of blood,—ears small and pointed, eyes full and protruding, and a mouth that could drink out of a teacup. This is the type of the Bhima Terai breed.

BHIMAL. Hind. Species of Grewia.

BHIMA-RATRI, the 7th night of the 7th month of the 77th year of a man's age, lunar reckoning, after which a Hindu is exempted from all instituted observances, it being considered the end of his natural life. He would then be in his 75th solar year.—*Wilson.*

BHIMB. Hind. Coccinea Indica.

BHIM GORA, in the Saharunpur district of the N.W. Provinces, lat. 29° 56′ N., long. 78° 14′ E., has a kund or sacred pool, a place of Hindu pilgrimage, on a perpendicular rock 350 feet high.

BHIM-RAJ, Hind., Edolius paradiseus, is the mocking-bird of Europeans.

BHIM-SEN'S GADA, an ancient stone pillar at Allahabad, which has four inscriptions engraved on its surface. See Lat.

BHIM TAL. See Lake.

BHIN AUNLAH. Duk. Phyllanthus niruri.

BHINDA PURUB, a sacrificial ceremony, till recently practised in Dholbhum.

BHIRA, a town on the left bank of the Jhelum; Old Bhira, on the opposite bank, is a mound of ruins, also called Jobnathnagar, which General Cunningham supposes to be the ancient capital of Sophites or Sopeithes, the contemporary of Alexander, where the camps were formed of Craterus and Hephæstion, holding both banks to await the arrival of the fleet of boats. It is three days' boating distance from Mong, the ancient Nikæa, where Alexander defeated Porus. Bhira, also, until it was supplanted by Pind Dadan Khan, had always been the principal city in this part of the country. At Bhira, the Chinese pilgrim Fa Hian crossed the Jhelum in A.D. 400; and against Bhira, eleven centuries later, Baber conducted his first Indian expedition.—*Cunningham, India*, 155.

BHIRBUTI. Hind. A beautiful scarlet-coloured insect resembling a piece of scarlet velvet. They are collected during the rains. They yield an oil, and have a use similar to the Cantharis as a blister and irritant.—*Powell.* See Insects.

BHIRMI-SUGAN, leaves of a small plant brought to Ajmir from Dehli, employed in making scents. Bhirmi-Vidaya, leaves of a climber from Mount Abu, very stimulating, and in Ajmir used in the 'seet,' a disease simulating catalepsy.—*Gen. Med. Top.* p. 129.

BHIS, Hind., also Basend, Bhisend. The edible root of the lotus, or the fibres of the stem.—*W.*

BHISHMA, whose early name was Santanavu, was son of Santanu, raja of Hastinapur. When old, raja Santanu wished to marry a young and beautiful girl, but her parents objecting, on the ground that even if there were children, Santanavu would succeed to the kingdom, Santanavu made a vow to them, saying, 'If you will give your daughter in marriage to my father, I will never accept the kingdom, or marry a wife, or become the father of children by any woman; so that if your daughter bear a son to the raja, that son shall succeed him in the kingdom.' This stern vow procured him the designation of Bhishma, or 'the dreadful.' He educated Dhritarashtra,

Pandu, and Vidura, and afterwards made Drona the preceptor of the Pandava and Kaurava; and at a meeting of council he proposed that the kingdom should be divided between the two parties. In the battle that ensued, he led the Kaurava race, and on the tenth day he was mortally wounded by Arjuna. The Bhishm-ashtami festival, on the 8th day of the moon, is in honour of the childless Bhishma, in which libations of water are made to his spirit, also offerings of sesamum seeds and boiled rice, saying, 'I present this water to the childless hero Bhishma, of the race of Vyaghrapada, the chief of the house of Sankriti. May Bhishma, the son of Santanu, the speaker of truth and subjugator of his passions, obtain by this water the oblations due by sons and grandsons.'—*Garrett; Dowson.*

BHISTEE, ANGLO-HIND., properly Bahishti, a water-carrier who conveys water in a skin slung from his shoulders, resting over his loins. The water-skin is called a Mashak. The Pakhali, another water-carrier, carries water in skins, pakhal, slung across a bullock.

BHISTU DHARI, a sect of the Dadu Panthi who follow the avocations of ordinary life. They burn their dead at dawn.

BHITAR. HIND. The ground on which a house stands; the Kampong of the Malay, or compound of the British. In Urdu it is the angan.

BHOG, HIND., also Bhoga, Bhogam, and Bogam. Enjoyment, fruition, use; anything that may be used, Savedha or Nirvedha, *i.e.* with or without obstruction. Bhogi Pandikai, the festival of enjoyment, the Tamil New Year, when good wishes and new year's compliments and gifts are interchanged, and Indra worshipped. Bhogamu, TEL., also Bhogam Vadu, a common woman.

BHOGA, food offered to an idol. Bhoga-mandap, that part of the temple of Jaganath where the food to be offered to the idol is cooked. Bhoga-murtti, an idol carried about in processions in lieu of the principal idol, which is never taken from the shrine.

BHOGRA. HIND. Cleome pentaphylla. MAHR., the Casearia elliptica.

BHOI or Bhooee, in Telingana and in the southern parts of India, a race who are palanquin-bearers, also fishermen. See Bhui.

BHOI-WANLU, also called Ur-Bhoi-wanlu, mercenary soldiers in Southern India, who serve native chiefs. They are never found in the ranks of the British army. There are a few of them in every large town in the south.

BHOJ, the last of the great Pramara race of Hindus who ruled over Ujjein and Dhar. He was a great patron of learning. His name is famous in the literature of India. Bentley fixed his era between A.D. 982 and 1082; but Wilford supposes him to have died between A.D. 977 and 982. The name of Bhoj, the Pramara, is very celebrated in the annals of India, but there appear to have been more than one of this name or title. The Dhar ruler has been supposed to be the same as Vikrama, or to have been a contemporary. The nine learned men, the nine gems, are said to have flourished during his reign, or that of Vikrama, which was the golden age of Hindu literature; but all connected with Bhoj is uncertain, even his position as a patron to literature.

BHOJA, a Yadava prince who reigned at Mrittikavatti, on the Parnasa river, in Malwa.—*Garrett; Dowson.*

BHOJPATRA. HIND. Betula bhojpatra.

BHOJPUR, a ruined town where remains of Buddhist topes stand, on the southern end of a low range of hills, 6 miles S.S.E. of Bhilsa, and 7 miles E.S.E. of Sanchi.—*Cunningham.* See Bhilsa.

BHOKUR. HIND. Cordia latifolia, *Roxb.*

B'HOLA NAT'H, or the 'Simple God,' is one of the epithets of Siva, whose want of reflection is said to be so great, that he would give away his own divinity if asked; from bhūlna, to forget.

BHOLSERI. DUKH. Mimusops elengi.

BHONSLA, the family surname of the Mahratta rulers of Poona, Sattara.

Shah Ji Bhonsla, ...	A.D. 1634
Sivaji, son of do, . . .	born 1627, died 1680
Sambaji, son of Sivaji, reigned . .	1680 to 1689
Their successors, the Peshwa, were—	
Balaji Vishwanath.	
Balaji, 1st Peshwa, ...	1718
Baji Rao, 2d do., ...	1721 to 1740
Balaji Baji Rao, 3d do., ...	1740
Madhu Rao, 4th do., ...	1761 to 1772
Narayan Rao, 5th do., assassinated .	1772
Madhu Rao Narayan, 6th do., . .	1774 to 1795

Baji Rao II., the 7th and last do., 1795; defeated and deposed, 1818; died at Bithur, near Cawnpur.

The family rule over Kolhapura.—*Imp. Gaz.*

BHONSLA, the family surname of the Mahratta ruler Sivaji, was also that of the ruling dynasty of Berar.

Parsoji, the founder of the Bhonsla dynasty of Berar, was a private horseman from the neighbourhood of Sattara. Though bearing the same surname as the family of Sivaji, there is no proof that he was of the same descent. He attained distinction, and was one of the first to join raja Saho; when he returned from Dehli, he was further advanced by that prince, and was invested with the right of collecting all the Mahratta dues in Berar and the forest country farther to the east. His cousin Raghoji, who was a favourite of raja Saho, and married to his sister-in-law, was raised to his station on his death, in preference to Parsoji's son, who ought to have succeeded him. In 1734 Raghoji Bhonsla was nominated Sena Sahib Suba, or General of the Mahratta Confederacy. In 1745 the head of the family became the undisputed ruler of Gondwana. Raghoji II., who succeeded his father in 1788, had previously shot his own brother Sabaji. Raghoji II., after a reign of 30 or 40 years, died on the 22d March 1816, leaving but one son, Parsoji, who was imbecile in mind and body. After some opposition, Mudhaji, known as Apa Sahib, son of Venkaji, was declared regent, and sedulously courted the British alliance. In January 1817 he proceeded to Chanda, and during his absence from Nagpur, Parsoji died, murdered, as it was subsequently learnt, by Apa Sahib's secret orders. The latter, as nearest heir, now became raja of Nagpur. Avowedly a warm friend of the British, he privately intrigued against them in all directions, until November following, when he threw off the mask and declared hostilities. The battles of Sitabaldi and Nagpur followed, in which he was signally defeated, and was forced personally to surrender, and to agree to terms which rendered him wholly dependent on the British. In January 1818 he was permitted to resume the government, but immediately recommenced his intrigues.

Apa Sahib's repeated treachery having proved him unworthy of trust, the British Government decreed his deposition, and placed Raghoji, a grandson of Raghoji II., at the head of Nagpur state. On the 12th May 1818, Apa Sahib fled from the place allotted to him, to the Sikh territories, and he ultimately died, in 1840, almost forgotten, at Jodhpur. The family became extinct during the administration of Lord Dalhousie, on the demise of Goozur, grandson of Raghoji, who in 1818 had been seated on the throne when Mudhaji (Apa Sahib) was deposed. After the defection of Apa Sahib in 1817, the administration was, at first, conducted by British officers; but in 1826, on the raja coming of age, the territories were handed over to him, the British Government retaining in their own hands certain districts for the payment of the military force of Berar. In 1829 these also were given up, a treaty having been made with the Governor-General, whereby, in lieu of the native contingent, a sum of 8 lakhs of rupees was to be paid to the British Government.—*Elphinstone*, p. 642. See Mahratta Governments; Sivaji.

BHOOA. HIND. See Insects.

BHOOI-DAGDHA. HIND. A place of cremation.

BHOPA. A hereditary guardian of the Mahadeo temple. The chief of Almod, in the Hushangabad district, is one of the Bhopa. Bhopi, also Bhopya, the priest of a village temple, generally a Sudra.

BHOPAL, a feudatory state in Malwa, in Central India, in alliance with the British Government. It is bounded on the N. by Gwalior, N.E. and S.E. by the Saugor and Nerbadda territories, S.W. by the possessions of Holkar and Sindia, and N.W. by those of Sindia. It lies between lat. 22° 32′ and 23° 46′ N., and long. 76° 25′ and 78° 50′ E.; is 157 miles long from E. to W., and 76 broad from N. to S., with an area of about 8200 square miles, and a population of 769,200 in 1875. Its army is 694 horse, 2200 foot, and 57 guns. The family are of Pathan descent, belonging to the Abdul Aziz Khel of the Dowlatzai sept of the Orakzai; Dr. Hunter says the Mirazai Khel. It was formed into a principality by Dost Muhammad, in the service of Aurangzeb, on whose demise, Dost Muhammad established his independent authority, and died in 1723, aged 66. Several changes in the succession occurred; and during the Mahratta rule the country was harrassed by that race, and overrun by Pindari. When Colonel Goddard, in 1778, marched through the territory, *en route* to Bombay, its ruler treated Goddard with great kindness, and this has never been forgotten by the British. And again, in 1809, the Nawab urged Colonel Close to grant British protection. Since 1817 the alliance has been intimate. About 1818 the Nawab was accidentally shot, and his widow, Kudsia Begum, retained the control until 1837, when his son-in-law, Jahangir Mahomed, husband of his daughter, Sikander Begum, was appointed. On his death in 1844, Sikander Begum reigned till her death in 1868. Her daughter, Shah Jahan, ruled till her death. Sultan Jahan Begum married in 1874. These ladies abandoned the Gosha customs of their religion, transacted ably all business in public; and during the revolt in 1857 Secunder Begum adhered firmly to the British, for which she was rewarded by the grant of the pargana of Bairseah, and created a knight of the Star of India. She died in 1868, and was succeeded by her daughter, Shah Jahan Begum. Her consort was Nawab, Wala Jah, Amir-ul-Mulk, Syud Muhammad Siddiq Husain Khan, Sahib Bahadur. —*Aitcheson's Treaties*, iv. p. 309.

BHOPAL AGENCY is a British political department in relation with Kilchipur, Bhopal, Rajgurh, Nursingurh, Kurwai, Muksudingurh, Mahomedgurh, Basoda, Pathari, Larawut, Gwalior districts; Seronje. The three petty chiefships, Kurwai, Mahomedgurh, and Basowda, are immediately dependent on the British Government itself. The relatives of other chiefs, with their immediate suzerain, have been mediated and guaranteed by the British Government.—*Treaties.*

BHOPAWAR, a British political agency which superintends four petty feudatory states, viz. that of Jobut, whose chief is a Rahtor Rajput, with a population of about 7000, chiefly Bhils; Mutwara, also with a Bhil population; Khattewarra and Ruttonmul; Mota Burkhera; Kali Bouri. The guaranteed states are Alirajpur of Dhar, Jabooa, Nimkhera or Tirla, Chota Burkhera or Sorepur, Mota Burkhera, and Kali Bowri.—*Aitcheson*, iv. 405.

BHORA. BENG. Mangrove; Rhizophora mangli; R. mucronata.

BHOR GHAT, in lat. 18° 44′ N., long. 73° 22′ E., in the Dekhan, the principal pass on the route from Bombay to Poona. It has been formed into part of the Great Peninsular Railway line. The top of the ghat is 1798 feet above the sea. See Railway.

BHOSE. ANGLO-BENG. An honorific suffix to several Kayasth families in Bengal; properly Basu.

BHOT. This word, according to Latham, under the appellations of Bult in Bultistan, But in Butan, Bet in Tibet, or in such words as the Bhuteya or Bhotiya, in ethnology, comprises the Little Tibetans, the natives of Bhot-pa or Ladakh, the Tibetans of Tibet proper, and the closely allied tribes of Butan. Balti or Baltiyul is called Palolo or Balor by the Dards, and Nang Kod by the Tibetans. It is preserved, he says, in Ptolemy in Byltæ. The country is frequently called Skardo or Iskardo, from the name of its fort and capital. Balti proper is a small table-land, and, with that of Deotsu, is about 60 miles long and 36 broad; the mean height of its villages above the sea is about 7000 feet. The Balti, the people of Little Tibet, the Byltæ of Ptolemy, though Tibetan in language and appearance, are all Mahomedans, and differ from the more eastern Tibetans of Le (who call themselves Bhotia, or inhabitants of Bhot), by being taller and less stoutly made. Their language differs considerably from that of Le, but only as one dialect differs from another. The Bhot of Ladakh is strong, hardy, short, and square, with a decidedly Mongol physiognomy, by which is meant a flat face, broad cheek, depressed nose, very large ears, oblique and narrow eye, curtained at the corners, black hair and low stature, their average height being 5 feet 6·1 inches. The skulls are less Mongolian, having a capacity of 72 cubic inches, 80 cubic inches being a fair capacity for a European. The grand Lama is a Bhot. As a general rule, the Himalaya mountains divide Hindustan from Bhotland, but there are Bhot in several parts south of the crest of those mountains in Garhwal and Kamaon. The people of Le, the eastern Tibetans, call themselves Bhotia, or inhabitants of Bhot. They are not so tall, and are stouter made than the Tibetans of Balti or Little Tibet. Bhotiya dialects vary in Mana, Niti,

Milam, Darma, and Byans; but they are all closely allied to the Tibetan now spoken in Hundes.—*Thomson's Tr.* 247; *Latham's Ethnol.*; *A. Cunningham.*

BHOULIYA is a light Bajra boat, varying in dimensions between the Dhengi or passenger boat and a middle-sized Bajra. It is in general use on the Ganges, alike for a suburban trip or for a long up-country journey. See Boat.

BHOWNAGGAR, in long. 72° 21′ E., and lat. 21° 47′ N., a seaport in Kattyawar, 9 miles N.W. of Gogo. The principal taluqdars are the Nawab of Junagurh, the Jam of Navanaggar, the Rawal of Bhownaggar, the Rana of Porebandar, the Raj of Drangdra, and the Thakur of Murvi. Junagurh, the most important, is held by a descendant of Sher Khan Babi, a soldier of fortune, who seized it in the general anarchy which preceded the subversion of the Moghuls. 20 miles to the west are the ruins of Balabhipura, a submerged town covered with 18 feet of alluvium. Half the towns and villages around are built from the bricks and carved stones of this ancient city.—*Dr. Nicholson in Bombay Times*, February 1852.

BHRAMARA MARI. Tel. Clerodendron serratum. The Telugu word signifies bee-killer.

BHRAMUK. Beng. Helianthus annuus.

BHRATAR. Sansk. Brother; he who carries or assists.

BHRATHI-DWITYA. Sansk. A Hindu festival on the second of the month Kartik, on which Hindu sisters entertain brothers, in memory of Yamuna entertaining her brother Yama. It is the 'brother' festival of the Hindus, and is held on the second day of the new moon following the Kali Poojah or Diwali. A brother goes to his sister's house, and receives from her unhusked rice, doorva grass, and sandal, with good wishes, which the brother reciprocates.—*Wilson.*

BHRIGU, a Hindu sage, mentioned in the several Puranas. He is said to have lived on Mount Mandara, and is described as wearing a shred of cloth only around his loins, with a pilgrim's staff and beggar's dish in his hand. Bhrigu, Vasishtha, and Atri are three of the great saints or sages called Prajapati or Brahmadika, that is, mind-born sons of Brahma, variously described as 7, 9, 10, and even 21 in number.—*Williams' Story of Nala*, p. 214; *Ward*, iv. p. 23. See Brahmadika.

BHRIGU, a name of the planet Venus.

BHRIGU-BANSI, a tribe of Rajputs claiming descent from Parasu Rama, the stem of the Barhoulia clan.

BHRINGAR. Beng. Verbesina prostrata.

BHRINGI, the skeleton attendant on Siva.

BHU, in Hindu astronomy, seems to imply the middle place. Bhu-chacra, when applied to the celestial sphere, means the equinoctial line. Bhu-carna, the radius of the equator. Bhu-paridhi, the same as Bhu-chacra.

BHU. Beng. Contraction of Bhum, the earth.

Bhu, also Bhumi, also Bhum. Earth, land, soil, ground, hereditary landed property. Bhu-danam, a gift of land. Bhu-pati, a landholder, a prince. Bhumia, a proprietor.

Bhu, Bhuvar, Swar, earth and sky and heaven.

Bhu-ada, scarlet garland flowers, Hedychium angustifolium; also Abelmoschus esculentus.

Bhu-Devi, also Bhuma Devi, also Prit'hivi, in Hindu mythology, names of the earth, and fabled to have been married to Prithu, the first king who taught the mode of cultivating the ground; hence the earth is called Prit'hivi. Bhu-Devi is the terrestrial name of Parvati, as goddess of the earth. As the names of Diana were varied to suit her various forms, she being Luna in heaven, Proserpine or Hecate in hell, so her archetype, the Hindu Parvati, is the heavenly Bhavani, on earth Bhu Devi, and Patala-Devi as consort of the regent of the infernal regions. Bhu-Deva, as spouse of the earth goddess, is a name of Siva.

Bhoi Mung, Arachis hypogæa, ground nut.

Bhuin-Champa, Kæmpferia rotunda.

Bhuin-Dagdha, lit. earth burning. Gifts of Hindus at marriages and funerals, from the ceremony of burning earth prior to their presentation.

Bhuin-Dalim, Careya herbacea.

Bhuin-Dūmūr, Ficus repens.

Bhuin-Jamba, Premna herbacea.

Bhuin-Kamri, Ipomœa Gangetica.

Bhuin-Kumra, Batatas paniculata, also Trichosanthes cordata.

Bhuin-Koit, Feronia elephantum.

Bhui-Koli, a tribe of the Koli race of the west of India. They and other non-Aryans devote their women to the gods, and style them Murli, Jogni, and Basavi; the deities to whom those near the Bhima are devoted are Yellamah and Mata.

Bhui-Mung, ground nut, earth nut.

Bhuin-Okra, creeping vervain, Zapania nodiflora.

Bhuin-Pat, creeping Dentella, Dentella repens.

Bhui-Phul, also Bhonphor, Phelipæa calotropidis.

Bhui-Sing, Arachis hypogæa, ground nut.

Bhui-Sunn, Crotalaria prostrata.

Bhu-Kumbum, earthquakes.

Bhu-Kupittham, Feronia elephantum.

Bhu-Loka, earth. See Loka.

Bhuchakra Gadda, also Nela gummudu. Batatas paniculata, *Ch.*

BHUDUCK, or Badhak, a predatory race of the Nepal Terai.

BHUGRI. Hind. An inferior kind of date boiled in oil and water and dried; used in Multan and the Derajat; also the Ber fruit dried.

BHUI, Bhuiya, or Bhuya, a very numerous tribe dwelling all along the borders of Bengal, Orissa, and part of Behar. Colonel Dalton thinks they were once the dominant race in Assam; they seem, he says, to have been the prior occupants of Bengal, and to have no connection with the Bhumi or Boyar. They appear to be the original occupants of much of the lower country to the south of the Chutia Nagpur plateau, great part of Singbhum, and Bowani, and the borders of Orissa. They have been partly driven from a portion of their country, and they are partly dominated over by Kol, themselves probably impelled south and east by pressure from the north and west. But they are still very numerous in all the districts and petty states thereabouts, and are found more or less all the way across the lower hill country to the borders of Behar, close up to Gya, where they are succeeded by the Kahar as palanquin-bearers. The Bhuya are the palanquin-bearers of Chutia Nagpur. Major Tickell describes them as originally rich in cattle; and Mr. Campbell deems it possible that the Hindus have changed them to Goali, who are the most numerous Hindu race in Bengal and Orissa. They are a dark-complexioned race, with rather high cheek-bones, but not otherwise peculiar, and approximate in appearance to the Urya. Those in the hills towards the Behar border have

a darker complexion. They have no language of their own, but speak Urya on the Urya borders, Bengali on the borders of Bengal, and Hindi further north.—*Campbell; Dalton.*

BHUIHER, a very primitive small tribe of a few hundred families met with in Palamau and Jashpur, but who must not be confounded either with the Bhuiya or the Boyar. They are very dark, heads altogether round as bullets, projecting jaws and lips, scarcely any prominence of nose, pigs' eyes, large bodies, and small limbs; no muscular development, short of stature, not one of them more than five feet, very filthy in their persons, with diseased skins and sore eyes.—*Dalton*, 133.

BHUIN-HAR, also Bhoon-har, a Hindu agricultural tribe, numerous in the districts of Gorakhpur, Azimgarh, and Benares. The raja of Benares is of this race. They claim Brahmanical descent, and style themselves Thakur, with names of subdivisions common to them and Sarwaria Brahmans, as Sandal, Gautam, Dikshit, Upadhyaya, and Panday; and those which have no distinct appellations have titles connecting them with the same stock, as the Sankarwar, who take the title of Misr, the Donwar, that of Tewari, etc. No Brahmanic honours are, however, paid by any caste to the Babhan or Bhuin-har. They have some curious rules, within which they and Rajputs may take food from one another, and in Chutia Nagpur they claim to be Rajputs. The names of their clans are almost without exception framed from the Rajputs. Their customs present a striking similarity to those of the Kshatriya class, and in fact, except their own assertion, there seems to be not one single reason for believing the curious statement made by Mr. Campbell in his Ethnology of India, that there is 'no doubt that this class' is formed by an intermixture of Brahmans with some inferior caste.—*Campbell; Wilson; Sherring.*

BHUI VANSA, a zamindari race, called Khurda raja and Bhui Vansa, who ruled in Orissa from 1580 to 1804, when Mukund Deo was deposed.

BHUIYA, a race in Keonjhur and Bonai, divided into four clans,—(1) the Mal or Desh Bhuiya, who call themselves, and are called, the Desh-lok, or the people of the country, (2) the Dandsena, (3) the Khatti, and (4) the Raj-kuli Bhuiya. They are anxious to oblige, and have customs of primitive simplicity. There are 60 chiefs in the Pawri Desh or Bhuiya highlands, and a knotted string passed from village to village will rouse the whole of them.—*Dalton's Ethnology.*

BHUJ, in lat. 23° 15′ N., long. 69° 48½′ E., capital of the province of Cutch. The Dak bungalow is 281 feet above the sea, and the hill fort is 678 feet by trigonometric measurement. Bhuj is on a plain at the foot of the hill, on which there is a snake temple. It was taken by Sir W. Keir's army on the 23d March 1819. Its three principal temples are Suvarna Raya, Kalyan Eswar, Swamandap. A large number of articles in gold and silver are annually made. The silver and gold used are very nearly pure. The charge is at the rate of 8 annas per tola weight. A stone procured from the Hubba hills is polished at Bhuj, and is used as a substitute for marble in the decoration of temples.

BHUJAPATRI. Tel. Betula bhojpatra.

BHUKHA MATA. In a temple at Udaipur is a picture so called, personifying Famine. Her necklace, like that of her lord Siva or Mahadeo, is of skulls. Two persons are represented lying near who have died of famine, and a beast of prey is approaching to devour them. The words mean hungry mother, gaunt famine.—*Tod.*

BHUKRI. Hind. Tribulus alatus, T. lanuginosus.

BHUKSA, a forest tribe under the hills from Purunpur Subna on the Sapda to Chandpur on the Ganges. They claim to be Puar Rajputs expelled from Dhar, and had taken refuge, first in Oudh, and finally in the hills bordering on Kamaon. They are divided into 15 clans,—12 superior, 3 inferior.—*Wilson's Glossary.*

BHULAM. Tel. Aloe littoralis.

BHULEA and Sansu are silk cloths much used by the women of Nepal.

BHULL. Like all large rivers which flow for a very lengthened course through an alluvial soil, the Indus throws up patches of alluvial deposit at its mouth. In Sind these are called Bhull, and they are of great value in the cultivation of the red rice of the country. They are swampy, and exist on both sides of the principal mouths of the Indus, in the Gora baree and Shahbunder parganas, but produce a considerable portion of the rice consumed in Sind.—*Simmonds*, p. 293.

BHULLEH, a clan of Agnicula Rajputs.

BHUM. Sansk., Hind. The land, earth; Bom, Pers. Bhumia, a landlord. Bhumiawat, a general plundering. Bhum-bhai, a landowner in a village.

Bhum Bakeswar, a group of hot sulphur springs on the banks of the Bakeswar streamlet, in the Birbhum district of Bengal, lat. 23° 53′ 30″ N., long. 87° 24′ 35″ E.; Fahr. 128° to 162°. About 120 cubic feet per minute are ejected from the hottest well.

Bhumha, the tutelary divinity of a village, or its boundaries.

Bhumhari, freehold land tenures in Chutia Nagpur.

Bhumi, a man of the soil.

Bhumi, in Hindu astronomy, the terrestrial globe, supposed to be in the centre of the universe.

Bhumi savana, proper, natural to the earth.

Bhumi savana dina, a natural day.

Bhumi-Daha, being reduced to earth, being burned as a Hindu.

Bhumi Jombuka, Gunta baringa.

Bhumi-Nim, Bonnaya serrata.

Bhumi Kumara, Trichosanthes cordata.

Bhumi Tylum, naphtha, petroleum, earth oil.

Bhumowra, Cornus capitata.

Bhum-Phor, earth-splitter; Philipæa calotropidis, Tulipa stellata.

Bhumidevi, the goddess of the earth, and Vishnu's secondary wife.

Bhumiya, in Muttra district, an altar or shrine of the village deity; it is an oblong low structure of masonry.

BHUMIA. Hind. From Bhum, land. A landed proprietor in Rajputana; the allodial proprietor of Mewar, offshoots of the earliest princes. The term Bapota implies the inheritance or patrimony; its holder, if a military vassal, is called Bhumia, meaning one actually identified with the soil (Bhum). The Bhumia of Rajasthan is the Mahomedan wuttun-dar, or meeras-dar, and the Caniatchi of the Tamils. The Bhumia is vested with the rights of the crown, in its share of the bhog or rent. But when their own land is in the predicament called gulthas, or reversions from lapses to the commune, he is seised in all the rights of

the former proprietor; or by internal arrangements, they can convey such right by cession of the commune. The Bhum is exempt from the jureeb or measuring rod; it is never assessed; and his only sign of allegiance is a quit-rent, in most cases triennial, and the tax of khur-lakur, a war imposition, since commuted for money. These allodial tenants are the yeomen of Rajasthan, and, as in the districts of Komulmer and Mandelgurh, constitute the landwehr, or local militia. The Rajput vaunts his aristocratic distinction derived from the land, and opposes the title of Bhumia Raj, or government of the soil, to the Banya Raj, or commercial government, which he affixes as an epithet of contempt to Jeypore; where 'wealth accumulates and men decay.' Bhum rakhwali, or land [in return for] 'preservation,' is one kind of Bhum; the crown itself holds bhum rakhwali on its own fiscal demesnes, consisting of small portions in each village. In S. 1782, the turbulent Bhumia on the western frontiers were checked by the Rajput chiefs on their borders, and the Sindil, the Deora, the Bala, the Bora, the Balecha, and the Soda were then compelled to servitude. The ancient clans, prior to Sanga Rana, had ceased, on the rising greatness of the subsequent new division of clans, to hold the higher grades of rank, and had, in fact, merged into the general military landed proprietors of the country under the term Bhumia. These Bhumia, the scions of the earliest princes, are to be met with in various parts of Mewar; those of high antiquity were defended from oppression by the rocks and wilds in which they obtained a footing, as in Komulmer, the wilds of Chuppun, or plains of Mandelgurh, long under the kings, and where their agricultural pursuits maintained them. Their clannish appellations, Kombawut, Loonawut, and Ranawut, distinctly show from what stem and when they branched off; and as they ceased to be of sufficient importance to visit the court on the new and continually extending ramifications, they took to the plough. But while they disdained not to derive a subsistence from labouring as husbandmen, they never abandoned their arms; and the Bhumia, amid the crags of the alpine Aravalli, where he pastures his cattle or cultivates his fields, preserves the erect mien and proud spirit of his ancestors, with more tractability, and less arrogance and folly, than his more courtly but now widely separated brethren. They form a considerable body in many districts, armed with matchlock, sword, and shield. In Mandelgurh, where their own interests and the prince's unite, four thousand Bhumia could be collected. They held and maintained without support the important fortress of that district, for their prince, during half a century of turmoil.—*Tod's Rajasthan*, i. 169, 498.

BHUMIJ, literally earth-born, prior inhabitants of Orissa, with whom the Uraon or Ho or Kol mixed when driven eastward. Bhumij are the majority of the population in all the estates of the Manbhum district to the south of the Kassai river. As they approach the confines of Chutia Nagpur, they appear to be called indifferently Mundah or Bhumij, and these intermarry. More to the east, the Bhumij have greatly assimilated to the Bengali; many have acquired estates and influence as Sirdar Ghatwali, the hereditary guardians of the passes. They tenaciously cling to their national songs and dances. Bhumij are to be found in Mohurbunj and Keonjur, and it is this branch of the Mundah race which has spread farthest in an eastern direction. The Bhumij of the lower part of Singbhum and Manbhum are tolerably civilised. All the wild tribes of Central India worship relatives immediately after death, and the Bhunjia, Bhumij, and Kol tribes, practise the ceremony whereby the soul of a man just deceased is attracted or conjured into some tangible thing, which is brought back into the house soon after the funeral, apparently that the soul may thenceforth be worshipped as a household spirit. Traces of this superstition may be found all the world over. It is practised by Hindus. Herodotus and Homer show its antiquity. Captain Burton mentions it in Africa. The Bhumij, dwelling between the Kassai and Subarnarekha rivers, are the original inhabitants of Dhalbhum, Barabhum, Patkum, Bagmundi, and still form the bulk of the inhabitants. Many are Sirdar Ghatwali, and well off, and those dwelling amongst the Bengali still retain their dancing customs.—*Cent. Ind. Prov. Com. Rep.* pp. 5, 9; *Dalton*, pp. 147, 156; *Campbell*, p. 35.

BHUMTAS. HIND. Salix tetrasperma.

BHUNDARA, a district in the Nagpur division of the Central Provinces, situated on the Wainganga, east of Nagpur. It has an area of 1748 square miles, and a population of 626,000. Some noble specimens of the Kuttung bamboo are to be found in the Lanjee jungles north of Bhundara, on the Deo and Son rivers, also in Seroncha, and (though smaller) in the cantonment of Jubbulpur.

BHUNGHE. BENG. Corchorus olitorius.

BHUNIYA or Bhuiya, a tribe in varied stages of civilisation, and of varied religious development. Buchanan Hamilton found them in Bhagulpur, Bihar, and Dinajpur, and he considered them to be the remains of the armies of Jarasandha. Some of the tribe live strictly as Hindus; while others eat beef, pork, camels, horses, asses, rats, cats, fowls, lizards, and worship the Vira or spirits of their deified heroes. Mr. (Sir George) Campbell considered them to be part of the Bhui tribe of the northern parts of the Madras Presidency; and Colonel Dalton regards them as part of the Bara-Bhui tribe who at one time ruled in the valley of Assam. In northern and eastern Bengal, and in Chutia Nagpur, they are so humble as not even to cultivate their own fields. Yet the landowners surrounding Parasnath hill, though claiming to be Kshatriya, are undoubtedly Bhuiya, being almost black, with coarse negro-like features. The Bhuiya are numerous in Singbhum. Tradition says they were once dominant in the western and southern parts of that country, but were subjugated by the 'Ho' (Kol). Colonel Dalton says they are the monkey-like tribes who aided Rama. Hanuman, the general of the ape army, was Pawan-Ka-put, 'the son of the wind;' and the Bhuiya to the south of Singbhum call themselves Pawanbans, the children of the wind. They are a dark-brown, well-proportioned race, with black, straight hair, plentiful on the head, but scant on the face; of middle height, light-framed like the Hindu, but with figures well knit, and capable of enduring great fatigue. The nose is but slightly elevated, still neither so depressed nor so broad at the root as the generality of Turanian noses. They sometimes call themselves Khandaits, and

claim to be of the same family as the Or-Khandaits or Paiks of Orissa, and assume the Brahmanical cord. They are the earliest known settlers in parts of Singbhum, Gangpur, Bonai, Keonjhur, and Bamra, and are almost the only class possessing proprietary right under the chiefs. The chiefs of these estates now call themselves Rajputs; but the country for the most part belongs to the Bhuiya sub-proprietors. They are a privileged class, holding as hereditaments the principal offices of the state, and are organized as a body of militia. The chiefs have no right to exercise any authority till they have received the 'tilak,' or token of investiture, from their powerful Bhuiya vassals. They have their own priests, called deori, and their sacred groves, called Deota Sara, dedicated to four deities, Dasum Pat, Bamoni Pat, Koisar Pat, and Boram, the sun deity. In each village there is, as with the Oraons, an open space for a dancing ground, called by the Bhuiya the Darbar; and near it the bachelors' hall, called the Dhangar bassa, or Mandarghar, as here the young men, Dhangar, must all sleep at night, and here the drums, Mandar, are kept. Some villages have a Dhangarin bassa, or house for maidens, which they are allowed to occupy without any one to look after them. Whenever the young men of the village go to the Darbar and beat the drums, the young girls join them there, and they spend their evenings dancing and enjoying themselves, without any interference on the part of the elders. The Bhuiya dances have their peculiar features, but compared with the lively and graceful movements of the Kols, they are very tame performances. —*Dalton, Ethnol. of Beng.* 140.

BHUNJA, also variously styled Bhar-Bhunja, Bhurji, Bhar-Bhuja, Bhad-Bhuja, Bar-Bhunja, Bhujari, and Bhunjari. The word is derived from Bhunna, to parch. Rice, peas, gram (a kind of pulse), and other kinds of grain, are parched by them, and sold in the bazars.—*Sherring*, 303.

BHUN KADUM. HIND. Verbascum thapsus.

BHUPALA, the first recorded dynasty of rajas of Bengal.

BHU-PHALLI, a small scandent plant, abundant about Ajmir. It contains a great quantity of mucus, and is used largely as an aphrodisiac, rubbed up with water and strained. It is also considered cooling, and is used in prescriptions as such.—*Gen. Med. Top.* p. 127.

BHUR. HIND. Sandy hillocky soils, the tibba of the Panjabi.

BHUR. HIND. A thatch grass, growing in the jungles of N. India to a height of 9 feet.

BHUR, an aboriginal race in parts of Oudh, Benares, and Behar, and in Palamow, known by tradition as one of the oldest of Indian races.—*Campbell.* Properly Bhar.

BHURA. HIND. A thick, coarse haircloth, also goat's hair.

BHURA, a wedding ceremony of Mahomedans on the third day after Shabgasht.

BHURANYU, in Hindu mythology, a golden-winged falcon who stole the sacred Soma.

BHUR-BHUVA-SVAR. SANSK. Air, earth, and sky. See Gaetri.

BHURJ. HIND. Betula bhojputra.

BHUR-KURI. MAHR. Wrightia tinctoria.

BHURLA or Bulla, Terminalia bellerica.

BHUR-LOKA. SANSK. The sphere of the earth, comprising its oceans, mountains, and rivers.

BHURUNDI. TEL. Tiaridium Indicum.

BHUSA. HIND. Bran of wheat, chaff, or cut straw, or leaves, etc., for feeding cattle.

BHUSANDI, in Hindu mythology, a famous crow.

BHU-SARKARA, or Morinika and Putta Tige. TEL. Niebuhria oblongifolia, *D. C.*; Capparis heteroclita, *Roxb.* ii. 570. The sweet tuberous roots, dried and reduced to powder, are used medicinally for making a cooling drink.

BHUSKI. HIND. A carbonate of soda.

BHUT. HIND. Soy bean? Soja hispida?

BHUT, a spirit, generally an evil spirit, and usually represented by a stone in a forest; commonly coupled with the Preta. In the south of the Peninsula of India, the people recognise the amiable Kannimar, or virgin spirits; the various ammans, with Bhagavati, Chakkamal, and Dwara Pati, are village gods; and Samaladevi is the cholera goddess. Necromancers employ Karuppan, Maden Patchee, and Irulappen, and Kollevai Pai is the will-o'-the-wisp. The Khatari Bhudam, Pesasam, Mohini, Jadamuni, and Etchilpai are other good and evil spirits. See Bhut-Bali.

BHUT, also Bhuta. HIND. Zea mays, Indian corn.

BHUTALA BHAIRI. TEL. Bhatamkusam. SANSK. Croton oblongifolium, *Roxb.* iii. 685. The Telugu name signifies demon-driver or devil-goad, and sticks made of it are carried as a protection against evil spirits.

BHUTAN, on the N.E. of British India, is situated between lat. 26° 30′ and 28° N., and long. 88° 45′ to 92° 25′ E., and occupies from the southern declivities of the great central ridge of the Himalaya mountains, to the level ground in front of that portion of their inferior chain which constitutes the natural northern boundary of the Assam valley eastwards from Sikkim to where the Brahmaputra passes through the mountains. Bhutan is bounded on the north by Tibet, on the west by Sikkim, on the south by the British territory, and on the east by several independent mountain tribes. It consists of a number of rough transverse chains of hills at right angles to the parent range, which forms the backbone of Asia. Between the ridges are precipitous valleys, at the bottom of each of which a mountain stream runs. The first intercourse of the British with Bhutan commenced with the expedition sent in 1772 for the relief of the raja of Koch-Bahar. The Buteah being driven out of Koch-Bahar, and pursued into the hills, threw themselves on the protection of Tibet. The Tesoo Lama, then regent of Tibet, and guardian of the Grand Lama of Lassa, addressed the Government of India on their behalf. The application was favourably received, and a treaty of peace was concluded on 25th April 1774. From that year, with the exception of two unsuccessful commercial missions in 1774 and 1783, there was little intercourse with Bhutan, until the British occupation of Assam, which connected the British and Bhutan frontiers. From that time there had been a continued series of aggressions by the Buteah on British territory, followed by reprisals on the part of the British Government, and the occupation of the Doars or passes which lie at the foot of the Buteah hills. During the 18th and 19th centuries, missions were sent to Bhutan under Mr. Bogle, Captains Turner and Pemberton, and Mr. (Sir) Astley Eden; but the ruling race and the

people are faithless and immoral, and the intercourse ended by the British annexing the marches or Doars on the 11th November 1865.

The upper classes, and particularly the highest officers, are described as shameless beggars, bullies and sycophants, while the lower classes are characterized as tolerably honest and truthful. They weave a coarse cloth, make paper from the bark of the Diah tree; distil a spirit from wheat, rice, and millet, and indulge freely. Chastity is little regarded, and very little practised. The custom of a community of wives between brothers, five or six cohabiting with one woman, obtains here as well as among other countries in the hills. The women are indelicate and immodest, but polyandry prevails far more extensively in the northern and central portions of Bhutan than in the southern. Mr. Eden says the intercourse between the sexes is, in reality, promiscuous. On the death of any head of a family, however numerous his children, and whether male or female, the whole of the property becomes escheated to the Deb or Dharma. The spiritual ruler, or Dharma raja, is supposed to be an incarnation of Buddha. The Deb raja is chosen from amongst the chief officers of the country, and is supposed to vacate the government after three years; in practice, however, he holds office as long as he has power to do so. Below the Deb and Dharma rajas are the spiritual council, composed of twelve Buddhist monks, and the secular council, consisting of six Zimpé. Subordinate to the Deb are the Para Pilo or Penlo, who has the management of the country west of the Tchinchoo river, and the Tongu Pilo of the country to the east towards Assam. Each of these Pilo has under him six Soubahs, or Commissioners of Division.

The *Ghylong* or Lama priests are estimated at 1500 to 2000, and there are many nuns.

The *Lhopa* race are quarrelsome and cruel, but not brave. They have invariably black hair, which is cut close to the head. The eye is small, black, with long pointed corners. Their eyelashes are so thin as to be scarcely perceptible, and the eyebrow is but slightly shaded. Below the eyes is the broadest part of the face, which is rather flat, and narrows from the cheekbones to the chin,—a character of countenance far more strongly marked in the Chinese. Their skins are remarkably smooth, and most of them arrive at a very advanced age before they can boast even the earliest rudiments of a beard; they cultivate whiskers, but the best they produce are of a scanty straggling growth. Many of these mountaineers are more than 6 feet high.

The *Changlo* are a branch of the Lhopa of Bhutan. The Changlo dialect has a considerable amount of glossarial peculiarity with Tibetan, but in other respects it is entirely Tibetan, softened and slightly changed in phonology. The Changlo dialect is spoken along that portion of the northern frontier of the valley which extends from the Binji Doar to the confines of the Kuriapera Doar, or from about 90° to 92° of east long. Neither its northern limit nor the numbers speaking it have been ascertained. The inhabitants of this tract occupy the lesser elevation of the southern Himalaya range, and are, generally speaking, agricultural. Their physical appearance exhibits a few shades of distinction noticeable between them and the tribes of the Sub-Himalaya. They are smaller, less muscular, and the hue of their skin possesses a deep isabelline tint. From the latter circumstance, probably, they derive their appellation, the term Changlo meaning black.—*Bogle, Turner, and Pemberton's Embassies; Aitcheson's Treaties*, i. pp. 105, 142, vii. p. 360; *Prinsep's Tibet*, p. 17; *Fraser's Him. Mts.* p. 335; *Gerard's Kunawar; Hook. Him. Mts.; Jour. Ind. Arch.*, 1853.

BHUT-ANJAN, also Bhowra. Hind. A large black bee, fabled to be enamoured of the lotus.

BHUTA SHUDDHI. Sansk. Bhuta signifies the four elements, and Shuddhi, purification. A Hindu purificatory rite.

BHUT-BALI, offerings to malignant spirits, ghosts, or goblins. Offerings to demons or spirits at funerals. Offerings to all creatures. On the 14th of the dark half of Aswin, Hindus make offerings to malignant spirits. Bhuta-devata is an evil being worshipped as a divinity. Bhut-khet is a field or land granted to the Pahan for the cost of sacrifices offered to propitiate the evil spirits.

Bhut Bamian, literally, idol-Bamian; a name of Bamian.

Bhutni Sajji, literally, devil's soda.

BHUT-BHERUBI. Beng. Premna barbata.

BHUTRAJ. Beng. Adder's tongue, Lygodium flexuosa.

BHUTTA or Bhoota. Hind. An ear of Indian corn, Zea mays.—*W.*

BHUTTER or Puther, and Iyen are two titles of Tamil Brahmans in Travancore.

BHUT-THA, a large tree of Akyab, plentiful in Ramree and Sandoway districts.—*Cal. Cat. Ex.*

BHUTTIAH, a Rajput race, formerly martial, now traders, and like the Arorah, and both these have commercial agencies all over India. See Battia; Bhattiah.

BHUTTOTE, Thug designation of the strangler.

BHU-TULASI, Ocimum basilicum; O. pilosum.

BHU-TULSI. Beng. Salvia plebeia.

BHUVA-LOKA. Sansk. The higher regions, from Bhuva, the sky, and Loka, a world. The atmosphere or firmament. Mahar-loka, the region above the pole-star, tenanted by saints. Bhuvana Cosa and Bhuvana Sagara, Hindu books on geography. See Loka.

BHUVANESWARA, the ancient Eskamra of Orissa, a great seat of the Saiva sect, and largely visited by pilgrims. For six centuries it was the capital of the Kesari or Lion dynasty of Orissa kings, from about A.D. 500 to 1104. 7000 shrines once clustered round the sacred lake, and 500 or 600 still remain, some of them of exquisite design and ungrudging artistic toil.—*Dowson; Imp. Gaz.*

BHYACHARA. Hind. The land tenure by village communities. Bhyad brotherhood is the term employed to designate the minute subdivision of fiefs which obtains in all Rajput states.

BHYENG-TSENG. Burm. In Amherst, a close-grained, compact, grey wood, fit for general purposes.—*Captain Dance.*

BHYNEE. Can. Caryota urens; its sap is abundant, and is converted into toddy and arrack.

BHYNSROR is the tract named Puchail, or the flat, between the river Chambal and the pass, and contains about twenty-four villages, in the lordship of Bhynsror. According to the local tradition of some of the wild tribes, its more ancient name was Bhadravati, the seat of the Hun race; and the

traces of the old city, in extensive mounds and ruins, are still beheld around the more modern Bhynsror. Tradition adds that the Chirmitti, the modern Chambal, had not then ploughed itself a channel.—*Tod's Rajasthan*, ii. p. 713.

BIA. HIND. Pterocarpus marsupium.

BIADIAH. HIND. Green turbans.

BIANA, a chieftain of Biana, Dahima, was one of the most powerful vassals of the Chauhan emperor, Pirthi raja. The brothers of this house held the highest offices under the emperor, and the period during which the elder Kaimas was minister, was the brightest in the Chauhan dynasty.—*Tod.*

BIAR. PANJ. Of Mehra forest, near Abbottabad, Hazara; it is Pinus longifolia, and P. excelsa.

BIAZ. HIND. Interest of money.

BIBA BIBA. CAN. Holigarna longifolia.

BIBACHA. HIND. Brassica Griffithii.

BIBASIS, a name of the Beas.

BIBI. HIND. Lady. Bibi Sahib, ANG.-HIND., properly Bibi-sahibah, an Englishwoman, the mistress of a house. Bibi, Begum, Dorasani, Thakurani, are courteous titles of Indian ladies.

BIBLA, of the Baori race, the Bibia bag of Northern India, is the smaller leopard. F. pardus.

BIBLA-HONI. MAHR. Pterocarpus marsupium.

BIBLE, from the Greek Biblos and Latin Biblum, a book. Christians divide their sacred book into two portions, the Old and New Testaments. The former contains the writings of Moses and other prophets, and is the canonical book of the Semitic religion of the Jews or Hebrews; the latter contains the doctrines of Jesus Christ, but both books are canonical in the religion of Christians. The two books of the Old and New Testament are reverenced but not read by the Mahomedans of the S. and S.E. of Asia; and the possessors of the Taurait, Anjil, Zabur, and the Koran, viz. the books of Moses, the Evangels, the Psalms, and the Koran, are all styled Ahl-i-Kitab, or People of the Book, *i.e.* people possessing a revealed religion. The Old Testament is supposed to have been mostly written in Hebrew, from which it was translated into Greek. The New Testament of the Bible was written, it is supposed, originally in Greek, but the book has now been translated into all the European, and most of the Semitic, Aryan, Mongol, and Polynesian tongues, and largely distributed. The Old Testament, too, has been, in parts, turned into the vernacular tongues of the East Indies, and the whole of the two books have appeared in Arabic. It is related that Philadelphus sent Aristæus, a man whose wisdom had gained his friendship, and Andræus, a captain of the guard, both of them Greek Jews, with costly gifts, to Eleazer the high priest of Jerusalem, and asked him to employ learned and fit men to make a Greek translation of the Bible for the library at Alexandria. Eleazer named seventy elders to undertake the task, and they held their first sitting at the king's dinner-table; and Menedemus, the Socratic philosopher, the pupil of Plato, who had been sent to Philadelphus as ambassador from Eubæa, was also present. The translators then divided the work among themselves; and when each had finished his task, it was laid before a meeting of the seventy, and then published by authority. Thus was said to have been made the Greek translation of the Old Testament, which, from the number of the translators, is called the Septuagint; but a doubt is thrown upon the whole story by the fables which have been mingled with it to give authority to the translation. During 1870 to 1881 a committee in England revised the New Testament. In the 2d century there is said to have been an Indian translation of the New Testament St. Chrysostom (Evang. Joan. Homil. I. cap. i.) says the Syrians too, and Egyptians, and Indians, and Persians, and Ethiopians, and innumerable other nations, translating into their own tongues the doctrines derived from this man, barbarians though they were, learned to philosophize.

Nadir Shah, in 1740, ordered Mirza Mehdi to translate the four Gospels, but it was done in a very faulty manner. A Georgian translation was printed at Moscow in 1743. The Armenians have it in their tongue; the Nestorians and Jacobite Christians use the Syriac Bible, and it is in the vernacular of all the nations of Europe.

The first versions printed in India of any of the Christian Gospels in the Persian and Hindustani languages, were in 1805 at the College of Fort-William. The Persian was superintended by Lieut.-Colonel Colebrooke, and that in Hindustani by William Hunter. Thomas Jarrett translated the Gospels into Western Malay; Pūrūsh Ram, into the Uriya; Vydya Nath, into Mahratti, under the superintendence of Dr. William Carey. The Old and New Testaments, in whole or in part, have now been translated into 72 of the languages of the East Indies.

Assamese.	Gondi.	Lepcha.	Pushtu.
Batta.	Gujerati.	Macassar.	Pwo.
Badaga.	,, Mercantile.	Malay.	Sgau.
Baluchi.		,, Low.	Siamese.
Bengali.	Harouti.	Malagasy.	Sindi.
Bhatti.	Hindi.	Malealam.	Singhalese.
Bhugeli.	Hindustani.	Magadhi.	Sonthal.
Bikaniri.	,, Portuguese.	Mandailang.	Sundanese.
Bruj.		Mahratti.	Tamil.
Bghai.	Javanese.	Marwari.	,, Kodun.
Balinese.	Jypuri.	Mon or Peguan.	,, Shen.
Bugi.	Kach'hi.		Telugu.
Burmese.	Kanoji.	Multani.	Tibetan.
Canarese.	Karen.	Mundari.	Toba Batta.
Dyak.	Kashmiri.	Munipuri.	Tulu.
Dakhani.	Khasi.	Nepali.	Udaipuri.
Dogri.	Konkani.	Nias.	Ujaini.
Formosan.	Kosali.	Palpa.	Uria.
Garhwali.	Kumaoni.	Panjabi.	

In Malay it was published in the Arabic character, in 5 vols. 8vo, in 1758, under the direction of Jacob Mossel, Governor-General of the Dutch possessions in the East Indies.

The immense numbers of Malayan Bibles and other religious books that have been circulated throughout the Moluccas, have produced a uniformity of idiom which greatly facilitates communication not only between Europeans and natives, but between the natives of the different islands themselves. Indeed, the Malayan language here assumes a degree of importance which is unknown to the other European establishments in the Archipelago. It becomes in a great degree the language of general society, as Dutch is rarely spoken except by individuals born in Europe, who are few in number. A constant correspondence is also kept up in Malayan between the Government and Orang Kaya of the interior. Under these favourable circumstances, the Malayan dialect of the Moluccas affords a facility in expressing ideas which is unknown to the westward, where the language is only spoken generally by uneducated people, a circumstance which may eventually lead to the

Amboyna dialect becoming the general medium of communication throughout the Archipelago. A similar result followed on the translation of the Koran. It gave the purest Arabic a hold.

Since 1811, Bible Societies for the distribution of this sacred book have been formed in most of the Protestant countries of Europe.—*Indian Antiq.* 1873; *Cust, Modern Languages*, p. 196; *Sharpe's History of Egypt*, i. pp. 308, 309.

BIBLIOTHECÆ SANSKRITÆ, a catalogue by Professor Gildemeister, published in 1847, of authors, Indian and European, who have edited or translated Sanskrit works, or treated of Sanskrit literature.—*Cal. Rev.*

BIBOS CAVIFRONS, the Gyal; Gavæus gaurus.

BIBWA. MAHR. Semecarpus anacardium.

BICHE DA MAR. Holothuria, *sp.*

Hoy-shun, . . . CHIN.	Holothurion, . . LAT.
Swalloe of traders, ENG.	Suala, ... MALAY.
Sea-slug, Sea cucumber, ,,	Tripang, ... ,,
Beche de mer, . PORT., FR.	Balate, ... PHIL.

Species of Holothuria are found in most of the shallow seas of the Malay and Philippine Archipelagos, near Ceylon, Mauritius, Zanzibar, Polynesia, in the upper part of the Gulf of Siam, and are so abundant on the northern coast of Australia, that the people of Celebes, receiving advances from the resident Chinese, have been long in the habit of making annual voyages thither in quest of it. Its only market is that of China, to which many hundred tons are yearly sent, for the consumption of the curious epicures of that country. The fishery of the trepang is to China what that of the sardine, tunny, and anchovy is to Europe. It is for the most part caught by hand, for it has little power of locomotion, but in deep water, sometimes by diving. The great sources of wealth of the Aru Islands are the pearl and trepang banks, on the eastern side of the group. These extend the entire length of the islands, and are often several miles in width, being intersected by deep channels, some of which will admit vessels of burden. The greater portion is caught in shallow water, where it can be picked up off the bank without diving. It is produced in the greatest abundance on small coral islands, especially those to the south and east of the Sulu group. The trepang on that coast is of several varieties. It is sometimes two feet long; but its common length is from four to ten inches, and its diameter two or three. Its tentaculæ are short, and when the animal is captured, are folded up under its body. The trepang is first thrown into a kettle filled with boiling sea-water, after a few minutes it is removed and gutted. It is then thrown into a second kettle, where a small quantity of water and the parching rind of a mimosa produce dense vapours. This is done to smoke the trepang for better preservation. Finally, it is dried in the sun, or in case of bad weather under a shed. For a long time the Chinese were the sole carriers of the article, but foreigners now engage in the trade. A great deal of this article is imported into Macao, in junks and Portuguese vessels. In the market it appears hard and rigid, and has a dirty brown colour; when brought to the table, it resembles pork rind in colour and consistency. The Chinese use it by itself, or as an ingredient in other dishes, and consume large quantities, under the belief that it is an aphrodisiac. The varieties into which they divide it are above thirty, varying in price from $80 down to $1½ per pikul, but unless one is well acquainted with the article, it is impossible to distinguish them. In the Chinese tariff, all the sorts are arranged under the two heads of black and white.—*Jour. Ind. Arch.* iv. p. 480; *Hon. Mr. Morrison's Compendious History; Crawfurd's Dictionary; Faulkner.* See Holothuria; Trepang.

BICHHATI, also Bich-taruka. BENG. Silver weed, Argyreia speciosa. Bich'huti, Tragia involucrata, *Linn.*

BICHU. HIND. Martynia diandra.

BICHUA, Bichhata. HIND. The Himalayan nettle. Urtica heterophylla. Urtica interrupta. The name is from Bichu, a scorpion.

BICHUA. HIND. A dagger with a waved blade.

BIDABAD, all of it was formerly a place of refuge. See Bast.

BIDAL. BENG. Bauhinia variegata.

BIDARA, KARN., also Bidi Kaiavaru, a troop of grain-carriers.

BIDARIKAND. HIND. Root of Pueraria tuberosa, in Ajmir, considered of a warm nature, and used among a great number of ingredients of many prescriptions.—*Gen. Med. Top.* p. 126.

BIDASPES, Bedaspes, or Hydaspes of the Greeks, the modern Behut, the ancient Vitasta.

BIDDARI. SANSK. Gmelina Asiatica.

BIDDAT. ARAB. In Mohamedan law, points of religion neither directly enjoined nor yet forbidden by Mahomed.

BIDDHU-KURNU. BENG. Clypea hernandifolia.

BIDEN, CHRISTOPHER, author of Naval Discipline, or a View of the Necessity for a Law establishing an efficient Naval Discipline in the Merchant Service. He was for many years master attendant at Madras.

BIDENS. *Smith.* The Kwei-chin-ts'au of the Chinese. A composite plant, one of the Shan-yoh or mountain drugs of the Chinese. It has sialogogue properties.—*Smith.*

BIDGIRAMMI. MAL. Linseed.

BIDHATA PURUSH, the Hindu god of fate.

BIDHAY. BENG. The signal for taking leave, often accompanied by a gift.

BIDPAI or Pilpai is the name given to the author of the oldest known collection of tales, but no edition of them is in existence. Tradition says that they were written in Sanskrit by a Brahman of this name, for the benefit of Dabishlim, his king, and to them almost all the fabulous relations of other countries have been clearly traced by Mr. Colebrooke, the Baron de Sacy, and Professor H. H. Wilson. The Bidpai collection is traditionally said to have been since reproduced in the Panchatantra, or five chapters, also known in India as the Panchopakhyana, or "Five Collections" of 80 stories, which are supposed to have been in prose, written by Vishnu Sarma for the education of a king's sons. Panchatantra means literally Pentateuch, or the Pentamerone, or Quinque Partitum. Its five chapters relate to the dissensions, and the acquisition, of friends; inveterate enmity; loss of advantage and inconsiderateness. The book has many aphorisms to guide a person in life. Another collection, called the Hitopodesa, *i.e.* Salutary Advice, was originally written in the Sanskrit language in prose and verse. It is a collection or selection of tales drawn from the fables of Bidpai,

the source also of the Panchatantra, and has been translated into most of the languages of British India, also into English by Dr. Charles Wilkins, Sir William Jones, and Francis Johnston. It is full of maxims and worldly advice; it is as interesting as the Proverbs or Ecclesiastes, and is probably as old as those two works. It opens with a reference to Ganesha, the Hindu god of wisdom, and the story relates to king Sudarsana of Patalipútra and his intractable sons. Both these books have been published in Britain and Germany, and there are English, German, French, and other translations of them. They were translated into Pehlavi in the time of Nushirwan, in the 6th century; from that into Arabic, by Abdallah-ibn-al-Makaffa, about the middle of the 8th century, and his book is known as the Kalila-wa-Damna. This was in the reign of the Khalif Al-Mansur in the 8th century. The Kalila-wa-Damna had 18 chapters, and must have been from another or from a larger collection. Then, about the close of the 9th century, into Persian, by Rudaki, who received 80,000 dirhems for his labours. About the middle of the 12th century (A.D. 1150), in the time of Bahram Shah, a Persian prose translation was made, and a subsequent second translation was made, by Kashifi, and named the Anwar-i-Soheili. A Greek version was made by Simeon Seth, at the command of Alexis Comnenes, and they appeared since in Hebrew and Aramaic, Italian, Spanish, and German. The first English edition was in the 16th century; then in French in 1644 and 1709; and they are the foundation of Æsop's fables. In these tales and fables the Hindus appear to have been the instructors of all the rest of mankind. The complicated scheme of story-telling, tale within tale, like the Arabian Nights, seems also to be of Hindu invention, as are the subjects of many well-known romances, both oriental and European.—*Elph.* pp. 156, 157; *Chips*, iii. 145, also iv.

BIDUANDA KALLANG, a race who, with the Orang Sleetar, dwelt in Singapore till removed from it by the British, when they occupied the island in 1818. They speak Malay with a guttural accent. They are now dwelling in the Malay Peninsula.

BIDURU NANA BIYYAM, TEL., Euphorbia thymifolia, *L.*, has the signification of 'green or raw rice of Biduru.' The term pachchi arisi, TAM., 'raw rice,' is applied to several of the smaller species of Euphorbia.

BIGANDET, Roman Catholic Bishop of Ramatha, who resided for many years in Burma and the Malay Peninsula. He published in 1858 a legendary history of Gaudama, and subsequently a revised edition of it, which Lieutenant Gauvain translated into French.

BIGHA, Bhiga, or Beegha, a land measure varying in extent in different parts of India. The standard bigha of the Revenue Surveys of the North-West Provinces is equal to 3025 square yards, or 5-8ths of an acre. In Bengal, the bigha contained only 1600 square yards, or little less than one-third of an acre. In Benares, it was, at the time of the settlement, determined at 3136 square yards. In other parganas it was 2025 to 3600, or to 3925 square yards. A kacha (immature, crude, small) bigha is in some places a third, in others only a fourth, of a full or standard bigha. Akbar's bigha of 3600 square gaz=2600 square yards=0·538, or somewhat more than half an acre on the above estimation.

In the N.W. Provinces of India it is nearly five-eighths of an acre. In the Lower Provinces it is 120 feet square, or 4800 superficial feet, nearly one-third of an English acre. Tod says that in Rajputana 120 are = 40 acres. Sir H. Elliot specifies the following as some of the variations found in the Upper Provinces for 100 acres, viz.:—

	Bigha.	Biswa.	Kitta.
Farrakhabad, ...	175	12	0
East and South Gorakhpur, . .	192	19	7
Allahabad and part of Azimghur, .	177	5	6
Part of Azimghur and Gazipur, .	154	6	8
Bijnur, ...	187	19	15
In the Upper Doab (Kachhu), . .	582	3	0

In Cuttack, the bigha is now considered to be an English acre. The Mahratta bigha is called twenty pand, or 400 square kathi or rods, each five cubits and five hand-breadths; as the rod varies so does the bigha; under the Adal Shahi dynasty it was equal to 4683 square yards, or only 457 square yards less than an English acre. The Gujerat bigha contains only 284⅔ square yards.—*Wilson's Glossary*, p. 85; *Elliot, Supplement; Tod's Rajasthan*, i. p. 553; *Carnegy.*

BIGNI. HIND. Celtis Caucasica.

BIGNONIA. This genus of plants is one of the Bignoniaceæ, and 18 species occur in China, the Moluccas, Assam, Morung, Peninsula of India, and Malacca. Amongst them are B. adenophylla of Burma, B. undulata of Hindustan and Gujerat, B. multijuga of Sylhet and Penang. The leaves of B. chica yield a red colouring matter. Several species in Burma and Tenasserim are not yet specifically identified. They are called by the Burmese, Lain-bha, Kyoun-douk, Than-day, Thuggai-ni, and Thau-thet-ngai. Bignonia coronaria, a large tree with white flowers; very plentiful in the Tharawaddy and Pegu districts; affords from the inner bark material for rope.

Bignonia chelonoides, *Linn.*

Stereospermum chelonoides, *D. C.*

Padal, Sammi, . HIND.	Pathiri maram, . TAM.
Keersel, Tuatuka, MAHR.	Tagada, Kaligoru, . TEL.
Padri maram, . MALEAL.	Kalighutru, Kalugoru, ,,
Pu-padria maram, TAM.	Pamphoonea, . . URIA.

This is found in various parts of the Madras Presidency, both above and below the ghats in Canara and Sunda, though not common there; abundant in the Dekhan, on the right bank of the Godavery, and in Ganjam and Gumsur; also in the Bombay ghats, at Khandalla and Parr; also in the Panjab, the Siwalik tract, Sylhet, and Assam. In the mountainous parts of the coast of Coromandel it grows to be a large tree; flowers during the hot and rainy seasons, and the seed ripens in December and January. The wood is high-coloured, hard, and durable, and much used amongst the inhabitants of the hills, where it is plentiful. It attains an extreme height of 20 feet, with a circumference of 1 foot, and the height from the ground to the intersection of the first branch is 8 feet. The tree is held sacred by the Hindus, in consequence of which it is difficult to obtain the timber; but it is a good fancy wood, and suitable for buildings. The bark and fruit are used medicinally, and the pleasant-tasted fragrant flowers are used to make a cooling drink in fevers.

Bignonia Indica, *Linn.*

Spathodea Indica.	Bignonia pentandra, *Lour.*
Calosanthes Indica, *Blume.*	

Mulin, Sori, . . HIND. | Tat Morang, . . HIND.
Tat Palanga, . . ,, | Tetoo, ... MAHR.

This is common near water streams on the Bombay side, chiefly below the ghats. On the Coromandel coast it grows tall, chiefly up amongst the mountains; flowering-time, the beginning of the wet season; seed ripens in January and February. The wood is so soft and spongy as to be unfit for use. It grows in Behar and in the Siwalik hills, and immense pods 18 in. long and 4 in. broad hang from its branches in its leafless state. In the Tenasserim Provinces it is often seen near the dwellings of the natives; it grows luxuriantly in the cold regions of the Himalaya. The bark and capsules are astringent, and used in tanning and dyeing. The leaves, called Sionak in the Panjab, are used in medicine.

Bignonia quadrilocularis, *Roxb.*

Spathodea Roxburghii, *Spr.* | Wurrus, . . . MAHR.

This large tree is found in the higher hilly places of the Konkan, the higher valleys of the ghats, Circar mountains, Malabar hill, Bombay, Elephanta; and it is very common in Padshapore jungles, in the Southern Mahratta country. It flowers during the beginning of the hot season, and its flower is very beautiful. The wood is strong, tough, durable, and is much used for beams, as planking for carts, and for many purposes, by the natives.

Bignonia stipulata, *Roxb.*

Spathodea stipulata, *Wall.*

Pha bhan, . . AKYAB. | Ma shoay, of MOULMEIN.
Ka-mhoung, . . ,,

The stipuled trumpet-flower tree has a long twisted pod. It is common throughout Tenasserim and at Moulmein. The flowers are often seen in bazars, where they are sold for food. In Akyab the natives make a spirituous liquor from the bark. Dr. M'Clelland describes it as affording a strong, very dense, and most valuable wood for purposes requiring strength, elasticity, and density.

Bignonia suaveolens, *Roxb.*

Stereospermum suav., *W.* | Tecoma suaveolens, *G. Don.*
Paml, Parool, . . BENG. | Bhita padari?. . . SANSK.
Padul, Padal, . . ,, | Krishna vrinta, . ,,
Sammi, Sammu, . HIND. | Patali, Kalagoru, ,,
Parul, ... MAHR. | Kuberakoshi, Padari, TEL.

This middle-sized tree grows in the Dandelle forest above the ghats, in Canara and Sunda. It occurs, though not very common, in Ganjam and Gumsur, where it attains an extreme height of 20 feet, with a circumference of 1½ feet, and the height from the ground to the nearest branch is 12 feet. It is a native of the southern parts of the Coromandel coast, and also occurs in the Dekhan, Sukanuggur, Gorakhpur, the Khiri jungle, Dehra Doon, and Kangra. It has large, dark, dull crimson flowers. Its wood is very similar to that of B. chelonoides, but of a redder hue, elastic, and long-grained, and is used for buggy shafts, plough yokes, etc. The bark is employed medicinally.—*Roxb.; Voigt; Gibson; Beddome.*

Bignonia suberosa, *R.* Indian cork tree.

Millingtonia hortensis, *Linn. fil.*

Neemi Chambeli, HIND. | Akas Nim, . . . HIND.

This is a very handsome tree, common in the gardens of S. India, in Tanjore, Madras, Segaon, and between Ava and Taong Dong. In January the tree is covered with beautiful and fragrant pure white blossoms. It grows with great rapidity, sending out numerous suckers, from which it may be easily raised. It is a good avenue tree. The rough bark peels off in small pieces about once a year, and is deeply cracked and spongy, like an inferior sort of cork. The wood is hard, close-grained, and of a pale yellow colour, not easily worked, flexible, but not fibrous. A cubic foot unseasoned weighs 50 to 52 lbs., and 42 lbs. when seasoned, and its specific gravity is ·672. It is well adapted for furniture and ornamental work.—*Roxb.; Riddell; Beddome; Cleghorn.*

Bignonia undulata, *Roxb.*

Tecoma undulata, *G. Don.*

Bohira Reora, . . HIND. | Khew, ... SIND.
Rukt Reora, . . MAHR. |

A tree with drooping branches like the weeping willow, leaves covered with micaceous scales; flowers in lateral racemes, very large, orange-coloured, and scentless. It is found in the N. parts of Baglan and in Kandesh; is more common in Sind, in some of the valleys of the Pubb hills, and at Shah Bilawul; it occurs in Gujerat, is very common in Marwar and other parts of Rajwara; and in the month of March, when covered with its blossoms, it is splendid. The wood is fine-grained and valuable, having a scent like the walnut leaf. It is reckoned very strong and durable, but from its size is applicable only to small purposes.—*Drs. Roxb., Irvine, Gibson.*

Bignonia xylocarpa, *Roxb.*

Tecoma xylocarpa, *G. Don.*

Ghan seng, . . . CAN. | Vadenkurni maram, TAM.
Khurseng, . . MAHR. |

This large tree grows in all the Madras forests. It is easily distinguished by its peculiar rough pods, two feet or more in length. The wood is never large, is of a brownish yellow colour; very hard, and good if ripe; rather close-grained; takes a good polish, and is used in turnery and in cabinet-making. It also affords an oil, obtained by a simple process of reverse distillation, and said to be of great efficacy in cutaneous affections.—*Drs. Roxb., Wight, M'Clelland, Hooker, Mason, Stewart, Cleg., Riddell, Gibson; Capts. Beddome, Macdonald.*

BIGOTI. GUJ. In Baroach, village lands, undivided.

BIHI. HIND. Seeds of Cydonia vulgaris; quince seed, from Bihi, the quince. There is a 'tursh' or bitter, and 'shirin' or sweet, quince; also a sweetmeat made with quince seeds.

BIHISHTI, HIND., or Saka, ARAB., a water-carrier who conveys it in a skin over his back. The word seems to be derived from Bihisht, the paradise or heaven of the Mahomedans.

BIH RECHNI. HIND. Euphorbia dracunculoides.

BIHU, a somewhat sensual dance by the Miri girls. It resembles the Naga movement. Once a year, the unmarried people of the village live together in a large building, and at the close the couples who suit each other pair off and marry.

BIHULL, the inner bark of Grewia oppositifolia, employed in the Himalaya for making ropes.

BIJ, also Binj, HIND. Seed, any seed, hence Bijwar, seed-corn. Bij band is the Sida cordifolia and Rumex acutus; Kamul bij, Nymphæa alba; Sukka-ki-bij, Cannabis sativa; Bij-gai, Lonicera quinquelocularis. Bij-gah, a scarecrow.

BIJA GANITA and the Lilawate are the best Hindu books on algebra and arithmetic, by Bhaskara Acharya.

BIJAI. HIND. A bull liberated by the Hindus as part of a religious ceremonial. See Brikhotsarg.

BIJALA, surnamed Silpagiri, king of Kalyan in the early part of the 11th century. He was a Jaina, and was assassinated by three of the Vri Saiva sect, at the instigation of his minister Basava.

BIJAPUR, formerly the capital of the Adal Shahi dynasty, which ruled there from A.D. 1501 to A.D. 1660. Yusuf Khan, a son of Murad II. of Anatolia, was purchased, in 1499, at Ahmadabad, for the Bijapur Body Guard. But in 1501 he assumed independence, under the title of Adal Shah. The territories over which this dynasty ruled varied considerably in extent, as the Nizam Shahi of Ahmadnaggur, the Bahmani kings of Beder, the Mahrattas, and Dehli family pressed on them. The successive sovereigns were—

Yusuf Khan, styled Yusuf Adal Shah, .	A.D. 1501
Ismail Adal Shah I., ...	,, 1510
Malloo Adal Shah, ...	,, 1534
Ibrahim Adal Shah I., ...	,, 1535
Ali Adal Shah I., ...	,, 1557
Ibrahim Adal Shah II. (in his reign Chand Sultan was regent), ...	,, 1579
Muhammad Adal Shah, ...	,, 1626
Ali Adal Shah II., ...	,, 1660
Sikandar Adal Shah, ...	,, 1672

The tombs of this family at Gogi and Bijapur are domes on basements. Bijapur was taken by Aurangzeb A.D. 1686, and is now in ruins, only occupied by 12,938 inhabitants. Its splendid mosques, mausoleums, and palaces, although falling into decay, are amongst the grandest architectural works in India. The more conspicuous structures are the tomb of Ibrahim, the Mehtar Mahal, the Jamma Masjid, the tomb of Muhammad Adal Shah. A great brass gun is still on the ramparts of this city, said to have been cast on the 13th December 1585 at Ahmadnaggur, by a European, whom tradition styles Rumi Khan. It weighs 41 tons. Bijapur fell to Aurangzeb after a siege. Although they had an inner fort much stronger than the outer works, the garrison were so much in want of provisions, that they were compelled to surrender about the 15th October 1686. Shirzi Khan concluded the terms through Ghazi-ud-Din, to whom the emperor, agreeably to custom, when he received such proposals through any of his officers, was pleased to assign the nominal honour of the conquest. Bijapur thenceforth ceased to be a capital, and was soon after deserted. The ruins occupy a space of about thirty miles in circumference, and are exceedingly grand. The great Mahomedan historian Ferishta is supposed to have died here, during a pestilence that swept away a multitude of the people, but this is uncertain. A Buddhist or Jaina temple, under ground, the several beautiful mosques and mausolea, and the huge gun on the ramparts, into which a full-grown man can creep, all merit attention.—*Briggs' Nizam.*

BIJAR. HIND. Stiff clay soil, lying low, chiefly sown with rice only; occasionally with grain also. Bija Sal, also Bija Sar, HIND., Pterocarpus marsupium.

BIJARA SALA. SANSK. Marking nut.

BIJAYANAGAR, also written Vijianagar, said to be properly Vidia-nagar, or the town of learning, was founded, according to one account, by two fugitives from Telingana; according to Prinsep, in 1338, by Bilal Deo of Karnata, who resisted Mahomed Toghalak, and founded Vijianagar. In 1347, Krishna Rai ruled there; in 1425, Deva Rai; in 1478, Siva Rai. The sovereigns claimed to be of the Yadu race. Towards the 15th century it was the capital of a great Hindu power, which ruled over the Hindu chiefs to the south and south-east of the territories of the Adal Shahi, Nizam Shahi, and Kutub Shahi, kings of their Dekhan; and what is now called the Ceded Districts of British India formed the chief part of their dominion. Their capital was successively at Bijanagar on the Tumbudra, at Pennaconda, and Chandragiri. The rajas long maintained their place among the powers of the Dekhan, but in A.D. 1565 four Mahomedan rulers formed a league against Ram Raj, and a great battle took place (A.D. 25th January 1565, A.H. 20 Jamadi us Sani 972) near Talli-cotta, on the Kistna, at which the venerable raja, then 70 years of age, was taken prisoner, and put to death in cold blood. His army numbered 70,000 horse, 90,000 foot, 2000 elephants, and 1000 heavy cannon. Writing towards the middle of the 19th century, Elphinstone says his head was kept till lately at Bijapur as a trophy. This battle destroyed the monarchy of Vijianagar, but added little to the territories of the victors, their mutual jealousies preventing them extending their frontiers, and the country fell into the hands of petty chiefs or insurgent officers of the old government, since known to the British as zamindars or poligars. The brother of the raja removed his residence further east, and finally settled at Chandragiri, 70 miles N.W. of Madras, at which last place his descendant first granted a settlement to the English in A.D. 1640. The ruins of Bijanagar are now known as those of Humpi, and those at Chandragiri are extensive and remarkable.—*Elphinstone*, p. 416.

BIJION. BURM. In Amherst, a timber used for house posts, rafters. It is a heavy, compact, grey, close-grained wood.—*Captain Dance.*

BIJNOUR or Bijnaur, a town which gives its name to a district in the N.W. Provinces of India. The town is in lat. 29° 22′ 36″ N., and long. 78° 10′ 32″ E., with a population of 12,865 souls. The district has an area of 1902 square miles, and a population of 737,153 souls. Of these, 243,455 were Mahomedans.

BIJOLI. The rao of Bijoli is one of the sixteen superior nobles of the rana of Mewar's court. He is a Pramara of the ancient stock of Dhar. There is an ancient inscription at Bijoli. See Lat.

BIJUCO, a fibre exhibited from Manilla in the Exhibition of 1851. Its source was not known.

BIJUK. BENG. Citrus medica, citron.

BIKANIR, long. 73° 22′ E., lat. 27° 56′ N., is the chief town of a sovereignty, chiefly in the great Indian desert, which has an area of 17,676 square miles. The population was estimated by Tod in the beginning of the 19th century at about 539,000, and the revenue at about six lakhs of rupees. In 1874, Major Powlett estimated the population at 300,000. The ruling family are of the Rahtor tribe of Rajputs, who have held sway there since 1439. Bikanir maintains a force of 2100 cavalry, and about 1000 infantry and 30 guns. Bikanir was originally inhabited by various small tribes of Jats and others, the quarrels among whom led to the conquest of the country in 1458 by Bika Singh, a son of raja Jodh Singh of Jodhpur. After consolidating his power, he conquered Bagore from the Bhattee of Jeysulmir, and founded the city

of Bikanir; he died in A.D. 1505. Rai Singh, the fourth in descent from Bika Singh, succeeded to power in 1573, and in his time the connection of Bikanir with the Dehli emperors began. Rai Singh became a leader of horse in Akbar's service, and received a grant of 52 parganas, including Hansi and Hissar. The earliest treaty with the British Government was in 1801. Sirdar Singh succeeded to power in 1852. He did good service during the mutinies, both by sheltering European fugitives, and by co-operating against the rebels in the districts of Hansi and Hissar. He received a salute of 17 guns and the right of adoption. The Oswal and the Mahesri Rajputs form the chief part of the population; the Sewak are servants of the temples. On the side of the tank where the dead are burned are the cenotaphs of twelve chiefs. The wells at the city are 300 feet deep. The territory was once populous and wealthy; but the plundering Beedawat bands, with the Sahrai, the Khasa, and Rajur robbers in the more western desert, so destroyed the kingdom, that while formerly there were 2700 towns and villages in Colonel Tod's time, not one-half of these remained. Three-fourths of the population are the aboriginal Jit, the rest are their conquerors, —the descendants of Bika, including Sarsote (Saraswati) Brahmans, Charans, Bards, and a few of the servile classes. A list is given of 37 fiefs, the chieftains, retainers of Bikanir, holding 43,572 foot and 5402 horse.—*Tod's Rajasthan*, i. p. 240, ii. p. 98; *Prinsep's Antiquities*, p. 259; *Aitcheson's Treaties*, iv. p. 147; *Elphinstone's Caubul*, p. 10.

BIKAS. HIND. A grass of N. India, growing in low ground, with stem and leaves larger than the Dub grass.

BIKH, Bikhma, Bikya, Bish, Vish, Visha, and Ati visha, HIND., are names of a powerful vegetable poison. Dr. Wallich refers the plant to the Aconitum ferox; it seems, however, to be the roots of several aconites, for Dr. Hooker, in one part of his journal, mentions that he met with A. palmatum, which yields one of the celebrated Bikh poisons. All the Sikkim kinds are called gniong by the Lepcha and Bhotia, who do not distinguish them. The A. napellus, he says, is abundant in the north-west Himalaya, and is perhaps as virulent a Bikh as any species. At another place he mentions that magnificent gentians grow in the Lachoong valley, also Senecio, Corydalis, and the Aconitum luridum, a new species, whose root is said to be as virulent as A. ferox and A. napellus. The result, however, of Drs. Thomson and Hooker's examination of the Himalayan aconites (of which there are seven species), is that the one generally known as A. ferox, and which supplies a great deal of the celebrated poison, is the common A. napellus of Europe. Bikhmaura is also a name for A. ferox.—*Wall.; Hooker's Jour.* i. p. 168, and ii. p. 108; *Engl. Cyc.* p. 455. See Aconitum.

BIKKI. TEL. Gardenia latifolia.

BIKRAMPUR, an ancient town in the Dacca district of Bengal, equal to Nadya as a seat of learning; for several hundred years, from the time of Vikramaditya until taken by the Mahomedans, it was a seat of government under the Hindu rulers of Bengal. There is a mound near; and near the site of the palace is a deep excavation called Agnikunda, in which it is said the last native prince with all his family burned themselves on the approach of the Mahomedans.—*Imp. Gaz.*

BIKWAN and Bhanguria are branches of the Gaur taga.

BILA, a Negro race occupying the southern part of the Malay Peninsula, along with the Simang, in the provinces of Quedah, Perak, Pahang, and Tringanu.

BILADURI, or Al Biladuri, author of the books Fatah ul Baldan, or the Conquest of Sind, Syria, Mesopotamia, Egypt, Persia, Spain; and the Kitab-ul-Baldan, a cosmographic work. His name was Ahmad bin Yahya bin Jahir, surnamed also Abu Jafar and Abu Hasan. He lived at Baghdad, and died A.D. 892–3, A.H. 279. He was called Biladuri, from being addicted to the use of an intoxicating electuary made with the Malacca bean of the Anacardium occidentale.

BILAI KAND. HIND. Pueraria tuberosa.

BILASPUR of the Central Provinces forms the northern section of that tract of country which is usually known as the Chhattisgarh plateau. It is situated between lat. 21° 45′ and 23° 10′ N., and long. 81° 30′ and 83° 15′ E. It was long held by the Hai-hya Bansi Rajputs, but was overrun by the Mahrattas early in the eighteenth century. The district contained a population of 715,398 in 1872, amongst whom the chief divisions are:—

IMMIGRANTS, 598,268.		Banya, ...	4,873
Chamar, ...	164,388	Other Hindus, . .	133,833
Panka, ...	72,972	Mahomedans, . .	9,041
Ahir or Raut, . .	66,574	PRIOR RACES, 173,194.	
Teli, ...	51,679	Gond, ...	120,159
Kurmi, ...	39,843	Kanwar, ...	30,436
Mali, ...	25,145	Bhumia, ...	2,264
Brahman, . . .	17,167	Binjwar, . . .	7,009
Bairagi, ...	11,092	Dhanwar, . . .	3,988
Rajput, ...	10,702	Other non-Hindus,	9,338

BILATEE or Bilati. BENG. An alteration of the Persian word Vālāyăti, meaning foreign, exotic.

Bilati Ananas, Fourcroya cantala.
,, Amra, Spondias dulcis.
,, Aloo, potato, Solanum tuberosum.
,, Amlee, Garcinia pictoria.
,, Pita-silli, common parsley.
,, Bagoon, tomato or love-apple.
,, Mehndee, myrtle, Myrtus communis.

BILAURI. HIND. Polygonum bistorta.

BILBA, a nomade tribe in Lahijan in Persian Azarbijan, who roam about the frontiers of Persia and Turkey. They are the most predatory, turbulent, and treacherous of all the border tribes of Kurdistan, and have been ruthlessly hunted down by other tribes. They number about 5000 families, in three divisions,—Piran, Mengur, and Marnish.

BILDI. HIND. Pharbitis nil.

BILIGIRI RANGAN, a range of hills in the east of the Yelandur Jaghir in Mysore. The only inhabitants are the wild Soligar.

BILIMBI. MALAY. Averrhoa bilimbi, and A. carambola.

BILIN. HIND. Feronia elephantum.

BILITSHI. HIND. Ribes nubicola, R. glacialis, and R. glossularia; currant and gooseberry.

BILKHARIA. HIND. A tribe of Rajputs of the Bachgoti Chaipan stock, so named from Bilkhar in Oudh.—*Wilson's Gloss.*

BILLA GANNERU. TEL. Vinca rosea.

BILLA ILEI. CAN. Gerbillus Indicus.

BILLAIN-LENA. HIND. A deprecatory custom in India amongst Mahomedan women. A woman

sweeps her open hands along the outline of the body of another person from the head downwards, then presses the backs of her fingers against her own temples. The ceremony is intended to represent that the performer takes on herself all the evils that may befall the other.

BILLA JUVVI, Erra Juvvi, and Nandireka. TEL. Ficus nitida, *Thunb.* Dr. Wight considers this to be the same as F. Benjamina, *L.*

BILLAPA. TEL. Trichilostylis globulosa. *Nees.*

BILLA SOORGUM, a town in the Ceded Districts of India, where there are caves containing osseous breccia and deposits, described by Lieut. Newbold.

BILLAWAR. CAN. A wood of Mysore. It has great toughness or elasticity, makes handsome furniture resembling walnut, and is much used for the framework of carriages, for felloes and spokes of wheels.

BILLAWAR, a race in Canara engaged in collecting palm toddy.

BILLICUL, a small natural lake near Segoor on the Neilgherries, 5700 feet above the sea.

BILLI LOTAN. SANS. Valerian; also a species of Melissa or Nepeta ruderalis. The words mean cat-rolling, from the circumstance that cats roll amongst these plants.

BILLU KARRA, also Billudu chettu. TEL. Satin wood, Chloroxylon Swietenia, *D.C.* Karra in Telugu means wood, Chettu, a tree.

BIL-LUTA. BENG. Pogostemon plectranthoides. Bil-nalita, Corchorus fascicularis.

BILODAR or Biddoja. HIND. Falconeria insignis.

BIL-PAT. BENG. Lochennia corchorifolia.

BIL-RAI. BENG. Sinapis patens.

BILU, Burmese Buddhist myths, the equivalents of the Hindu Rakshasa. They are generally, however, described as engaged in some humorous mischief.—*Yule's Embassy*, p. 27.

BILU. MAHR. Waste land, or uncultivated land, viz. the Gaothan or village site; Gaoran, free grazing ground; Turmandi, the cattle standing-place; Hulabamu, grass land.

BILVA or Bilvamu. SANSK. Ægle marmelos. It is sacred to Mahadeva; he alone wears a chaplet of its flowers, and they are not offered in sacrifice to any other deity. If a pious saiva Hindu should see any of its flowers fallen on the ground, he would remove them reverently to a temple.

BILVA-TITHA. CAN. Feronia elephantum.

BIMA, one of three races speaking distinct languages current in the island of Sumbawa. Their alphabet, once distinct, has been displaced by that of the Celebes. See India.

BIMAK KABULI. HIND. Myrsine Africana.

BIMB or Vimba. SANSK. Bryonia grandis.

BIMB of Abyssinia. Bruce thought that this might be the insect which is alluded to in Scripture as the plague of flies. See Tsal-tsal; Tse-Tse.

BIMBA, a race who occupy the rugged mountains of, and along with, the Kukha. They were under Sikh rule, but are shiah Mahomedans.

BIMBASARA, king of Magadha, B.C. 578, reigned 52 years. He was first of the house of Bhattya, and was murdered by his successor,—this dynasty, from B.C. 578 to B.C. 447, in succession being parricides. See Bhattya; Vindusara.

BIMLIPATAM, a seaport town, in long. 83° 29′ E., and lat. 17° 53′ N. It has an open roadstead with a small river. It is 15 miles N. of Vizagapatam, on the eastern side of the Peninsula of India. The Dutch had a factory there, which was plundered by the Mahrattas in 1754.

BIMRA of Chenab, Vitex negundo.

BIN. BURM. A tree; Cannabis sativa.

BINA or Vina. HIND. A lyre; also Andropogon muricatum. In Bengal, Avicennia tomentosa; in Borneo, Antiaris toxicaria.

BINAULA. Seed of the cotton plant. Binahar, HIND., cotton-gatherer.

BINAURIA. HIND. A plant of N. India, given as fodder to horned cattle.

BIN BHANTA. SANSK. Solanum melongena.

BIN-BHINSA. HIND. The jungle sheep or four-horned antelope, Tetraceros quadricornis.

BINDA. TEL. Abelmoschus esculentus.

BINDA, Chaing or Chain, fishermen, boatmen, and general labourers.

BINDAHARA, at a native Malay court, the treasurer.

BINDAK, also Findak. HIND. Corylus avellana, hazel nut.

BINDAL. HIND. Momordica echinata.

BINDH MADHU, a great temple at Benares, described by Tavernier 1680, but destroyed by the emperor Aurangzeb. It was in the form of a St. Andrew's cross.

BINDIYACHAL hills, in Bundelkhand, commencing near Seundah, long. 26° 14′ E., lat. 78° 50′ N.; proceeds S.W. to Narwar, 25° 39′, 77° 52′; S.E. to 24° 12′; N.E. to Ajegarh, 24° 53′, 80° 20′, and Kullinjar in the same vicinity; and E. to Barghar, 25° 10′, 81° 36′. None are more than 2000 feet; the average between the Tura and Kuttra passes, about 520 feet. The Tons falls over the brow by a cascade of 200 feet; Bilohi, 398 feet; and Bonti, 400 feet.

BINDLIGAR. HIND. Maker of tinsel ornaments.

BINDRABAN or Vrindawan, signifying a grove of Tulsi trees, is a holy Hindu town situated on the right bank of the river Jumna. The circumstance which imparts most to its sacred character, is its having been the site of the early revels of Krishna, the Apollo of the Hindus, Muttra having been his birthplace. Many a Hindu Anacreon courts the muses with lays dedicated to this youth, prominent in Hindu mythology, and minstrels and maids join in soft strains to his praise. Bindraban is now noted for the manufacture of pretty toys, made of a composition that may be mistaken for mineral. Indeed, the vendors pass them off as such, and, to enhance their value, declare that they are brought from Jeypore, where articles of this description, and marble toys especially, receive a fine finish. The Valabbacharya sect of the vaishnava Hindu have many hundreds of their temples at Mathura and Bindraban. At Benares and Bindraban, the annual dances, constituting the Ras Yatra, in commemoration of Krishna and the sixteen Gopi, are performed with much display.—*Tour of India by French*, 214. See Ras Yatra; Rudra Sampradayi.

BINDU, a perfect jogi, and teacher of yoga practices.

BINDUNI, a small tribe amongst the Bakhtiari, who are believed by the latter to be prior settlers.

BINDU-SAROVARA, a lake from which the

Ganges issues, also called Lake Mansaravara. It is fabled to be formed by drops of water falling from Mahadeva's hair.

BINEPATTA, in Coorg, a race of Malabar who personate demons at festivals.

BINGHAR BIJ. HIND. Asphodelus fistulosus.

BINGU. PANJ. Celtis Caucasica.

BINJAI. MALAY. Mangifera cæsia, *Jack.*

BINJI DOAR, a tract of country in the N.E. frontier of India, towards Bhutan, in long. 91° E. The language spoken thence to the Kuriapera Doar, in long. 92° E., is a dialect of the Buteah or Tibet. It is occupied by the Changlo race, a word which means black. See Bhutan.

BIN-JOGI, a pipe used by snake-charmers.

BINJWAR, a tribe who speak a dialect of Hindi, and generally observe Hindu customs, but the manes of their forefathers appear to be their chief worship; they live in a very wild state, subsisting principally by hunting. The Byga of the Mundla district are nearly connected with them.—*Dalton, Ethnol.* 148.

BIN-KUK. ARAB. Armeniaca vulgaris, *Lam.*

BINLANG are stones worshipped as emblems of Siva. They are formed at Muheswur, in the Nerbadda, where a whirlpool occurs, and rounds and polishes fallen stones into the form of a lingam. See Hindu; Siva.

BINNA. HIND. Vitex negundo.

BIN NELLI. SINGH. Phyllanthus urinaria.

BINNUGE, according to Thunberg, is the name given by the Singhalese to a species of Ipecacuanha. There are two kinds, one called Elle Binnuge; the other, which is red, is called Rat Binnuge. The red is reported to be the better. Both are species of Periploca, both creep or twine round the bushes which grow on the sandy downs.—*Thunberg's Trs.* iv. p. 186.

BINSIN. HIND. Myrsine Africana.

BINT. ARAB. A daughter, a girl. In Egypt, every woman expects to be addressed as 'O lady,' 'O female pilgrim,' 'O bride,' or 'Ya bint!' (O daughter). In Arabia you may say, 'Y'al mara!' (O woman); but if you attempt it near the Nile, the answer of the offended fair one will be, 'May Allah cut out thy heart!' or, 'The *woman*, please Allah, in thine eye!' And if you want a violent quarrel, 'Y'al aguz!' (O old man), pronounced drawlingly,—'Y'al ago-o-ooz,'—is sure to satisfy you. In India, 'Ho-ma' (O mother) is a usual and acceptable exclamation; and Amma, or the Ma-Sahiba or lady mother, are terms which the highest in the land would accept. On the plains of Torrento, it was always customary, when speaking to a peasant girl, to call her 'Bella fé' (Beautiful woman), whilst the worst of insults was 'Vecchiarella.' So the Spanish calesero, under the most trying circumstances, calls his mule 'Vieja, ravieja' (Old woman, very old woman).—*Burton's Mecca*, i. p. 121.

BINTANGOR, a wood of the Malay Peninsula, in great abundance around Singapore. It is used in ship-building, serving for planks, masts, spars, etc., and is exported in large quantities to the Mauritius, California, etc. For masts and yards, the wood preferred is the red bintangor of Sumatra. It is a species of Uvaria or Calophyllum, which, in all the maritime ports of India, has obtained the name of poona or puhn, from the Malayan word signifying tree in general; as puhn upas, the poison tree, puhn kayu, a timber tree, etc., the source of the commercial term for the poona or peon spars.—*Exh. of* 1851.

BINTENNE, a town in Ceylon where hot springs occur. See Hot Springs.

BINTULU, a river of Borneo, on the banks of which the Kyans dwell. See Kyans.

BINTUNGAN wood of Java is employed in the same manner as Wadang, but grows to a larger size; the colour of the wood and bark is red.

BINUA. The Jakun, Orang Bukit, Rayet Utan, Sakai, Halas, Belandas, Besisik, and Akkye are regarded by Newbold (ii. 382) merely as divisions of Orang Binua, people of the country. Malays term them Orang Utan, men of the forest; Orang Darat Liar, wild men of the interior; and Orang-ulu, people of the upper part of the river, etc.,—epithets which they consider offensive. The Binua people occupy the rivers Johore (the Lingiu and the Sayong), Binut Pontian, Batu, Pahator, Rio, Formosa (the Simpang, Kiri, Pau, and Simrong, with their numerous affluents), and Indau (the Anak Indau, Simrong, and Made), with the country watered by them, and by means of these rivers a constant communication is maintained between the families of the Binua on the two sides of the Peninsula. The boundary between Pahang and Johore intersects the country of the Binua, the whole of the Anak Indau, and the lower part of the Simrong being in Pahang, and all the other rivers, including the Made, on which they are found, appertaining to Johore. The authority of the Bindahara and the Tamunggong is little more than nominal. The Binua are divided into tribes, each under an elder, termed the Batin. The Jakun are extremely proud, and will not submit, for any length of time, to servile offices or to much control. The Binua or Sakai language of Pera appears to resemble, in its phonetic character, the ruder dialects of the Burman group. This character is intermediate between that of the Simang on the one side, and that of the ruder Sumatran, Javan, and Borneon, on the other. The Johor Binua is more guttural, aspirate, and harsh, remarkably broad and slow.

In the Binua, the cheek-bones are broad in all directions, and prominent, giving to the face, below the base of the forehead, a marked lateral development beyond it, or to the forehead an appearance of being compressed. The lower jaw is massive, spreads out and does not rise rapidly, thus producing an obtuse chin, and the anterior maxillary projection considerable.

The lofty Gunong Bermun, nearly 100 miles to the north of the Lulumut group, with the mountains which adjoin it, may be considered the central highlands of many tribes. In the ravines and valleys of Gunong Bermun, two of the largest rivers of the Peninsula, the Pahang and the Muar, with their numerous upper tributaries, have their source. The Simujong, which unites with the Lingi, also rises there.

The upper part of these rivers, and many of their feeders, are occupied by five tribes, differing somewhat in civilisation and language. The Udai (who appear to be the same people who are known to the Binua of Johore under the name of Orang Pago) are found on some of the tributaries of the Muar, as the Segamet, Palungan, and Kapi, and in the vicinity of Gunong Ledang. This tribe has less approximated to Malayan habits than the

others. The Jakun partially frequent the same territory, the lower part of Palungan, Gappam, etc., and extend northwards and north-westwards within the British boundaries.

Many of the Mintira around Gunong Bermun wear the bark of the tirap, the men using the chawat, and the women a piece of rude cloth, formed by simply beating the bark, which they wrap round their persons, and which, like the sarong of the Johore women, reaches only from the waist to the knees. The Udai women wear the chawat like the men. The Bermun tribes believe in Pirman as a being who made the world. He dwells above the sky. Each tree has a jin, and the Jin Bhumi haunts the rivers and mountains, causes sickness and death. There is no religious worship, but recourse is had in sickness to a Poyang, who combines the functions of priest, physician, and sorcerer. The Poyang and Pawang of the Bermun tribes, the Poyang of the Binua, the Batta, the Dyak, and Dato, and the Si Basso of the Batta, are all the shaman, priest, wazir, physician, in different shapes.—*Journal Indian Archipelago*, 1847; *Newbold, British Settlements*, ii. p. 392.

BIOPHYTUM SENSITIVUM. *D. C.* Syn. Oxalis sensitiva. A plant of the Moluccas and of both the Peninsulas of India.—*Roxb.; Voigt.*

BIR or Vir, a man, the Latin vir. Birbani is the term amongst the Jat for a man's own wife; a femme couverte. Birbhum, said to mean the land of heroes.

BIR, a town on the left bank of the Euphrates, in the pashalik of Orfa, with 1700 houses. Caravans and travellers from Aleppo to Orfa, Darkokr, Baghdad, and Persia, cross the river here.

BIR or Ber. ARAB. A cistern to hold rain-water. Jacob's well, Bir Yakub, or Bir-us-Samariah, is 9 feet broad, and more than 70 feet deep. In 1855 it still had a stone over its mouth, as in John iv.

BIR, a village in the Kangra district of the Panjab, with valuable magnetic iron ore, from which iron is manufactured.

BIRA or Beri. HIND. Small pieces of areca nut, spice, catechu, and sometimes a little quicklime, rolled up in a leaf of the piper betel. It is used as a masticatory, an aromatic, astringent, and alkalescent condiment. It is presented to visitors on their leaving.—*W.*

BIRA. TEL. Elæodendron Roxburghii, *W. and A.*

BIRA. HIND. Zizyphus nummularia.

BIRA KAYA. TEL. Luffa fœtida, *W.*

BIRAMDANDI. HIND. Microlonchus divaricata.

BIRBA. HIND. Terminalia bellerica.

BIRBAL. Raja Birbal, a general of the emperor Akbar, who placed confidence in him. He failed in an expedition against the Yuzufzai Afghan, and was killed in the destruction of the army in January 1586. His companionable qualities endeared him to the emperor, but he was a man of solid merit, and of very lively conversation, and many of his witty sayings are still current in India. A small but richly-ornamented house is pointed out to have been the residence of Birbal in Futtehpur Sicri.—*Tr. Hind.* ii. p. 9; *Elphinstone*, p. 455.

BIRBAT. SANSK. Coral.

BIRBAT. SANSK. Areca nut, with spices.

BIRBHAN, the founder of the Sad'h or Sad'hu, a Hindu unitarian sect, who are chiefly in the upper part of the doab from Farrakhabad to beyond Dehli. In 1868 there were 9923 in Oudh. According to Mr. Trant, the sect originated about A.D. 1658, with a person named Birbhan, an inhabitant of Brijhasir, near Narnal, in the province of Dehli. He is said to have been taught by Udaya Das, or Uda-ka-Das (the servant of the one God), who was also known as the Mālik-ka-Hukm, the command of the Creator, meaning the personified word of God. Birbhan has also been said to be a disciple of Jogi Das.

The essence of the Sad'h doctrines is embodied in the Adi-Upa-des, a tract with twelve commandments—(1) to acknowledge one God; (2) to be modest and humble; (3) not to lie; (4) nor malign; (5) nor steal; (6) nor kill; (7) nor beg; (8) nor covet; (9) to avoid narcotics; (10) be monogamic; (11) wear white clothes; and (12) make no marks on their bodies. Their doctrines are evidently derived from the unitarianism of Kabir, Nanak, and similar writers, with a slight graft from the principles of the Hebrew code. They have no temples. Birbhan preached a really pure and excellent ethical code, making truth, temperance, and mercy the cardinal virtues, but retaining many of the doctrines of Hinduism, such as that of Mukti, which is the tenet considering the ultimate object of all devotion to be liberation from life on earth.—*H. Wilson*, p. 353; *Oudh Census*, 1868.

BIRBHUM, a district in the Bengal Presidency, between lat. 23° 33′ and 24° 9′ N., and long. 87° 7½′ and 88° 4′ 15″ E., with an area of 1344 square miles, and in 1872 a population of 696,943. Its name is said to mean the land of heroes, but the Santal Parganas are on the north, and in their tongue Vir means jungle. The aboriginal races, Bagdi, Chamar, Muchi, Dom, Bauri, number 197,423. Its former chief town is Nagar or Rajnagar, now in decay. Near Deoghur or Byjnath is a small town in the zillah of Birbhum, famous for its temples, visited every year by thousands of pilgrims from the North-West Provinces of India. It is situated in the great table-land which extends from near Bardwan to Dunwa Ghat in Behar. Granite, syenite, and gneiss, traversed by greenstone veins, are the prevailing rocks; copper, lead, and iron ores. The vein of copper at the surface runs east and west; is partly in the form of green carbonate. Veins of lead ore, in the state of galena or sulphuret, traverse the principal vein at right angles. The nearest coal is forty miles off.

BIRCH TREE. Betula, *sp.*

Tag-pa, ... BHOT. | B'hurjia, . GR., SANSK.

Birch trees are found in the N.W. Himalaya, and in Japan. The birch, tagpa, of the Chenab river is usually a crooked and stunted tree, but sometimes exceeds one foot in diameter. The annual bridges over the mountain torrents are made of birch twigs. The thin white bark of the Betula bhojputra occurs in sheets or pieces, which can be peeled off. It is used to make umbrellas, and for writing on in lieu of paper. A species of birch of China, the Hwa-muh (bark, Hwa-muh-pi), is used in the saddler, shoemaker, cutler, and candle-maker's trades. See Betula.

BIRD CHERRY. Cerasus, *species.*

BIRD-EYE PEPPER, Capsicum baccatum.

BIRD FEATHERS, from the cranes and king-

fishers, form a considerable article of trade in Southern Asia. The feathers of a large green kingfisher are exported from Madras to Singapore, to be used by the Malays, Javanese, and Chinese. They sell there at 200 per cent. profit.

BIRD FISH, Hemiramphus argenteus.

BIRD ISLAND, called by the Malays Pulo Manok, lies midway between Ceram and the Serwatty group, in the Eastern Archipelago. It is a high solitary mountain with a truncated cone, inhabited by myriads of birds, and natives resort to the island to collect the eggs. Sulphur also occurs on the island.—*Horsburgh.* See Keffing.

BIRD, JAMES, of the Bombay Medical Service, in which he rose to be a Member of the Medical Board. He wrote an Analysis of the Murat-i-Ahmadi, a history of Gujerat, in Lond. As. Trans. 1833, i. p. 117; Biographical Sketch of Capt. M'Murdo, ibid. 123; Memoir on the Country from Poona to Kittoor, ibid. ii. p. 65; Account of the Ruined City of Bijapur, Bom. As. Trans. i. p. 367; Translation of Cufic Inscriptions from Southern Arabia, ibid. 239; Translation of Inscriptions at Burra and Bajah, ibid. 438; Introductory Notice to the History of Sind, ibid. 402; Biographical Notice of Arabic and Persian Library at Cutch Bhooj, ibid.; On Bactrian, Hindu, and Roman Coins in the Bombay Collection, ibid. 293; Account of Temple of Somnath, from the Persian, ibid. ii. p. 13; On the Christian Faith in Arabia, and Himyaritic Inscriptions from Aden and Saba, ibid. 30; Hindu Gold Coins, and Zodiac Coins of Jahangir, ibid. 55; On the Æthiopic Family of Languages in Eastern Africa, ibid. 294; Memoir of General Kennedy, ibid. 417; Historical Geography of Hindustan, and on the Origin of the Social State among the Hindus, Bl. As. Trans. 1840, ix. p. 848; Account of the City of Balkh and its Neighbourhood, extracted from Persian Authorities, Bom. Geo. Trans. ii. p. 60; Illustrations of the Arab and Persian Geographers, or the Geography of the Middle Ages, ibid. 58; Historical Researches on the Origin and Principles of the Buddha and Jaina Religions, with Accounts of the Caves of Western India, Bombay 1847, folio.—*Dr. Buist's Catalogue.*

BIRD-LIME.

Kilut; gatap, .	MALAY.	Pissini, ...	TAM.
Ptits-chei-Klei, .	,,	Banka, ...	TEL.

The substances known in Europe under this name are the viscid juices of several trees. One is prepared in Europe from the middle bark of the holly, by boiling it seven or eight hours in water, then laid in heaps on the moist ground to ferment, with stones over it, to press it down till it passes into a mucilaginous state, then pounded, washed and kneaded till free from extraneous matter, and kept for four days in pots to ferment and purify itself, when it is fit for use. In Southern India it is obtained from the Palay, the Isonandra acuminata. The best is prepared from the outer covering of the fruit and tender twigs and bark of the jack tree, but several of the Artocarpi yield it. —*Rohde; Tom.*

BIRD NESTS.

G'ne-ta-thay, . .	BURM.	Ababil-ka-ghoslah, ...	HIND.
Yen-wo, . . .	CHIN.	Nidi-di-Tunchino, .	IT.
Indianische-vogelnestjes, . . .	DUT.	Susuh, ...	JAV.
Nids de Tunquin, .	FR.	Sarang-burong, .	MAL.
Indianische-vogelnester, ...	GER.	Nidos de la China, .	SP.

The edible birds' nests of Southern and Eastern Asia are perhaps obtained from more than one species of swallow, but one of them seems to be the Collocalia nidifica, C. brevirostris, *M'Clelland*, of Java, and other islands of the Eastern Archipelago, the Assam hills, the Sikkim Himalaya, Neilgherries, Wynad, Ceylon, the western coast of India, at Pigeon Island S. of Honore, the Vingorla rocks, and at Sacrifice Rock, 20 miles S. of Tellicherry. Dr. Jerdon says that the best nests are from the Collocalia linchi (C. fuciphaga), which builds in the Nicobar Islands, and along the east coast of the Bay of Bengal from Arakan southwards to Java; but several other species of Collocalia occur in the islands of the Eastern Archipelago, as far as New Guinea, one in the Mauritius, and one in the islands of the Pacific. The nests are collected all over the Malay and Philippine Archipelagos, on the Malabar coast and the Tenasserim provinces, wherever there are caves to afford the birds shelter and protection. The caves are most frequent in the limestone formation, but Java and Borneo seem to be the birds' chief resort. The celebrated caves of Karang-bolong (hollow-rocks) are situated in the province of Baglen in Java, and on the shore of the southern sea. The entrance is at the sea level, and at the foot of limestone rocks several hundred feet in height. One place has 200 feet of perpendicular descent before coming to the first ledge. The mouths of the caves are about 18 feet broad and 30 high, while, within, they expand to breadths of from 60 to 114 feet, and to heights of from 420 to 480, the sea penetrating them to the extent of one-fourth of their length, and in rough weather rendering them inaccessible. The descent of the collectors to the caves is effected by narrow rattan ladders, usually about 74 feet in length, attached at top to a stout tree. Within the caves are bamboo scaffoldings erected in order to reach the nests, which are detached from the sides by the hand, and from the roof by hooks attached to long poles. There are three periods for making the collection, April, August, and December. The nest-gatherers are bred to their dangerous calling, and before the commencement of the first gathering, plays are acted in masks, and there is feasting on the flesh of buffaloes and goats, to invoke the aid of the 'lady queen of the south' (Nai ratu kidul), an imaginary being, without whose tutelary aid the work of robbing the nests would not, as they think, prosper. After the crop has been taken, the caves are closed against human ingress. The whole annual gathering, which is effected at little cost, amounts to from 50 to 60 pikuls yearly, or, on an average, to 7370 lbs., worth at Batavia about £18,000. On the N.W. side of Borneo, and not far from the banks of the river Baram, birds' nest caves are found 140 miles from the sea, by the course of the river. They consist of three chambers, one of which is reckoned to be no less than 200 fathoms in length. These are the property of the powerful Kayan tribe, and, like those of Karang-bolong, are carefully guarded.

The nests used by the Chinese are brought principally from Java and Sumatra. Nests are composed of a mucilaginous substance, and it has been supposed by some that the Gelidium corneum enters into their composition, but it is more probable that they are formed by mucus

eliminated from the stomach of the swallow. Externally they resemble ill-concocted fibrous isinglass, and are of a white colour, inclining to red; their thickness is little more than that of a silver spoon, and their weight from a quarter to half an ounce. When dry, they are brittle and wrinkled, little larger than a goose egg. Those that are dry, white and clean, are the most valuable. They are packed in bundles, with split rattans run through them to preserve their shape. If procured before the eggs are laid, the nests are of the best kind; if they contain eggs only, they are still valuable; but if the young are in the nests or have left them, they are nearly worthless, being dark-coloured, streaked with blood, and intermixed with feathers and dirt. The best are found in deep, damp caves, which, if not injured, will continue to produce indefinitely. Some of the most profitable caves are 50 miles in the interior. Everywhere the method of procuring these nests somewhat resembles that of catching birds in the Orkney Isles. After they are obtained, they are separated from feathers and dirt, are carefully dried and packed, and are then ready for the consumer. The Chinese are the only purchasers, and carry them in junks to the Chinese market, where they command extravagant prices; the best, or white kind, often being worth 1800 dols. per pikul of 133⅓ lbs. avoir., which is nearly twice their weight in silver. The middling kind is worth from 1200 to 1800 dollars, and the worst, or those procured after fledging, 150 or 200 dollars per pikul; according to these three qualities, the duty is levied. 8½ millions of nests are annually imported into Canton. Latterly nests of first quality fetch £5 to £6 the pound; those of the second quality, 9s. 4½d.; and the third sort, only 3s. 1d. The most part of the best kind is sent to Pekin for the use of the court. The Japanese do not use them. The Chinese consider the birds' nests as a great stimulant and tonic, but other gelatinous food would be equally serviceable. To render it fit for the table, every feather, stick, or impurity of any kind is carefully removed; and then, after undergoing many washings and preparations, it is stewed into a soft, mucilaginous jelly. The sale of birds' nests is a monopoly with all the governments in whose dominions they are found. Crawfurd estimated that about 243,000 pounds, at value of 1,263,570 dollars, are annually sent away from the Archipelago, mostly to China. Java alone sent about 27,000 pounds, mostly of the first quality, estimated at 60,000 dollars.

A few birds' nests of the esculent swallow are to be got from a rocky island about 20 miles south of Tellicherry, named Sacrifice Rock. The only preparation the birds' nests undergo is that of simple drying, without direct exposure to the sun, after which they are packed in small boxes. The edible-nest swallows are numerous in the limestone caves on the islets and islands on the Tavoy coast; and the government revenue from the bird nest farm in 1847 was nearly Rs. 11,000; but in 1849 it fell to less than Rs. 7000. At Mergui they are not so numerous. The Japanese powder the agar-agar seaweed, boil it to a jelly, and make artificial nests, called Dschin-schan, which they export to China.—*Crawfurd's Dic.* pp. 54, 55; *Morrison; Jerdon.*

BIRD of PARADISE. Papua birds.

Burong Mati, . . . ARU.	Ave de Pardiso, . PORT.
Manuk devata, . . JAV.	Burong Papua, . TERN.
Burong devata, . MALAY.	Soffu, Sioffu, . . . „

Birds of paradise, the most beautiful of winged creatures, were fabled, in the fancy of an Arabian poet, as visitants from heaven to earth; and the islanders of the Archipelago are said to believe that, when old, and feeling the approach of death, the paradise birds fly upward towards the sun, but, having spent their strength in the inferior world, fail to reach again their celestial home, fall and die as they descend (see Camoens' Lusiad, Book x.). No representation can exaggerate their beauty, or excel the lustre of their plumage. They were supposed footless, and incapable of alighting, until it was discovered that the Indians cut off their feet before preserving them. They are obtained in New Guinea, the Aru Islands, Misol, Salwatti, Wagiou (Crawfurd, Jour. Ind. Arch. iv. 182). In the nutmeg season, they come from their breeding grounds in the interior of N. Guinea, and sail in flocks of thirty or forty over the eastern borders of the Archipelago (Valentyn qu. Forrest, Voyage to New Guinea, 142). In Linnæus' genus Paradisea, many birds were included which have since been transferred to other genera. But three species still included in that genus are, P. apoda, *Linn.*, with back of deep maronne brown, contrasting with the golden fulvous neck; it is the P. major of Shaw, and has peculiar dense feathering on the breast. P. Papuana, *Bechstein* (P. minor, *Forster*); back of a pale golden brown, shading with the golden fulvous of the neck, which is continued all round the neck only in this species. P. Rubra, *Cuvier* (P. sanguinea, *Shaw*), is bright golden fulvous on the crown, neck, and back; its axillary plumes are gorgeous red. All have short velvety feathers of a golden fulvous hue on the crown and nape, with the throat and forehead deep, dark, satiny green. Their Malay name, Manuk devata, means Birds of God. The living bird is a model of symmetry. The adult male birds of some species have ornamental tufts of long hairy plumes growing from under the wing, like the purple honeysucker of India, and in two species the middle pair of tail feathers are long wiry barbless stems; and the red kind have a broad flat riband of whalebone substance. The beautiful little king-bird of paradise, Cicinnurus regius, has a deep emerald green disc on the middle tail feathers; the Samalia magnifica has huge neck tufts. In the Parotia sex-setacea, the feathers of the flanks are a large floccose mass. The splendid Lophorina superba has its scapulary feathers enormously developed, like an erectile mantle, and is peculiarly adorned on the breast. The entire group is peculiar to Papua or New Guinea and the Aru Islands. They are shot with sharp or blunt arrows. They are as omnivorous as the crow; and Rupicola coyana, like the turkeys, Argus pheasants, and the dancing bird of America, are fond of displaying their plumage in their sacaleli dances. Mr. A. Russel Wallace applies the term birds of paradise to the following:—

Paradisea apoda, Great Paradise Bird, Aru Islands.
P. Papuana, the Lesser Paradise Bird, in New Guinea, Mysol, and Jobie.
P. rubra, the Red Paradise Bird, in Waigiou.
Cicinnurus regius, the King Paradise Bird, in New Guinea, Aru Islands, Mysol, Salwatti.

Diphyllodes speciosa, the Magnificent, in New Guinea, Mysol, and Salwatti.
D. Wilsoni, the Red Magnificent, in Waigiou.
Lophorina atra, the Superb, in New Guinea.
Parotia sexpennis, Golden Paradise Bird, New Guinea.
Semioptera Wallacei, Standard Wing, Batchian, Gillolo.
Seleucides alba, the Twelve-wired Paradise Bird, in New Guinea and Salwatti.
Ptiloris magnifica, the Scale-breasted Paradise Bird, New Guinea.
Pt. Alberti, Prince Albert's Paradise Bird, in North Australia.
Pt. Paradisea, the Rifle Bird, in East Australia.
Pt. Victoriæ, the Victoria Rifle Bird, in N.E. Australia.
Astrapia nigra, the Paradise Pie, in New Guinea.
Sericulus aureus, the Paradise Oriole, in New Guinea and Salwatti.

Epimachus magnus (Upupa magna, *Gm.*, U. superba, *Lath.*). Body generally black or brownish-black; tail graduated, thrice as long as the body (Lesson says three feet in length, French); feathers of the sides elongated, raised, curled, glittering on their edges with steel-blue, azure, and emerald green, like precious stones; the head and the belly lustrous, also with steel-blue, etc. In truth, language fails to convey any just idea of the magnificence of the species. It inhabits the coasts of New Guinea.—*Indian Field; A. Russel Wallace; Bikmore; J. I. Arch.* iv. 182; *Crawf.; Forrest, Voyage*, 142; *Valentyn, Ind. Arch.* iii. 366.

BIRD PEPPER. Capsicum frutescens.

BIRD, ROBERT MERTENS, a Bengal civil servant; during the years 1834–1844, along with others, he completed the rent settlement for twenty to thirty years of the lands of the N.W. Provinces of India. It comprehended a survey of 72,000 square miles in extent, containing a population of 23,000,000, and cost £500,000.

BIRDS, Aves.

Murgh; Tair, . .	ARAB.	Chiriah; Churi, .	HIND.
H'net, ...	BURM.	Burung; Manuk,	MALAY.
Oiseau, ...	FR.	Paksi; Pâksi, . .	,,
Ornis; Ornides (*pl.*),	GR.	Parinda, . . .	PERS.
Vogel, ...	GER.	Patchi; Kurvi, .	TAM.
Tsippor; Ait, .	HEB.	Pitta; Pitti, . . .	TEL.

The birds of Eastern and Southern Asia have been described by many naturalists. In 1831 a catalogue of 156 species, collected by Major Franklin on the banks of the Ganges and the Vindhian range of mountains, was published in the Proceedings of the Zoological Society of London.

In 1832 a catalogue of 226 species, collected by Colonel Sykes in the Bombay Presidency, was also published in the Proceedings of that society. This was undoubtedly the most valuable enumeration of the birds of India published, and contained descriptions, with many highly interesting observations, on the habits, food, and structure of many of the species.

In 1859 Dr. Jerdon published a catalogue of 390 birds of the Peninsula of India, with brief notes on their habits and geographical distribution. Subsequent to this, he issued a series of supplements, followed by a paper from the pen of Lord Arthur Hay, Marquess of Tweeddale, who, till his death in 1878, continued to enrich the literature of this branch of science. In 1881, his nephew, Captain Ramsay, edited a complete reprint of all the Marquess of Tweeddale's ornithological works. Mr. B. Hodgson of Nepal furnished a large amount of valuable information on the ornithology of the Himalaya; General Hardwicke's labours were of great value, his collection being described in 1832 by J. E. Gray. Captain Tickell, Bengal army, also contributed largely to the stock of knowledge regarding the ornithology of Central India; and the other names which may be added to this list of naturalists are Captain J. D. Herbert, who collected in the Himalaya; Dr. N. Wallich, who collected in Nepal; Dr. M'Clelland, who added birds from Assam and Burma; Dr. W. Griffith, whose collections of birds were made in Afghanistan; Dr. Hugh Falconer, in N. India; and Captain (now General) Richard Strachey, in Kamaon and Ladakh. Dr. Stoliczka collected in Tibet and the Himalayas at elevations from 2000 to 16,000 feet, and notices of the birds appeared in the Ibis, 1866-7-8. The birds of the Tenasserim Provinces have been largely described by the Rev. Dr. Mason, and those of Ceylon by Dr. E. Kelaart, Edgar L. Layard, and Captain Legge. These were accompanied by a continued series of valuable articles from Mr. E. Blyth, who was constant in his pursuit of science. Dr. Horsfield and Mr. Moore's catalogue of birds in the India House Museum, appeared in 1856 and 1858; and Jerdon's Birds of India, printed in 1862 and 1864, and the reprint of 1877, have done much to complete our knowledge of this class of the animal kingdom. The comprehensive work of Allan Hume, C.B. and Major C. H. T. Marshall, on 148 of the Game Birds of India, and Allan Hume's list of above a thousand of the birds of India, have added many forms to those which previous writers had described. Eastwards from the Malay Peninsula into the Eastern Archipelago, the labours of Dr. T. Horsfield in Sumatra, Sir T. Stamford Raffles in Java, Mr. G. Finlayson, Dr. Helfers, Dr. Theodore Cantor, Professor Bikmore, and Mr. Alfred Russel Wallace, have given to Europe a very full knowledge of the birds of that extensive region.

The birds of the East Indies are scarcely less beautiful than numerous. Perhaps the choicest of them are the Himalayan pheasants, distinguished for their very graceful and rich plumage, and the beautiful paradise birds of the Eastern Archipelago. The Himalayan bustard is remarkable for its form and varied colour. The paradise birds of Aru at their pairing season have sacaleli or dancing parties amongst the larger forest trees with immense heads, spreading branches, and large but scattered leaves, giving a clear space for the birds to play and exhibit their plumes. One of the birds is nearly as large as a crow, and is of rich coffee-brown colour. The head and neck is of a pure straw yellow above, and rich metallic green beneath; and long plumy tufts of golden orange feathers spring from the sides beneath each wing, and when the bird is in repose, are partly concealed by them. At the time of its excitement, however, the wings are bent over its back, the head is bent down and stretched out, and the long plumes are raised up and expanded till they form two magnificent gold fans, striped with deep red at the base. When seen in this attitude, it really deserves its name. A dozen or twenty full-plumaged male birds assemble together, raise up their wings, stretch out their necks, and elevate their exquisite plumes, keeping them in a continual vibration. Between whiles they fly across from branch to branch in great excitement, so

that the whole tree is filled with waving plumes in every variety of attitude and motion.

The colouring of birds is often imitative, in the tropics. Among forests which never lose their foliage, are groups whose chief colour is green, and the parrots are a most striking example. The stonechats, the larks, the quails, the goat-suckers, and the grouse which abound in the North African and Asiatic deserts, are all tinted and mottled so as to resemble with wonderful accuracy the average colour and aspect of the soil in the district they inhabit. The small quail-like birds forming the genus Turnix have generally large and bright-coloured pugnacious females; and Jerdon, in his Birds of India, mentions the native report that during the breeding season the females desert their eggs and associate in flocks, while the males are employed in hatching the eggs.

Most birds moult or change their plumage once a year only, after the season of pairing or incubation; but certain families or tribes of birds have two moults, one of them immediately before pairing, and the plumage then becomes showy and gay, with tufts or plumes. Some birds in spring actually change their colour, or portions of their feathers are changed, as in the ear-tufts of the lesser florikin, the Sypheotides auritus. The male of birds is the more highly coloured, except in birds of prey, the painted snipe (Rhynchæa), and some species of Ortygis, the little bustard quail. A few of the gallinaceous birds are polygamous, and their males are very pugnacious.

Nests greatly vary. Those of the weaver-bird, tailor-bird, honeysucker, and oriole are made with much art. The edible nest of the colocasia swallow is formed in caverns, of inspissated saliva; swallows, swifts, bee-eaters, and weaver-birds build in companies; certain ducks breed on cliffs or trees, and they must carry their young to the water, though this has not been observed. The Megapodidæ, gallinaceous birds (says Mr. Wallace, i. 156) found in Australia, its surrounding islands, and as far west as the Philippines and the N.W. of Borneo, have large feet and long curved claws, and most of them rake together rubbish, dead leaves, sticks, and stones, earth and rotten wood, until they form a mound often 6 feet high and 12 feet across, in the middle of which they bury their eggs, and leave them to be hatched by the sun or by fermentation. The eggs are as large as those of a swan, and of a brick-red colour, and are considered a great delicacy. The natives are able to say whether eggs be in the mound, and they rob them eagerly. It is said that a number of these birds unite to make a mound and lay their eggs in it, and 40 or 50 eggs are found in one heap. The mounds are found in dense thickets. The species of the Megapodidæ in Lombok is as large as a hen, and entirely of a dark hue, with brown tints. It eats fallen fruits, earth-worms, snails, and centipedes, but the flesh is white and well flavoured when properly cooked.

In Bengal, the newly-arrived European will particularly be struck with the number of birds of large size which he sees everywhere, even in the most densely-populated neighbourhoods: Flocks of vultures, huge adjutants in their season, swarms of kites in their season too, for they disappear during the rains, all three are seen soaring and circling high in air as commonly as at rest; Brahmany kites, various other birds of prey, among which four kinds of fishing eagle, including the British osprey, are not uncommon; waterfowl in profusion in all suitable localities; herons especially, of various kinds, very abundant; several sorts of kingfisher, mostly of bright hues; the common Indian roller, also a bird of great beauty, and the little bright green bee-eater (Merops viridis) conspicuous everywhere; the common crow of India, of unwonted familiarity, impudence, and matchless audacity; the different mainas, remarkable for their tameness; the drongo or king crow, the satbhai or seven brothers, with their discordant chattering; two sorts of melodiously chirruping bulbuls; the bright yellow mango bird or black-headed oriole; the pretty pied dhyali, the only tolerably common sylvan songster worthy of notice; the brilliant tiny honeysuckers, also with musical voices; the lively and loud golden-backed woodpecker, and two monotonously-toned species of barbet; the pleasingly-coloured rufous tree-magpie (Dendrocitta rufa); the noisy koel, remarkable for the dissimilarity of the sexes, and for parasitically laying in the nest of the crow; the crested cuckoo (Oxylophus) during the rainy season (parasitical upon the satbhai), with other cuculine birds, especially the coucol or crow-pheasant, another noisy and conspicuous bird wherever there is a little jungle; and last, but not least, characteristic in many districts, is the harmonious cooing of several kinds of dove, soothing to repose and quiet, and the loud screaming of flocks of swift-flying green parrakeets, with sundry other types all strange to the new-comer; as the bright little jora, the tiny tailor-bird, and the baya or weaver-birds, with their curious pensile nests, and the diminutive thick-billed munia. Of the swallows, occasionally and somewhat locally, a few of the Hirundo rustica may be seen, chiefly over water; and along the river banks the small Indian bank martin (H. Sinensis) will be seen abundantly. But the swallows are replaced by two non-migratory swifts, the common house swift (Cypselus affinis) and the little palm swift (C. Batassiensis). The roller and the king crow habitually perch on the telegraph wire to watch for their insect prey, the former displaying his gaily-painted wings to advantage as he whisks and flutters about, regardless of the fiercest sun. The small white vulturine bird, Neophron percnopterus, the rachamah or Pharaoh's chicken, is abundant, and a single pair has been known to stray to Britain. Of the smaller British land birds, the wryneck is not uncommon; and the European cuckoo will now and then turn up, more frequently in the barred plumage of immaturity; the hoopoe, too, is common, but rare. Among the hawks, the kestrel will occasionally be observed in extraordinary abundance; and harriers (Circus) are often seen beating over the open ground. But the small waders are particularly common in all suitable places, including most of those found in Britain in greater or less abundance; wonderful is the number of fishers, and vast indeed must be the consumption of their finny prey. Sundry fishing eagles, and a great bare-legged fishing owl, with various kingfishers in abundance, numerous kinds of heron in surprising numbers, pelicans, darters (plotus), pigmy cormorants, and grebes or dabchicks, besides gulls, terns,

BIRDS.

and rarely skimmers (rhynchops), gulls, three species, the common British Xema ridibunda, and a nearly affined species, with the fine kroikocephalus ichthyætus, are seen chiefly towards the mouths of the Gangetic rivers. Over the salt water lake near Calcutta has been seen the great white egret, so prized in Europe. The gull-billed tern is there one of the common birds; and the whiskered tern (Hydrochelidon Indica), and the peregrine falcon, may not unfrequently be seen, well meriting the name of duck-hawk bestowed on it in North America; also great flocks of longshanks (Himantopus), wading and seeking their subsistence in the expanse of shallow water along the reed-fringed nullahs or watercourses; various rallidæ are swarming around.

In winter, many Indian birds assemble in large flocks. Amongst these are crows, starlings, finches, larks, parrots, a few thrushes, pigeons, rock pigeons, cranes, ducks, flamingoes, and pelicans.

The *migratory* birds of India are mostly residents of the colder northern countries; they come to India in September and October, and leave it again in March, April, and May. Among the grallatores or waders, some cranes and storks, four-fifths of the ducks, and the great majority of the scolopacidæ, breed in the north, and come to India in the cold season. The peregrine falcon, the true hobby, the kestrel, the British sparrow-hawk, all the Indian harriers, and the short-eared owl, are true migratory birds. Amongst the insessores, the wagtails, some of the pipits, and larks, stonechats, several warblers and thrushes, buntings, and the shrike, hoopoe, and two starlings, are the chief groups amongst which migratory birds occur. In Lower Bengal, kites quit Calcutta and neighbourhood during the rains, and return in the cold weather; it is supposed that they go to the north-east. The kestrel, baza, and Indian hobby are most frequent in Bengal during the rains; and in the rains the adjutant visits Calcutta, and leaves in the cold weather. The European quail is the only real migratory bird of the gallinaceæ; but some other quails, bustard-quails, and rock partridges (Pteroclidæ), wander about to different localities; and the Sypheotides auritus, Buphus coromandus, some rails, terns, and gulls, also wander. These birds travel with wonderful instinct direct to their homes, returning year after year to the same spot, often to the same nest.

The great migration of birds to and from Southern India, Asia, says Mr. Hodgson, 'seems to take place across the mountains of Nepal. The wading and natatorial birds generally make a mere stage of the valley on their way to and from the vast plains of India and Tibet, the valley being too small, dry, open, and populous for their habits, especially that of the larger ones. Some, however, stay for a longer or shorter time in their vernal and autumnal migrations; and some, again, remain throughout that large portion of the year in which the climate is congenial to their habits. Of all of them, the seasons of arrival, both from the north and from the south, are marked with precision.

The grallatorial and natatorial birds begin to arrive in Nepal from the north towards the close of August, and continue arriving till the middle of September. The first to appear are the common snipe and jack snipe and rhynchæa; next the scolopaceous waders (except the woodcock), next the great birds of the heron and stork and crane families, then the natatores, and lastly the woodcocks, which do not reach Nepal till November. The time of the reappearance of these birds from the south is the beginning of March, and they go on arriving till the middle of May. None of the natatores stay in Nepal beyond a week or two in autumn (when the rice fields tempt them), or beyond a few days in spring, except the teal, the widgeon, and the coot, which remain for the whole season upon some few tanks, whose sanctity precludes all molestation of them. There are cormorants throughout the season upon the larger rivers within the mountains, but none ever halt in the valley beyond a day or two; for so long, however, both they and pelicans may be seen occasionally on the banks just mentioned. The larus and sterna are birds which usually affect the high seas, but Mr. Hodgson had killed both the red-legged gull and a genuine pelagic tern in the valley of Nepal. But so had he fishing eagles; and in truth, he adds, who shall limit the wanderings of these long-winged birds in the ethereal expanse? Mr. Blyth tells us that many of the feathered inhabitants of the British Islands are found in Southern Asia. The community of species is most remarkable among the diurnal birds of prey, and, as might be expected, among the wading and swimming tribes. The pretty little water-wagtail, usually the first and most welcome harbinger of the coming cold weather, comes and remains whilst the cold season lasts. This bird, and the harsh chattering of a very common kind of shrike (Lanius cristatus) in Indian gardens, are the earliest intimations of the coming change of season. A snipe (Gallinago stenura), and the water-wagtail in their season, and the common sparrow at all seasons, are probably all that the European, unversed in the study of ornithology, will be able to recall to mind as yielding associations of home, unless perchance he may also recollect the common small kingfisher of India, which differs from the British bird only in its more diminutive size. In the sub-Himalayas, the forms of Europe and of W. and N. Asia prevail more and more towards the N.W.; Malayan forms eastward, and Chinese types, and particular sub-Himalayan genera and species, the range of which extends eastward to China. Again, on the highlands of the Peninsula of India, and still again in those of Ceylon, distinct species of the northern types occur, but no different genera. Thus the jungle-fowl of N. India is replaced by a different species (Gallus Sonneratii) in the Peninsula, and by a third (G. Stanleyi) in Ceylon, and not a few similar instances might be adduced. The grey wagtail of Britain (Calobates sulphurea) is identically the same in India and Java, and a specimen has been seen in a collection from Australia. This delicate little bird, so clean and bright in its appearance, is of very general diffusion over Southern Asia during the cold season, being indeed much commoner than in Britain. The most abundant lark on the plains of Upper India and table-land of the Peninsula is the charandol (Galerida cristata), which is also a European species, though of rare occurrence in Britain: and the song, also its mode of delivery of it in the air, are not very unlike that of the

skylark, although it does not soar to so lofty an altitude.

In Bombay, on the approach of the monsoon, nearly all the kites, hawks, vultures, and other carrion birds disappear from the sea-coast, while the crows begin to build their nests and hatch their young just at the season that seems most unsuitable for incubation, for the eggs are often shaken out, or the nests themselves are destroyed. The carnivorous birds, as the rains approach, withdraw themselves from a climate unsuitable to the habits of their young, betaking themselves to the comparatively dry air of the Dekhan, where they nestle and bring forth in comfort, and find food and shelter for their little ones.

In Bengal, the kites and Brahmany kite breed chiefly in January and February, and disappear during the rains. The adult adjutants make their appearance as soon as the rains set in, and, becoming in fine plumage towards the close of the rains, depart at that time to breed in the eastern portion of the Sunderbuns upon lofty trees, and along the eastern coast of the Bay of Bengal upon trees and rocks. Vultures are permanently resident; and the crows propagate chiefly in March and April, their nests being not infrequently destroyed by the fury of the nor'-westers.

Not a few migratory species are common to the polar circle and to Lower Bengal, and even further towards the equator, according to season; but the individual birds may not migrate so far north and south. The Calliope Kamschatkensis, a delicate little bird much like a nightingale, but with a brilliant ruby throat, which is not rare in the vicinity of Calcutta during the cold season, returns early in April, with the snowfleck, in the lower Kolyma district, in northern Siberia, as we are told by Von Wrangell,—that is to say, before the last of them have left Bengal. Another and non-migratory species of the same genus (C. pectoralis), peculiar, so far as known, to the Himalaya, is enumerated in Mr. Hodgson's List of the Birds of Nepal. The hoopoe (Upupa epops), common in Southern Asia during the cold season, and on the table-lands at all seasons, is to all appearance a bird of fluttering and feeble flight, but has repeatedly been observed, during the seasons of migration, at altitudes considerably above the limits of vegetation. 'On the western side of the Lanak pass, about 16,500 feet, I saw a hoopoe,' writes Major Cunningham; and at Momay (14,000 to 15,000 feet elevation), under the lofty Donkia pass in northern Sikkim, Dr. Joseph D. Hooker observed, in the month of September, 'birds flock to the grass about Momay; larks, finches, warblers, abundance of sparrows (feeding on the yak droppings), with occasionally the hoopoe; waders, cormorants, and wild ducks, were sometimes seen in the streams, but most of these were migrating south.' 'An enormous quantity of waterfowl,' remarks Dr. Hooker, 'breed in Thibet, including many Indian species that migrate no further north. The natives collect their eggs for the markets of Jigatzi, Giantchi, and Lhassa, along the banks of the Yaru river, Ramchoo, and Yarbru and Dacchen lakes.' Amongst other birds, the Sarus, or giant crane of India (Grus antigone) (see Turner's Tibet, p. 212), repairs to these enormous elevations to breed. The Sarus also breeds south of the Himalaya; and specimens too young to fly are occasionally brought for sale even to Calcutta. Turner also says the Lake Ramchoo is frequented by great abundance of waterfowl, wild geese, ducks, teal, and storks, which, on the approach of winter, take their flight to milder regions. Prodigious numbers of the Sarus, the largest species of the crane kind, are seen there at certain seasons of the year, and any quantity of eggs may then be collected, found deposited near the banks. The European crane (Grus cinerea), also a common Indian bird, says Major Lloyd, as observed by himself in Scandinavia, usually breeds in extended morasses, far away from the haunts of men. It makes its nest, consisting of stalks of plants and the like, on a tussock, and often amongst willow and other bushes. The female lays two eggs. Major Cunningham, also, in his Ladakh, etc., remarks 'that he shot the wild goose on the Thogji, Chanmo, and Chomoriri lake at 15,000 feet; and he and Col. Bates shot three teal on the Suraj Dal, a small lake at the head of the Bhaga river, at an elevation of upwards of 16,000 feet.

Many highly approximate races (considered, therefore, as species) maintain their distinctness, even in the same region and vicinity, as Falco peregrinus and F. peregrinator, Hypotriorchis subbuteo and H. severus, Circus cyaneus and C. Swainsonii in India. Coracias Indica of all India meets, in the Panjab, etc., the European C. garrula; but in Assam, Sylhet, Tiperah, and, more rarely, Lower Bengal, it coexists with the C. affinis, specimens of which from the Burmese countries are ever true to their proper coloration, as those of C. Indica are from Upper and S. India; but there is seen every conceivable gradation or transition, from one type of colouring to the other, in examples from the territories where the two races meet; so also with the Crocopus phœnicopterus of Upper India and the Cr. chlorigaster of S. India and Ceylon, which blend in Lower Bengal; and Gallophasis albocristatus of the W. Himalaya and G. melanotus of Sikkim, which produce an intermediate race in Nepal; and G. Cuvieri of Assam and Sylhet, and G. lineatus of Burma, which interbreed in Arakan, etc., so that every possible transition from one to the other can be traced. If inhabiting widely-separated regions, the (assumed) distinctness of such races would be at once granted, as with Phasianus colchicus and the Chinese Ph. torquatus, which readily intermix and blend, wherever the latter has been introduced in Europe. Such races as the crossbills, the Bauri and Shahin falcons of India, the British Phylloscopus trochilus and Ph. rufus, and the different European sparrows, maintain themselves persistently distinct; and this while the common sparrow of India would probably blend with the British sparrow (though considered distinct by some), if an opportunity should occur of its doing so.

The following *British birds* are given in the Calcutta Review (March 1857) as common to Great Britain and Southern Asia:—

Gyps fulvus (Vultur fulvus), griffin vulture.
Neopthron percnopterus, Pharaoh's chickens.
Gypaetos, the lämmergeyer.
Aquila chrysaetos, golden eagle.
A. mogilnik, or imperial eagle, *Temm.*
A. nævia, spotted eagle.
Eutolmætos fasciatus.
Hieraetus pennatus.
Pandion haliætus, osprey.

Falco candicans (Falco gyrfalco), gyr falcon.
F. sacer, *Schl.* (F. lanarius, *Temm.*).
F. lanarius, *Schlegel.*
F. peregrinus, Peregrine falcon.
Hypotriorchis subbuteo, the hobby.
Erythropus vespertinus, red-footed falcon.
E. cenchris (Falco tinnunculoides), *Vieillot.*
Tinnunculus alaudarius, the kestrel.
Astur palumbarius, goshawk.
Accipiter nisus, sparrow-hawk.
Buteo vulgaris, common buzzard.
Pernis apivora, honey buzzard.
Circus æruginosus, marsh harrier.
C. cyaneus, hen harrier.
C. cineraceus (C. Montagui).
Circaetus Gallicus.
Bubo maximus, eagle owl.
Scops Aldrovandi, Scops-eared owl.
Asio otus (Otus vulgaris), long-eared owl.
A. brachyotus (Otus brachyotus), short-eared owl.
Syrnium aluco (S. stridulum), tawny owl.
Athene psilodactyla (Noctua passerina), little owl.
Turdus viscivorus, missel thrush.
Oreocincla Whitei (Turdus Whitei).
Turdus pilaris, fieldfare.
T. iliacus, redwing.
T. merula, blackbird.
T. (or merula) simillima.
Cyanecula Wolfi (Phœnicura suecica), blue-throated warbler.
Ruticilla phœnicurus (Phœnicura ruticilla), redstart.
Pratincola rubicola (Saxicola rubicola), stone-chat.
P. rubetra (Saxicola rubetra), whin-chat.
Saxicola œnanthe, wheatear.
Locustella rayi (Salicaria locustella), grasshopper warbler.
Acrocephalus arundinaceus (Salicaria turdoides), thrush-like warbler.
Sylvia atricapilla (Curruca atricapilla), blackcap warbler.
S. cinerea (Curruca cinerea), common white-throat.
S. curruca (Curruca sylviella), lesser white-throat.
S. orphea (Curruca orphea), Orpheus warbler.
Phylloscopus trochilus, willow warbler.
Regulus cristatus, golden-crested regulus.
Reguloides proregulus (Regulus modestus).
Parus major, great tit.
P. cœruleus, blue tit.
P. ater, cole tit.
Orites caudatus (Parus caudatus), long-tailed tit.
Calobates sulphurea (Motacilla boarula), grey wagtail.
Pipastes trivialis (Anthus arboreus), tree pipit.
Anthus pratensis, meadow pipit.
A. obscurus (A. petrosus), rock pipit.
Corydalla Richardi, Richard's pipit.
Corydalla campestris.
Galerida cristata (Alauda cristata), crested lark.
Calendrella brachydactyla (Alauda brachydactyla).
Certhilauda desertorum.
Ammomanes Lusitanica.
Emberiza miliaria, common bunting.
E. citrinella, yellow bunting.
E. cia.
E. fuscata of N. Asia.
E. melanocephala of S. Europe.
Fringilla montifringilla, mountain finch.
Passer montanus, tree sparrow.
P. domesticus, house sparrow.
P. salicarius (vel Hispaniolensis).
Coccothraustes vulgaris, hawfinch, qu. C. Japonicus, *Schlegel*?
Chrysomitris spinus (Cardueli spinus).
Linota cannabina, common linnet.
L. canescens, mealy redpole.
L. montium, mountain linnet.
Carpodacus erythrinus.
Loxia curvirostra, common crossbill.
L. bifasciata, European white-winged crossbill.
Sturnus vulgaris, common starling.
Pastor roseus, rose-coloured pastor.
Fregilus graculus, chough.
Corvus corax, raven.
C. corone, carrion crow.
C. cornix, hooded crow.

C. frugilegus, rook.
C. monedula, jackdaw.
Pica caudata, magpie.
Yunx torquilla, wryneck.
Upupa epops, hoopoe.
Sitta Syriaca, rock nuthatch.
Trichodromus muraria, wall creeper.
Cuculus canorus, common cuckoo.
Coracias garrula, roller.
Merops apiaster, bee-eater.
Hirundo rustica, swallow.
H. urbica, martin.
H. riparia, sand martin.
H. rupestris.
Cypselus apus, common swift.
C. melba (C. Alpinus), Alpine swift.
Acanthylis caudacuta, large spiny-tailed swift.
Caprimulgus Europæus, night jar.
Columba livia, rock dove.
Starna cinerea (Perdix cinerea), common partridge.
Coturnix vulgaris, common quail.
Tetrax campestris (Otis tetrax), little bustard.
Otis Macqueenii, Macqueen's bustard.
Œdicnemus crepitans, great plover.
Charadrius hiaticula, ringed plover.
Ch. Cantianus, Kentish plover.
Ch. Philippinus (Ch. minor), little ringed plover.
Ch. pyrrhothorax.
Calidris arenaria, sanderling.
Squatarola Helvetica (Sq. cinerea), grey plover.
Vanellus cristatus, lapwing.
Strepsilus interpres, turnstone.
Hæmatopus ostralegus, oyster-catcher.
Grus cinerea, common crane.
Ardea cinerea, common heron.
A. purpurea, common heron.
Herodias alba (Ardea alba), great white heron.
H. garzetta (Ardea garzetta), little egret.
H. bubulcus (Ardea russata), buff-backed heron.
Ardetta minuta (Botaurus minutus), little bittern.
Botaurus stellaris, common bittern.
Nycticorax Gardeni, night heron.
Ciconia alba, white stork.
C. nigra, black stork.
Platalea leucorodia, white spoonbill.
Falcinellus igneus (Ibis falcinellus), glossy ibis.
Numenius arquata, common curlew.
N. phæopus, whimbrel.
Totanus fuscus, spotted redshank.
T. calidris, common redshank.
Actitis ochropus (Totanus ochropus), green sandpiper.
A. glareola (Totanus glareola), wood sandpiper.
A. hypoleucos (Totanus hypoleucos), common sandpiper.
Totanus glottis, greenshank.
Recurvirostra avocetta, avocet.
Himantopus candidus (H. melanopterus), black-winged stilt.
Limosa œgocephala (L. melanura), black-tailed godwit.
L. rufa, bar-tailed godwit.
Philomachus pugnax (Machetes pugnax), ruff.
Scolopax rusticola, woodcock.
Gallinago scolopacinus (Scolopax gallinago), common snipe.
G. gallinula (Scolopax gallinula), jack snipe.
Tringa subarquata, curlew sandpiper.
T. canutus, knot.
T. platyrhyncha, broad-billed sandpiper.
T. minuta, little stint.
T. Temminckii, Temminck's stint.
T. Alpina (Tringa variabilis), dunlin.
Phalaropus fulicarius, grey phalarope.
Lobipes hyperboreus (Phalaropus hyperboreus), red-necked phalarope.
Crex pratensis, landrail.
Porzana Maruetta (Crex porzana), spotted craik.
P. pusilla (Crex pusilla), little craik.
P. Baillonii (Crex Baillonii).
Gallinula chloropus, moor-hen.
Fulica atra, common coot.
Anser cinereus (Anser ferus), grey-leg goose.
A. brachyrhynchus, pink-footed goose.

Bernicla ruficollis (Anser ruficollis), red-breasted goose.
Cygnus musicus (Cygnus ferus), Hooper swan.
Casarca rutila (Tadorna rutila), ruddy shieldrake.
Tadorna vulpanser, common shieldrake.
Spatula clypeata (Anas clypeata), shoveller.
Anas stepera, gadwall.
A. acuta, pintail duck.
A. boschas, wild duck.
A. querquerdula, gargany.
A. crecca, teal.
A. penelope.
Fuligula ferina, pochard.
F. nyroca, ferruginous duck.
F. marila, scaup duck.
F. cristata, tufted duck.
Clangula glaucion (Fuligula clangula), golden eye.
Mergellus albellus (Mergus albellus), seamew.
Mergus merganser, goosander.
Podiceps cristatus, great-crested grebe.
P. Philippensis (P. minor), little grebe.
Phalacrocorax carbo, common cormorant.
Sylochelidon Caspia (Sterna Caspia), Caspian tern.
Sterna paradisea (Sterna Dougalli), roseate tern.
S. hirundo, common tern.
Hydrochelidon Indica (Sterna leucoparica), whiskered tern.
Gelochelidon angelica (Sterna angelica), gull-billed tern.
Sternula minuta (Sterna minuta), lesser tern.
Anous stolida (Sterna stolida), noddy tern.
Onychoprion fuliginosus (Sterna fuliginosa), sooty tern.
Xema ridibunda (Larus ridibundus), black-headed gull.
Larus fuscus, lesser black-backed gull.
Procellaria hœsitata, capped petrel.
Puffinus obscurus, dusky petrel.

Those birds which are common to India and the *polar circle*, appertain for the most part to the wading and webfooted orders; and a few of them are of very general distribution over the world, as especially the common turnstone (Strepsilas interpres), which seems to be found on every sea-coast. The Lobipes hyperboreus is a little arctic bird, of rare occurrence even in the north of Scotland, Orkney, and Shetland, but a specimen was procured near Madras; and the nearly related Phalaropus fulicarius was obtained in the Calcutta provision bazar so late in the year as May 11, 1846.

Mr. Blyth remarks that various instances occur of *closely-affined* Indian and European birds, which every ornithologist would at once pronounce to be distinct, *e.g.* Oriolus galbula and O. kundoo; Troglodytes Europæus and Tr. sub-Himalayanus; Certhia familiaris and C. Himalayana, etc. And not infrequently the exact European species inhabits India in addition to another, which would otherwise be regarded as its counterpart or representative, or, according to the views of some naturalists, a mere local or climatal variety of the same species. Falco peregrinus is common in India, together with F. peregrinator, which would otherwise be regarded as its Indian counterpart; Hypotriorchis subbuteo found together with H. severus; Hirundo Sinensis (the ordinary Indian sand martin), together with H. riparia; Cuculus canorus (the European cuckoo), as also several affined species, and so on. In some cases, a European species may have two or more 'representatives' in India, or *vice versâ*. Thus Nucifraga caryocatactes of the pine forests of Europe and Siberia is replaced by N. hemispila in those of the Himalaya generally, and by H. multimaculata about Kashmir; Parus major by P. monticolus and P. cinereus, if not also P. nuchalis (in addition to cinereus), in S. India; Picus major by P. Himalayanus; Accentor alpinus by A. Nipalensis. While, on the other hand, Lanius lahtora in India is represented both by L. excubitor and L. meridionalis in Europe; Sitta cinnamoventris by S. Europæa and S. cæsia, etc. Some ornithologists regard the Passer domesticus, P. Italiæ (vel Cisalpinus), and P. salicarius (vel Hispaniolensis), of Europe, as being local varieties merely of the same, yet they hold true to distinctive differences of colouring wheresoever found; and examples of the last-named race from Afghanistan and the extreme N.W. of India differ in no appreciable respect from Algerian specimens with which they have been compared; moreover, this race is of far more gregarious habits even than Passer domesticus,—a fact noticed of it alike in N. Africa and in Kohat. The Tibetan raven is considered as a peculiar species by Mr. Hodgson, an opinion to which the Prince of Canino seems to incline. It may be presumed to inhabit the lofty mountains of Bhutan to the north; but the smaller crow of Southern Asia is the C. splendens, while the common black crow of all India, C. culminatus, would seem to stand here alike for the raven, the carrion crow, and the rook. The true rook (Corvus frugilegus), however, is known to inhabit or visit the Peshawur valley, Afghanistan, and Kashmir. The rook of China and Japan is considered a distinct species, C. pastinator of Gould, and the jackdaw (C. monedula) accompanies it in those countries; while the true northern raven, Corvus corax, is met with not only there, but also over a great portion of the Panjab. In other parts of India, the comparatively small C. culminatus is popularly known to Europeans as the raven, but the northern raven would make a meal of one and not feel much the worse for it.

Dr. Francis Buchanan Hamilton, remarking upon a falconry observed by him in the Shahabad district, mentions that he saw, in several days' hawking, a large bird of prey, named jimach, attack a very strong falcon as it was hovering over a bush into which it had driven a partridge. The moment the falcon spied the jimach it gave a scream, and flew off with the utmost velocity, while the jimach equally pursued. They were instantly followed by the whole party, foot, horse, and elephants, perhaps 200 persons, shouting and firing with all their might; and the falcon was saved, but not without severe wounds, the jimach having struck her to the ground, but a horseman came up in time to prevent her from being devoured.' The wokhab, Aquila fulvescens, is a small eagle, very abundant in the plains of Upper India, the Dekhan, etc. The Honourable (now Sir) Walter Elliot remarks that 'the wokhab is very troublesome in hawking after the sun becomes hot, mistaking the jesses for some kind of prey, and pouncing on the falcon to seize it. He had once or twice nearly lost shahins (Falco peregrinator) in consequence, they flying to great distances for fear of the wokhab, *i.e.* the jimach. The principal species employed in Indian falconry are identical with those of Europe, namely the bauri of India, which is the Peregrine falcon of the west, and the baz of India, which is the goshawk or gentil falcon of Britain. In a curious Persian treatise on the subject, by the head falconer of the Moghul emperor

Akbar, the various species used are enumerated, and may be recognised with precision; among them is the shangar, which is clearly the gyr falcon of the north, represented as extremely rare and valuable, taken perhaps once or twice only in a century, and then generally in the Panjab. The shahin (Falco peregrinator) does not inhabit Europe. With five or six exceptions only, the whole of the European diurnal birds of prey are met with in India, many of them being much commoner in India; and they are associated with numerous other species unknown in Europe. The sport of falconry is widely diffused over Asia, even to the Malayas. The bustard 'quarry' hawked by Dr. Layard's Bedouin companions on the great plain of Mesopotamia, is the houbara (Houbara Macqueenii) of Sind and Afghanistan, being a different species from that of Spain and North Africa (H. undulata); the former has unexpectedly been found, of late years, in England and Belgium, if not also in Denmark.

The great spiny-tailed swift of the Himalaya (Acanthylis nudipes of Hodgson) was obtained, a few seasons back, in England. Mr. Gould identifies this British-killed bird with his Ac. caudacuta of Australia, but it appears identical with the Himalayan species; upon comparing Himalayan specimens with Mr. Gould's plate, no difference can be detected. The great alpine swift (Cypselus melba) is common to the Himalaya, the Neilgherries, and high mountains of Ceylon, but the great Acanthylis of the Himalaya has never been observed in S. India, and is replaced in the Neilgherries, Ceylon, and also across the Bay of Bengal (in Penang, etc.), by Ac. gigantea.

Gold and silver pheasants are inhabitants of China; but the golden pheasant, according to M. Temminck, inhabits not only China and Japan, but the northern parts of Greece, as also Georgia and the Caucasus; and it has been met with even in the province of Orenbourg. M. Degland informs us that M. Gamba, French consul at Tiflis, met with this gorgeous bird in numerous flocks on the spurs of the Caucasus, which extend towards the Caspian Sea, and that now it has gone wild and multiplied in some of the forests of Germany.

In Southern Asia, the birds familiarly known as *bulbuls* must not be confounded with the Persian bulbul, which is a species of true nightingale (Luscinia), a genus very closely related to some of the small thrushes of America. There is no true nightingale wild in India; but the shama, Cercotrichas (Kittacincla) macroura, undoubtedly the finest song-bird of this part of the world, is not infrequently designated the Indian nightingale. It is common to India and the Malay countries; and there is a second species (C. Luzoniensis) in the Philippines, and a third (C. erythropterus) in Africa. Orocetes cinclorhynchus is also termed shama in the Madras Presidency. The esteemed Indian songster is le merle tricolor de longue queue of Levaillant (Oiseaux d'Afrique, pl. 114). The bhimraj (Edolius paradisæus) is popularly denominated the mocking-bird by Europeans.

The *song* of birds is chiefly observed amongst the merulidæ, saxicolinæ, sylviadæ, larks, and some finches. In India there are few songsters in the groves, but some of the larks are kept in cages. Amongst Mahomedans in British India, the lark is usually their cage-bird, but partridges and quails are also domesticated. Quails, bulbuls, and cocks are trained to fight, falcons and hawks to hunt on the wing.

The Chinese are passionately fond of singing birds; the wealthy will pay exceedingly high prices for those whose notes are fine, and are as great connoisseurs in the notes of the lark, as Europeans are in those of the bullfinch. A bird is as generally the companion of a mandarin, as a dog is of an Englishman. These birds have a silken cord attached to their legs, which is entwined around the finger of their owner. In China it is the Acridotheres cristellatus, the Shantung lark. It has great facility in learning sounds, and will bark, mew, crow, cough, and sneeze, sometimes talk; and a single bird will fetch £6. The acridotheres will imitate the human voice accurately. In China, a starling is often domesticated; it is lively, good-natured, and easily tamed. They also tame the fork-tailed parus (Leiothrix luteus of Scopoli). It is in form and habit like the robin of Britain; is pretty olive-green, black forked tail, with wing primaries bright yellow and red. It turns summersaults on its perch. They have a short, loud song. Canaries are sold in many shops of Japan. The grackle, Eulabes religiosa, called the myna, is largely domesticated. The partridge, the bulbul shrike, are also largely domesticated. The hoopoe is to be seen occasionally. In China the cormorant and the pelican are trained to fish.

Many races have had *mythical birds*. The Zend has the eorosh; the Persians, the roc and si-murgh; the anka of the Arabs; the Turks, the kerkes; the phœnix of the Egyptians and Greeks; the yggdrasil of the Edda; the griffin bird of the age of chivalry; the kirni of the Japanese; and the garuda of the modern Hindus. A Hindu legend relates that two lovers were transformed into Brahmany ducks, the Casarca rutila, *Pallas*, and condemned to live at night apart on opposite banks of a river, and all night long each in its turn asks its mate if it shall come across; but the question is always met with a negative. 'Chakwi, shall I come?'—'No, Chakwa.' 'Chakwa, shall I come?'—'No, Chakwi.'

Sailors have familiar names for *sea birds;* amongst others, the Booby, the Nelly, the Noddy, the Reef Bird, the Frigate Bird, the Tropic Bird, the Cape Pigeon, the Mother Cary's Chicken, the Mutton Bird (Œstrelata Lessoni), the Whale Bird (Prion desolatus). Cape Hen is the petrel, also called Black Night-Hawk; and the Mackerel Bird, King Bird, or Kinger of sealers, is the tern, Sterna virgata.

Of *land birds* with peculiar names may be mentioned the Mocking-bird, the Laughing Jackass, the Satin-bower bird (Ptilonorhynchus holosericeus); in India, the Coppersmith, the satbhai.

ORDER, RAPTORES, Birds of Prey.

Fam. Vulturidæ, Vultures. *Sub-Fam.* Vulturinæ, True Vultures.

Vultur monachus, *Linn.*, great brown vulture.
V. calvus, *Scop.*, *Hume*, black vulture.
Gyps fulvus, *Gmel.*, large tawny vulture.
G. Indicus, *Scop.*, long-billed brown vulture.
G. Bengalensis, *Gmel.*, common brown vulture.

Sub-Fam. Neophroninæ, Scavengers.

Neophron percnopterus, *Linn.*

Sub-Fam. Gypaetinæ, *Bon.*
Gypaetus barbatus, *Linn.*
G. occidentalis, *Bon.*, Arabia.

Fam. Falconidæ, Falcons. *Sub-Fam.* Falconinæ, True Falcons.
Falco peregrinus, *Gmel.*, peregrine falcon.
F. peregrinator, *Sundev*, the shahin.
F. sacer, *Schl.*, the saker or cherrug.
F. jugger, *Gray*, the laggar.
F. Babylonicus, *Gurney*, red-headed lanner.
Hypotriorchis subbuteo, *L.*, the hobby.
H. severus, *Horsf.*, Indian hobby.
H. œsalon, *Gm.*, the merlin.
H. chicquera, *Daud*, the Turumti merlin.
Tinnunculus alaudarius, *Bress.*, kestrel.
Erythropus cenchris, *Naum.*, lesser kestrel.
E. vespertinus, *Linn.*, red-legged falcon.
Hierax cutolmos, *Hodgs.*, pigmy falcon.
H. melanoleucos, *Bly.*, Assam.
H. coerulescens, Java, Malayana.
H. sericeus, China.

Sub-Fam. Accipitrinæ, Hawks.
Astur palumbarius, *Linn.*, goshawk.

Sub-genus, Lophospiza.
Lophospiza trivirgatus, *Hume*, crested goshawk.
Micronisus badius, *Gm.*, shikra.
Accipiter nisus, *Linn.*, sparrow-hawk.
A. virgatus, *Temm.*, besra sparrow-hawk.

Sub-Fam. Aquilinæ, Eagles.
a. True Eagles.
Aquila chrysaetos, *Linn.*, golden eagle.
A. imperialis, *Bechst.*, imperial eagle.
A. nævia, *Gm.*, spotted eagle.
A. fulvescens, *Gray*, tawny eagle, the wokhab.
A. hastata, *Less.*, long-legged eagle.
A. pennata, *Gm.*, dwarf eagle.

b. Kite Eagles.
Neopus Malaiensis, *Rems.*, black eagle.

c. Hawk Eagles.
Eutolmaetus Bonellii, *Hume*, crestless hawk eagle.
Limnaetus niveus, *Temm.*, changeable hawk eagle.
L. cristatellus, *Temm.*, crested hawk eagle.
L. Nipalensis, *Hodgs.*, spotted hawk eagle.
L. Kienierii, *De Sp.*, rufous-bellied hawk eagle.

d. Serpent Eagles.
Circaetus Gallicus, *Gmel.*, serpent eagle.
Spilornis cheela, *Daud*, crested serpent eagle.
S. bacha, *Daud.*, Java.
S. spilogaster, *Bl.*, Ceylon.
S. holospilus, Philippines.

e. Fishing Eagles.
Pandion haliætus, *Linn.*, osprey.
Poliœtus ichthyœtus, *Horsf.*, white-tailed sea eagle.
Haliætus fulviventer, *Vieill.*, ring-tailed sea eagle.
H. leucogaster, *Gm.*, grey-backed sea eagle.

Sub-Fam. Buteoninæ, Buzzards.
Buteo vulgaris, *Bechst.*, the buzzard.
B. desertorum, *Hume.*
B. canescens, *Hodgs.*, long-legged buzzard.
B. aquilinus, *Hodgs.*, upland buzzard.
B. plumipes, *Hodgs.*, harrier buzzard.
B. pygmæus, *Bly.*, Tenasserim.
Poliornis teesa, *Frankl.*, white-eyed buzzard.
Archibuteo hemiptilopus, *Blyth*, brown eagle buzzard.

Harriers.
Circus cyaneus, *Linn.*, hen harrier.
C. Swainsonii, *A. Smith*, pale harrier.
C. cineraceus, *Montague*, Montague's harrier.
C. melanoleucos, *Gm.*, pied harrier.
C. æruginosus, *Linn.*, marsh harrier.

Sub-Fam. Milvinæ, Kites.
Haliastur Indus, *Bodd.*, maroon-backed, Brahmany kite.
Milvus govinda, *Sykes*, Pariah kite.
M. ater of Europe.
M. melanotis of China.
Pernis cristata, *Cuv.*, crested honey buzzard.
Baza lophotes, *Cuv.*, crested black kite.
Elanus melanopterus, *Daud*, black-winged kite.

Fam. Strigidæ, Owls. *Sub-Fam.* Striginæ, Screech Owls.
Strix Javanica, *De Wurmb.*, screech owl.
S. candida, *Tickell*, grass owl.
S. Indica, *Hume.*
Phodilus badius, *Horsf.*, bay screech owl.

Sub-Fam. Syrniinæ, Hooting Owls. *Sub-genus*, Bulaca.
Syrnium Indranee, *Sykes*, wood owl.
S. Newarense, *Hodgs.*, Nepal wood owl.
S. Sinense, *Lath.*, mottled wood owl.
S. niviculum, *Hodgs.*, Himalayan wood owl.
Bulaca ocellata, *Hume.*

Sub-Fam. Asioninæ, Eared Owls.
Otus vulgaris, *Flem.*, long-eared owl.
O. brachyotus, *Gm.*, short-eared owl.

Sub-Fam. Buboninæ, Horned, Eagle, and Scops Owls.
Urrua Bengalensis, *Frankl.*, rock horned owl.
U. coromanda, *Lath.*, dusky horned owl.
Huhua Nipalensis, *Hodgs.*, forest eagle owl.
Ketupa Ceylonensis, *Gm.*, brown fish owl.
K. flavipes, *Hodgs.*, tawny fish owl.
Ephialtes pennatus, *Hodgs.*, Indian Scops owl.
E. lettia, *Hume.*
E. lempigi, *Horsf.*, large Indian Scops owl.
E. bakkamæna, *Hume.*
E. griseus, *Hume.*
Scops rufescens, *Horsf.*, Malayana.

Sub-Fam. Surniinæ, *Kaup.*
Athene brama, *Temm.*, spotted owlet.
A. radiata, *Tickell*, jungle owlet.
A. Malabarica, *Blyth*, Malabar owlet.
A. cuculoides, *Vigns.*, large-barred owlet.
A. Persica, *Hume.*
Glaucidium Brodiæi, *Burton*, pigmy owlet.
Ninox scutellatus, *Raffl.*, brown hawk owl.

Order, Insessores, *Vigors*, Perching Birds.

Tribe, Fissirostres.

Fam. Hirundinidæ. *Sub-Fam.* Hirundininæ, Swallows.
a. Hirundo, True Swallows.
Hirundo rustica, *Linn.*, common swallow.
H. Tytleri, *Hume.*
H. domicola, *Jerdon*, Neilgherry house swallow.
H. ruficeps, *Hume.*
H. filifera, *Stephens*, wire-tailed swallow.
H. daurica, *Linn.*, red-rumped swallow.
H. fluvicola, *Jerdon*, Indian cliff swallow.

b. Sand Martins.
Cotyle riparia, *Linn.*, European sand martin.
C. subsoccata, *Hodgs.*, dusky martin.
C. Sinensis, *Gray*, Indian bank martin.

c. Crag Martins.
C. concolor, *Sykes*, dusky crag martin.
C. rupestris, *Scop.*, mountain crag martin.

d. House Martins.
Chelidon urbica, *Linn.*, English house martin.
C. Cashmiriensis, *Gould*, Kashmir house martin.
C. Nipalensis, *Hodgs.*, Himalayan martin.

Sub-Fam. Cypselinæ, Swifts.
Acanthylis sylvatica, *Tickell*, white-rumped spine tail.
A. gigantea, *Temm.*, brown-necked spine tail.
A. caudacuta, *Lath.*, white-necked spine tail.
Cypselus melba, *Linn.*, Alpine swift.
C. apus, *Linn.*, European swift.
C. affinis, *Gray*, Indian swift.
C. leuconyx, *Blyth*, white-clawed swift.
C. Batassiensis, *Gray*, palm-clawed swift.
Collocalia nidifica, *Latham*, edible nest swiftlet.
C. linchi (C. fuciphaga), Nicobars to Java.
Dendrochelidon coronatus, *Tickell*, crested swift.
D. klecho, Malayana.
D. comatus, Sumatra.
D. mystaceus, N. Guinea; and
D. Wallacei, Celebes.

Fam. Caprimulgidæ, Goat-suckers. *Sub-Fam.* Steatorninæ, *Gray.*
Batrachostomus moniliger, *Blyth*, frog-mouth.
Otothrix Hodgsonii, *Gray*, frog-mouth.

Sub-Fam. Caprimulginæ, Night Jars.
Caprimulgus Indicus, *Lath.*, jungle night jar.
C. Kelaartii, *Blyth*, Neilgherry jungle night jar.
C. albonotatus, *Tickell*, Bengal jungle night jar.
C. macrourus, *Horsf.*, Malay jungle night jar.
C. atripennis, *Jerdon*, Ghat jungle night jar.
C. Asiaticus, *Latham*, Indian jungle night jar.
C. Mahrattensis, *Sykes*, Sykes' jungle night jar.
C. monticolus, *Franklin*, Franklin's jungle night jar.
C. stictomus, *Swinhoe*, of China.

Fam. Trogonidæ, Trogons.
Harpactes fasciatus, *Gm.*, Malabar trogon.
H. Hodgsoni, *Gould*, red-headed trogon.

Fam. Meropidæ, Bee-eaters.
Merops viridis, *Linn.*, Indian bee-eater.
M. Philippensis, *Linn.*, blue-tailed bee-eater.
M. quinticolor, *Vieill.*, chestnut-headed bee-eater.
M. apiaster, *Linn.*, European bee-eater.
M. Ægyptius, *Forsk.*
M. badius of Malacca.
Nyctiornis Athertoni, *Jard.*, blue-necked bee-eater.
N. amictus of Malayana.

Fam. Coraciadæ, Rollers.
Coracias Indica, *Linn.*, Indian roller.
C. affinis, *M'Clel.*, Burmese roller.
C. garrula, *Linn.*, European roller.
Eurystomus orientalis, *Linn.*, broad-billed roller.
E. gularis, *V.*, N. Guinea.

Fam. Halcyonidæ, Kingfishers.
Sub-Fam. Halcyoninæ.
a. Entomothera.
Halcyon leucocephalus, *Gm.*, brown-headed kingfisher.
H. amauropterus, *Pearson*, brown-winged kingfisher.
b. Cancrophaga.
H. fuscus, *Bodd.*, white-breasted kingfisher.
H. atricapillus, *Gm.*, black-capped kingfisher.
c. Calialcyon.
H. Coromandelianus, *Sc.*, ruddy kingfisher.
H. Smyrnensis, *Hume.*
Todiramphus collaris, *Sc.*, white-collared kingfisher.
Ceyx tridactyla, *Pallas*, three-toed kingfisher.
C. rufidorsa, *Strickland*, Malayana.
C. luzoniensis, the most beautiful kingfisher.
Sub-Fam. Alcedininæ.
Alcedo Bengalensis, *Gm.*, Indian kingfisher.
A. euryzona, *Temm.*, great Indian kingfisher.
A. Meningting, Tenasserim to Java.
A. Beryllina, Java.
A. Moluccensis, Moluccas.
Ceryle rudis, *Linn.*, pied kingfisher.
C. guttata, *Vigors*, mottled kingfisher.
C. lugubris, *Schl.*, of Japan.

Fam. Eurylaimidæ, *Sw.*, Broadbills.
Psarisomus Dalhousiæ, *Jameson*, yellow-throated broadbill.
Serilophus rubropygia, *Hodgson*, red-backed broadbill.
Eurylaimus Javanicus, Malayana.
E. ochromelas, Malayana.
Corydon Sumatranus, Burma.
Cymbirhynchus macrorhynchus, Burma.
C. affinis, Arakan.
Peltops Blainvillii, N. Guinea.
Calyptomena viridis, Malacca, Archipelago.

Fam. Bucerotidæ, Hornbills.
Homraius bicornis, *Linn.*, great hornbill.
Hydrocissa coronata, *Bodd.*, Malabar hornbill.
H. albirostris, *Shaw*, Bengal hornbill.
H. affinis, *Hutton*, Dehra Doon hornbill.
H. convexa, *Temm.*, Malacca, Java.
H. Malayana, Malacca, Java.
H. nigrirostris, Malacca, Java.
Meniceros bicornis, *Sc.*, common grey hornbill.
Tockus Singhalensis, *Shaw*, jungle grey hornbill.
Aceros Nipalensis, *Hodgs.*, rufous-necked hornbill.
Rhinoplax scutatus, Malay Peninsula.
Rhyticeros ruficollis, *Tem.*, Burma, Malacca.
Rh. subruficollis, *Blyth*, Burma, Malacca.
R. plicatus, *Lath.*, Burma, Malacca.
Berenicornus Tickelli, *Blyth.*

TRIBE, SCANSORES, Climbers.
Fam. Psittacidæ, Parrots. *Sub-Fam.* Palæorninæ, Parrakeets.
Palæornis Alexandri, *Linn.*, Alexandrine parrakeet.
P. torquatus, *Bodd.*, rose-ringed parrakeet.
P. rosa, *Bodd.*, rose-headed parrakeet.
P. schisticeps, *Hodgs.*, slaty-headed parrakeet.
P. columboides, *Vigors*, blue-winged parrakeet.
P. Javanicus, *Osbeck*, red-breasted parrakeet.
P. calthrapæ, *Layard*, Ceylon parrakeet.
P. caniceps, *Blyth*, Nicobars, Penang.
P. erythrogenys, *Blyth*, Andamans.
P. longicauda, Sumatra, Malay Peninsula.

BIRDS.

Sub-Fam. Loriinæ, Lories.
Loriculus vernalis, *Sparrm.*, Indian lorikeet.
L. galgulus, Malay Peninsula.
L. Asiaticus, Ceylon.
Psittinus Malaccensis, Malay Peninsula.

The true lories inhabit the Moluccas and N. Guinea.

Sub-Fam. Cacatuinæ.
The cockatoos consist of—
(1) White cockatoos, with large crest, from Moluccas.
(2) Black cockatoos of Australia, forming the crested genera Microglossum and Calyptorhynchus.

The Nestorinæ have a greatly prolonged upper mandible. The Psittacinæ are found in both continents, and in the E. Archipelago. The maccaws have one large-sized group, viz. true Maccaws, the other Conurus, smaller.

Fam. Picidæ, Woodpeckers. *Sub-Fam.* Picinæ.
Picus Himalayanus, *J. and S.*, Him. pied woodpecker.
P. majoroides, *Hodgs.*, Darjiling black woodpecker.
P. cathpharius, *Hodgs.*, lesser black woodpecker.
P. macei, *Vieill.*, Indian spotted woodpecker.
P. Scindianus, *Gould*, Sind pied woodpecker.
P. brunneifrons, *Vig.*, brown-fronted woodpecker.
P. Mahrattensis, *Lath.*, yellow-fronted woodpecker.
P. Blanfordi, *Blyth*, Burma woodpecker.
P. atratus, *Blyth*, Burma.
P. Andamanensis, *Blyth.*
P. analis, *Temm.*, Java.
P. cabanisi, *Malh.*, China.
P. pectoralis, *Blyth.*
Hypopicus hyperythrus, *Vigors*, rufous-bellied woodpecker.
Yungipicus rubricatus, *Blyth*, Darjiling pigmy woodpecker.
Y. pygmæus, *Vigors*, Himalayan pigmy woodpecker.
Y. Hardwickii, *Jerd.*, southern pigmy woodpecker.
Y. Moluccensis, Java, Molucca.
Y. canicapillus, *Bl.*, Burma.
Y. gymnophthalmos, *Bl.*, Ceylon.
Y. scintilla, *Natt.*, Himalayas.
Y. maculatus, Philippines.
Y. zizuki, Japan.

Sub-Fam. Campephilinæ.
Hemicircus canente, *Less.*, heart-spotted woodpecker.
H. concretus, Malay Peninsula.
Chrysocolaptes sultaneus, *Hodgs.*, golden-backed woodpecker.
C. Goensis, *Gm.*, black-backed woodpecker.
Mulleripicus pulverulentus, *Temm.*, large slaty woodpecker.
M. Hodgsoni, *Jerd.*, great black woodpecker.
M. Javensis, *Horsf.*, Malacca.
M. Hodgei, *Bl.*, Andamans.

Sub-Fam. Gecininæ.
Gecinus squamatus, *Vig.*, scaly-bellied green woodpecker.
G. striolatus, *Blyth*, small green woodpecker.
G. occipitalis, *Vig.*, black-naped woodpecker.
G. viridanus, *Blyth*, Burma.
G. awokera, *T.*, Japan.
G. guerini, *Malh.*, China.
G. affinis, *Raffles*, Sumatra.
G. dimidiatus, *T.*, Java.
Chrysophlegma flavinucha, *Gould*, large yellow-naped woodpecker.
C. chlorolophus, *Vieill.*, lesser yellow-naped do.
C. chlorophanes *Vieill.*, southern yellow-naped do.
C. mentalis, *T.*, Burma, Malayana.
C. miniata, *Forster*, Malacca.
C. puniceus, *Horsf.*, S. Burma, Malayana.
Venilia pyrrhotis, *Hodgs.*, red-eared bay woodpecker.
V. rubiginosa, *Eyton*, Malacca.
Meiglyptes pectoralis, Malayana.
M. tristis, S. Burma, Malayana.
M. jugularis, *Bl.*, Burma.
M. Raffiesii.
Gecinulus grantia, *M'Clel.*, pale-headed woodpecker.
Micropternus phaioceps, *Blyth*, Bengal rufous woodpecker.
M. gularis, *Jerdon*, Madras rufous woodpecker.
M. badius, Malacca.
Brachypternus aurantius, *Linn.*, golden-backed do.
B. chrysonotus, *Less.*, golden-backed woodpecker.
B. dilutus, *Blyth*, pale-backed woodpecker.

BIRDS.

B. Ceylonus, Ceylon.
Chrysonotus shorei, *Vig.*, large 3-toed woodpecker.
C. intermedius, *Blyth*, common 3-toed woodpecker.
C. rubro-pygialis, *Malh.*, southern 3-toed woodpecker.

Sub-Fam. Picumninæ, Piculets.

Vivia innominata, *Burton*, speckled piculet.
Sasia ochracea, *Hodgs.*, rufous piculet.
Picumnus abnormis, *T.*, Malayana.

Sub-Fam. Yunginæ, Wrynecks.

Yunx torquilla, *Linn.*, common wryneck.
Y. Indica, *Gould*, chestnut-throated wryneck.

Sub-Fam. Indicatorinæ, Honey Guides.

Indicator xanthonotus, *Blyth*, yellow-backed honey guide.
I. Archipelagicus, *T.*, Malayana.

Fam. Megalaimidæ, Barbets.

Megalaima virens, *Bodd.*, great barbet.
M. lineata, *Vieill.*, Himalayan green barbet.
M. caniceps, *Franklin*, common green barbet.
M. viridis, *Gm.*, small green barbet.
M. Zeylanica, *Layard*.
M. corvinus, *T.*, Java.
M. phaiostictus, *T.*, Cochin-China.
Cynops Asiatica, *Lath.*, blue-throated barbet.
C. Franklinii, *Blyth*, golden-throated barbet.
Xantholæma Indica, *Lath.*, crimson-breasted barbet.
X. Malabarica, *Blyth*, crimson-throated barbet.
X. rubricapilla, *Gm.*, of Ceylon.
Chotorhœa, *sp.*, of Malay Peninsula and Arch.
Megalorhynchus Hayi, of Malacca.

Fam. Cuculidæ. *Sub-Fam.* Cuculinæ, Cuckoos.

Cuculus canorus, *Linn.*, European cuckoo.
C. Himalayanus, *Vigors*, Himalayan cuckoo.
C. poliocephalus, *Latham*, small cuckoo.
C. Sonneratii, *Latham*, banded bay cuckoo.
C. micropterus, *Gould*, Indian cuckoo.
C. striatus, *Drapiez*, hill cuckoo.
Hierococcyx varius, *Vahl.*, hawk cuckoo.
H. nisicolor, *Hodgs.*, hawk cuckoo.
H. sparverioides, *Vigors*, hawk cuckoo.
Polyphasia nigra, *Blyth*, plaintive cuckoo.
P. tenuirostris, *Gray*, Assam, Burma.
P. merulina, of Malayana.
Surniculus dicruroides, *Hodgs.*, drongo cuckoo.
S. lugubris, *Horsf.*
Chrysococcyx Hodgsoni, *Moore*, emerald cuckoo.
C. xanthorhynchus, *Horsf.*, Malayana.
C. Malayanus, *Horsf.*, Malayana.
C. basalis, *Horsf.*, Malayana.
Coccystes melanoleucos, *Gmel.*, pied-crested cuckoo.
C. coromandus, *Linn.*, red-winged cuckoo.
C. glandarius.
Eudynamys orientalis, *Linn.*, Indian koel cuckoo.

Sub-Fam. Phænicophainæ.

Zanclostomus tristis, *Less.*, green-billed malkoha.
Z. viridirostris, *Jerd.*, small green-billed malkoha.
Z. Javanicus, Burma, Malayana.
Z. Sumatranus, Burma, Malayana.
Z. diardi, Burma, Malayana.
Phænicophaus pyrrhocephalus, Ceylon.
P. curvirostris, Burma, Malayana.
Rhinortha, *sp.*, Malayana.

Sub-Fam. Centropodinæ, Coucals.

Centropus rufipennis, *Illiger*, common coucal; crow-pheasant.
C. viridis, *Scop.*, Indian crow-pheasant.
Taccocua Leschenaultii, *Less.*, sirkeer.
T. sirkee, *Gray*, Bengal sirkeer.
T. infuscata, *Blyth*, northern sirkeer.
T. affinis, *Blyth*, Central Indian sirkeer.

TRIBE, TENUIROSTRES.

Fam. Nectarinidæ. *Sub-Fam.* Nectarininæ, Sun-birds.

Arachnothera magna, *Hodg.*, spider-hunter.
A. pusilla, *Blyth*, *Hodg.*, spider-hunter.
A. Phayrei, *Bl.*, Pegu.
A. flavigastra, *Eyton*, Malacca.
A. chrysogenys, *Eyton*, Malacca.
A. modesta, *Eyton*, Malacca.
A. inornata, *Eyton*, Malacca.
Æthopyga miles, *Hodgs.*, red honey-sucker.
Æ. Vigorsii, *Sykes*, violet-eared honey-sucker.
Æ. Gouldiæ, *Vigors*, purple-tailed honey-sucker.
Æ. ignicauda, *Hodgs.*, fire-tailed honey-sucker.
Æ. Nipalensis, *Hodgs.*, maroon-backed honey-sucker.
Æ. Horsfieldii, *Bl.*, green-backed honey-sucker.
Æ. saturata, *Hodgs.*, black-breasted honey-sucker.
Leptocoma Zeylanica, *L.*, amethyst honey-sucker.
L. minima, *Sykes*, tiny honey-sucker.
Arachnechthra Asiatica, *Lath.*, purple honey-sucker.
A. lotenia, *L.*

Sub-Fam. Dicæinæ, Flower-peckers.

Dicæum coccineum, *Scop.*
D. chrysorhæum, *Temm.*
D. minimum, *Tickell.*
D. concolor, *Jerdon.*
Piprisoma agile, *Tickell.*
Myzanthe ignipectus, *Hod.*
Pachyglossa melanoxantha, *Hodgs.*

Fam. Certhiadæ. *Sub-Fam.* Certhinæ, Creepers.

Certhia Himalayana, *Vig.*
C. Nipalensis, *Hodgs.*
C. discolor, *Blyth.*
Salpornis, spilonata, *Frankl.*
Tichodroma muraria, *L.*

Sub-Fam. Sittinæ, Nuthaches.

Sitta Himalayensis, *Jard.* and *Selb.*
S. leucopsis, *Gould.*
S. castaneoventris, *Frank.*
S. cinnamomeoventris, *Bl.*
S. formosa, *Blyth.*
Dendrophila frontalis, *Horsf.*

Fam. Upupidæ. *Sub-Fam.* Upupinæ, Hoopoes.

Upupa epops, *Linn.*
U. nigripennis, *Gould.*

Fam. Melliphagidæ, Honey-eaters of Australia and Islands.

Fam. Paradiseidæ, Birds of Paradise.

Astrapia nigra, paradise pie, N. Guinea.
Cicinnurus regius, king paradise bird, N. Guinea.
Diphyllodes speciosa, the magnificent, N. Guinea.
D. Wilsoni, red paradise bird, Waigion.
Epimachus magnus, long-tailed paradise bird, N. Guinea.
Lophorina atra, the superb, New Guinea.
Paradisea apoda, great paradise bird, Aru.
P. Papuana, lesser paradise bird, N. Guinea.
P. rubra, red paradise bird, Waigion.
Parotia sexpennis, golden paradise bird, N. Guinea.
Ptiloris magnifica, scale-breasted paradise bird, N. Guinea.
Seleucides alba, 12-wired paradise bird, N. Guinea.
Semioptera Wallacei, standard wing, Batchian.
Sericulus aureus, paradise oriole, N. Guinea.

TRIBE, DENTIROSTRES.

Fam. Laniadæ. *Sub-Fam.* Lanianæ, Shrikes.

Lanius lahtora, *Sykes.*
L. erythronotus, *Vigors.*
L. tephronotus, *Jerdon.*
L. nigriceps, *Franklin.*
L. Hardwickii, *Vigors.*
L. cristatus, *Linn.*
L. arenarius, *Blyth.*
L. tigrinus, Malayana.
L. hypoleucos, *Blyth.*

Sub-Fam. Malaconotinæ, Wood Shrikes.

Tephrodornis pelvica, *Hod.*
T. sylvicola, *Jerdon.*
T. Pondiceriana, *Gmel.*
T. grisola, *Blyth.*
Hemipus picatus, *Sykes.*
H. obscurus, *Horsf.*, Java.

Sub-Fam. Campephaginæ, Cuckoo Shrikes.

Volvocivora Sykesii, *Strickland.*
V. melaschistos, *Hodgs.*
Graucalus macei, *Lesson.*
G. Papuensis, N. Guinea.
G. Javensis, Java.
G. fasciatus, Sumatra.
G. pusillus, *Blyth*, Ceylon.
Pericrocotus speciosus, *Latham.*
P. flammeus, *Forster.*
P. brevirostris, *Vigors.*
P. solaris, *Blyth.*
P. roseus, *Vieill.*
P. peregrinus, *Linn.*
P. erythropygeus, *Jerdon.*
P. albifrons, *Burm.*

Sub-Fam. Dicrurinæ, Drongo Shrikes.

Dicrurus macrocercus, *Vie.*
D. balicassius, *Linn.*
D. longicaudatus, *A. Hay.*
D. cœrulescens, *Linn.*
D. leucophœus, Malacca.
Chaptia ænea, *Vieillot.*
Bhringa remifer, *Temm.*
Edolius paradiseus, *Linn.*
E. Malabaricus, *Scop.*
E. Rangoonensis, *Gould.*
E. brachyphorus, *Temm.*; Borneo.
E. Formosus, *Cabanis.*
Chibia Hottentota, *Linn.*

Sub-Fam. Artaminæ, Swallow Shrikes.

Artamus fuscus, *Vieillot.*
A. leucorhynchos, Philippines.
A. leucogaster, *Val.*, Java.

Fam. Muscicapidæ, Fly-catchers. *Sub-Fam.* Myiagrinæ.

Tchitrea paradisi, *Linn.*
T. affinis, *A. Hay.*
T. atricaudata, *Eyton.*
T. principalis, China, Japan.
T. Gaimardi, *Lesson.*
Myiagra azurea, *Bodd.*
Leucocerca fuscoventris, *Fr.*
L. leucogaster, *Hume.*
L. albofrontata, *Franklin.*
L. pectoralis, *Jerdon.*
L. Javanica, Malayana.
Chelidorhynx hypoxantha, *Blyth.*
Cryptolopha cinereo-capilla, *Vieill.*
Philentoma, *sp.*, Malacca.

Sub-Fam. Muscicapinæ, Fly-catchers.

Hemichelidon fuliginosus, *Hodgs.*
Alseonax latirostris, *Raffles.*
A. terricolor, *Hodgs.*
A. ferrugineus, ,,
Ochromela nigrorufa, *Jer.*
Eumyias melanops, *Vig.*
E. albicaudata, *Jerdon.*
E. indigo, *Horsf.*, Java.
Cyornis unicolor, *Blyth.*
C. rubeculoides, *Vigors.*
C. banyumas, *Horsf.*
C. Tickelliæ, *Blyth.*
C. ruficauda, *Swains.*
C. magnirostris, *Blyth.*
C. pallipes, *Jerdon.*
C. elegans, *Tem.*, Sumatra.
C. hyacinthina, *Temm.*
C. Jerdoni, *Hume.*
Muscicapula superciliaris, *Jerdon.*
M. æstigma, *Hodgson.*
M. sapphira, *Tickell.*
Nitidula Hodgsoni, *Moore.*
Niltava sundarara, *Hodgs.*
N. Macgrigoriæ, *Burton.*
N. grandis, *Blyth.*
Anthipes moniliger, *Hodgs.*
Siphia tricolor, ,,
S. strophiata, ,,
S. leucomelanura, ,,
S. superciliaris, *Blyth.*
S. erythaca, ,,
Erythrosterna leucura, *Gm.*
E. pusilla, *Blyth.*
E. acornaus, *Hodgs.*
E. maculata, *Tickell.*

Fam. Merulidæ, Thrushes. *Sub-Fam.* Myiotherinæ, Ground Thrushes.

Tesia castaneo-coronata, *Burton.*
T. cyaniventer, *Hodgs.*
Pnoepyga squamata, *Gould.*
P. pusilla, *Hodgson.*
P. caudata, *Blyth.*
P. longicaudata, *Moore.*
Troglodytes Nipalensis, *Hodgs.*
T. punctatus, *Blyth.*
Rimator malacoptilus, *Bl.*
Brachypteryx Nipalensis, *Hodgs.*
B. hyperythra, *Jerdon.*
B. cruralis, *Blyth.*
B. montana, Java.
B. Palisseri, *Kelaart*, Ceyl.
B. albifrons, *Boie*, Java.
Callene rufiventris, *Blyth.*
C. frontalis, ,,
Hodgsonius phænicuroides, *Hodgson.*

Whistling Thrushes.

Myiophonus Horsfieldii, *Vigors.*
M. Temminckii, *Vigors.*
M. cyaneus, Java.
Hydrornis Nipalensis, *Hod.*
Pitta Bengalensis, *Gmel.*
P. cucullata, *Hartl.*
Hydrobata Asiatica, *Swains.*
H. Cashmiriensis, *Gould.*
H. sordida, ,,
Zoothera monticola, *Vig.*

Sub-Fam. Merulinæ, True Thrushes.

Petrocossyphus cyaneus, *L.*
Orocetes erythrogastra, *Vigors.*
O. cinclorhynchus, *Vigors.*
O. eremita, Philippines.
Geocichla cyanotus, *J. & S.*
G. citrina, *Latham.*
G. unicolor, *Tickell.*
Turdulus Wardii, *Jerdon.*
T. cardis, *Temm.*
Merula nigropileus, *Lafr.*
M. simillima, *Jerdon.*
M. boulboul, *Latham.*
M. albocincta, *Royle.*
M. castanea, *Gould.*
M. Kinnisii, *Kelaart.*
M. leucogaster, *Blyth.*
M. mandarina, China.
Planesticus ruficollis, *Pallas.*
P. atrogularis, *Temm.*
P. fuscatus, *Pallas.*
P. pilaris, *L.*, fieldfare.
Turdus Hodgsoni, *Lafresnaye*, missel thrush.
T. iliacus, *Linn.*
Oreocincla mollissima, *Bl.*
O. dauma, *Latham.*
O. Nilgiriensis, *Blyth.*
O. inframarginata, *Blyth*, Andamans.
O. spiloptera, *Bl.*, Ceylon.
O. Horsfieldii, *Bon.*, Java.
O. Heinii, *Cab.*, Japan.

Sub-Fam. Timalinæ, Babbling Thrushes.

Paradoxornis flavirostris, *Gould.*
P. gularis, *Horsfield.*
P. ruficeps, *Blyth.*
Heteromorpha unicolor, *Hodgson.*
Chleuasicus ruficeps, *Bl.*
Suthora Nipalensis, *Hod.*
S. poliotis, *Blyth.*
S. fulvifrons, *Hodgson.*
Conostoma œmodium, *Hodgson.*
Grammatoptila striata, *V.*
Thamnocataphus picatus, *Tickell.*
Gampsorhynchus rufulus, *Blyth.*
Pyctorhis Sinensis, *Gm.*
P. longirostris, *Hodgson.*
Trichastoma Abbotti, *Bl.*
T. bicolor, *Less.*, and T. olivaceum, *Strickland*, and T. rostratum, *Blyth*, are from Malacca.

BIRDS.

Alcippe Nipalensis, *Hodgs.*
A. poiocephala, *Jerdon.*
A. atriceps, ,,
Stachyris nigriceps, *Hod.*
S. pyrrhops, ,,
S. ruficeps, *Blyth.*
S. chrysæa, *Hodgson.*
Mixornis rubicapillus, *Tic.*
Timalia pileata, *Horsf.*
T. erythroptera, and T. maculata, and T. nigricollis are from Malacca.
Dumetia hyperythra, *Franklin.*
D. albogularis, *Blyth.*
Pellorneum ruficeps, *Swainson.*
Pomatorhinus ruficollis, *Hodgs.*
P. ferruginosus, *Blyth.*
P. schisticeps, *Hodgson.*
P. leucogaster, *Gould.*
P. Horsfieldii, *Sykes.*
P. erythrogenys, *Gould.*
P. hypoleucos, *Blyth*, Arakan.
P. M'Clellandi, *Jerdon*, Khassya hills.
P. Isodorei, *Lesson*, N. Guinea.
P. Borneensis, *Cab.*
P. musicus, *Swin.*, China.
P. stridulus, ,, ,,
Xiphoramphus superciliaris, *Blyth.*
Garrulax leucolophus, *H.*, laughing thrush.
G. cærulatus, *Hodgs.*
G. Delesserti, *Jerd.*
G. ruficollis, *Jard. and Selb.*
G. albogularis, *Gould.*
G. pectoralis, *Gould.*
G. moniliger, *Hodgs.*
G. ocellatus, *Vigors.*
Trochalopteron erythrocephalum, *Vigors.*
T. chrysopterum, *Gould.*
T. subunicolor, *Hodgs.*
T. variegatum, *Vigors.*
T. affine, *Hodgs.*
T. squamatum, *Gould.*
T. rufogulare, ,,
T. phœniceum, ,,
T. cachinnans, *Jerdon.*
T. Jerdoni, *Blyth.*
T. lineatum, *Vigors.*
T. setafer, *Hodgs.*
Actinodura Egertoni, *Gould.*
A. Nipalensis, *Hodgson.*
Sibia capistrata, *Vigors.*
S. picaoides, *Hodgs.*
S. gracilis, *M'Clel.*, of Assam.
S. melanoleuca, *Tickell*, Tenasserim.
Acanthoptila Nipalensis, *Hodgs.*
Malacocircus terricolor, *Hodgs.*
M. griseus, *Gm.*
M. Malabaricus, *Jerdon.*
M. Somervillei, *Sykes.*
M. Malcolmi, ,,
Layardia subrufa, *Jerdon.*
Chatarrhœa caudata, *Dumeril.*
C. Earlei, *Blyth.*
C. gularis, ,, of Burma.
Megalurus palustris, *Horsf.*
Chætornis striatus, *Jerd.*
Schœnicola platyura, ,,
Eurycercus Burnesii, *Bly.*

Fam. Brachypodidæ, Short-legged Thrushes. *Sub-Fam.* Pycnonotinæ, True Bulbuls.

Hypsipetes psaroides, *Vig.*
H. Neilgherriensis, *Jerd.*
H. Ganeesa, *Sykes.*
H. M'Clellandi, *Horsf.*
H. Malaccensis, from Malacca.
H. Philippensis, from Philippines.
H. Tickelli, *Blyth*, from Tenasserim.
Hemixos flavala, *Hodgson.*
Alcurus striatus, *Blyth.*
Criniger ictericus, *Strickl.*
C. flaveolus, *Gould.*
C. ochrocephalus, *Gould.*
Pycnonotus inornatus, *Kuhl*, from Sumatra.
P. simplex, *Kuhl*, from Sumatra.
P. rufocaudatus, *Eyton*, Java and Malacca.
Tricophorus gutturalis, *Müll.*, Borneo.
T. sulphurata, *Müll.*, Bor.
T. flavicaudus, *Bon.*, Amboyna.
Setornis criniger, *Blyth*, Malacca.
Spizixos canifrons, *Blyth*, Khassya.
Ixos luteolus, *Less.*
I. xantholæmus, *Jerdon.*
I. flavescens, *Bl.*, Khassya.
I. tristis, *Blyth*, Arakan.
I. Blanfordi, *Jer.*, Burma.
I. plumosus, *Brand*, Mal.
I. Brunneus, *Bl.*, Malacca.
I. tigus, *Müll.*, Sumatra.
Kelaartia penicillata, *Bly.*
Rubigula gularis, *Gould.*
R. flaviventris, *Tickell.*
R. bomaculatus, *Lesson*, Java.
Brachypodius poiocephalus, *Jerdon.*
Otocompsa leucogenys, *Gray.*
O. leucotis, *Gould.*
O. jocosa, *Linn.*
Pycnonotus pygæus, *Hod.*
P. hæmorhous, *Gmelin.*

Sub-Fam. Phyllornithinæ, Green Bulbuls.

Phyllornis Jerdoni, *Blyth.*
P. Malabaricus, *Latham.*
P. aurifrons, *Temm.*
P. Hardwickii, *J. and S.*
P. Cochin-Sinensis.
P. icterocephalus.
Jora Zeylonica, *Gmel.*
J. typhia, *Linn.*
J. scapularis, of Java.
J. La Fresnayii, *Hartlaub.*
J. viridis, *Temm.*
J. viridissima, ,,

Sub-Fam. Ireninæ, Blue Birds.

Irena puella, *Latham.*
I. Malayensis, *Moore.*
I. cyanogastra, *Vigors.*

Sub-Fam. Oriolinæ, Orioles.

Oriolus Kundoo, *Sykes.*
O. Indicus, *Brisson.*
O. melanocephalus, *Linn.*
O. Ceylonensis, *Bonap.*
O. Traillii, *Vigors.*

Fam. Sylviadæ, Warblers. *Sub-Fam.* Saxicolinæ, Stonechats.

Copsychus saularis, *Linn.*
C. Ceylonensis, *Slater.*
C. Mindanensis.
C. amoenus, *Horsf.*
C. luzoniensis, *Kittlitz.*
C. pluto, *Temm.*, Borneo.
C. suavis.
Kittacincla macroura, *Gm.*, the shama.
K. albiventris, *Blyth.*
K. Stricklandi, *Mottl.*
Myiomela leucura, *Hodgs.*
Grandala cœlicolor, ,,
Thamnobia fulicata, *Linn.*
T. Cambayensis, *Lath.*
Pratincola caprata, *Linn.*
P. atrata, *Blyth.*
P. Indica, ,,
P. leucura, ,,
P. insignis, *Hodgson.*
P. ferrea, ,,
Rhodophila melanoleuca, *Jerdon.*
Saxicola leucuroides, *Guerin.*
S. picata, *Blyth.*
S. leucomela, *Pallas.*
S. œnanthe, *Linn.*
S. deserti, *Ruppell.*
S. stapazina, of Arabia.
Cercomela melanura, *Rupp.*
C. fusca, *Blyth.*

Sub-Fam. Ruticillinæ, Redstarts.

Ruticilla phœnicura, *Linn.*
R. phœnicuroides, *Moore.*
R. rufiventris, *Vieillot.*
R. Hodgsonii, *Moore.*
R. erythrogastra, *Guldenst.*
R. aurorea, *Pallas.*
R. schisticeps, *Hodgson.*
R. nigrogularis, ,,
R. frontalis, *Vigors.*
R. cæruleocephala, *Vigors.*
R. fuliginosa, ,,
Chæmorrornis leucocephala, *Vigors.*
Larvivora cyana, *Hodgs.*
Ianthia cyanura, *Pallas.*
I. hyperythra, *Blyth.*
I. superciliaris, *Hodgson.*
Tarsiger chrysæus, ,,
Calliope Kamtschatkensis, *Gmel.*
C. pectoralis, *Gould.*
Cyanecula suecica, *Linn.*

Sub-Fam. Calamoherpinæ, Grass Warblers.

Acrocephalus brunnescens, *Jerdon.*
A. dumetorum, *Blyth.*
A. agricolus, *Jerdon.*
Arundinax olivaceus, *Bly.*
Dumeticola affinis, *Hodgs.*
Locustella certhiola, *Pall.*
L. rubescens, *Blyth.*
L. nævia, *Hume.*
Tribura luteoventris, *Hodg.*
Horornis fulviventris, ,,
H. flaviventris, ,,
H. fulginiventer, ,,
H. fortipes, ,,
Horeites brunneifrons, ,,
H. pollicaris, ,,
H. major, ,,

Sub-Fam. Drymoicinæ, Wren Warblers.

Orthotomus longicauda.
O. phyllorapheus, *Swinhoe.*
O. coronatus, *Jerd.*
O. edela, *Temm.*
O. ruficeps, *Lesson.*
O. atrogularis, *Temm.*
O. flavoviridis, *Moore.*
O. cinerasceus, *Blyth.*
Prinia flaviventris, *Delese.*
P. Adamsi, *Jerdon.*
P. socialis, *Sykes.*
P. Stewarti, *Blyth.*
P. gracilis, *Franklin.*
P. cinereo-capilla, *Hodgs.*
P. Hodgsoni, *Blyth.*
Cisticola schœnicola, *Bona.*
C. erythrocephala, *Jerdon.*
C. Tytleri, *Blyth.*
Graminicola Bengalensis, *Jerdon.*
Drymoipus inornatus, *Syk.*
D. longicaudatus, *Tickell.*
D. sylvaticus, *Jerdon.*
D. neglectus, ,,
Suya criniger, *Hodgs.*
S. fuliginosa, ,,
S. atrogularis, *Moore.*
Burnesia lepida, *Blyth.*
Franklinia Buchanani, *Bly.*

Sub-Fam. Phylloscopinæ, Tree Warblers.

Neornis flavolivacea, *Hodg.*
Phyllopneuste rama, *Sykes.*
Phylloscopus tristis, *Blyth.*
P. fuscatus, ,,
P. magnirostris, ,,
P. trochilus, *Linn.*
P. lugubris, *Blyth.*
P. nitidus, *Lath.*
P. viridanus, *Blyth.*
P. affinis, *Tickell.*
P. Indicus, *Jerdon.*
Reguloides occipitalis, *Jerd.*
R. trochiloides, *Sunde.*
R. proregulus, *Pallas.*
R. chloronotus, *Hodgson.*
R. viridipennis, *Blyth.*
R. crochroa, *Hodgs.*
Culicipeta Burkii, *Burton.*
C. cantator, *Tickell.*
Abrornis schisticeps, *Hodg.*
A. xanthoschistos, ,,
A. albosuperciliaris, *Blyth.*
A. flaviventris, *Jerdon.*
A. poliogenys, *Blyth.*
A. affinis, *Hodgs.*
A. albogularis, *Hodgs.*
A. castaneoceps, ,,
Tickellia Hodgsoni, *Moore.*
Regulus Himalayensis, *Bly.*

Sub-Fam. Sylviinæ, Grey Warblers.

Sylvia orphea, *Temm.*
S. affinis, *Blyth.*
S. curruca, *Gmelin.*

Sub-Fam. Motacillinæ, Wagtails and Pipits.

a. Hill Wagtails.

Enicurus maculatus, *Vig.*
E. immaculatus, *Hodgs.*
E. schistaceus, ,,
E. Scouleri, *Vigors.*
E. nigrifrons, *Hodgs.*

b. Water Wagtails.

Motacilla Maderaspatana, *Br.*
M. Luzoniensis, *Scopoli.*
M. Dukhunensis, *Sykes.*
Calobates sulphurea, *Bech.*

c. Field Wagtails.

Budytes viridis, *Gmelin.*
B. citreola, *Pallas.*

d. Garden Wagtails.

Nemoricola Indica, *Gmelin.*

a. Tree Pipits.

Pipastes agilis, *Sykes.*
P. arboreus, *Bechst.*
P. montanus, *Jerdon.*

b. Titlarks.

Corydalla Richardi, *Vieill.*
C. rufula, *Vieill.*
C. striolata, *Blyth.*
C. Hasselti, *Brehm.*
C. infuscata, *Blyth.*

c. Stone or Lark Pipits.

Agrodroma campestris, *Linn.*
A. cinnamomea, *Rupp.*
A. sordida, ,,

d. True Pipits.

Anthus cervinus, *Pallas.*
Heterura sylvana, *Hodgs.*

Fam. Ampelidæ. *Sub-Fam.* Leiotrichinæ.

a. Blue Thrush Tits.

Cochoa purpurea, *Hodgs.*
C. viridis, *Hodgs.*

b. Hill Tits.

Pteruthius erythropterus, *Vig.*
P. rufiventer, *Blyth.*
Allotrius œnobarbus, *Tem.*
A. flaviceps, *Temm.*
Cutia Nipalensis, *Hodgs.*
Leioptila annectans, *Blyth.*
Leiothrix luteus, *Scop.*
L. argentauris, *Hodgs.*
Siva strigula, ,,
S. cyanouroptera, ,,
Minla ignotincta, ,,
M. castaniceps, ,,
M. cinerea, *Blyth.*

c. Flower-pecker.

Proparus chrysœus, *Hodgs.*
P. vinipectus, ,,
Ixulus flavicollis, ,,
I. occipitalis, *Blyth.*
I. striatus, ,,
Yuhina gularis, *Hodgs.*
Y. occipitalis, ,,
Y. nigrimentum, *Hodgs.*
Myzornis pyrrhoura, ,,
Erpornis xantholeuca, ,,
Zosterops palpebrosus, *Tem.*
Sylviparus modestus, *Burt.*
Cephalopyrus flammiceps, *Burton.*

Sub-Fam. Parinæ, Tits.

Ægithaliscus erythrocephalus, *Vigors.*
Æ. iouschistos, *Hodgs.*
Æ. niveogularis, *Gould.*
Lophophanes dichrous, *Hod.*
L. melanolophos, *Vigors.*
L. rubidiventris, *Blyth.*
L. rufonuchalis, ,,
L. Beavani, ,,
Parus cœmodius, *Hodgs.*
P. Atkinsoni, *Jerdon.*
P. monticolus, *Vigors.*
P. cinereus, *Vieill.*
P. nuchalis, *Jerdon.*
Machlolophus xanthogenys, *Vigors.*
M. Jerdoni, *Blyth.*
M. spilinotus, ,,
Melanochlora sultanea, *Hodgs.*

Sub-Fam. Accentorinæ, Accentors.

Accentor immaculatus, *Hodgs.*
A. Nipalensis, *Hodgs.*
A. altaicus, *Brandt.*
A. strophiatus, *Hodgs.*
A. Huttoni, *Moore.*
A. rubeculoides, *Hodgs.*

TRIBE, CONIROSTRES.

Fam. Corvidæ. *Sub-Fam.* Corvinæ, Crows, Rooks, Nut-crackers, Magpies.

Corvus corax, *Linn.*
C. Tibetanus, *Hodgs.*
C. corone, *Linn.*
C. culminatus, *Sykes.*
C. intermedius, *Adams.*
C. tenuirostris, *Moore.*
C. splendens, *Vieill.*
C. frugilegus, *Linn.*
Colæus monedula, *Kaup.*
C. dauricus, *Pallas.*
Nucifraga hemispila, *Vig.*
N. multimaculata, *Gould.*
Pica Bottanensis, *Deles.*
P. Bactriana, *Bonap.*

Sub-Fam. Garrulinæ, Jays.

Garrulus bispecularis, *Vig.*
G. lanceolatus, *Vigors.*
Urocissa Sinensis, *Linn.*
U. flavirostris, *Blyth.*
Cissa Sinensis, *Briss.*

Sub-Fam. Dendrocittinæ, Magpies.

Dendrocitta rufa, *Scop.*
D. pallida, *Blyth.*
D. Sinensis, *Latham.*
D. frontalis, *M'Clel.*
D. leucogastra, *Gould.*

Sub-Fam. Fregilinæ, Choughs.

Fregilus Himalayanus, *Gould.*
Pyrrhocorax alpinus, *Vieill.*

Fam. Sturnidæ. *Sub-Fam.* Sturninæ, Starlings.

Sturnus vulgaris, *Linn.*	A. fuscus, *Wagler.*
S. unicolor, *Marm.*	A. cristatellus, China.
S. cineraceus, *Temm.*	A. Javanicus, Java.
Sturnopastor contra, *Linn.*	Temenuchus pagodarum, *Gm.*
S. tricolor, *Horsf.*	T. Malabaricus, *Gm.*
S. temporalis, *Wagler.*	T. Blythii, *Jerdon.*
Acridotheres tristis, *Linn.*, *Myna.*	Pastor roseus, *Linn.*
A. Ginginianus, *Lath.*	

Sub-Fam. Lamprotorninæ, Hill Mynas.

Saraglossa spiloptera, *Vig.*	Enodes erythrophrys, Java.
Eulabes religiosa, *Linn.*	Scissirostrum pagei, Celeb.
E. intermedia, *A. Hay.*	Basilornis, *sp.*
E. ptilogenys, *Blyth.*	Calornis dauricus.
Graculus venerata, *Temm.*	Lamprotornis cantor.
Ampeliceps coronatus, *Bly.*	

Fam. Fringillidæ. *Sub-Fam.* Ploceinæ, Weaver Birds.

Ploceus Baya, *Blyth.*	P. Bengalensis, *Linn.*
P. manyar, *Horsf.*	P. Philippinus.

Sub-Fam. Estreldinæ, Amadavads, Munias.

Munia Malacca, *Linn.*	M. acuticauda, *Hodgs.*
M. rubronigra, *Hodgs.*	M. Malabarica, *Linn.*
M. undulata, *Lath.*	Estrelda amandava, *Linn.*
M. pectoralis, *Jerdon.*	E. Formosa, *Lath.*
M. striata, *Linn.*	

Sub-Fam. Passerinæ, Sparrows.

Passer Indicus, *J. and S.*	P. pyrrhopterus, *Jerd.*
P. salicicolus, *Vieill.*	P. flaveolus, *Blyth.*
P. cinnamomeus, *Gould.*	P. jugiferus, *Temm.*
P. pyrrhonotus, *Blyth.*	P. flavicollis, *Frank.*
P. montanus, *Linn.*	

Sub-Fam. Emberizinæ, Buntings.

a. True Buntings.

Emberiza pithyornis, *Palla.*	E. spodocephala, *Pallas.*
E. cia, *Linn.*	E. Stewarti, *Blyth.*
E. Stracheyi, *Moore.*	E. fucata, *Pallas.*
E. hortulana, *Linn.*	E. pusilla, ,,
E. Huttoni, *Blyth.*	

b. Yellow Corn Buntings.

Euspiza melanocephala, *Gm.*	E. aureola, *Pallas* and many others.
E. lutcola, *Sparr.*	

c. Crested Buntings.

Melophus melanicterus, *Gmel.*

Sub-Fam. Fringillinæ.

a. Grosbeaks.

Hesperiphona icterioides, *Vig.*	Mycerobas melanoxanthos, *Hodgs.*
H. affinis, *Blyth.*	M. carnipes, *Hodgs.*

b. Bullfinches.

Pyrrhula erythrocephala, *Vig.*	P. aurantiaca, *Gould.*
P. erythaca, *Blyth.*	Pyrrhoplectes epauletta, *Hodgs.*
P. Nipalensis, *Hodgs.*	

c. Crossbills.

Loxia Himalayana, *Hodgs.*	Propyrrhula subhemachala, *Hodgs.*
Hæmatospiza sipahi, ,,	
Chaunoproctus papa, *Bon.*	

d. Rose Finches.

Carpodacus rubicilla, *Kaup*	P. pulcherrimus, *Hodgs.*
C. erythrinus, *Pallas.*	P. frontalis, *Blyth.*
Propasser rodopeplus, *Vig.*	P. Murrayi, ,,
P. thura, *Bon.*	Procarduelis Nipalensis, *Hodgs.*
P. rhodochlamys, *Brandt.*	Pyrrhospiza punicea, *Hod.*
P. rhodochrous, *Vig.*	

e. True Finches.

Callacanthis Burtoni, *Gould.*	Serinus canaria, Canary birds.
Carduelis caniceps, *Vigors.*	Fringilla montifringilla, *Linn.* and others.
Chrysomitris spinoides, *Vigors.*	Fringillauda nemoricola, *Hodgs.*
Metoponia pusilla, *Pallas.*	

Sub-Fam. Alaudinæ, Larks.

a. Bush Larks.

Mirafra Assamica, *M'Clel.*	M. erythroptera, *Jerdon.*
M. affinis, *Jerdon.*	M. cantillans, ,,

b. True Larks and Sky Larks.

Ammomanes phœnicura, *Frank.*	O. longirostris, *Gould.*
A. Lusitanica, *Gm.*	Spizalauda deva, *Sykes.*
Pyrrhulauda grisea, *Scop.*	Alauda triborhyncha, *Hodgs.*
Calandrella brachydactyla, *Temm.*	A. gulgula, *Franklin.*
Alaudala raytal, *B. H.*	A. Malabarica, *Scop.*
Otocoris penicillata, *Gould.*	Galerida cristata, *Linn.*

c. Desert Larks.

Certhilauda desertorum.

Order, Gemitores, Pigeons.

Fam. Treronidæ. *Sub-Fam.* Trerorinæ, Green Pigeons.

Treron Nipalensis, *Hodgs.*	A. Malabarica, *Jerdon.*
T. psittacea, *Gmel.*	A. Phayrei, *Blyth.*
T. curvirostra, ,,	A. flavo-gularis, ,,
T. aromatica, ,,	A. pompadoura, *Gm.*
T. axillaris, *Gray.*	A. olax, *Temm.*
T. capellii, *Temm.*	A. fulvicollis, *Wagl.*
Crocopus phœnicopterus, *Latham.*	Sphenocercus sphenurus, *Vigors.*
C. chlorigaster, *Blyth.*	S. apicaudus, *Hodgs.*
Osmotreron bicincta, *Jerd.*	

Sub-Fam. Carpophaginæ, Fruit Pigeons.

Carpophaga sylvatica, *Tick.*	C. insignis, *Hodgs.*

Fam. Columbidæ. *Sub-Fam.* Palumbinæ, Wood Pigeons.

Alsocomus puniceus, *Tick.*	P. pulchricollis, *Hodgs.*
A. Hodgsonii, *Vigors.*	P. Elphinstonei, *Sykes.*
Palumbus casiotis, *Bonap.*	

Sub-Fam. Columbinæ, Rock Pigeons.

Palumbœna Eversmanni, *Bon.*	C. rupestris, *Pallas.*
Columba intermedia, *Stric.*	C. leuconota, *Vigors.*

Sub-Fam. Macropyginæ, Cuckoo Doves.

Macropygia tusalia, *Hodg.*	M. phasianella, *Temm.*
M. rufipennis, *Blyth.*	M. macrura, *Gmel.*
M. ruficeps, *Temm.*	

Sub-Fam. Turturinæ, Turtle Doves.

a. Auriti.

Turtur rupicolus, *Pallas.*	T. meena, *Sykes.*

b. Maculicolles.

T. Cambayensis, *Gmel.*

c. Tigrini.

T. Suratensis, *Gmel.*

d. Streptopelieæ, Ring Doves.

T. risoria, *Linn.*	T. humilis, *Temm.*

Fam. Gouridæ. *Sub-Fam.* Phapinæ, Ground Doves.

Chalcophaps Indicus, *Linn.*	G. striata of Java.
C. Stephani of N. Guinea.	Calœnas Nicobaricus.
C. Javanicus, *Gm.*, Java.	Goura coronata.
Geopilia, *sp.*, of Malayana.	G. Victoriæ.

Order, Rasores, Game Birds.

Fam. Megapodidæ. *Sub-Fam.* Megapodinæ, Mound Birds.

Megapodius Nicobariensis, *Blyth.*	Leipoa ocillata of Australia.
	Mesitus variegata.

Sub-Fam. Talegallinæ, Mound Birds, Brush Turkey.

Talegalla Lathami.	Megacephalon maleo, Celebes.
T. Cuvierii; N. Guinea.	

Fam. Pteroclidæ, Sand Grouse or Rock Pigeon.

Pterocles arenarius, *Pallas.*	P. exustus, *Temm.*
P. fasciatus, *Scopoli.*	P. Senegallus, *Linn.*
P. alchata, *Linn.*	

Fam. Phasianidæ. *Sub-Fam.* Pavoninæ, Pea-fowl.

Pavo cristatus, *Linn.*	P. bicalcaratum, *Linn.*
P. muticus, ,,	P. Napoleonis, *Masseng.*
Polyplectron Tibetanum, *Temm.*	P. chalcurus, *Temm.*
P. lineatum, *Hardw.*	Argusanus giganteus, *Tem.*

Sub-Fam. Phasianinæ, Pheasants.

Lophophorus Impeyanus, *Latham.*	P. Torquatus.
Crossoptilon auretum, *Pal.*	P. Mongolicus, *Gould.*
C. Tibetanum, *Hodgs.*	P. versicolor, *Vieill.*
Ceriornis satyra, *Linn.*	P. Reevesii, *Gray.*
C. melanocephala, *Gray.*	P. Soemmeringii, *Temm.*
C. Temminckii, ,,	Thaumalea picta.
Ithaginis cruentus, *Hardw.*	T. Amherstiæ.
Pucrasia macrolophia, *Less.*	Gennæus nycthemerus, *Gould.*
P. castanea, *Gould.*	Gallophasis albocristatus, *Vigors.*
Phasianus Wallichii, *Hard.*	G. melanotus, *Blyth.*
P. Colchicus.	G. Horsfieldii, *Gray.*
P. lineatus, *Lath.*	

Sub-Fam. Gallinæ, Jungle Fowls, Firebacks, Black Pheasants.

Gallus ferrugineus, *Gmel.*	Galloperdix spadiceus, *Gm.*
G. Sonneratii, *Temm.*	G. lunulosus, *Val.*
G. Stanleyi, *Gray.*	G. Zeylonensis.
G. furcatus, *Temm.*	Diardigallus prelatus.

Fam. Tetraonidæ, Grouse and Partridges.

Sub-Fam. Perdicinæ.

a. Snow Fowl.

Tetraogallus Himalayensis, *Gray*, snow cock.	Francolinus vulgaris, *Steph.*
T. Tibetanus, *Gould.*	F. pictus, *Jard. and Selb.*
T. Caucasicus, *Pallas.*	F. Phayrei, *Blyth.*
Lerwa nivicola, *Hodgs.*	Tetrao pintadeus, *Scopoli.*

b. Rock or Sand Partridges.

Caccabis chukor, *Gray.*	Ammoperdix bonhami, *Gr.*

c. Grey or Bush Partridges.

Ortygornis Ponticerianus, *Gmel.*	Rhizothera longirostris, *Temm. ?*
O. gularis, *Temm.*	

d. Wood Partridges.

Arboricola torqueola, *Val.*	P. personata, *Horsf.*
A. rufogularis, *Blyth.*	P. Javanica, *Gm.*
A. atrogularis, ,,	P. Charltoni of Penang.
A. intermedia, ,,	Rollulus coronatus of Malacca.
A. brunneopectus, *Tickell.*	R. niger.
A. sphenura of China.	
Perdix Hodgsoniæ, *Gould.*	

e. Bush Quails.

Perdicula Cambayensis, *Latham.*	P. Asiatica, *Latham.*
	P. erythrorhyncha, *Sykes.*

Sub-Fam. Coturnicinæ, Quails.

Coturnix communis, *Bona.*	E. Novæ Guineæ, *Gould.*
C. Coromandelica, *Gmel.*	E. Adamsoni, *Verreaux.*
Excalfactoria Chinensis, *L.*	E. minima, *Gould.*

Fam. Tinamidæ. *Sub-Fam.* Turnicinæ, Quails.

Turnix taigoor, *Sykes.*	T. Sykesii, *A. Smith.*
T. ocellatus, *Scopoli.*	T. maculosis, *Temm.*
T. Dussumierii, *Temm.*	

Order, Grallatores, Waders.

Tribe, Struthiones, *Latham*, Ostrich, Emu, Cassowaries, Moa.

Struthio camelus, *Linn.*	C. uniappendiculatus, *Bly.*
Dromaius Novæ Hollandiæ.	C. Australis, *Gould.*
D. ater.	Apteryx Australis, N. Zealand.
Casuarius galeatus, N. Guinea.	A. Mantelli.
C. Bennettii, *Gould.*	A. Oweni.

Tribe, Pressirostres.

Fam. Otididæ, Bustards, Florikin.

Eupodotis Edwardsii, *Gr.*	Otis tarda, *Linn.*
E. nuba, *Rupp.*	Houbara Macqueenii, *Gray.*
E. Ludwigi, ,,	H. undulata.
E. Caffra, *Licht.*	Sypheotides Bengalensis, *Gmel.*
E. Denhami, *Children.*	S. auritus, *Latham.*
E. Arabs, *Linn.*	Tetrax campestris.
E. Kori, *Burchell.*	

Fam. Cursoridæ.

Cursorius Coromandelicus, *Gmel.*	Rhinoptilus bitorquatus, *Jerdon.*
C. rufus, *Gould.*	

BIRDS.

Fam. Glareolidæ, Swallow Plovers.

Glareola orientalis, *Leach.*	G. lactea, *Temm.*

Fam. Charadridæ. *Sub-Fam.* Charadrinæ, Plovers.

Squatarola Helvetica, *Gm.*	Æ. pyrrhothorax, *Temm.*
Charadrius longipes, *Tem.*	Æ. cautianus, *Lath.*
C. fulvus, *Gmel.*	Æ. Philippensis, *Scopoli.*
Ægialitis Geoffroyi, *Wagl.*	Æ. minutus, *Pallas.*

Sub-Fam. Vanellinæ, Lapwings.

Vanellus cristatus, *Meyer.*	Lobivanellus Goensis, *Gmel.*
Chettusia gregaria, *Pallas.*	Sarciophorus bilobus, ,,
C. leucura, *Licht.*	Hoplopterus ventralis, *Cuv.*
C. inornata, *T. and Schl.*	

Sub-Fam. Esacinæ, Stone-plovers.

Esacus recurvirostris, *Cuv.*	Œdicnemus crepitans, *Tem.*

Fam. Hæmatopodidæ, Sea-plovers.

Sub-Fam. Strepsilinæ.

Strepsilas interpres, *Linn.*, turnstone.

Sub-Fam. Dromadinæ.

Dromas ardeola, *Paykull*, crab-plover.

Sub-Fam. Hæmatopodinæ.

Hæmatopus ostralegus, *Linn.*, oyster-catcher.

Fam. Gruidæ, Cranes.

Grus antigone, *Linn.*	G. cinerea, *Bechstein.*
G. leucogeranus, *Pallas.*	Anthropoides virgo, *Linn.*

Tribe, Longirostres.

Fam. Scolopacidæ. *Sub-Fam.* Scolopacinæ, Snipes.

Scolopax rusticola, *Linn.*	G. stenura, *Temm.*
S. saturata, *Horsf.*	G. scolopacinus, *Bonap.*
Gallinago nemoricola, *Hod.*	G. gallinula, *Linn.*
G. solitaria, ,,	Rynchæa Bengalensis, *L.*

Sub-Fam. Limosinæ, Godwits, Sandpiper.

Macrorhamphus semipalmatus, *Jerdon.*	L. lapponica, *Linn.*
Limosa ægocephala, *Linn.*	Terekia cinerea, *Gmel.*

Sub-Fam. Numeninæ, Curlews.

Numenius arquata, *Linn.*	Ibidorhynchus Struthersii, *Vigors.*
N. phæopus, ,,	
N. tenuirostris of Burma.	

Sub-Fam. Tringinæ, Stints, Ruffs.

Philomachus pugnax, *Lin.*	T. Temminckii, *Leisl.*
Tringa canutus, ,,	T. platyrhyncha, *Temm.*
T. subarquata, *Gmel.*	Eurinorhynchus griseus, *L.*
T. cinclus, *Linn.*	Calidris arenaria, *Temm.*
T. minuta, *Leisl.*	

Sub-Fam. Phalaropinæ, Phalaropes or Lobefoots.

Phalaropus fulicarius, *L.*	P. hyperboreus, *Linn.*

Sub-Fam. Totaninæ, Sandpipers, Greenshanks.

Actitis glareola, *Gmel.*	T. stagnatilis, *Bechst.*
A. ochropus, *Linn.*	T. fuscus, *Linn.*
A. hypoleucos, ,,	T. calidris, ,,
Totanus glottis, ,,	

Fam. Himantopidæ, Stilts.

Himantopus candidus, *Bon.*	Recurvirostra avocetta, *L.*

Tribe, Latitores.

Fam. Parridæ. *Sub-Fam.* Parrinæ, Jacanas.

Hydrophasianus chirurgus, *Scop.*	Parra gallinacea, *Temm.*
	Metopidius Indicus, *Lath.*

Fam. Rallidæ. *Sub-Fam.* Gallinulinæ, Coots.

Porphyrio poliocephalus, *Lath.*	Gallinula chloropus, *Linn.*
	G. Burnesii, *Blyth.*
Fulica atra, *Linn.*	G. phœnicura, *Pennant.*
Gallicrex cristatus, *Lath.*	

Sub-Fam. Rallinæ, Rails.

Porzana akool, *Sykes.*	P. fasciata, *Raffles.*
P. Maruetta, *Brisson.*	Eurysona Canningi, *Tytler.*
P. pygmæa, *Naumann.*	Rallina tricolor, *Gray.*
P. fusca, *Linn.*	Rallus striatus, *Linn.*
P. Ceylonica, *Gmel.*	R. Indicus, *Blyth.*

Tribe, Cultirostres.

Fam. Ciconidæ, Storks.

Leptoptilos argala, *Linn.*	Ciconia nigra, *Linn.*
L. Javanica, *Horsf.*	C. alba, *Belon.*
Mycteria Australis, *Shaw.*	C. leucocephala, *Gmel.*

Fam. Ardeidæ, Herons.

Ardea Goliath, *Temm.*	Butorides Javanica, *Horsf.*
A. Sumatrana, *Raffles.*	Ardetta flavicollis, *Lath.*
A. cinerea, *Linn.*	A. cinnamomea, *Gmel.*
A. purpurea, ,,	A. Sinensis, ,,
Herodias alba, ,,	A. minuta, *Linn.*
H. egrettoides, *Temm.*	Botaurus stellaris, *Linn.*
H. garzetta, *Linn.*	B. limnophilax, *Temm.*
Demi-egretta asha, *Sykes.*	B. heliosylos, *Less.*
Buphus coromandus, *Bodd.*	Nycticorax goisaki, *Temm.*
Ardeola leucoptera, ,,	N. griseus, *Linn.*

Fam. Tantalidæ. *Sub-Fam.* Tantalinæ.

Tantalus leucocephalus, *Gm.* | T. lacteus, *Temm.*

Sub-Fam. Plataleinæ, Spoonbill.

Platalea leucorodia, *Linn.*	P. minor, *T. and Sch.*
P. major, *T. and Sch.*	

Sub-Fam. Anastomatinæ.

Anastomus oscitans, *Bodd.*, Shell Ibis.

Sub-Fam. Ibisinæ, Ibises.

Threskiornis melanocephalus, *Linn.*	Geronticus papillosus, *Tem.*
Ibis nippon, *Temm.*	Falcinellus igneus, *Gmel.*

ORDER, NATATORES, Swimmers.

TRIBE, LAMELLIROSTRES.

Fam. Phœnicopteridæ, Flamingoes.

Phœnicopterus roseus, *Pallas*, the flamingo.

Fam. Cygnidæ, Swans.

Cygnus olor, or mute swan.	C. musicus.
C. immutabilis.	

Fam. Anseridæ. *Sub-Fam.* Anserinæ, True Geese.

Anser cinereus, *Meyer.*	A. erythropus, *Linn.*
A. brachyrhynchus, *Baill.*	A. Indicus, *Gmel.*
A. albifrons, *Gmel.*	A. cygnoides, *Linn.*

Sub-Fam. Plectropterinæ, Spurred Geese.

Sarkidiornis melanonotus, *Pennant.*

Sub-Fam. Nettapodinæ, Goose-teal.

Nettapus Coromandelianus, *Gmel.*

Sub-Fam. Tadorninæ, Shieldrakes, Whistling Teal.

Dendrocygna awsuree, *Sykes.*	Casarca rutila, *Pallas.*
D. major, *Jerdon.*	C. leucoptera, *Blyth.*
	Tadorna vulpanser, *Flem.*

Fam. Anatidæ. *Sub-Fam.* Anatinæ, Ducks, Teal.

Spatula clypeata, *Linn.*	Chaulelasmus streperus, *L.*
Anas boschas, ,,	Dafila acuta, *Linn.*
A. pœcilorhyncha, *Penn.*	Mareca Penelope, ,,
A. caryophyllacea, *Lath.*	Querquedula crecca, ,,
A. luzonica, *Fraser.*	Q. circia, ,,
A. superciliosa, *M. and Sch.*	Q. glocitans, *Pallas.*

Sub-Fam. Fuligulinæ, Diving Ducks.

Branta rufina, *Pallas.*	Fuligula marila, *Linn.*
Aythya ferina, *Linn.*	F. cristata, *Ray.*
A. nyroca, *Guld.*	

Fam. Mergidæ, Mergansers.

Mergus castor, *Linn.* | Mergellus albellus, *Linn.*

TRIBE, MERGITORES, Divers, Loons, Grebes.

Fam. Colymbidæ, Loons or Divers.

Colymbus, *sp.*, of China Seas.

Fam. Podicipidæ, Grebes.

Podiceps cristatus, *Linn.* | P. Philippensis, *Gmelin.*

TRIBE, VAGATORES.

Fam. Procellaridæ, Petrels. *Sub-Fam.* Diomedinæ, Albatrosses.

Diomeda, *sp.*

Sub-Fam. Procellarinæ, Flying, Swimming, Blue, Stormy, and Shear-water or Puffin Petrels.

Thalassidroma, *sp.*, a stormy petrel.

Sub-Fam. Halodrominæ.

Pelicanoides urinatrix, *Latham.*

Fam. Laridæ, Gulls. *Sub-Fam.* Lestridinæ.

Lestris pomarinus, *Tickell*, of Burma.

Sub-Fam. Larinæ, Gulls.

Larus marinus?	Xema brunnicephala, *Jer*
Kroikocephalus ichthyæetus, *Pallas.*	X. ridibunda, *Linn.*
	Larus fuscus, ,,

Sub-Fam. Sterninæ, Terns.

Sylochelidon caspius, *Lath.*	T. Bengalensis, *Lesson.*
Gelochelidon Anglicus, *Montagu.*	Onychoprion melanauchen, *Temm.*
Hydrochelidon Indica, *Ste.*	O. anasthætus, *Scopoli.*
Seena aurantia, *Gray.*	Anous stolidus, *Linn.*
Sterna nirundo, *Linn.*	A. tenuirostris, *Temm.*
S. Javanica, *Horsf.*	Rhynchops albicollis, *Swainson.*
Sternula minuta, *Linn.*	
Thalasseus cristatus, *Step.*	

TRIBE, PISCATORES.

Fam. Phætonidæ.

Phæton rubricauda, *Bodd.* | P. candidus, *Briss.*

Fam. Sulidæ.

Sula fiber, *Linn.* | S. piscator, *Linn.*

Fam. Attagenidæ, Frigate Birds.

Attagen aquilus, *Linn.*

Fam. Pelicanidæ, Pelicans.

Pelicanus onocratalus, *L.*	P. Philippensis, *Gmel.*
P. mitratus, *Lichten.*	P. crispus.
P. Javanicus, *Horsf.*	

Fam. Graculidæ, Cormorants.

Graculus carbo, *Linn.*	G. melanognathus, *Brand.*
G. Sinensis, *Shaw.*	G. niger.
G. Javanicus, *Horsf.*	

Sub-Fam. Plotinæ.

Plotus melanogaster, *Gmel.*, Indian Snake-bird.

TRIBE, URINATORES, Divers.

Fam. Alcidæ, Auks, Puffins, Guillemots.

Fam. Spheniscidæ, Penguins.

Aptenodytes Patachonica, Patagonian penguin.
Eudyptes demersa, the gorfew.
Catarractes chrysocoma, jackass penguin.

—*Sirr's China and the Chinese; Bikmore's Travels, Archipelago; E. Blyth, Gallinaceous Birds of India; E. Blyth, Monograph on the Indian Species of Phylloscopus*, 1855; *Calcutta Review*, March 1857; *Blyth, Catalogue Bengal As. Soc. Mus.* 1849; *Horsfield and Moore's Catal. of Birds; A. Hume, List of the Birds of India; A. Hume and Major C. H. T. Marshall, Game Birds of India; Jerdon's Catalogue of Birds*, 1839; *Jerdon's Birds of India*, 1862-3-4; *E. Kelaart's Ceylon Birds, Prodomus Faunæ Ceylanicæ*, Cal. 1852; *Edgar L. Layard, Notes on the Ornithology of Ceylon, Mag. Nat. Hist.* xii. p. 97; *Cat. of Ceylon Birds, by E. Kelaart and E. L. Layard in J. Ceylon As. Soc.* Jan. 1853; *Sykes' Cat. of Dukhun Birds*, 1832; *Sir J. E. Tennant, Ceylon; S. R. Tickell in Proc. Beng. As. Soc.; A. Russel Wallace, Malay Archipelago.*

BIRDWOOD, Sir GEORGE CHRISTOPHER MOLESWORTH, M.D. of Edinburgh University, K.C.S.I., a medical officer of the Bombay army. In 1856 he was present at the capture of Mohammarah, for which he received the medal and clasp given for the Persian war of 1856–57. In 1857 he was appointed Professor of Anatomy and Physiology in Grant Medical College, and until his leaving India he continued in the chairs of Anatomy, Physiology, Botany, and Materia Medica. He was appointed Curator of the Government Central Museum at Bombay, and, with the assistance of Dr. Bhau Dhajee, he established the Victoria and Albert Museum and the Victoria Gardens in Bombay. He was honorary secretary to the Asiatic Society of Bombay and the Agri-Horti-

cultural Society of Western India. In 1867 he was sent as Special Commissioner for the Government to the Universal Exhibition held in Paris. Addresses were presented to him on his finally leaving India in 1869, by the Asiatic Society, the Agri-Horticultural Society, the University of Bombay, of which he was then Registrar, and the students of Grant Medical College. On the proclamation of the Queen as Empress of India, January 1, 1877, he was appointed to the Companionship of the Star of India. He has devoted himself to writing on Indian subjects and on Indian art. In 1870 he contributed a paper to the Linnean Society on the Genus Boswellia. It is the record of the discovery of the frankincense trees of the Somali country, made by him in conjunction with Colonel Playfair, then Resident at Aden. In 1878 he wrote the Handbook to the Indian Court at the Paris Exhibition of 1878; and his Handbook on the Industrial Arts of India has attracted abiding attention to the traditional handicrafts of India, and created a widespread demand for them all over Europe and in America. He is the author of the Vegetable Products of Bombay, a very valuable book on the economic products, which has gone through two editions.

BIRGO. HIND. Nima quassioides.

BIR-GUJAR, one of the thirty-six royal races amongst the Rajputs, descendants of Rama through Lawa, his second son. Their opponents, the Cuchwaha, also descend from Rama. The family state that they came from Rajore, the capital of Deoti, in the Macherri country. They settled in Dor country, then slaughtered the Mewatti and Bheehar, and are now dwelling from Rohilkhand to Muttra (Mathura), also in Shamsabad, Farrakhabad Eyta of Mynpuri, and Gorakhpur; and a clan, now Mahomedans, have settled in Muzaffarnagar. All the doab clans long since became Mahomedans, some in the time of Ala-ud-Din, Khilji, but retain the Hindu title of Thakur, with many Hindu customs, as Thakur Akbar Ali Khan.—*W.; Elliot.*

BIRGUS LATRO, the Tatos of Philippines, the cocoanut crab, hermit crab, or robber crab of the Keeling islands, is a link between the short and long tailed crabs, and bears great resemblance to the paguri. In the Keeling islands they live on the cocoanuts that fall from the trees. The story of their climbing these palms and detaching the heavy nuts is merely a story. Its front pair of legs are terminated by very strong and heavy pincers, the last pair by others narrow and weak. To extract the nourishment, it tears off the husk fibre by fibre, from that end in which the three eyes are situated, and then hammers upon one of them with its heavy claws, until an opening is effected. It then, by its posterior pincers, extracts the white albuminous substance. It inhabits deep burrows, where it accumulates surprising quantities of picked fibre of cocoanut husks, on which it rests as on a bed. Its habits are diurnal; but every night it is said to pay a visit to the sea, perhaps to moisten its branchiæ. It is very good to eat; and the great mass of fat accumulated under the tail of the larger ones, sometimes yields, when melted, as much as a quart of limpid oil. They are esteemed great delicacies, and are fattened for the table. The Birgus latro, by means of blood-vessels in its walls, breathes air directly.—*Bikmore*, p. 149; *Darwin*, p. 552.

BIRHASPATI or Brihaspati, the planet Jupiter.

BIRHERIA, one of the Chamar tribes.—*Elliott.*

BIRHOR, a forest race-dwelling in the south of Chutia Nagpur and in the Hazaribagh district. They live in the jungles on the sides of hills, in small water-tight huts constructed only of branches of trees and leaves. The men snare hares and monkeys, and collect the bark of the Bauhinia scandens for cordage, and the women bring the forest products to the weekly markets. The race claim relation with the Kharria, as offspring of the sun. Their number is estimated at not more than 700 for the whole Hazaribagh district. They are quite migratory, wandering about from jungle to jungle, as the sources of their subsistence become exhausted. Amongst themselves they speak the Kol language, but can also converse freely in such Hindi as is spoken in this province.

The Birhor in Chutia Nagpur proper and Jashpur live in an equally wild state, but communicate with each other in a dialect of Hindi. They are a small, dirty, miserable-looking race, who have the credit of devouring their aged parents; and when taxed with it by Colonel Dalton, they admitted that their fathers were in the habit of disposing of the dead by feasting on the bodies; but they declared they never shortened life to provide such feasts, and shrank with horror at the idea of any bodies but those of their own blood-relations being served up to them. The raja of Jashpur said he had heard that when a Birhor thought his end was approaching, he himself invited his kindred to come and eat him. The Birhor brought to Colonel Dalton did not acknowledge this.—*Dalton, Ethnol. of Bengal*, 220.

BIRI. HIND. Ærua Javanica.

BIRIJA. HIND. Turpentine of Pinus longifolia; Galbanum. See Biroza.

BIRJEE PASS, one of the passes from Kunawar to the Outer Himalaya.

BIRJIA. HIND. One of the Ahir tribes.

BIRK, also Virk, a distinguished Jat tribe.

BIR KAIA. TEL. Cucumis acutangula.

BIRKAT-el-HAJI, the Pilgrim's Pool, four leagues eastward from Cairo. It is a considerable lake, which receives its water from the Nile.

BIRM. DUK., Trichosanthes incisa. Cratæva nurvala; also C. tapia and Taxus baccata.

BIRM-BHAT, a branch of the Bhat tribe, whose office is the recitation of ancestral exploits at family festivals. They are hired for the occasion. They reside permanently in villages and towns, and do not lead a migratory life like some of the other Bhats.

BIROTA. HIND. Zizyphus nummularia.

BIROZA, HIND., also Ganda biroza and Sat biroza. Pinus longifolia.

BIRRA, HIND., also Bejar in E. Oudh. Gram and barley sown together as a mixed crop.

BIRRI. HIND. Picea Webbiana, P. Pindrow, the silver fir; also Clematis Nepalensis.

BIRS NIMRUD, ruins six miles from Hillah, in the province of Baghdad, the site of the ancient Borsippa. According to Bunsen, the bilingual inscription found on the original spot by Rawlinson, on the walls of the temple, among the ruins of Birs Nimrud, teaches us that this building, which forms the nucleus of that mound, was the sanctuary of Maradach, erected by Nabopolassar

and Nabukodnossor. The term is Turkish, and means the tower or Akron of Nimrud. The Jews style it Nebuchadnezzar's prison. It was considered by Niebuhr, Rich, and others, to be the ruins of the temple of Belus. The Qamus gives Birs as the name of a town or district between Hillah and Kufah, which is still known, and is conjoined with Babel in the Chaldaic Sidra Rabba of the Sabæans, under the name of Barsif; whence the Borosippo of Strabo, and other ancient authors, directly proceeds. — *Mignan's Travels*, 259, 202; *Bunsen*, iv. 414; *Rich's Babylon*, 34.

BIRSOON. ARAB. Gossypium Indicum.

BIRT, also Brita and Burt. HIND. A grant of land under stipulations. It also means proprietary right, endowment, maintenance, custom, or privilege derived from the performance of offices, religious or secular. It conveys an unreserved proprietary right of inheritance, share, transfer, and alienation in perpetuity. The Birtia is the owner of the soil.—*Elliot.*

BIRTH, second birth or 'twice born' are terms frequently met with in writings on the Hindu people, and indicate that the person to whom it is applied has received the zonar or sacrificial cord. In this respect it resembles the confirmation of the Episcopal Church of England. The term is also often used by Sudra Hindus to imply conversion of heart. Hindus and Mahomedans have many child-birth ceremonies. The Mahomedans of N.W. India, on the birth of a child, show it a sword or knife, to ward off evil from it. There, also, on the birth of a child among the Sudra Hindus, a Brahman is at once sent for, who announces the nakshatra or planet under which it has been born. A Chamarni, or wife of a Chamar, is also summoned, for the purpose of taking charge of both mother and infant. She remains for six days, and then leaves, after receiving clothes and other perquisites. Her place is supplied by a Navin, or barber's wife, who continues her service for a month or upwards. On the sixth day the mother is allowed to bathe, according to the time fixed by the Brahman, and her friends visit her, bringing with them spices, clarified butter, and articles of clothing for the child. She also bathes on the twelfth day, and is considered to be ceremonially clean. Her friends now approach her person, which they are permitted to touch, offering their congratulations. During the whole of the first twelve days the women of the neighbourhood gather themselves daily at the house, and sing songs, called Sohar, in honour of the occasion. If the infant is born in the Mûl-nakshatra, the woman remains impure for twenty-seven days, as amongst the Brahmans. On the occasion of a birth in a Chinese house, large bunches of evergreens are suspended above the house door. In Japan, annually, in front of every house where a child has been born, a huge paper fish, from 3 to 25 feet long, is hoisted on a bamboo pole. Theatrical representations last throughout the day.

BIRTHWORT, Aristolochia bracteata, *Retz*; A. longa.

BIRUNI, the takhallus or nom-de-plume of Abu Rihan, author of the Tarikh-i-Hind, or history of India, A.D. 1331. See Al Biruni.

BIRUN-JASIF. PERS.? Artemisia vulgaris.

BIRZUD. PERS. Galbanum.

BIS. HIND. Myricaria Germanica, also Salix alba, and S. tetrasperma. Kala bisa, Hippophae rhamnoides.

BIS. HIND. Twenty. See Biswa.

BISADÆ or Besadæ, in mediæval Greek called Vesadæ, are alluded to in the tract of Palladius de Moribus Brachmanorum, written about A.D. 400. The same name is applied by Ptolemy to a similar race inhabiting Northern India.

BISAHAR MOUNTAINS, an offshoot of the Western Himalaya, extends for almost 60 miles from the lofty cluster of Jumnotri peaks to the Sutlej, below Shatul. The Bisahar peaks range in heights from 16,982 to 20,916 feet, the highest being the peaks of Jumnotri. Its passes are from 14,891 to 16,035 feet in height. The great mass of this range is granite. The people speak a Hindi dialect. See Ladakh; Thoji-chanmo.

BISATI. HIND. A pedlar, from Bisat, stock; one who hawks his goods about from place to place, and keeps no shop for the exhibition of his wares. He is commonly found seated on the ground, with his goods spread out for sale on a mat before him.

BISAYA, a group of islands in the Eastern Archipelago. Ambergris is frequently gathered in considerable lumps in the vicinity of Samar and the other islands of the Bisaya group, as well as mother-of-pearl, tortoiseshell, and red and black coral; of the latter kind shafts occur as thick as the finger and 6 or 8 feet long.—*Walton's State*, pp. 38, 39.

BISCHOFFIA JAVANICA. *Bl.* Red cedar.

B. trifoliata, *Hook.*	Stylodiscus trifoliatus, *B.*
Andrachne trifoliatus, *R.*	Microelus Ræperianus, *W.*
Boke, ... MAHR.	Mogagerri vembu, TAM.

This very large and valuable timber tree has a wide range; in the Peninsula of India it ascends the mountains to 5000 feet elevation, and it is found in Northern India, Borneo, the Archipelago, S. China, and the Philippines, but appears to be absent from Ceylon; it is the only known species of the genus. It flowers in February, and ripens its seed in May and June. It has an immense trunk; the timber is reddish, very hard and durable, and much in use in some parts with planters and others for building, planking, etc., but it is very little known or utilized.—*Beddome, Fl. Sylv.*

BISCUIT.

Biscoot, . ANGLO-HIND.	Biscotto, galetta, . IT.
Skibstvebak, . . DAN.	Biscoito, ... PORT.
Scheepsbeschuit, . DUT.	Bort Ssucher, . . . RUS.
Biscuit, ... FR.	Bizcocho, galletta, SP.
Zweibach, . . . GER.	

Biscuit, from the two Latin words, bis coctus, twice baked, is an unfermented bread, which, if properly prepared, can be kept a great length of time, and hence its use as a common form of bread at sea.—*Toml.; Faulk.* See Bread.

BISEN. HIND. A powerful tribe of Rajputs in Cawnpur and the eastern parts of the N.W. Provinces. Their chief is the raja of Salempur Majjhauli.—*Elliot; Wilson.*

BISESWARA, a Hindu deity. Near this idol is the temple of Anna Purna, the Indian Cybele, or the Anna Perenna of the Romans. To heighten the devotional feelings; her image is placed in a dark recess, and is veiled from the public gaze. It is of marble, and has its face covered by masks, of which there are two, one of gold, the other of silver.

BISFAIJ. HIND. Species of Polipodium and Adiantum.

BISH. HIND. Any vegetable poison; Aconitum ferox, and other species.—*Wall.*

BISH-BANS. Beesha Rheedii, *Kunth.;* Bambusa baccifera. See Bamboo.

BISHEN GANGA. On its bank is built Badarinath, in lat. 30° 46′ N., long. 79° 32′ E.

BISHKHAPRA. HIND. Primula speciosa; also Trianthema decandra and Tr. pentandra; the latter is used in N. India medicinally. It spreads over the ground, and forms a circle nearly a yard in diameter.

BISH-KOPRA. HIND. Iguana. (Qu. Bish Kobra, or poison cobra.) A lizard found in Gujerat. It has been described as venomous. Ghoor, the Hindu patriot calls them; Tuckhub and Tuckoo in Bengal, the word Tuckoo being in consonance with the call or song of the reptile. In Baraitch in Oudh it is called Bis-kopra. It is described as flat, about 1½ inches in breadth, and 15 inches in length, with a head very like a snake's in point of shape. It possesses fangs; and a small dark-greenish bag under the tongue, and in close proximity to the teeth, indicates the poison bag. It is a venomous-looking creature, and possesses to a remarkable degree the pugnacity of the venomous snake when assailed. All this seems a popular delusion, a venomous lizard being an anomaly unknown in creation.—*Z.*

BISH-KUCHOO. BENG. Arum fornicatum, poisonous Calla.

BISHMAN. BENG. Colocasia cucullata.

BISHNAVI, a Hindu sect in Rohilkhand and the Doab. The author of the volume Tanbih-ul-Jahilin remarks that most of the teachers of the reforming Hindu sects, the Kabir panthi, Parnami, Daud panthi, Sadh, Sat nami, Kalal panthi, and Bishnavi, have been Mahomedans. The Bishnavi are, however, said to have been founded by Bishno, a Tuga Brahman, a pupil of a Mahomedan fakir. Professor Wilson says the sect is of growing importance in some parts of the N.W. Provinces, combining Hindu and Mahomedan practices and belief, generally terming themselves shaikhs, but adding this title to a Hindu name. The Bishnavi is the most common sect in the desert and in Sind. In the desert, where 'they are a law unto themselves,' they wear the junnoo or zonar; they cultivate, tend cattle, and barter their superfluous ghi for other necessaries.—*Elliot; Rajasthan*, ii. 319.

BISHOP, the episcopos of the Greeks, is a title given by Christians to the overseers of their churches. Bishop of Babylon is the title of the Romish prelate for the pashalik of Baghdad. The Protestant bishops of distinction in India, since the early part of the 19th century, have been Heber, Corrie, Middleton, Milman, Caldwell. Bishop's College, Calcutta, on the bank of the Hoogly, was established for the education of clergy for the Episcopal Protestant Church. Bigandet was an eminent Catholic bishop.

BISHOP'S-WEED SEED.

Anethum sowa, *Roxb.* | Sison Ammi, *Linn.*

Aymaudum, . .	CAN.	Ajowan, . . .	HIND.
Ajooan, ...	DUKH.	Omum, ...	TAM.

These carminative seeds yield by distillation a very useful oil, which is given medicinally as a stomachic. The distilled water is used as a carminative in every nursery of Madras, under the name of 'omum water.'—*Ainslie*, p. 269.

BISH TARAK. BENG. Argyreia speciosa; also Lettsomia nervosa.

BISH-ul-YUKURUNI. ARAB. Menispermum cordifolium.

BISH-UMBA. BENG. Cucumis colocynthis.

BISHWA TULSI. BENG. Ocimum sanctum.

BISI. URIA. A fiscal division of a district paying revenue under the Hindu government of Orissa.

BISI. HIND. A measure of weight, commonly a vis; in Garhwal and Kamaon, a dry measure; in Rangpur, a land measure.

BISI. HIND. Unclean.

BISINDIDI. CHENAB. Gardenia retrosperma.

BISIR. HIND. Pyrus Kamaonensis.

BISLOOMBAH, HIND., also Bisloombhee. Colocynth; Cucumis pseudo-colocynthis.

BISMILLAH means literally, in the name of God; and Mahomedans never commence, or leave off, eating without saying it. It is often used by them, also, in commencing a book, or on rising up or sitting down, and by the pious on every occasion, however unimportant. It answers to the Christian grace before meat. It is also used as a sacrificial prayer; directing the victim's face towards the Kaba, the person cuts its throat, ejaculating, 'Bismillah! Allahu Akbar!' The camel is sacrificed by thrusting a pointed instrument into the interval between the sternum and the neck. This anomaly may be accounted for by the thickness and hardness of the muscles of the throat. Burckhardt makes the Mahomedan say, when slaughtering or sacrificing, 'In the name of the most merciful God!' But Mr. Lane justly observes that the attribute of mercy is omitted on these occasions.

Bismillah-ur-Rahman-ur-Rahim, in the name of the merciful and clement God, is a frequent prayer of Mahomedans. Zamakshari, in his Commentary on the Koran, observes, Rahman denotes a more extensive idea than Rahim; for this reason people say, in speaking of God, 'The merciful (Ar Rahman) in this world and the next,' and 'the clement or compassionate (Ar Rahim) in this world.' The correct pronunciation to a European are, Bismillah irruhman nirruheem. The words are first taught to Mahomedan children at the age of four years four months and four days, with certain ceremonies. It is their christening or initiation into the church.—*Herk.; Burton's Pilgrimage*, iii. p. 303.

BISMUTH. Mr. Piddington found bismuth in one of the ores sent him from the antimony mines near Moulmein; it is found in connection with silver in Burma, and has been obtained in small quantities in Kashmir, from the Jammu territory. —*Mason; Powell, Handbook.*

BISON. Gavæus gaurus.

Ban-gau, Vana-go,	BENG.	Jungli Khulga, .	HIND.
Kar-kouah, . .	CAN.	Ban-parah, . .	MUNDLAH.
Peroo-maoo, . .	GOND.	Gaoiya, ...	MAHR.
Gouri Gai, Gaur,	HIND.	Katu Yeni, . .	TAM.

Gavæus gaurus, is the bison of sportsmen in India. It inhabits all the large forests. In its range in the Western Ghats, or Syhadri mountains, some of the bulls attain a height of 19 hands at the shoulder. It is not, however, a true bison. It is the Bos gour of Traill, the B. asseel of Horsfield. Bibos cavifrons, *Hodgson*, and Bibos asseel, *Hors.*, are, however, separated by some authors, and the term bison is very indiscriminately given to bovine animals to whom it does not pertain. The genus bison proper comprehends two living species, one of them European, now become very scarce, and

varieties of this small tree, α. se-coloured flowers, cultivated in , and β. Indica, with white flowers, India. In the native of India the ite, and the immature capsule green; plant from West Indian seed the se-coloured, and the immature seed- and the eastern plants do not furnish of so good a colour. The plant is Singapore, in Mysore, largely all and is a favourite dye with the is grown in Dacca, the Malay he Eastern Archipelago, the Hawaiian gatabu, Rio Janeiro, Peru, and e shrub rises to the height of seven or producing oblong heavy pods, some- bling those of a chestnut. Within this generally thirty or forty irregularly- ls, which are enveloped in a pulp of a colour, and a fragrant smell; the pulp arnotto of commerce. The dye is pared by macerating the pods in boil- When they begin to ferment, the rongly stirred and bruised with wooden promote the separation of the red skins. ss is repeated several times, till the left white. The residuum is dried in and made up, while soft, into balls or 2 or 3 lbs. weight. The dry hard paste est of all ingredients for imparting a nt to cheese and butter. The Spanish s mix it with their chocolate, to which beautiful rich hue. It imparts a pale r to silk and cotton. The imports into tain of arnotto for home consumption 200,000 to 300,000 pounds per annum, he pound.—*Simmonds' Commercial Pro-* 48; *Drs. Roxburgh, Voigt, M'Clelland.*

AK, Bewak, also Manawak, Malayan

Lepteromys magnificus, *Hodgson*,

CHIMBO, Sciuropterus caniceps.

ANTYEM. Bhot. Talpa micrura.

yu-Khawar, Tel., Mellivora Indica, *Jerdon.*

BIZUDA-KHWAN. Hind. Astragalus mul- ceps.

BJOO. Beng. Dillenia pentagyna.

BJORNSTJERNA, Count, Swedish ambas- sador to England; author of the 'British Empire in the East.'

BLACK.

Aswad,	Arab.	Niger,	Lat.
Meh thee?	Burm.	Itam,	Malay.
Net thee? Nek Nek,	,,	Siah,	Per.
Noir,	Fr.	Kara-karpa,	Tam.
Schwarz,	Ger.	Karpa, Kalla,	Tel.
Kala,	Hind.		

The commercial substances commonly so named ivory black, lamp-black, and smoke-black. last is prepared by the combustion of different ious bodies, especially of pitch, burned in pans under a dome or chimney, within h cloths are suspended, to which the soot mes attached. It is employed in the manu- re of printers' ink, and of blacking for shoes, to the first Mahomedan women, the lamp- at 6 feet from the gr[illegible] for painting the fœtida, propinqua, Co[illegible]na ink is made Nepalensis, and padifl[illegible]ds, minerals, and *Voigt; Dr. Brandis.*

vegetables of this colour [illegible] as—

Black bird, Merula, *sp.*
Black bear cat, Artictis binturong, *Jerd.*
Black buck, or Indian antelope (Antilope cervicapra).
Black cat, Felis aurata, *Temm.*
Black cheeta, or black panther, Felis pardus, *Linn.*
Black dammer tree, Canarium strictum, *Roxb.*
Black fish, the smaller whales of the genus Phocœna.
Black hellebore, Helleborus niger.
Black Missi. See Hira Kasis.
Black partridge, Francolinus vulgaris.
Black sesamum, Sesamum orientale.
Black swan of Australasia, Cygnus atratus.
Black-naped hare, Lepus nigricollis, *F. Cuv.*
Black pepper-vine, Piper nigrum.
Black wolf of Tibet, Canis chanco, *Gray.*

BLACKER, Lieut.-Col. Val., Quartermaster-General of the Madras Army, author of Memoir of the Operations of the British Army in India during the Mahratta War in 1817–19.

BLACK HOLE of Calcutta was a room at the southern end of the barrack of the old fort. By order of nawab Suraj-ud-Dowla, in June 1756, 146 British were thrust into that room, 18 feet high, 18 wide, and 14 deep, and before morning 123 of them had perished. The Black Hole was at the corner of tank square, close to the place where, in 1834, was Lyell, Mackintosh, & Co.'s office.

BLACKING, shoe-blacking.

Noir (de cordonnier),	Fr.	Nero-da-ugner-le-scarpe,	It.
Schuschwarze; Wichse,	Ger.	Negro-de zapatos,	Sp.

This is used in blacking leather articles. The principal ingredients are oil, vinegar, ivory, galls, copperas, black.—*Tomlinson.*

BLACK LEAD, graphite; plumbago.

Potlut or Potloot,	Dut.	Piombaggine, Corezolo,	It.
Plomb-de-mine, Pote-lot,	Fr.	Karri Jam,	Tam.
Reissblei,	Ger.	Nalla Sisam,	Tel.

This mineral is of a dark steel-grey colour, and a metallic lustre; it is soft, has a greasy feel, and leaves a dark-coloured line when drawn along paper. It is a carburet of iron; and when pure, sells at 30 shillings the pound. It is used in the manufacture of pencils, for making crucibles, in compositions for protecting iron from rusting, and for diminishing friction in machinery. Good plumbago is procured near Borrowdale, in Cumberland; it has also been largely worked in America; Ceylon largely produces it, also Travancore and Vizianagram. It occurs in veins, and in kidney-shaped lumps, in gneiss, mica slate, and their subordinate rocks, but that at Borrowdale occurs in transition slate.

Black Lead Pencils. Pencils.

Potlootpennen,	Dut.	Kara-naschii,	Rus.
Crayons-noirs,	Fr.	Karri Iam pencil,	Tam.
Bleystifte,	Ger.	Nalla Sisa pencil,	Tel.
Surmé-ka kalm,	Hind.		

These are formed of black lead, laid in cedar and other woods. They are mostly imported into India from Britain.—*Faulk.; Tom. Stat. of Commerce; M'Culloch.*

BLACK MOUNTAIN. See Mahaban; Panjab.

BLACK PAGODA, a pagoda 16 miles N. from Puri, near the village of Kanarak. It was buil[illegible] or restored, A.D. 1241, by Narsingh Deo Langora[illegible] raja of Orissa. It was a temple of the sun, or Surya. It is partly ruinous, the inferior tower, called Jug Mohun, being the more perfect.

...on; the other American, and, notwithstanding the advances of man, still multitudinous.—*Engl. Cyc.* p. 482; *Cat. Museum, India II.* See Bovidæ.

BIS PANTHI, a Jaina sect.

BISRAMPUR, in the centre of the Sarguja State, in Chutia Nagpur, is the name given to a coalfield occupying an area of 400 square miles.—*Imp. Gaz.*

BISRU. HIND. Cedrela toona; C. serrata.

BISSAHRI-PALA. HIND. Diospyros lotus. The fruit is sweet and pleasant.

BISSEMKATAK, a Kandh Mutta in the Vizagapatam district, where the Meriah sacrifices were largely made.

BISSOI, Bishayi, or Bissaye, in Orissa, a chief of a district; an officer of the Kandh race.

BISTANG or Bartang, of Kangra, an astringent used in diarrhœa and dysentery.

BISWA, Biswan. HIND. In the Central Doab, the twentieth part of a bigha. Each estate or village is considered an integer of one bigha, which is subdivided into numerous biswa or biswansi, to show the right of any particular villager. The As of the Romans was similarly used, thus, 'heres ex semuncia,' heir to 1-24th; 'heres ex dodrante,' heir to ¾ths; 'heres ex asse,' sole proprietors.—*Elliott.*

BITALA-CODI. MALE. Chavica seriboo, *Miq.*

BITHU. HIND. Chenopodium, *sp.*; also Amarantus anardana.

BITHUA. HIND. Heliotropium Europæum.

BITHUR, a town with 8322 inhabitants, in lat. 26° 37′ N., long. 80° 19′ E., in the Cawnpur district of the N.W. Provinces, and 12 miles from Cawnpur. It was the residence of Dandhu Punt, styled Nana-Rao, also Nana Sahib, who instigated the Cawnpur massacre during the mutiny of 1857–59.

BITI. TAM. Species of Dalbergia.

BITIKH. ARAB. Musk melon.

BIT-LABAN. HIND. Black salt.

Sunchul, . . .	GUJ.	Sochul, ...	HIND.
Kala-namak, . .	HIND.	Bit Noben, . . .	,,

A medicinal salt, prepared by melting together, for about 6 or 7 hours, in an earthen pot, an impure muriate of soda, called samur, and emblic myrobalans, in the proportion of fifty-six ounces of the muriate to twenty ounces of the dried myrobalans. It is met with in most Indian bazars, and is used by native practitioners as a tonic in dyspepsia and gout, as a stimulant in chronic rheumatism, etc.—*Faulkner; Ainslie.*

BIT-MIAKI. CAN. Bustard; Otis tarda.

BITTER is prefixed to several vegetable substances. Bitter almonds, Amygdalus communis. Bitter aloes, bitter apple, colocynth. Bitter cassava, Janipha manihot. Bitter gourd, Tricosanthes cucumerina. Bitter Seville orange, Citrus vulgaris.

BITTER HERBS, of Exodus xii. 8, Numbers ix. 11. Of these the Jews mention five kinds,—Chuzareth, or lettuce; Ulsin endive or succory; Tamca, probably tansey; Charub bivim or camomile; and Meror, or sow thistle, or wild lettuce. They were ordered to eat the passover with bitter herbs.

BITTERN, of Isaiah xiv. 23, xxxiv. 11, and Zephaniah xi. 14, has been interpreted to be a bittern, an owl, and an otter. The Arabic version makes it al-Houbara, the bustard.

BITTERS. In all parts of the world bitter substances are regarded as febrifuge [illegible] Menyanthes trifoliata and the [illegible] popular in northern regions, as th[illegible]spermum its various substitutes in tropical co[illegible]nthis. east. They act as tonics, improve [illegible]nctum. are admirable adjuvants of the true [illegible]paying The chief of the mucilaginous bi[illegible]issa. Goluncha, the Baobab, and Cetraria [illegible]monly bitters were formerly in high repute [illegible]re; in Bitters containing alkaloids or tannin the most important antiperiodics, a valuable of them all is quinine. No [illegible]rma. comes so near the cinchonas in its affinities as the Hymenodictyon exc[illegible]bhee. *Ann. Med. Sci.* 1856.

BITTER WOOD, Picrœna excels[illegible]me of the West Indies, and Quassia amara, [illegible]leave nam; the former of these being one [illegible]d by employed to make the bitter cups, [illegible]g up municate a taste to water left in them chips are used medicinally as a tonic, et[illegible]occa-

The bitter wood tree used for boats in [illegible] the bourhood of Amherst, Mr. O'Riley states [illegible] as a from the attack of the teredo. Its leav[illegible]e to- indicate it to be a species of Terminalia, [illegible]roat, section Pentaptera. The good timber [illegible] The bark assimilate it to Roxburgh's P. arjuna [illegible]ru- foliation is different.

BITTURNEE, a river near Akooa p[illegible]nd Balasore. It is the Hindu Styx.

BITUMEN, Asphalte, petroleum.

Kier, qier, . . .	ARAB.	Asphaltum, . .	[illegible]
Shih-ts'ih, . . .	CHIN.	Bitumen Judaic	[illegible]ane
Shih-lau-yu, . .	,,	Midak-tanah, .	[illegible] is
Jodenlym, . . .	DUT.	Nift-i-rumi, .	
Bitume de judee, .	FR.	Asphalto, . . .	[illegible]me
Judenpech, . . .	GER.	Asfalt, . . .	[illegible]ent
Umqir, ...	HEB.	Asfalto, . . .	[illegible]om-

Bitumen is a name applied to several [illegible]otes tible mineral substances of different c[illegible] this and character, such as mineral pitch, [illegible]erci- petroleum, naphtha, maltha, and sea [illegible] and properties of which, with regard to fl[illegible] this colour, greatly vary. At Hit, the Is[illegible]pean dotus, near Babylon, it is very abun[illegible]ds are ancient geographers suppose that the [illegible]ge of obtained here the bitumen used as cement fo[illegible] fastening their bricks. Arrian says that th[illegible] temple of Belus was of brick cemented with asphaltus. It is a product of the districts in the N.W. of Persia, where, at the town of Ai, the momai is produced. Several places in China, Burma, and Yunnan produce petroleum,—in China in the provinces of Yen-ngan-fu, and Canton, and in the S.E. corner of Sech-u'en. Hit is mentioned by Herodotus as the great place for bitumen, and in Lower Mesopotamia boats are still smeared with it.—*M'Culloch; Skinner*, ii. 113; *Mignan*, p. 166; *Faulkner, Eng. Cyc.*

BITU-MIAKA. TEL. Bustard; Otis tarda.

BIUL. HIND. Grewia oppositifolia.

BIUM. TEL. Oryza sativa, rice.

BIUNS. HIND. Populus nigra.

BIUR. HIND. Artemisia elegans.

BIXA ORELLANA, *L.*, var. *β.* Indica.

Latkan, .	BENG., HIND.	Kisree, ...	M.
Thi-dew, Thi-den-pan, ...	BURM.	Kasumba-kling, Kurungu munga,	MA. MAL.
Kuppa Manhala, .	CAN.	Kaba [illegible]	
Kisti, ...	[illegible]	some authors, and the	
Arnotto, Annatto,	[illegible]	minately given to bovine	
Rocou, ...	[illegible]	not pertain. The genus	
Capurji, . . .	[illegible]	s two living species, one	

become very scarce, and

BLACK PEPPER, Piper nigrum.

Filfil aswad, . . ARAB.	Lada; Lada-itam, MALAY.
Micha, ... BALI.	Sahan, . . PALEMBANG.
Hut-seaou, . . . CHIN.	Filfil-i-Siah, . . PERS.
Peper, ... DUT.	Pimenta, . . . PORT.
Poivre, ... FR.	Maricha, SAN., JAV., MAL.
Schwarzen pfeffer, GER.	Gammiris, . . . SINGH.
Kala-mir'ch, . . HIND.	Pimienta, ... SP.
Gol-mirch, . . . ,,	Karri Mollagu, . TAM.
Pepenero, ... IT.	Nalla Mirialu, . . TEL.

This small, pungent, aromatic fruit is the product of the Piper nigrum, grown in Malabar, Malacca, Siam, and on the islands of the Archipelago. See Pepper; Piper.

BLACK RACE, the Kara-chi.

BLACK SEA, on the N.W. side of Asia, forms in part the boundary between Asia and Europe.

BLACKSMITH. The Lohar, or blacksmith of India, is one of the five artisans who wear the zonar, or poitu, or sacred string, the other four being the goldsmith, stone-cutter, carpenter, and coppersmith. The blacksmiths of India who make iron, obtain a great heat by throwing a quantity of (bhusa) rice-chaff on the top of their fire. The chaff being composed of silica and vegetable matter, the latter burns, and so forms potash, which alkali combines with the silica and forms a glass or vitreous cake. The coal-worker throws drops of water on the fire to make the mass cake.

BLACK SOIL, or black cotton soil, or cotton soil of Southern India, is met with in great tracts of country. It is remarkable for permanence of fertility, yielding crops without manure for a thousand years. It is supposed by some to be decomposed trap, but others regard it as a true alluvium, deposited from still water. It is called regur in Hindi. During the dry season, it rends into great gaping cracks, but it is highly absorbent of moisture, and very retentive; and during the rainy season it presents a uniform glazed surface of black tenacious clay. It can absorb more than one-third of its entire weight of water, and it has in a very remarkable degree the power of absorbing moisture from the air. Thoroughly dried cotton soil in one night absorbed 7·99 per cent. of water. It is the soil in which cottons, sorghum, wheats, and maize are largely grown. In many parts it is 15 and 20 feet deep, and is to be seen everywhere in the Peninsula of India in patches of greater or less extent, but it covers the whole surface of the greatest outburst of volcanic rocks in the world, in the western part of the Dekhan, Central Provinces, and Berar.

BLACK STONE, the Hajar-ul-aswad of the Mahomedans, now built into the wall of the Kaba at Mecca, is fabled to have fallen from paradise with Adam. It is kissed by each pilgrim.

BLACKWELLIA CEYLANICA. *Gardner.*

B. tetandra, *W. I.* | Leeyang-gass, . . SINGH.

This tree grows in the moister parts of Ceylon up to 3000 feet. It attains a height of 30 to 40 feet.—*Thw. Zeyl.* i. p. 79.

BLACKWELLIA TOMENTOSA. *Vent.* The Myouk kyau of the Burmese, a tree of British Burma; wood tough, of a light yellow colour, used for the teeth of harrows. A cubic foot weighs 56 lbs. The average length of the trunk to the first branch is 70 feet, and average girth at 6 feet from the ground is 6 feet. B. spiralis, fœtida, propinqua, Cochin-Chinensis, paniculata, Nepalensis, and padiflora also occur in India.—*Voigt; Dr. Brandis.*

BLACKWOOD, Rosewood.

Biti, ... CAN.	Eru pottu, . . . TAM.
Sisam, ... GUJ.	Biti-maram, . . ,,
Sisam, Sit Sal, . . HIND.	Irugudu chettu, . TEL.

This is a commercial term for several dark-coloured timbers, and every locality has a wood which is known by this name. The timber known in Britain as East Indian blackwood is from the Dalbergia latifolia of the Malabar coast, where it grows to an immense size. The wood of the trunk and large branches is extensively used for making furniture; it is heavy, sinking in water, close-grained, of a greenish-black colour, with lighter coloured veins running in various directions, and takes a fine polish. Bombay seesum-wood, however, is probably the timbers both of Dalbergia latifolia and D. sissoides, brought from Cochin and other places lower down on the Malabar coast. It sells for about the same price as teak. It is a brittle, open-grained wood, not at all a favourite with cabinetmakers of England, where the highest prices ever realized for it in the state of log were about £10 per ton. The principal furniture-dealers in Bombay are Parsees, mostly from Gujerat. The pattern meant to be carved is first carefully drawn on paper; then on the wood. The tools used are the native adze, chisel, and drill; the centre-bit and other tools of English pattern, from which so much assistance might be obtained, are never resorted to. The general design of the various pieces of furniture is mostly excellent, the patterns elegant and tasteful; the finish for the most part is poor, the joinery always execrable. Concealed joints never seem to be thought of; pins which might be kept out of view are made as conspicuous as possible; and great clumsy screw-nails, which might, without trouble, be hid, are fully exposed to view. Considerable quantities of blackwood furniture are sent to Britain annually by residents in Bombay for their own after use, or for the service of friends. It is packed up without being jointed or polished, and is put together by English workmen, who, it is believed, think but lightly of its merits. The principal furniture shops in Bombay keep from five to ten workmen each, and probably turn out Rs. 25,000 to Rs. 30,000 worth of furniture amongst them annually.

BLACKWOOD'S HARBOUR is a sheet of water between Armagon shoal N. of Madras, and the mainland.

BLADDER WORM, Measle. See Cysticercus.

BLAIR. Lieutenant Archibald Blair, R.N., in 1777 and 1795 made a circuit of the entire Andaman Archipelago, and embodied the result of his researches in general charts, plans, and a report containing useful information for mariners. He surveyed also the Kattyawar coast, Salsette, and other patches here and there.—*Marine Survey.*

BLANAH. MALAY. In Burma, a well-known palatable fish.

BLANKET.

Bett decke, Windel, GER.	Coperta di lana, . . IT.
Kamal or Kamli, HIND.	Manta, ... SP.

A soft, loosely-woven woollen stuff, used as a bed covering by night and cloak by day. Most of the blankets or Kamli manufactured in India, are of a coarse description, and only used by the poorer natives. Blankets are manufactured in Mysore from half-bred merino wool, half-bred but wool; warp woof Mundium wool, common

country wool and Mundium wool. Those of Kachar sell well. The white blankets made at Rampur in the Western Himalaya, and known as the Rampur chadr, are sold in London at £3 and upwards. They have a sale in Great Britain. The Kamli or cumblies made in the Ceded Districts are of a superior texture. A woollen manufactory is working at Bangalore.

BLATTA ORIENTALIS, the cockroach; a very troublesome insect in houses and in ships; lodging in cupboards, presses, and amongst books, and soiling by their exuvia whatever they approach.

BLATTI. MALEAL. Sonneratia acida.

BLEACHING.

Nikharna, . . .	HIND.	Salavy pannukiradu,	TAM.
Khumbi karna, .	,,	Nana padam, . .	TEL.

In India, the substances present in goods which oppose the bleaching process are first removed by scouring in an alkaline lye; afterwards natives usually dung the cloths which are to be bleached, and then steam them over the mouth of an earthen pot set in a clay fireplace. But little science enters into the process, and generally the goods suffer much from the water in which they are scoured being overcharged with lime. Bleached cloth, particularly of tents, is far less durable than that which has merely had the dressing and filth thoroughly removed by washing. This is easily explained, as cotton goods have a certain resinous substance in them that obstructs the absorption of moisture. Besides the removal of this, cloth sustains much damage from the abuse of the caustic lye bath. Cloths should be scoured more than once at intervals during the process of bleaching, because many of the substances cannot be removed but after exposure to the light and air.

Wool, also, is protected by a peculiar varnish, exceeding three per cent. of its weight, which must be removed by scouring. *Warm* water must be employed. Wool is further bleached by sulphuring, either in close chambers in which sulphur is burnt, or by the sulphuric bath. In either case it acquires a brittleness which must be removed by washing in soap and water.

Several seats of the cotton manufacture, such as Dacca and Baroach, are famous for their bleaching. This has been ascribed to the excellence of the water in the neighbourhood of these places. At Dacca fine muslins are merely steeped in water; other cloths are first washed. But all, of whatever texture they may be, are next immersed for some hours in an alkaline lye, composed of soap and of sajji mattee, that is, impure carbonate of soda. They are then spread over the grass, and occasionally sprinkled with water, and when half dried are removed to the boiling-house in order to be steamed. This is effected by twisting the cloths into the form of loose bundles, and placing them upon a broad clay platform, which is on a level with, and surrounds, the neck of a boiler sunk into the ground. They are then arranged in circular layers, one above the other, around a bamboo tube, which is kept upright by means of transverse supporters projecting from it, the whole forming a conical pile that rises to a height of five or six feet above the boiler. The fire is kindled in the excavation below, and as the ebullition of the water proceeds, the steam diffuses itself through the mass of the cloths above, swelling by its high temperature the threads of the latter. The operation of steaming is commenced in the evening, and continued all night till the following morning. The cloths are then removed from the boiler, steeped in alkaline lye, and spread on the grass as on the preceding day, and again steamed at night. These alternate processes of bucking and crofting, as they are technically called, during the day, and of steaming at night, are repeated for ten or twelve days, until the cloths are perfectly bleached. After the last steaming, they are steeped in clear filtered water acidulated with lime-juice, in the proportion generally of one large lime to each piece of cloth. Lime-juice has long been used in bleaching in all parts of India; and Tavernier describes Broach as famous as a bleaching station on account of its extensive meadows, and the large quantity of lemons reared there. Mixed fabrics of cotton and Muga silk are steeped in water mixed with lime-juice and coarse sugar, which latter article is said to have the effect of brightening the natural colour of the silk.—*Royle, Arts, etc. of India*, p. 481; *Rohde, MSS.*

BLEEKER, DR. P., a Dutch naturalist, who from 1845 to 1860, in numerous contributions on the fishes of the Eastern Archipelago, added greatly to the stock of knowledge of the fauna of the region from Penang to Japan. He gave a catalogue of 780 species of fish found at Amboyna.

BLENDJU, in Java, a substance prepared as a paste, fried with oil, and eaten with coffee.

BLENNIIDÆ, the Blenny family of fishes, comprising many East Indian genera. Blennies, with protruding eyes, are to be seen hopping about the muddy banks of rivers, and perching on stray logs like frogs.—*Adams*, p. 67. See Fish.

BLERONG or Balerang. MALAY. Sulphur.

BLETIA HYACINTHIANA. *R. Br.* One of the Orchiaceæ, a plant of China and Japan, with bright purple flowers.—*Voigt*, 625.

BLIGHIA SAPIDA, *Kön.*, or Cupania sapida, *Camb.*, the Akee tree, one of the Sapindaceæ, has been introduced from Guinea into India. It rises 30 to 40 feet. The fruit has the size and shape of a pear, and is of a red colour. It is much esteemed in Guinea and the West Indies. The genus was named after Captain William Bligh, R.N., master of the 'Bounty,' whose crew mutinied, and he and the officers took to the boats.

BLIGHT. The grains or ears of nearly all the cereal grasses are subject to several well-marked diseases, resulting from attacks of parasatic fungi, animalculæ, and insects, causing great losses to the agriculturist. The liability of the seeds of grasses to parasitic infection is explained by the large amount of nitrogenized matter contained in them, and to their softness of texture. The diseases generally alter the perisperm, sometimes destroying it altogether; and three minute cryptogamic plants are the most frequent, viz.:

Caries. Uredo caries attacks wheat, usually spares the pericarp, but changes the perisperm into a black fetid powder. The component globules are devoid of pellicles. The disease is highly contagious.

Carbon or smut, Uredo segetum, occurs under the epidermis, is composed of spherical globules, attacks all the cereal grains indiscriminately, and resembles black dust.

Ergot or spur, Sclerotium clavus, is elongated

in form, black externally, white and horny within, exceedingly deleterious in its properties if long taken; in large doses, acts specifically on the womb. This fungus is particularly liable to attack the seeds of rye, and is then called spur or ergot, when the grains assume a black colour, and increase to several times their original size. See Bane; Crops; Dry Rot; Insects.

BLIMBI. MALAY. Averrhoa bilimbi. The fruit of the plant known as the tree cucumber; has various terminations, Blimbing basi, Blimbing bulu, Blimbing teres, perhaps varieties. Blimbing manis, Averrhoa carambola, *Linn.* Blimbing saga, Cicca disticha.

BLISTERING BEETLES of India, Pan-mau, CHIN., consist of several species of Mylabris. About 180 lbs. forwarded by Dr. Birdwood to test the market value in England, were sold there at 5s. 8d. per lb. Several kinds of beetles, when applied to the skin, cause great irritation, inflammation, and blistering. These consequences are occasioned by an acrid principle called Cantharidin contained in these insects. The ancients chiefly employed two species of Mylabris, one of which, the Mylabris cichorei (vern. Telini, HIND.), has been used for ages, and is so at present by the European and Native physicians of India and China. The Cantharis vesicatoria, or Spanish blistering fly, is the species officinal in the British Pharmacopœia. Its colour is bright shining green or bluish, length about $\frac{3}{4}$ths of an inch, breadth $\frac{1}{4}$th to $\frac{1}{3}$d of an inch. It occurs in the south of Europe generally, especially in Italy and Spain, and is found occasionally in England. The blistering flies of India are chiefly the Mylabris or Meloe cichorei, the Cantharis gigas, and the Cantharis violacea. The Mylabris cichorei is common in the neighbourhood of Dacca, in the Hyderabad country, in Kurnool, and numerous other localities. The insect is about an inch long and $\frac{1}{3}$d broad; the elytra or wing coverts are marked with six cross stripes of deep blue and russet brown. The Buprestis of ancient writers is met with in the bazars under the name of the golden fly (sona-mukhi). The Cantharis violacea is often mixed with specimens of Meloe in the bazars. The Telini fly, if procured before the mites have commenced its destruction, yields on an average one-third more of cantharidin than the Spanish fly of the European shops. The blue fly is of uncertain strength; the Buprestis, in all the specimens obtained, was quite inert. A species, called Meloe trianthema, from its being usually found on the Trianthema decandra (Biscopra, HIND.), was described by Dr. Fleming. A tincture, acetous plaster, and ointment of the Meloe chichorii are given in the Bengal Pharmacopœia. Some prejudice exists against the article, on account of its alleged excessive severity of action, owing to the presence of a greater quantity of cantharidin than that contained in the common fly. Diluting the tincture, and adding to the proportion of lard and wax in the plaster and ointment, perfectly assimilate the action of the indigenous and the imported insects. At the Madras Exhibition of 1855, specimens of Mylabris pustulata and M. punctum were exhibited by M. Collas of Pondicherry. Both insects are found in large quantities at certain seasons all over Southern India.—*O'Sh.; Dr. Hunter in Tr. As. Soc.* v. p. 216; *Madras Exhibition.* See Cantharides; Insects.

BLOOD.

Dam, ...	ARAB.	Thyak, ...	LHOPA.
Thak, ...	BHOTIA.	Wi, ...	MRU.
Thwe', ...	BURM.	Khun, ...	PERS.
L'hu, ...	HIND.	Thé, ...	SAK.
A-ti, ...	KAMI.	Rakta, ...	SANSK.
Ka-thi, . . .	KHYENG.	Nethar; Niriti, .	TAM.
Vi, ...	LEPCHA.	Rattamu; Rattam,	TEL.

Blood for blood, the vendetta of the Italians, is the law of most rude populations, but most of the settled races occupying the south and east of Asia are dwelling under civil laws administered by officers of justice. The Vedas, which all Hindus acknowledge, enjoin the offering of bloody sacrifices to the gods, and amongst many Saiva sectarians this rite is continued. The non-Hindu aboriginal races also offer bloody sacrifices to demons, and to the Gramma devata, or village tutelary deities. The investing tika mark of chiefship, placed on the forehead of their Rajput ruler by the Bhil, is blood drawn from the arm of a Bhil. The Karen of Burma and the Kyan of Borneo, in swearing brotherhood, drink water in which the blood of the parties has been mixed. The old Mongolians mingled gold and blood in their cup of peace. The custom of the old Hungarians in their A'ldomas (alliance), was to open reciprocally a vein in each other's arms and drink the blood out of one cup. The Turks practised the same observance in their alliances with the Hungarian Christians, as is noticed by Petchevi's History.

Blood-coloured water is noticed in Exodus vii. 19; and Homer alludes to blood rain. In the Red Sea, periodically, a blood-red colour is observable in the water; and a similar occurrence was noticed at Picenium, B.C. 323; in Italy, A.D. 787; in the Valsinian lake, B.C. 208, mentioned by Livy; in a Venetian lake, B.C. 586; in Lake Wan, A.D. 1110. Pliny mentions a lake near Babylon which had a red colour during eleven days of summer, possibly from a red conferva.

Blood-money, Duja, ARAB., is payable in Lahej by a criminal to the relatives of the murdered person; for wilful murder, 100 female camels, or 1000 Venetian sequins; manslaughter, 700 dollars; death by misadventure, the culprit is not imprisoned, but is allowed to appeal to the pity of the charitable for the means of escaping from a cruel death, which the nearest relative inflicts; should the nearest of kin be a child, the punishment is postponed until he reach manhood.

Blood-showers is a term given to substances of a red colour which occasionally appear; also what have been called showers of pearls, of manna, of spiders, of toads, of fish. In India, in 1825, a shower of red fluid at Jeysulmir is mentioned in the Asiatic Journal. In 1828, very heavy rain fell at Augur in Kandesh, accompanied by hail, single pieces of which weighed as much as half a seer. This was followed by drops of red rain, descending from the sky. In 1855, a shower of red rain, or of flesh, as the natives called it, fell near Shikarpur in Sind. Another shower fell in the Jellasore district over an expanse of above fifty bighas. The carmine colour of snow has been ascertained to be due to a kind of algæ, called Protococcus nivalis or Protococcus hematacoccus. Until lately, much perplexity was occasioned by the same form of organism sometimes appearing red, sometimes green. It is still, indeed, matter of question whether the protococcus or the hematacoccus are most nearly allied to the vegetable

or to the animal kingdom. It is a simple cell, which lives for itself and by itself; and is dependent upon nothing but a due supply of matter and the appropriate stimuli for their continuance and growth, and for the due performance of all its functions, until its term of life is expired. Klaproth in 1815 ascertained that the red appearance in the sea was produced by an albuminous vegetable matter.—*Jam. Ed. Journ.* ii. 830–31; *Captain Prideaux, the Arab Tribes; Forbes; Vambery, Bokhara*, p. 151; *Moor; Buist, Cat.*

BLOODSTONE, Heliotrope.

Blutstein, . . . GER.	Sanguigna, ... IT.
Radawar, . GUJ., HIND.	Piedra sanguinaria, . SP.

This quartzose mineral is of a deep leek-green colour, and has red spots scattered through it, caused by iron. Masses of it are obtained in the trap formation of the Dekhan, but it is chiefly brought to Bombay from different parts of Gujerat, etc., and is re-exported largely to Europe. It is used for seals, rings, and brooches.—*Madras Museum.*

BLOOD-SUCKER, a name applied to the Calotes viridis, *Gray*, C. opiomachus, and C. versicolor, etc.; also to Sitana Ponticheriana, *Cuv.* They are all unsightly reptiles, with large heads and powerful jaws, so that even the bravest crow attacks them cautiously. There are 11 species of Calotes and two of Sitana in India. Mahomedans dislike the blood-sucker, as the creature often raises and lowers its head in the manner of these religionists when at prayer. See Calotes; Reptiles; Sitana.

BLOOD-WOOD of Port Jackson is a species of Eucalyptus, *sp.* The blood-wood tree of Norfolk Island, Baloghia lucida, *Endlicher*, grows to 40 feet in height. It yields a blood-red sap, which has been utilized as a paint. It is obtained by an incision 8 to 10 feet long, tapering to a point; a gill to a pint from each tree.—*Von Mueller; G. Bennett*, p. 346.

BLOW-PIPE is in constant use in India, in the arts, amongst goldsmiths, tinsmiths, banglemakers, and others; the cook-room of every house also has one of bamboo. The Malay races also use the blow-pipe, sumpitan, for projecting peas, small pellets, and wooden and iron arrows. The accuracy of fire with these is great; little birds can easily be destroyed, but even large birds like the crow can be brought down by the earthen pellet from a blow-pipe. It is used as a weapon by the Malays of Borneo, by the Lao-Ti on the Mekong river, by the Orang-kubit and the Semang on the Peninsula of Malacca. The paradise birds are killed and stunned by wooden arrows from the blow-pipe. The Indians on the Amazon use it, and, it is said, can throw the arrow to 250 feet.—*Peschel.*

BLUBBER.

Thraan, ... DUT.	Salo worwannœ, . RUS.
Graisse de Baleine, . FR.	Worwan, ... ,,
Thran Fischtran, . . GER.	Grassa, ... SP.
Olio-di-pesce, . . . IT.	Aceite-de-pescado, . ,,

Blubber is the thick fat or adeps of the whale or the porpoise. In Europe, it is boiled down into train-oil. It is eaten by the Eskimo and the sea-coast races of the Japanese islands, and of the Kuriles.

BLUE DYE, Marsdenia tinctoria.
Blue dyeing rosebay, Nerium tinctorium.
Blue fish, Coryphæna socialis.
Blue gum tree, Eucalyptus, *sp.*
Blue noddy or reef bird, Sterna cerulea, *Bennet.*
Blue petrel, sperm bird, Prion pachyptila.

Blue cloth is worn by the Jews of Egypt, Syria, Palestine, and Central Asia.

BLUE MOUNTAIN, a peak in the Yoma range, at the N.W. of the Akyab district in British Burma. It is in lat. 22° 27′ N., and long. 93° 10′ E., and rises to 7100 feet.

BLUESTONE, Sulphate of copper, Cupri sulphas.

Zang bar, . . . ARAB.	Tutthanjana, . . SANSK.
Copperas, Blue vitriol.	Palmanicum, . . SINGH.
Mortuth, Nila-tutiah, H.	Turishu; Turishi, TAM. TEL.

This salt is not known to occur in nature, but it is largely made in several parts of India, by boiling sheet copper or copper filings in sulphuric acid, and evaporating the remainder, on which crystals form. It is also obtained from copper ore by pulverising the ore, which is then thrown into earthen vessels filled with water, and, after filtration, the crystals form. The colour is a beautiful blue. It is largely used in surgery and in the arts.—*M'Culloch.*

BLUMEA BALSAMIFERA. *De Cand.*

Baccharis salvia, *Lour.*	C. balsamifera, *Linn.*
Conyza odorata, *Rumph.*	
Kai-dai-bi, . COCH.-CHIN.	Bunga-Chappa, . MALAY.
Sum-bun, . . . JAV.	

It grows in the Konkans, Assam, Malay Peninsula, Moluccas, and Java. It is used as medicine and as a seasoning for food, and has a stimulo-diaphoretic action.—*Roxb.*

BLUMEA GRANDIS. *De Cand.*
Conyza grandis, *Wall.*
Pung-ma-theing, ... BURM.

Abundant throughout the Tenasserim Provinces, growing six or eight feet high, with leaves like mullen, which, when bruised, emit a strong odour of camphor. The Tavoyers informed Dr. Mason that they made an impure camphor from the weed by a very simple process; and Mr. O'Riley of Amherst made more than 100 pounds, which he sent to Calcutta, and it was reported 'in its refined form to be identical in all its properties with Chinese camphor.' The plant is so abundant, that these provinces might supply half the world with camphor. Wherever trees are cut down this weed springs up, and often to the exclusion of almost everything else, so that an old clearing looks like a field under cultivation. B. lacera, *D. C.*, of all the East Indies, is used in dyspepsia.—*Roxb.; Mason.* See Camphor.

BLUME, CAR. L., an eminent Dutch botanist. He was educated as a medical man. In Java, in 1823–24, he conducted a botanical exploration, and in 1825 he commenced the Bijdragen tot de Flora van Nederlandsch, Indie, and, on his return to Holland, the Flora Javæ was begun in 1828, and the Rumphia in 1835, each of which consists of several folio volumes, illustrated with a profusion of admirably-coloured plates. These are amongst the most splendid and learned botanical works of the age. The Museum Botanicum Lugduno-Batavum, a periodical with outline plates, commenced in 1852, contains careful descriptions of genera and species of Java, Borneo, Molucca, and Japan plants.—*H. et T.*

BLUNJI PAT. BENG. Corchorus olitorius.

BLYTH, EDWARD, for many years Curator of the Museum of the Bengal Asiatic Society, the

ablest zoologist who has ever resided in India; author of numerous learned articles on the mammals, birds, fishes, and reptiles of Eastern and Southern Asia, mostly in the Bl. As. Trans., vols. xiv., xv., i. 280:—Fauna Indiæ, Drafts for, ibid. 345; On three Indian Species of Bat, ibid. 1841, vol. x. 971; New Species of Pica from the Himalayas, ibid. 186; Description of Caprolagus, a new Genus of Leporine Mammalia, ibid. 247; Supplement to the Monograph of the Indian and Malayan Species of Cuculidæ, or Birds of the Cuckoo Family, ibid. vol. xi. 898, 1095, et seq.; 1843, vol. xii. 240; Notes on Various Indian and Malayan Birds, ibid. 1842, vol. xi. 160; On the Predatory and Sanguivorous Habits of the Bat of the Genus Megaderma, with some Remarks on the Blood-sucking Propensities of other Vespertilionidæ, ibid.; Monograph of a species of Lynx, ibid., but described as Tapozous longimanus by General Hardwicke, Descriptive Notices of, ibid. 784; On the Leitrichane Bird of the Sub-Himalayas, by H. B. Hodgson, with additions and annotations; A Synopsis of the Indian Pari and of the Indian Fringillidæ, ibid. 1844, vol. xiii. 923; Catalogue of Birds.

BO or Bodhi, also Bodhi-druma, a tree sacred to a Buddha or Tirthankara. See Bo Tree.

BOA or Boe, sometimes called Poam by the people of Malabar, has wood much like the timber called in Ceylon Palari or Palis and Irambu, or, as known by the English term, iron-wood. It is a strong, heavy wood, and is considered durable. It grows from 20 to 30 feet high, and from 12 to 30 inches in diameter.—*Edye, M. and C.*

BOA. *Linn.* A genus of innocuous serpents, of the family Pythonidæ, order Ophidia, sub-order Innocuus. The genus, as defined by Linnæus, belongs to the New World; but in India the term Boa and Boa-constrictor is applied to species of Python in the tropical parts of South-Eastern Asia, some of which are of considerable size, and able to kill large four-footed animals. A female python 20 feet long, captured in Ceylon when in a torpid state, was taken to the London Zoological Gardens, and before the end of six years it had grown to 29 feet in length, and was as thick round as a man's thigh. It was very vicious at all times, but at length destroyed itself by swallowing a blanket. The pythons on the western coast of India and in Ceylon are amongst the largest met with. The organisation of the boas and pythons is directed to the slaughter of their prey by compression, and to this end are given to them enormous dimensions and power of muscle. When a boa dashes at the prey, it generally preserves its hold of the tree by a coil or two towards the tail; it seizes with widespread jaws, and throws with rapidity the folds of its body round and round its victim. Tightening, and crushing rib and limb within their embrace, these folds relax not until life is pressed out. The serpent then pauses for a few moments. Soon, however, it begins to touch the carcase gently with its muzzle; the jaws again and again dilate, until the skin is strained so tight that every scale is isolated. Then grasp following upon grasp gradually and irresistibly engulfs the body, which, in its passage through the folds, has been compressed and attenuated into the most convenient possible form for this final operation. Death inflicted by such overwhelming action is almost instantaneous, in small animals especially.

BOAD or Bod, a tributary state in Orissa, with an area, including the Kandh-Mals, of 2064 square miles, and a population in 1872 of 108,868. The aboriginal tribes are the Pan, Kandh, Dimal, Goala, Sud, and Keut. Bod, the chief town, is in lat. 29° 50′ 20″ N., and long. 84° 21′ 41″ E. The reigning family are Kshatriya Hindus.

BOALEE. BENG. The jawbone of this fish is used in carding cotton for the Dacca muslins, as a substitute for the heckle and hand cards.—*Royle.*

BOAR.

Khanzar, . . .	ARAB.	Dookar, ...	MAHR.
Baraha, ...	BENG.	Babi-alas, . . .	MALAY.
Verrat, ...	FR.	Babi-utan, . . .	,,
Eber, ...	GER.	Varaha, ...	SANSK.
Hazir, Chazir, .	HEB.	Walura, ...	SINGH.
Jangli Sur, Sur, .	HIND.	Verraco, ...	SP.
Verro, ...	IT.	Adavi Koku, . . .	TEL.

The boar is the male of the hog or swine. Of these, in Asia, are seven wild species, viz. Sus scrofa, *Linn.*, var. S. Indicus, Bengalensis, Andamensis, Malayensis, Zeylanensis, Babyrussa, and Papuensis. When the wild boar of India, the Sus Indicus, has the run of cultivated lands, it eats daintily; but when stinted for food it will revel on a dead camel, and when pressed by want it prowls around the villages in search of refuse. The wild boar of India is shot and hunted with dogs by natives, but British sportsmen there hunt it with the horse and spear; and of all the wild creatures in India, the boar exacts from its pursuers the greatest care.

The Sus Indica of Pallas, Sus scrofa of other naturalists, the common wild boar, is supposed to be the parent of one of the two groups into which domestic pigs are arranged. The Sus scrofa group or breed is known as the Chinese breed, and extends into Europe, North Africa, and Hindustan; but in the latter country the boar of the N.W. Provinces is not higher than 36 inches, though that of Bengal attains 44 inches. The parents of the other group are unknown.

Sus scrofa is not known in a wild state, but its domesticated forms come near to S. vittatus of Java. The Roman or Neapolitan pig, the domesticated breeds of China, Cochin-China, Siam, the Andalusians, Hungarian, the swine of S.E. Europe and Turkey, and the Swiss, are all of the Sus scrofa group, which, a Chinese author says, can be traced back for 4900 years. The Japan masked pig is the Sus pliciceps of Gray, and has a deeply plicated or furrowed skin.

Porcula sylvania, the pigmy hog of the sal forest of North India, is called by the natives Sano Banel, also Chota Sur.

With the great Chalukya dynasty of the Peninsula of India and Gujerat, their boar standard was one of their chief prerogatives, and they coined a gold piece with the emblem of a boar. One of the great protecting incarnations of the Hindu god Vishnu was in the figure of a Varaha or boar.

In the mythology of the ancients, the wild boar was sacred to Typhon. In India, the Rajputs, on the first day of spring, worship Vasanthi, or spring, Basanth, personified; prince and vassal then chase, slay, and eat the wild boar. Personal danger is disregarded on this occasion, as want of success is deemed an omen that Oomia, the great mother, may refuse petitions during the year.

The boar hunt in spring-time is a Scythic custom. Amongst the Scandinavian Asi, the grand festival to Friya was in spring; then boars were offered to her by the Scandinavians, and boars made of paste were eaten by the people. Bakings in the shape of a boar were widely spread, as shown by the baking of 'cochelins' for New Year's Day in France. The Egyptian custom of baking swine-shaped pieces of dough is mentioned by Herodotus.

The Rajput festival is called Ahairea, and has a religious origin. The boar is the enemy of Gouri of the Rajputs. It was so held of Isis by the Egyptians, of Ceres by the Greeks, and of Friya by the Northman, whose favourite food was the hog; and of such importance was it deemed by the Franks, that the second chapter of the Salic law is entirely penal with regard to the stealers of swine. The heroes of the Edda, even in Valhalla, feed on the fat of the wild boar Serimner, while 'the illustrious father of armies fattens his wolves Geri and Freki, and takes no other nourishment himself than the uninterrupted quaffing of wine;' quite the picture of Har, the Rajput god of war, and of his sons the Bhyru, Gora, and Kala, metaphorically called the 'sons of slaughter.' The cup of the Scandinavian god of war, like that of the Rajputs, is the human skull (cupra).—*Tod's Rajasthan*, i. p. 566; *Darwin*.

BOARD. Under the East India Company, the military and civil administration of British India was conducted by officials assembled in Boards. In the year 1784 the Government of India was placed under a Board of Control, composed of the king of Great Britain's ministers, who in that capacity bore the title of Commissioners for the Affairs of India. This system continued until the year 1858, when British India was taken under the direct control of the Crown. In that interval, however, the Home Government of India consisted of a board of 18 members, called the Directors of the East India Company and the President of the Board of Control. The Directors had mostly all the patronage as to appointments, except the higher offices and commands which were made in communication with the British Ministry, who likewise originated all questions of peace and war, possessed the power of reversing the Acts of the East India Company and of the Government of India, and also of sending out instructions on special matters to the Governor-General without consulting the Directors. The Presidencies were under a Council of four, and the subordinate administrations were under the Justice Court of Sadr and Faujdari Adawat, the Revenue, Military, Medical, and Marine Boards. Since India came under direct British control, the Court of Directors has been replaced by a Council, and the Military, Medical, and Marine Boards abolished.

BOARDA-GOOMOODOO. TEL. Benincasa cerifera.

* BOASOO. MALEAL. Mimusops kauki, *L.*

BOATS and SHIPS, the Filuka and Karib of the Arabs; the Markal, Kayik, Sandal, Nao, Jahaz, and Kishti of India.

The difference as to size between the boat and the ship, so marked in Europe, is less observable amongst the communities of Eastern and Southern Asia; and the Kishti of the people of India, the Prahu and the Kora-kora of the Malay, the various kinds of Manche of Pambam, Mangalore, and Panyani, and the Patamar, range from a few tons to a few hundred tons. In India the Nao and the Kishti, in Burma the Thu or The and Serpa, are boats that might be described separately. In Britain, even, a boat may be a large or small vessel, used for traffic and passage, rowing or sailing on seas or rivers, and receiving names according to the construction, form, or purpose to which it is applied, as the wherry, punt, gig, pinnace, yawl, skiff, lugger, ferry boat, steamboat, packet boat, jolly boat, long boat, lifeboat, and canal boat; and in size they may range up to 15 tons burden. The sea-going vessels are known as sloop, smack, cutter, clipper, schooner, brig, brigantine, barque, and ship, and range from 15 to 3000 tons.

The boats in use along the coasts of the Peninsula of India well illustrate the readiness with which seafaring people adapt their materials to the requirements of their respective localities, and the rapid sailing boats of Bombay and the vicinity of Cannanore, and the Catamaran and Masula boat of the Coromandel coast are illustrations of this adaptation.

Ganja is a boat used for travellers on the Nile.

Mtepe, of Zanzibar, called Muntafiyah by the Arabs, is a sailing ship with a beam one-third of its length. Its planks are pegged together, not nailed, and it carries from 12 to 20 tons.

Badan, a sailing ship of Sur, Sohan, and Muscat, has a standing plank covering; makes 11 knots an hour.

Kelek is a leathern raft in use on the Euphrates and Tigris, and was known to the ancients as the 'Navigia Coriacia.'

Kufa, the circular bowl-shaped basket-boat (from the Arabic word, which means basket), is also used as the common wherry boat. Its fabric is of close willow-work, well coated, and made waterproof with the bituminous product of the country. It holds about three or four persons, with room enough, though not in the most agreeable positions. It is moved across by paddles. Herodotus notices the different kinds of boats plying on the rivers of Babylon, mentioning them as composed of willows and the skins of animals; and adds, that on their arrival at the great city, the owners sold all the material of the boats excepting the skins, and those they packed on the backs of asses, and carried whence they came. A raft is made of full-grown sheep and goats' skins, which are taken off with as few incisions as possible, and then blown up like a bladder and dried. A square framework, formed of poplar beams, branches of trees and reeds, is constructed of the size of the intended raft; the inflated skins are tied to it by osier and other twigs, the whole being firmly bound together. The raft is then moved to the water and launched. Care is taken to place the skins with their mouths upward, that, in case any should burst or require refilling, they can be easily opened by the raftmen. Upon the framework of wood are piled bales of goods and property, belonging to merchants and travellers. When any person of rank or wealth descends the river in this fashion, small huts are constructed on the raft, by covering a common wooden takht or bedstead of the country with a hood, formed of reeds and lined with felt. In these huts the travellers live and sleep during the journey. The poorer passengers bury themselves,

to seek shade or warmth, amongst the bales of goods and other merchandise, and sit patiently, almost in one position, until they reach their destination. They carry with them a small earthen mangal or chafing dish, containing a charcoal fire, which serves to light their pipes and to cook their coffee and food. The only real danger to be apprehended on the river is from the Arabs, who, when the country is in a disturbed state, invariably attack and pillage the rafts. The raftmen guide their rude vessels by long oars (straight poles), at the end of which a few split canes are fastened by a piece of twine.

A curiously-formed vessel, of a crescent shape, carrying one mast and a large lateen sail, trades between Baghdad and Bussora; under a fair wind, it can reach the latter place in six or seven days.

The *Kashmir* boats are the *Bagla*, a large vessel; the *Parinda*, a light, fast-sailing boat; the *Bahta*, a large-sized barge for loading grain; the *Dunga*, for ordinary merchandise; the *Shikari*, and the small Banduqi Shikari.

On the *Indus*, five kinds of boats are used between Attock and the sea. On the Kābul river and on the Upper Indus it is still the custom to stuff skins with reeds or straw, as floats. General Ferrier descended the Kābul river from Jalalabad to Attock on a raft so constructed. The best known are the *Zoruk* of the Upper Indus, the *Dunda* or *Dundi*, which plies from Mithancote to the sea, and the *Dugga*, which, from its strong build, is specially suited to the navigation of the rapids between Attock and Kalabagh. The better kinds of wood used in their construction (sissu and large babul) are procured with difficulty; and various timbers are generally seen in one boat, such as sissu, babul, deodar, chir, bahn, and karil. Malabar teak is much prized in the Lower Indus, and fetches a large price. The ordinary ferry boats are constructed by the sides and bottom being prepared separately, and brought together to be secured by knees or crooked pieces nailed to the bottom and sides. The bottom is made of sissu, the knees of mulberry or olive, and the side planks of deodar. The wedges and trenails are usually made of tut and kahu. Ropes for rafts and boats are prepared either from hemp (Cannabis Indica), sirki (Saccharum spontaneum), Typha latifolia, dib, or other reeds, common on the river bank. Munj (Saccharum munja) is also largely employed by the native boatmen. The great boat-building localities of the Panjab are Pind Dadun Khan, Wazirabad, Jhelum, Attock, Nowshera, Hashtnagar, Mokhud, and Kalabagh.

The *Panjab* boats, ships, oars, etc., are made of Acacia speciosa, Capparis aphylla, Cedrus deodara, Dalbergia sissu, Fraxinus floribunda, Olea Europæa, Pinus longifolia, Populus Euphratica, and Salvadora oleoides.

The boat in common use for transport in Sind and the lower part of the river is the *Dunda* or *Dundi;* it is flat-bottomed, with a slight convex inclination, for the additional facility of getting off sandbanks. The Dundi consists of three distinct parts, the two sides and bottom, the latter being adjusted to the others by warping the end up to the slope required, and then strengthened with joints or ribs (as they are termed); the boat thus admits of being dismembered and transported, a fact corroborative of the accuracy of Alexander's historians.

On the *Sutlej*, in the Indus and lower stream, the *Zoruk* is frequently seen. It differs from the Dundi in having no elevation at the stern, is square built, fore and aft, is of 40 to 50 tons burden, and carries no sail. The Zoruk is the common cargo boat at the Upper, as the Dundi belongs to the Lower Indus; it sails pretty fast, and sinks with prodigious facility.

The *Dundi* is well adapted for the transport of goods, but from insufficient construction many are annually lost. From the scarcity of large trees and the high price of teak plank, the carpenters are obliged to use the small wood, and most of them are formed of innumerable pieces fastened by bamboo pegs, nails being employed only to secure the knees and ribs. It has one mast, is square-rigged, and can only sail before the wind. Those on the Khori and P'harran branches of the Indus are from 20 to 30 candies burden.

Kotal is broad-beamed, and used as a ferry boat.

The *Jumpti*, or state barges used by the late Amirs, were strong, teak-built, double-masted, decked vessels, propelled by enormous sweeps, and having pavilions at either extremity. The Zoruk, the Nawuk, and the Dunda are nearly all flat-bottomed, and, though clumsily formed, are strong and safe. The Nawuk and Dunda are found principally upon the Chenab and the Sutlej; they have pointed bows and sterns.

Mashak.—Natives cross the Panjab rivers upon inflated buffalo and sheep skins, the mouth of which is sewn up, and the legs made air-tight below the knee and hock joints, so that the figure of the animal is somewhat preserved, and they are thus easily carried. Burnes says he has seen upon the Indus 'a man with his wife and children in the middle of the stream, the father on a skin dragging his family, seated upon reeds, their clothes and chattels forming a bundle for the head.' Much art is required to manage these air-bags. Lieutenant Wood nearly lost his life in attempting to bestride a Mussak.

The *Tirho* of the Indus is a rude boat made of the leaves of the Typha elephantina, used during the inundations for crossing the river.

Canoe of the Malabar Coast.—From Cape Comorin to Calicut, on the western side of the Peninsula, the coast abounds with fish, which is generally taken with the hook and line by the natives of the fishing villages, in a small canoe, the best description of which is formed from the angely wood tree, Artocarpus hirsuta; but the inferior sort is of cherne maram. They are cut out from the solid tree, and are from eight to twenty feet in length, and from one and a half to two feet in breadth, the depth being about one, or one foot and a half. They are managed with much dexterity by the natives, with a scull-paddle. On the backwater of Cochin, and on the river's mouth, they are employed in great numbers in taking the seer fish, or country salmon, etc. The largest sort of boats are used for the conveyance of rice and merchandise on the numerous rivers which disembogue into the backwater, to the extent of 150 miles, parallel to the sea-coast. At times these boats are converted into the

Jangar, used on the rivers of the Malabar Coast, and made into a double platform canoe by placing a floor of boards across two boats, with a bamboo railing which extends from ten to twelve feet fore and aft, and sixteen feet long; and when

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these boats are thus formed into rafts, cattle and burdensome articles are conveyed across the rivers, as also the native regiments, with all their followers, horses, bullocks, baggage, carts, etc.

Pamban Manche, the Snake Boat of Cochin, is a canoe of great length; they are used by opulent natives and Europeans as boats for the conveyance and despatch of persons on the numerous rivers and backwaters, particularly on that between Cochin, Allepey, and Quilon, which is about 80 miles southward, and on that which runs to Ralipact and Trichoir; the former place being about 20, the latter about 60 miles to the northward. These boats are from 30 to 60 feet in length, without any regard to breadth or depth, as they are worked from the solid tree. The broadest do not exceed 3 feet. Those of the raja and officers of state are very handsomely fitted up, and carved in a most fantastical manner; they are made very neat, and even splendid, with painting, gilding, etc. The largest boats are sculled by about twenty men, double-banked; and when pressed, their velocity is surprising, as much as a mile in five minutes. Mr. Edye had himself been sculled in one of them a distance of forty-eight miles in six hours. These boats are peculiarly adapted to the rivers; for it frequently occurs that in the dry season there are sand-banks, perfectly dry, nearly a hundred yards in breadth, over which they must be drawn by the strength of the few men who are in them, the smaller size having only six rowers and a cockswain. Those natives who can afford the expense, have the cabin neatly fitted up with venetian blinds on the sides, but generally the cuscus or grass-mat is substituted. This boat is formed from the angely-wood, which is very durable if kept oiled.

Cochin Bandar Manche, or Canoe of Burthen,—are canoes which are cut and formed from the largest and softest timber of the forest. They are from 20 to 50 feet in length, their breadth and depth being proportioned to the full size of the tree, so as to reduce its dimensions as little as possible. They will carry about 18 tons burden, and are made from 3 to 5 inches thick at the bottom; but at the top of the side, or gunwale, about 1½ to 2 inches, with a proportionate increase of thickness at the extreme ends to protect the end-grain of the wood, and withstand any shock that they may meet with. At the distance of about 5 feet on the inside there are ribs about 6 inches broad, projecting about 2 inches from the side of the boat, for the purpose of giving support and strength to the body of the canoe. These boats may be considered valuable for the service of the port at which they are used, and, notwithstanding their heavy appearance, they are very buoyant, and go very fast through the water. In one of about 35 feet long, with six men and a tindal (cockswain), Edye passed the Minden's (the admiral's ship) barge, which had twelve men on board, and in a distance of four miles to that ship's anchorage he gained on them by time about twenty minutes, although there was a strong sea-breeze and swell against him. At Cochin, these boats are used for the purpose of conveying various articles of burden and water to the ships in the roads.

Mangalore Manche of the Western Coast of the Peninsula is a flat-bottomed boat of burden, about 25 to 35 feet long, 6 to 7 feet broad, and 4 to 5 feet deep. It is formed to meet the river, which is very shallow and flat; and to land the cargoes of the Patamars, which are discharged and loaded at the mouth of the rivers. These boats are sewed together similar to the masúla boat and other native vessels; they are forced along by bamboo poles, as the water is not more than from 6 to 10 feet deep, except in the south-west monsoon, when the rapids swell, and the whole of the river is considered impassable; and at this period all the vessels are taken to the shore and laid up.

Calicut Manche is a boat very similar to that of Mangalore, with the exception only of a raking stem, for the purpose of taking the beach, as the port of Calicut is open to the coast and there is no river. These boats are propelled by the paddle and sail, and generally carry eight men; they are much employed in watering and completing the sea-stock of ships homeward-bound; also in loading ships with pepper, timber, etc., for Bombay; and in shipping the produce of the forests of Canara and Malabar, all of which is rafted off to vessels called Dow, Boatile, Patamar, etc.

Panyani Manche is a coasting boat, of about 50 feet long, 10 to 12 feet broad, and 5 to 7 feet deep. It is framed with timbers and planks, which are sewed together. The timbers are about 4 feet asunder, and on them, inside, some few planks are placed as bands and clamps, which are nailed to the frame. These are very rudely put together, and not of much importance either in form or construction. During the south-west monsoon, or from June to November, they are laid up at Baipur river for safety, and are only used in the fine-weather season. They carry the productions of the cocoanut tree, viz. coir, copra, cajan, the leaf of the Corypha umbraculifera, which is used for coverings of houses, also for books, and various other purposes; jagari, oil, and arrack, to Cochin and Mangalore; and bring from these ports rice, cloth, salt, etc. These vessels keep along shore, and take advantage of the sail in rowing. They have generally from eight to ten men, who are fishermen of the Mopila caste of Musalmans, descendants of the first Arabian settlers on the shores of the Peninsula, and who, marrying the daughters of the country, obtained the name of Mapillai.

The *Boatila Manche* of the island of Ceylon navigates the Gulf of Manar, and the southern part of the Peninsula of India. This boat, which is about 50 to 60 feet in length, 16 to 18 feet in breadth, and 8 to 10 feet in depth, has more of the European form than any of the Indian-built vessels that are met with. The after part shows the origin to be of Portuguese construction, as it is very similar to that of many of the boats still in use by the people of that country, which are said to be of the same shape as the vessels in which Vasco De Gama sailed to India. They have a deck fore and aft, and are built with all sorts of jungle wood in a very rough manner, and fastened with nails and bolts. They are equipped with one mast, which inclines forward, and a square lug-sail; also a small bowsprit, at about the angle of 45°, with a sort of jib foresail, one pair of shrouds, and a backstay, which completes the rigging. These vessels carry on the trade of the island across the gulf. The exports are rice, tobacco, etc.; and the imports, cloth.

The *Bombay Fishing Boat* is one of the swiftest

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and most elegant sea-going vessels of that coast. A complete set of models of the native vessels plying on the coast, at an estimated price of Rs.15 each, or about Rs.1000 in all, was sent to the Exhibition of 1851. The mode of building is precisely the reverse of that pursued by Europeans, who begin with drawing the lines, then lay down the keel, ribs, and frame, and finally applying the planking. In India, drawn lines are dispensed with altogether. Having laid down the keel, the Indian shipbuilders fasten on the planking, leaving the ribs and frame to the last. The keel having been laid, and the stem and sternposts put in their places, they are fashioned in both sides with a groove. The lower edge of the plank next laid is made to conform in shape to this. The under groove is smeared over with red ochre and water, and the edge of the plank that follows is tried on from time to time till it takes a tinge everywhere, showing with what exactness it coincides. It is then steeped in water, and bent over a fire of wood into the proper shape, and applied to its place. When all is ready, the channel in the lower plank is filled up with cotton and tar. The two planks are now sewed together in the following manner, —a pair of holes are bored in the upper and a corresponding pair in the lower plank, all along at intervals of a foot or two, according to the nature of the lines; a strong coir string is laced through this in the form of the letter X, the knot being inside. A stout wedge of wood is next driven through the strings outside, so as to bring the planks perfectly in contact. The planks being put sufficiently in their places, when gunwale high is attained, the timbers are put in; when the planks have been nailed to them, the sewing holes are filled up either with nails when opposite a timber, or with wooden pins. The masts rake forward instead of back; the keel is hollow in the middle, and not so long as the sternpost; the fore-part of the boat sharp, with hollow lines, the stern plump and round. The Bombay fishing boats can beat the best of the English yachts. There are three great fishing villages in Bombay island, at Worlee, Sewree, and Mahim. A Patamar employs from 15 to 20 men, a fishing boat from 10 to 15, a canoe from 3 to 4. *Canoes* are chiefly employed in the coast fishing, and attending the men on the mud banks, and in landing cargo when there is no depth of water sufficient for larger vessels. They are hollowed out of a single log, and are very serviceable, handsome-looking, well-finished craft. They are impelled either by paddles or sails; when the latter are employed, an outrigger is resorted to; they will bear a surprising stretch of canvas, and make their way rapidly through the water.

The *Patamar* vessels sail remarkably well, and stow a good cargo. They belong principally to Bombay merchants, and partly carry on the coasting trade to that port. They are grab-built, that is, with a prow stem, which is the same length as the keel; and the dimensions of the large class are 76 feet 6 inches in length, 21 feet 6 inches in breadth, 11 feet 9 inches in depth, and about 200 tons burden. They are planked with teak, upon jungle wood frames, and are really very handsome vessels, being put together in the European manner, with nails, bolts, etc.; and their bottoms are sheathed with inch-board, and a layer of chunam mixed with cocoanut oil and a portion of damar (country rosin); this is a very durable substance, and a great preservative to the plank against worms. Some of the smaller of these vessels, of about sixty tons burden, are sewed together with coir, as other native boats are. The small class has one, and the large class two, masts, with the lateen sail; the foremast raking forward, for the purpose of keeping the ponderous yard clear when it is raised or lowered. The yard is slung at one-third of its length; the tack of the sail is brought to the stern-head, through a fixed block, and the sheet hauled aft at the side, as usual. The halyard is a pendent and treble block from the masthead aft to midships; thus acting as a backstay for the mast's security, together with about two pairs of shrouds. These vessels generally export salt from Bombay to the coast, and take back coir, rice, cocoanut, copra, oil, timber, sandal-wood, pepper, and various articles, the production of the coast. They are navigated with much skill by men of the Mopila caste, and other Musalmans, and have a crew of ten or twelve men and a tindal, who are good pilots and navigators off the coast from Bombay to Cape Comorin,—generally speaking, honest and trustworthy.

The Arab *Dow* is employed in the trade between the Red Sea, the Arabian coast, the Gulf of Persia, and the coasts of India, in Cutch, Gujerat, and Malabar. They were also used in the Persian Gulf for war and piracy. They are always manned by Arabs. The Arab Dow is 50 to 500 tons, but usually of about 150 to 250 tons burden by measurement; grab-built, with 10 or 12 ports; about 85 feet long from stem to stern; 20 feet 9 inches broad, and 11 feet 6 inches deep. Of late years this description of vessel has been built at Cochin, on the coast of Malabar, most perfectly in the European style. These vessels have a great rise of floor, are calculated for sailing with small cargoes, and are fully prepared, by internal equipment, for defence, with decks, hatchways, ports, poop-deck, etc., like a vessel of war; many of them are sheathed on two-and-a-half-inch plank bottoms with one-inch board, and the preparation of chunam and oil, as before described, which is called galgal, put between the planks and sheathing-board, causing the vessel to be very dry and durable, and preventing the worm from attacking the bottom. The worm is one of the greatest enemies in India to timber in the water, while the white ant is as much so out of it. On the outside of the sheathing-board there is a coat of whitewash, made from the same articles as that between the sheathing and planks, which coat is renewed every season they put to sea. These vessels have generally one mast and a lateen sail; the yard is the length of the vessel aloft, and the mast raking forward for the purpose of keeping this ponderous weight clear in raising and lowering. The tack of the sail is brought to the stern-head, and sheets aft in the usual way; the halyards lead to the taffrail, having a pendent and treble purchase-block, which becomes the backstay, to support the mast when the sail is set; this, with three pairs of shrouds, completes the rigging, which is very simple, the whole being of coir rope. (The Ki-Dow is a small Dow.) Several of these vessels were fitted as brigs after their arrival in Arabia, and armed by the Arabs for cruising in the Red Sea and Arabian Gulf, as piratical vessels; they

were also the class of vessels of which Tipu Sultan's fleet at Onore (Hunawar) consisted. When armed, they were too powerful for the Bombay marine brigs, but this never happened but when in great numbers and the brigs weak and unsupported. Sir John Malcolm says the large Dow ships make generally one voyage in the season to the southward of Arabia, taking advantage of the north-east monsoon to come down, and the south-west to return with an exchange cargo. They generally bring dates, fruit, preserves, Shiraz wine, and horses, and take back rice, coir, canvas, cocoanuts, oil, timber, damar, etc., various articles of cloth of the country manufacture; and from Bombay, European articles of every description. The trade in those vessels, extending from Allipey, the southernmost port on the coast of Malabar, up to Bombay,—all the trade to Bengal,—is carried on by ships which are called 'country traders,' from the Gulf of Persia and Arabia.

The *Bagla* or *Budgerow* takes its name from an Arabic word, the feminine of baghl, a mule. The Bagla is engaged in the trade of Cutch, Gujerat, and the Malabar coast, to the Gulf of Persia, the coast of Arabia, and the Red Sea. They are Indian vessels, and manned with Indian seamen called lascars. It is one of the most ancient vessels to be met with in the Indian seas. Their extreme length from stern to taffrail is about 74 feet, the breadth about 25 feet, and the depth in hold 11 feet 6 inches, with about 150 tons burden. The peculiarity of form and extraordinary equipment of these vessels is said to have been the same from the period of Alexander the Great. They are armed with two guns on the afterpart or right-aft of the stern, for defence against pirates, and have their poop-decks with a round stern, their extreme sections about the centre or middle of the vessel; they are very broad in proportion to their length, with a sharp rising floor; the stern is straight, and rakes very little more than the stern-post. These vessels are constructed with timbers and planks, which are nail and trenail fastened in the most rude and unsafe manner possible. The topside above the deck is barricaded with mats on the outside of the timbers, which run up to about eight feet from the deck; and when they have no cargo on board this barricade is removed. They have only one mast, with a huge yard made from two spars, the small ends lashed together, and a lateen sail, the tack of which goes to the stern-head; they generally trade like the Dow, and are navigated by Arabs and the people of Cutch. This singular and rude vessel, as well as the Arab Dow, is peculiarly adapted to the coasts of Arabia and the Red Sea, which are subject to periodical winds, during which these vessels are navigated with much ease.

The *Sambuk* is a small coasting vessel from 15 to 50 tons burden, trading in the Red Sea.

The *Doni* of the Coromandel coast is a huge vessel of the ark-like form, about 70 feet long, 20 feet broad, and 12 feet deep, with a flat bottom or keel part, which at the broadest place is 7 feet, and at the fore and after parts of the vessel it breaks into 10 inches, which is the siding of the stem and stern post. The fore and after bodies are similar in form from midships. Their light draught of water is about 4 feet, and when loaded about 9 feet. These rude, unshapely vessels trade from Madras and the east coast to the island of Ceylon and Gulf of Manar. They have only one mast, with a long sail, and are navigated from land to land and coastwise in the fine season only. The rate of current in the Bay of Bengal is very great at the change of the season or monsoon, as much as sixty miles in twenty-four hours. When they are off a port in a calm, their sailors throw a handful of sand or shells and feathers in the calm sea, and by the drifting of the feathers on the surface, and sinking of the sand or shells, a calculation of the rate of current is formed, and they anchor off the coast accordingly. The anchor is made by lashing together three crooked branches of a tree, which are then loaded with heavy stones, and their cable is formed from coir yarns. In fact, the whole equipment of these rude vessels, as well as their construction, is most coarse and unseaworthy, and far behind those of any other part of India.

Mr. Edye remarks that among all the numerous vessels of every class and description which traverse the ocean, there is a peculiarity of form and construction intended to meet the various localities of the ports or seas in which they are navigated; and perhaps in no part of the globe is this principle more fully displayed than in the Indian seas, and on the coasts of the southern Peninsula of India, including the island of Ceylon, where the nature and change of the season, the monsoons, and the navigation of the seas and rivers, are singularly well provided for by the truly ingenious and efficient means adopted by the natives in the formation of their rude but most useful vessels.

Catamarans of Ceylon, and of the Eastern and Western Coasts of the Peninsula, are formed of three logs of timber, and are used by the natives for similar purposes; the timber preferred for their construction is of the dup wood, or cherne maram (piney tree). Their length is from twenty to twenty-five feet, and breadth two and a half to three and a half feet, secured together by means of three spreaders and cross-lashings, through small holes; the centre log being much the largest, with a curved surface at the fore-end, which trends and finishes upwards to a point. The side logs are similar in form, but smaller, having their sides straight, and fitted to the centre log. The Catamaran is generally navigated by two men, sometimes by one only, but with great skill and dexterity; they think nothing of passing through the surf on the beach at Madras, and at other parts of the coast, where the boats of the country could not live in the breakers; and they are propelled through the water to ships on the coast, when boats of the best construction and form would swamp. In Ceylon, in the monsoons, when a sail can be got on them, a small outrigger is placed at the end of two poles as a balance, with a bamboo mat and yard, and a mat or cotton cloth sail, all three parts of which are connected; and when the tack and sheet of the sail are let go, it all falls fore and aft alongside, and, being light, it is easily managed. In carrying a press of sail, they are trimmed by the balance lever by going out on the poles, so as to keep the log on the surface of the water, and not impede its velocity, which in a strong wind is very great. They are frequently met in with ten or fifteen miles off the southern part of the island of Ceylon, and will convey any letter or despatch to the shore with

safety; but as to its dryness, the man who takes it has nothing but a pocket made from the leaf of the areca tree (A. catechu, *Linn.*), which is tied round his waist, and is the only article about him. These are the persons who are employed in the pearl fishery.

Canoes are largely used in India as ferry boats, and have shapes and forms to suit the rivers and waters. Small canoes are formed of hollow palmyra tree, two of which lashed to a couple of spars form the usual mode of crossing lakes and rivers in the Circars; the root forms the head of the canoe, the smaller end is either elevated out of the water by the form, or some six inches of the pith is left at that end. As this decays, a lump of clay supplies its place. Formerly, seagoing vessels were planked with this wood, but the iron fastenings are soon destroyed. Boats planked with it were till lately common on the Godavery, being built probably where sawyers were not procurable. Canoes of Calicut are hewn out of the trunk of the jack-fruit tree, Artocarpus integrifolia. Canoes of Point de Galle and the Malabar coast have weather-boards on an outrigger in the form of a smaller canoe; they are sharp at both ends, and beat to windward without tacking. The Jangar of the Malabar coast, for rivers, is a kind of canoe.

The *Point de Galle Canoe*, or *Market Boat*, is formed from a single stem of dup wood, or piney varnish-tree. They are from eighteen to thirty feet in length, from eighteen inches to two and a half feet in breadth, and from two or three feet deep, exclusive of the wash-board, which is about ten inches broad, and sewed to the gunwale by coir yarns, with loose coir padding on the joints, in the same manner as the other boats used in India are sewed together, which will be more fully described below. These boats are fitted with a balance log at the end of the bamboo outrigger, having the mast, yard, and sail secured together, and, when sailing, are managed in a similar way to the Catamarans. Vessels passing the southern part of the island of Ceylon are generally boarded by these boats, even at the distance of twenty to twenty-five miles from shore. They will sail at the rate of ten miles an hour in strong winds, which are generally prevalent there, and with a crew of five men. As the outrigger must always be kept to windward, and shifting it from side to side would be impossible, the canoe is so constructed as to proceed with either end foremost. This form of canoe is common wherever the Malays have extended themselves, throughout Polynesia and the coral islands of the Pacific, and to Madagascar and the Comoros, where a Malay colony settled. The great canoes of Ceylon called Ballam or Vallam are usually made of the Artocarpus hirsuta, the angely or angelica tree.

Madras Masula Manche is used all along the eastern coast of the Peninsula. It is formed with a flat bottom, for the purpose of taking the beach in the surf, when European boats cannot approach it. These boats are beached in the third surf, and taken most completely out of the water, on the immediate receding of the swell, by natives. They are 30 to 35 feet long, 10 to 11 feet broad, and 7 to 8 feet in depth. Their planks are sewed together with coir yarns, crossing the seams over a wadding of coir, which presses on the joints, and prevents leakage. By this peculiar means of security, the boat remains pliable, and yields to the shock which it receives on taking the ground; whilst boats with framed timbers and planks, nail or trenail fastened, would be broken to pieces from the heavy surf, that at times runs as high as from six to ten feet. The Catamaran can be kept in attendance as a life-preserver in the event of any accident to the Masula boat by upsetting, or in case of any of the Europeans being washed out by the surf. The crews of the Masula boats are brave, self-reliant men. The Masula boats receive their cargoes and passengers from the ships outside the surf, and land them in perfect safety. They are rowed by twelve men, in double banks, with paddles, that is, a board about ten inches broad and fourteen inches long, fixed at the end of a pole. They are steered by a tindal (cockswain), and one or two men constantly bale out the water. The steersman gives time by a song, which is sung by all the boatmen, and, according as its modulations are slow or quick, the oars are plied. These modulations are regulated by the waves, as they may be slow or rapid in succession.

The *Ganges* boats are the Budgerow, Boleah, Panswah, Palwar, Puteli, Bhur, Oolak, and Dengi. The bulky Oolāk, or baggage boat of Bengal, is sometimes as large as the Puteli, and used for the same purposes. The Palwar and Bhur are seagoing ships.

The *Puteli* is a large boat used for goods traffic.

The *Palwar*, also a cargo boat, from 15 to 20 tons burden, was originally built at Dacca.

All the common arts and manufactures of Bengal are carried on at Dacca, but in none of them do the Dacca workmen show more superior skill than in that of boat-building. For their work in this art they have been celebrated since the reign of Jahangir, when the Nowarrah was established here for the protection of the lower districts of Bengal against the incursions of the Mughs of Arakan.

The *Tista* river in the Terai at Leelpigoree is navigated by canoes, 30 to 40 feet long, some being rudely cut out of a solid log of sal, while others are built, the planks, of which there are but few, being sewed together, or clamped with iron, and the seams caulked with the fibres of the root of the dhak (Butea frondosa), and afterwards smeared with the gluten of Diospyros embryopteris. The bed of the river is here three-quarters of a mile across, of which the stream does not occupy one-third; its banks are sand-cliffs, fourteen feet in height.

On the *Irawadi* rivers, two kinds of vessels, of entirely different structure, are used, the larger of which may reach to 120 or 130 tons burden.

The larger boats are termed *Hnau*, and are of the form of construction more commonly met with. The keel-piece is a single tree hollowed out, and stretched by the aid of fire when green,—a complete canoe, in fact. From this, ribs and planking are carried up. The bow is long, with beautiful hollow lines, strongly resembling those of the modern steamers. The stern rises high above the water, and below the run is drawn out fine to an edge. A high bench or platform for the steersman, elaborately carved, is an indispensable appendage. The rudder is a large paddle lashed to the larboard quarter, and having a short pillar passing athwart the steersman's bench. The most peculiar part of the arrangement of these vessels is in the spars and rigging. The mast consists of two spars; it

BOATS AND SHIPS OF BURMA.

is in fact a pair of shears, bolted and lashed to two posts rising out of the keel-piece, so that it can be let down, or unshipped altogether, without any difficulty. Nearly the same kind of mast is used by the Illanun pirates of the Eastern Archipelago. When chased, they are thus enabled to run into a creek and drop the mast instantaneously, so that it gives no guidance to their whereabouts. Above the mainyard the two pieces run into one, forming the topmast; wooden rounds run as ratlines from one spar of the mast to the other, forming a ladder for going aloft. The yard is a bamboo or a line of spliced bamboos of enormous length, and, being perfectly flexible, is suspended from the masthead by numerous guys or halyards, so as to curve upwards in an inverted bow. A rope runs along this, from which the huge mainsail is suspended, running on rings, like a curtain, both ways from the mast. There is a small topsail of similar arrangement. The sailcloth used is the common light cotton stuff for clothing. If of any heavier material, it would be impossible to carry the enormous spread of sail which distinguishes these boats. The mainyard of one vessel was found to be 130 feet long, and the area of its mainsail would not be very much less than 4000 square feet, or one-eleventh of an acre. From their rig, these boats can, of course, scarcely sail but before the wind. But in ascending the Irawadi, as on the Ganges during the rainy season, the wind is almost always favourable. A fleet of them speeding before the wind with the sunlight on their bellying sails, has a splendid though fantastic appearance. With their vast spreading wings and almost invisible hulls, they look like a flight of colossal butterflies skimming the water.

Pein-go or *Pein-go-ma* is another description of Burmese boat, and it is said to be the peculiar craft of the Ning-the or Kyendwen river. Though it traffics to all parts of the Irawadi, it is extensively used at Ye-nan-gyoung for the transport of petroleum. It is flat-bottomed or nearly so, having no canoe or keel-piece like the Hnau, but being entirely composed of planks, which extend throughout the length of the vessel, wide in the middle and tapering to stem and stern like the staves of a cask. A wide gallery or sponson of bamboo, doubling the apparent beam of the boat, runs the whole circuit of the gunwale. These boats are generally propelled by oars or a pole, though occasionally carrying sails, but not of the same spread of cloth as the Hnau. The prow of a Burmese boat appears to be regarded by the Burmese boatmen with almost as much superstitious veneration as the quarter-deck of a frigate is by an English post-captain.

The buoyancy of the Pein-go boat is increased by one or two large hollow bamboos being lashed with rattans along the water-line. When laden with cargo made up into bales, a ledge, about 3 or 4 feet broad, made of bamboos, with a rail, is thrown out the whole length of the sides, for increase of stowage. The cargo is protected by a thatch roof. The steersman sits at the stem on a high chair, elaborately carved, and having a little thatch roof. When not favoured by a breeze the boat is propelled by 6 or 8 rowers.

Loung-zayet, is a round-bottomed boat, with stem and stern high but rounded in or curved in; in other respects like the Pein-go-ma.

Loung-go.—Bottom made up by scooping out a very large log. The depth of the boat is increased from two to three feet, by having nailed on planks running from stem to stern. Six to eight feet of the stern end is covered in by a hood of bamboo matting, made water-proof with earth oil or earth air and dammer; here the crew and family live. The large boats of this description have a mast and sail; the smaller ones, when favoured with a breeze, put up two bamboos ten or fourteen feet in length, joined at the top and spread out at the bottom, and for a sail both men and women's clothes are spread out. The crew are three or four and a steersman, generally the owner.

Ka-do-lay, a ferry boat, bottom made from a single log, sides planked, the whole length from 1 to 2 feet in breadth; about 5 or 6 feet of the stern end is covered with a rounded hood of thatch and bamboo. The steersman sits at the extreme stern end and steers with a paddle, while the boat is propelled by two rowers.

Sa-dho, a canoe made up from one log, varying in length from 6 to 15 feet and 2 to 2½ feet in breadth.

Canoes of two different forms are in use on the Irawadi, some of which are ridiculously small in proportion to the number of persons they carry.

Loung, a racing boat, bottom made up of one large long log, from 30 to 40 feet or more in length, with a side planking like the Ka-do-lay, paddled by 25 or 40 men according to size.

Gandoo.—This is the largest kind of native trading boat; it is built on a canoe of a single tree of the largest size, chiefly of peengado, but teak and thengan canoes are also used for this purpose. These canoes are from 25 to 30 cubits long and 3 to 4 cubits wide; ribs are fastened inside the canoe, and planks are then built on them up to the size required; the largest are 35 to 40 cubits long and 8 cubits deep, with a breadth of 15 cubits. Burden from 40,000 to 60,000 viss, and have a crew of from 40 to 50 men. They are built principally in the Henzadah district; they have two masts, and are rigged with square sails on the foremast, generally two of very large size. They trade to Arakan and Dacca chiefly, the cargo consisting principally of cutch and cotton, which they exchange for betel-nut and tobacco, and generally realize large profits.

Katoo.—This form of trading boat is an improvement on the foregoing. It is built with a thick plank from a keel, in the same way as ordinary vessels, and usually with the fore part in imitation of the Chinese junk. The largest kind carry about 20,000 viss, and the rig is similar to the junk, two or three fore-and-aft sail, which enable them to beat when the wind is adverse.

Sampan, a Chinese ferry boat shaped much like a spoon with just the handle cut out, leaving its shoulders projecting. The boat is flat-bottomed, built of teak planks nailed to ribs set about 18 inches apart; over the ribs are planks loosely fitted on and forming a deck. The boat is propelled by a single Chinaman, who stands in the bowl of the spoon with his face to the head of the boat. Sometimes a large square sail is used, when a large square rudder is shipped to guide the boat. A very unsafe boat under sail. It is painted like the junk in the forepart and stern. About two feet of the head of the boat is planked up, and serves as a box. Cost of Sampan, Rs. 50 to Rs. 60.

The *Sampan* boat at Singapore is remarkable

Sampan means three boards, and is the ordinary name for small boats or punts propelled by short oars or paddles. They are very narrow, without keels, and draw very little water.

The *Chu-Teng*, or hot congee boat, has a small galley for the purpose of enabling its owner to heat rice water, calling out, Mi chuk! Congee for sale.

Other boats of China are the—

Chay-Teng, or sugar-cane boats.
Choy-Teng, or vegetable boats.
Chu-Yuk-Teng, or pork boats.
Fa-Teng, or flower boats.
Kow-Teng, or cake boats.
Kong-Nga-Teng, or chinaware boats.
Mi-Teng, or rice boats.
Ngou-Yuk-Teng, or meat boats.
Na-Choy-Teng, or green-pea boats.
San-Kwo-Teng, or fruit boats.
Tchi-Teng, or firewood boats.
Tai-Tow-Teng, or barbers' boats, which are the smallest of the lot.
Yu-Teng, or fish boats.
You-Teng, or oil boats.—*Layard, Nineveh*, ii. 97; *Drew, The Northern Barriers; Ferrier's Journ.* 429; *Yule, Embassy; Marryat, Ind. Arch.; Bunsen's Egypt*, v. 233–264; *Mignan's Travels*, 242; *Postans' Pers. Observ.* 124–7; *Burton's Scinde*, ii. 296; *Cunningham, Hist. of the Panjab*, 19; *Dr. Taylor; Hooker's Him. Journ.* i. 392; *Powell's Handbook; Wellsted's Travels*, i. 16; *Burton's Mecca*, i. 262; *John Edye, R. As. Soc.* 1833; *Crawfurd, Dict.; St. John's Ind. Arch.* ii. 183; *Mr. R. Wallace*, ii. 35; *Mr. Netscher, in literis; Journ. Ind. Arch.* Nos. 6 to 12; *Court's Palembang*, 101; *Kolff Rapport*, 1831; *Earl, Voyage of the Dourga*, p. 89; *Burnes' Travels; Captain Carless' Report; Gray's China*, 246.

BO-AY-GY-IN. BURM. Bauhinia Malabarica.

BOBAN ESWARA. See Karli.

BOBBARLU. TEL. Dolichos Sinensis, *L.*

BOBBERY. ANGLO-HIND. for Bap-re. Oh! thou Father! a very disrespectful address; to create a bobbery is to cause a disturbance.

BOBBILI, a zamindari estate in the Vizagapatam district of the Madras Presidency. It has been in the possession of a Hindu family since A.D. 1652. Its fort was the scene of a tragic occurrence in 1757, when it was besieged by M. Bussy, on the instigation of the raja of Vizagapatam. M. Bussy offered terms, which being refused, M. Bussy then in one day thrice stormed the fort; and on at last gaining admittance, he found that the garrison had destroyed their women and children, and only dead and desperately wounded men remained, with the infant son of the raja, Ranga Rao, and an old man. Four others of the defenders had not perished, and two nights later they crept into the tent of the raja of Vizianagram, and killed him with thirty-two wounds. Other troubles followed; but in 1794, the son, Ranga Rao, was restored to his father's zamindari. Bobbili town is in lat. 18° 34′ N., and long. 83° 25′ E. The estate has 154,443 inhabitants.—*Orme*, ii. p. 258; *Imp. Gaz.*

BOD, in lat. 29° 50′ 20″ N., and long. 24° 21′ 41″ E., is the chief town of the tributary estate of Bod in Orissa, which has a population of 108,868 souls,—Hindus, with 23 per cent. of the population aboriginal tribes, mostly Kandh, with Pan, Damal, Goala, Sud, and Keut. The Mahanadi bounds it on the north. The ruling family are Kshatriya The tribute is Rs. 800 annually.—*Imp. Gaz.*

BODANTA. TEL. Bauhinia purpurea, *L.*

BODARA. HIND. Marlea begonifolia.

BODASARAM BODATARAPU. TEL. Sphœranthus hirtus.

BODDA. TEL. Ficus glomerata, *R.*; F. racemosa, *Willd.* Bodda, Atti and Medi are applied indiscriminately to various kinds of Ficus, but most frequently to F. glomerata. Bodda-nar, fibre of F. racemosa.

BODDAMA KAIA. TEL. Bryonia callosa. Its bitter seeds are given in worm cases, and yield also a fixed oil, used in lamps.—*O'Sh.*

BODDA MAMIDI. TEL. Cupania canescens.

BODDI CHETTU. TEL. Macaranga Roxburghii, *R.*

BODDU KURA. TEL. Rivea hypocrateriformis, *Ch.* The leaves are used as a vegetable in the south, as are those of R. Bona-nox in Bengal. The buds of Calonyction and some sp. of Ipomœa, especially I. reptans, are also eaten as vegetables (kura).—*Voigt; Elliot.*

Boddu Pavili Kura or Ganga Pavili Kura, Portulaca oleracea, *L.*

Boddu Malle, Jasminum sambac.

Boddu Tunga, Hymenochæte grossa, *Nees.*

BODHI. BURM. The pipal tree, Ficus religiosa, under which Gautama attained Buddhahood. See Bo Tree; Buddha.

BODHI-SATWA, a Buddhist saint, who in the next birth becomes a Buddha; a candidate for the superior Buddhaship in Buddhism; an actual experimental religionist. A mortal who has arrived at supreme wisdom (Bodhi), and yet consents to remain as a creature (satwa) for the good of mankind. The Bodhi-satwa, Avalokit Eswara, was the Chinese Kwan Yin.—*Hardy's Eastern Monachism*, p. 434; *Growse*, p. 96.

BODICE, or Choli, is worn everywhere in the south of India. It is cut in square pieces, which meet in front, and are tied by the ends in a strong knot under the breasts; and the sleeve, which in some instances reaches below the elbow, and in others above it, is put into the opening left unsewn in the upper part of the square body piece. The construction of this article of dress is very simple, and most women make their own. In the south of India, bodices are not worn by the women of some races. It is only, they say, courtesans who are ashamed of them who hide their bosoms. A form of bodice, named angia, is entirely closed in front, and is shaped out to fit the bosom. This garment is worn alike by Mahomedan and by many Hindu women. The dress of Mahomedan women further consists of petticoats, generally very wide indeed, and falling in heavy folds. Some wear an under-petticoat of fine calico as a protection to the costly stuff of which the outer garment is composed, or to escape friction. The stuff—satin, silk, or cotton cloth—is gathered into a strong band of tape, which is tied over one hip, and the plaits or gathers are carefully made, so as to allow the cloth to fall in graceful folds. Over the choli or angia bodice is a light muslin shirt, which continues below the waist, called a koortni; and over all a scarf of white or coloured muslin of fine texture, do-patta, passed once round the waist, and thence across the bosom and over the left shoulder and head, like the sari, completes the costume. Where the langa or petticoat is not

worn, paijama or trousers take their place. These are sometimes worn loose, as in Oudh and Bengal, and elsewhere as tight as they can be made. The cutting out of these tight trousers is no easy matter, for they have several gores on the inside of the thigh, and are contrived so that they are flexible, however tight, and do not hinder the wearer from sitting cross-legged. With the trousers, which are tied at the waist, are worn the angia or choli bodice, the koortni or shirt, and the do-patta or scarf. In full dress, a Mahomedan lady wears the peshwaz or Persian robe, in which dancing-women usually perform. It has long tight sleeves, a tight body crossed in front, and a very voluminous muslin skirt, the most fashionable amplitude being about forty or even sixty yards in circumference. This garment is often trimmed in a costly manner with gold or silver lace, and is only worn as a bridal dress or at domestic festivals. Any additions to the above consist only in variations of the component parts; cloth for bodices is made like saris, with coloured borders. In the cutting out of the bodice, it is contrived that each sleeve ends with the border, and that it runs round the bottom of the garment, if not entirely, at least to some extent. Bodices are also made of English white muslin, jaconet, or fine calico, and of chintz, provided the colour is fast. Many are of silk and cotton mixed, others of silk or cotton only.

The silk sari, and also the pitambar, or men's silk waist-cloths, are worn by Hindus at entertainments and festivals, as also in religious worship. Saris are nearly universal for Hindu wear; and soussi, made into petticoats and trousers, is as universal for Mahomedan women and men also, and it has this advantage over saris, that the colours and patterns differ very little anywhere within the confines of India; whereas the saris, dhotis, and loongis must be made to suit particular localities, and the patterns of one locality would inevitably be rejected in another. A kind of soussi is produced in France, blue striped, closer in texture than the Indian, perhaps, but belonging to the same class or category; and another, called grivas, in particular, near Vichy, both excellent and fast-coloured fabrics, and both used for trousers and blouses. The Indian soussi are always striped or checked, woven in narrow patterns, with coloured yarns, blue and white, black and blue, red and blue, yellow, white, and blue, green and chocolate, as detailed in Dr. Watson's list; and they are worn, fine and coarse, literally by millions of the people of the middle and lower classes. In Sind, under the shift, but of cloth called kanjari, the choli or gaj conceals the bosom. When it passes round the side like a bodice and is fastened behind, its name is puth. This article of dress is very often omitted in Sind, a fact which may in some measure account for the pendent shape which the bosom assumes even in young women after a first or second child.—*Watson; Burton's Scinde*, p. 301.

BODOANDA, a Jakun tribe inhabiting Quedah.

BODO JAMO. URIA. Eugenia jambolana.

BODOKA. URIA.? In Ganjam and Gumsur, a common timber tree, extreme height 35 feet. It has a light, white wood, used for scabbards, bazar measures, boxes, bullock yokes, the poles of palanquins, tonjons, and toys.—*Captain Macdonald.*

BODON. HIND.? A tree of Chutia Nagpur, with a hard, reddish-grey timber.—*Cat. Ex.*

BOD-PA, a name of Tibet.

BOECHEE. HIND.? A red-coloured wood, very hard and close-grained. The tree grows in the Santal jungles, but scarce. Seemingly fit for any building purposes. *Engineers' Journal*, 1860.

BOEHMERIA, a genus of plants belonging to the nat. ord. Urticaceæ. The species in the East Indies are—macrostachya; macrophylla, *D. Don;* platyphylla, *D. Don;* frutescens, *Thunb.;* frondosa, *D. Don;* ternifolia, *D. Don;* salicifolia, *D. Don;* interrupta, *Willd.;* goglado. Many of these are stinging nettles; B. nivea, the Urtica tenacissima of Roxb., yields the Rhea fibre of Assam. B. salicifolia has an edible berry.—*Roxb.* iii. 590; *Royle*, 372.

BOEHMERIA FRUTESCENS. *Thunb.*

Pooah of the PARBUTTIAH. | Yenki, ... LIMBOO.
Kienki, . . . LEPCHA. | Poee of GARHWAL, KUMAON.

This plant grows wild, to a height of 6 or 8 feet, in the mountain valleys of Eastern Nepal and Sikkim, and in the hills near the Terai, to elevations of 1000 to 3000 feet. Its fibre is used for twine, rope, fishing-nets, and game-bags, and could be woven into sailcloth. When to be used as a fibrous material, it is cut down when the seed is formed, as with the common flax in Europe. At this time the bark is most easily removed, and the produce is best. After the seed is ripe it is at least deteriorated. As soon as the plant is cut, the bark or skin is removed, and is then dried in the sun for a few days; when quite dry, it is boiled with wood ashes for four or five hours; when cold, it is beaten with a mallet on a flat stone until it becomes rather pulpy, and all the woody portion of the bark has disappeared; then it is well washed in pure spring water, and spread out to dry. After exposure for a day or two to a bright sun, it is ready for use. When the finest description of fibre is wanted, the stuff, after being boiled and beaten, is daubed over with wet clay, and spread out to dry. When thoroughly dry, the clay is rubbed and beaten out; the fibre is then ready for spinning into thread, which is done with the common distaff. The Pooah is principally used for fishing-nets, for which it is admirably adapted on account of its great strength of fibre, and its extraordinary power of long resisting the effects of water. It is also used for making game-bags, twine, and ropes. It is considered well adapted for making cloth, but is not much used in this way. Pooah fibre, when properly dressed, is quite equal to the best Europe flax, and will produce better sailcloth than any other substance seen in India. If potash were used in the preparation (which is invariably done with Russian hemp and flax) instead of clay or mud, the colour would be improved, the substance rendered easy to dress, and not liable to so much waste in manufacturing. Captain Thompson thought that it would be worth twelve rupees a maund in Calcutta.—*Royle*, p. 368.

BOEHMERIA INTERRUPTA. *Willd.*

Urtica interrupta, *Linn.*

Lal bichhutee, . . BENG. | Kyet-bet-ya, . . BURM.

Grows in the Bombay and Bengal Presidencies, and in Burma. Its hairs sting like those of the nettle.—*Voigt*, 281.

BOEHMERIA NIVEA. *Hooker and Arn.*

Urtica nivea, *Linn.* | Urtica tenacissima, *Roxb.*
,, candicans, *Burm.* | Boehmeria candicans.
China grass, . . . ENG. | Rhea, Dom Rhea, HIND.

This plant is cultivated in the eastern parts of India and in China for its fibres, which are second to none for strength and beauty, and are used for textile fabrics. It grows rapidly and luxuriantly, and can be cut three or four times in the course of the year; the young shoots are those which are used, and on the stem being cut down, numerous straight simple shoots spring up from one to eight feet high.—*Drury's Useful Plants.* See Rhea.

BOEHMERIA PUYA, *Royle*, is botanically a different species from the B. nivea, though its fibre is almost identical with that furnished by B. nivea. It flourishes at Darjiling, Dehra Doon, and other places in the north of India. Its commercial value is the same as that of Rhea, affording the Puya fibre of Northern India.

BOEHMERIA RUGULOSA, *Wedd.*, grows in Garhwal and Darjiling Terai.

BOEHMERIA SALICIFOLIA. *D. Don.*

Urtica salicifolia, *Roxb.* | Siharu, ... PANJ.

A plant of the Moluccas and of the Himalayas, as far as Dehra Doon, found in Simla and in Garhwal, and in the Sutlej valley between Rampur and Sungnam, at an elevation of 6000 feet. Used for making ropes. Its berries are edible.—*Royle; Voigt*, 280; *Cleghorn, Panjab Report*, p. 68.

BOEHMERIA UTILIS. *Royle.* Rhea.

Bon or Bun Rhea. | Leepeah of . . . NEPAL.

Jungle Rhea is common in Nepal and the Assam forests, and thrives best in the vicinity of water or of running streams. When unmolested it grows to a tree, but, by proper management, the divided roots afford numerous shoots, and the plant can be propagated by slips as well as by the seed. Its cultivation for its fibre might be carried on, as with the willow in Europe. It is said to be exported into Southern, from Northern, China. It is cultivated largely by the hill tribes north-west of Yunnan, and by the Singphos and Dhoanneas of the north-eastern frontier of India to a small extent only, for a coarse cloth, but chiefly for nets. The Nepalese recognise it as the Leepeah of Nepal (Journ. Agri-Hortic. Soc. vii. p. 222). This fibre is well adapted for rope-making. It is about five feet in length, brown in colour, strong, and flexible. It is all that can be desired either for canvas or lines, and only requires to be known to be generally used for such purposes. It was made into a five-inch rope by Messrs. Huddart, along with the Dom Rhea or China-grass, and broke with a weight of about nine tons, or precisely 21,025 lbs. Since then, it has been made up into ropes of various sizes, which greatly exceed in tenacity those made of Russian hemp of the same size. It has also been made up into lines and cords, some of them almost fine enough for fishing lines; in all which it displays its fitness for all such purposes, from the union of strength and flexibility. It was valued at £35 a ton.—*Royle, Fib. Pl.* p. 363.

BOERHAAVIA ERECTA. *Linn.* Hog-weed.

B. procumbens, *Roxb.*, *W. Ic.*

Tikri, ... HIND. | Mukaratay kiray, . TAM.
Tamirama, . . MALEAL. | Ataka mamidi, . . TEL.
S'inadika, . . SANSK. | Adavi mamena, . ,,

Var. α. Rosea, Gada-poorna, deep-rose.
Var. β. Alba, Shwet-poorna, white.

A very common, troublesome weed. The long fusiform perennial roots strike so deep as to render it no easy task to dig them up. It produces blossoms and ripe seed during the whole year. Horsfield says that in Java this is deemed emetic. The native practitioners of India reckon the root amongst laxative medicines, and prescribe it in powder. The small round leaves which grow at the joints of the stalks of the plant are eaten. —*Roxb.* ii. 146; *Ains.; O'Sh.; Voigt*, 328.

BO-GAHA. SINGH. Ficus religiosa.

BOGLE, GEORGE, in 1744 was deputed to Tibet by Warren Hastings as ambassador.

BOGNIO or Bounigo. JAPAN. A governor.

BOGRA, a revenue district in the Rajashye, Koch-Bahar, division, between lat. 24° 32′ 15″ and 25° 18′ 30″ N., and long. 88° 54′ 15″ and 89° 48′ E., with an area of 1491 square miles, and a population of 689,476 souls, chiefly semi-Hinduized aborigines of the Koch'h, Pali, and Rajbansi races, and the Ghatwal. There are also a large number of Kaibartta cultivators, with boating and fishing castes. The mound of the ruined city of Mahasthana is, as the shrine of Shah Sultan, largely visited by Mahomedans.—*Beng. Dir.; Imp. Gaz.*

BOGSHA, a tribe occupying the low Terai adjoining Rohilkhand.

BOGUE FORTS were captured by the British navy on the 25th February 1841.

BOGUM-WANLU. TEL. From Sanskrit Bhogam. Common women. See Basava; Murli.

BOHIRA. HIND. Bignonia undulata.

BOHNI. HIND. With shopkeepers and hucksters, the first money received of the day; it is the handsel of the British. Throughout India, credit for such transaction is not allowed; it must be a ready-money transaction.—*Elliot.*

BOHRA. Many of the Mahomedan shopkeepers on all the western side of India, and as far east as Secunderabad and Bellary, are Bohra, and they are in many parts of Central India and the N.W. Provinces; in the Rajput states, on the north-western coast of peninsular India, and are gradually extending to the south. They call themselves Ismaili, acknowledge an Archimandrite or religious chief, and are an active, intelligent, mercantile race. They are scattered all over the country, but are found principally in Gujerat and the adjoining provinces of Cutch, Sind, and other parts of the Bombay Presidency. They are a peaceable, inoffensive body of men. They are fair, robust, somewhat taller than the average Englishman. Wilson says that these appear to have originated in Gujerat, where they became converts to Mahomedanism; but they seem to have come from Sind. They are engaged in every branch of commerce as wholesale merchants of the first class, as well as pedlars; and sometimes both characters are to be found in the same person. They are a chief medium through which the retail trade in European articles is carried on. The good understanding in which they live with each other strengthens their association; and though they have in former times suffered from the violence of power, few of the industrious classes have escaped so well, during the worst of times, as the Bohra. They are united under the spiritual rule of their elected mullah, or priests, to whose orders, in conformity with the ancient precepts of the remarkable sect of Mahomedans to which they belong, they render

implicit obedience, corresponding in many respects with the Ismailiyah, the Ansariah, the Mutawilah, and the Druses of Syria, and holding the doctrine of the divine character of Ali. They are of the sect of the Hasani, the Assassins once so dreaded in Egypt and Persia, for the murders perpetrated in blind obedience to the mandate of their spiritual chief, so famous in the crusade history under the name of the Old Man of the Mountain, or Shaikh-ul-Jabal. At Oojein, in Sir J. Malcolm's time, 1200 families lived in four mahal or wards connected with each other, but separated by strong gates from the other parts of the city. No one except a Bohra could enter their precincts without leave. The chief mullah, who resided at Oojein, was appointed by the high priest of this class at Surat, and his authority extended over all his sect. His orders regulated their most minute actions; and he promulgated annually a table of rules for their guidance. He estimated the Bohra in his diocese or charge at nearly 10,000 families, or about 45,000 souls. They seem to abstain wholly from political intrigue, are liberal-minded and open-handed, and as good citizens far excel the Mahomedans either of Arab or Persian descent. The name is said to be derived from Beohar, trade. Wilson says the word is derived from the Gujerati words, Vohora, Wohoro, and Ohoro. The Bohra in the N.W. Provinces of India and the Upper Doab have a humbler branch, called Koyan or Rebte, who are money-lenders. Sir J. Malcolm says that besides the Mahomedan Bohra, there is a tribe of Brahmans from Nat'hdwara in Mewar, who have likewise this appellation.—*Elliot; Malcolm's Central India*, ii. p. 111; *Census.*

BOI, TEL., also pronounced Bhui. On the Madras side of the Peninsula, a palanquin-bearer; fisherman employed also as a house-servant.

BOIDU. TEL. A man of the cowherd or shepherd caste.

BOIL. The Dehli boil, Sind boil, and Aleppo boil are very intractable diseases. The Aleppo boil, about the size of a shilling, occurs in Teheran. It is of a livid colour, not painful; its progress is slow. It is called the Hebt-us-Sinne, or the Blotch of a year, also the Haleb-chiban. It is seldom cured in 8 months.

BOILA. NEPAL. Bauhinia Vahlii.

BOIS. FR. Wood; hence Bois à batir, Bois de charpente, timber.

BOJ. HIND. Acorus calamus, also Typha angustifolia.

BOJA. TEL. Inga xylocarpa.

BOJAH. HIND. Eleusine coracana; beer made from this grain.

BOJAJA. JAV. Crocodile.

BOJH, also Bojha. HIND. A weight, a load.

BOJIDAN, the root of a small plant brought from Dehli to Ajmir; used as an aphrodisiac.—*Gen. Med. Top.*

BOKA. HIND. A basket, pail, or leather bag, for throwing water to a higher level. It is the source of the English word bucket.—*Ell.*

BOKAARA GAS. SINGH. Gomphia angustifolia, *Vahl.*

BOKADA. TEL. Clerodendron viscosum.

BOKARO, a coalfield of the Hazaribagh district of Bengal, covering an area of 220 square miles on either side of the Bokaro river. The quantity available is estimated at 1500 millions of tons. It is regularly worked.—*Imp. Gaz.*

BOKAT. HIND. Asphodelus fistulosus.

BOKENAKOO. HIND. Zapania nodiflora.

BOKHARA, a khanate in Turkestan, of small extent, surrounded by a desert. It lies between the parallels of lat. 37–43° N., and long. 60–68° E. It is an open champagne country of unequal fertility, and intersected by the Amu or Oxus on the southern border. Its rivers are the Amu or Oxus and Syr or Jaxartes, the Kohik or Zar-afshan and the river of Karshi and Balkh. It is ruled over by an Amir. The population was estimated by Irving (1809) at 3,600,000, by Burnes at 1,000,000, by Fraser at 2,500,000, and by Balbi (1826) at 1,200,000. A considerable portion of the khanate consists of a clayey, saline soil, and sandy steppes, with a visible slope to the south-west, while it is barricaded to the north-east by huge ranges of mountains. The prior occupants are the Tajak, whose time of immigration into Bokhara is unknown. Previous to the conclusion of the first century of the Hijira, the followers of Mahomed penetrated there, and forced them at the point of the sword to embrace the new creed. At that period Bokhara was governed by the Samanides. In the 10th century the weak rule of these princes was totally overthrown by the Uzbaks, whose power was not of long duration; for in the 12th century the khanate of Bokhara was deluged by the overwhelming flood of the Moghul hordes of Chengiz Khan, and the Uzbaks were driven by the Moghuls into the desert to the west of the Syr-i-Darya. Bokhara has often changed its rulers and modified its inhabitants. At each successive influx new tribes were added to the bulk of the population. This intermixture was more particularly felt whenever the Uzbaks re-entered the khanate. Of the Tajak there is but a remnant left in the city of Bokhara. Owing to their peaceful disposition, not to use the word cowardliness, they abstain from taking any part in warlike achievements. The most salient traits of their character are avarice, falsehood, and faithlessness. They are usually tall; have a white skin, with black eyes and hair. In their dress they strictly adhere to the rules of the Koran, and there is much greater affectation than is observable among the Uzbak. Their politeness in conversation often becomes disgusting, especially if they require the assistance of the person to whom they address their words. The number of the Arabs is somewhat greater than that of the Tajaks. They are chiefly dispersed over the northern parts of the khanate, having their headquarters in the vicinity of Vardanzi and Samarcand. They have not relinquished the habits of their ancestors, and continue to lead a wandering life, with this difference, that the severity of the climate has induced them to exchange their tents for the kibitki. Such only as are compelled by the nature of their occupation, live in fixed habitations. Their features betray their origin. Their large eyes are black as well as their hair; and their skin, which is very susceptible of the effects of the sun's rays, often becomes nearly black from exposure. They speak Arabic amongst themselves.

Bokhara has grain, fruit, silk, cotton, dyes, and cattle, all unrivalled of their kind. Their horses are celebrated throughout Asia; their camels surpass all the other sorts of this most useful domestic animal in the south and west of Asia; and their mutton is equal to any in the world. The hilly

country east and south of Samarcand is rich in minerals.

The Uzbak are undoubtedly the preponderating race in Bokhara, not so much from their number, as by the ties which bind them together. They are divided into stems and sections, like the Kirghiz, and have their elders or beys, who enjoy a certain consideration among them. The Uzbak branches, with some of their subdivisions, are enumerated in the work called Nassad-Mameti-Uzbakia. Many of their tribes are in this khanate.

Manghit encamp at different places, partly in the neighbourhood of Karshi, and partly near Bokhara, and it is out of one of its branches, called Tuk, that the reigning dynasty proceeds. Uzbak are generally middle-sized men; the colour of their beards varies between a shade of red and dark auburn, whilst few are found with black hair. Their dress is very plain, consisting chiefly of khalatu, or flowing dresses of alaja. The wandering Uzbak live, like the Kirghiz, in kibitki. The external felt is usually of a black or dark grey colour, but the interior is more tastefully ornamented than the tents of the latter; for the Uzbaks hang small carpets of home manufacture along the sides, and, though the work be coarse, and the colours generally of a sombre hue, dark red or brick colour in particular, their presence sets off the tent to advantage, and gives it an appearance of cleanliness. Their meals are very monotonous, the staple article being constantly mutton. Kumis (fermented mare's milk) is only drunk by those who keep large herds of horses. Their chief occupation consists in breeding flocks. Children all but naked are seen driving the sheep round the aul, while the chief sits listlessly in his kibitka, leaving all the household affairs to the care and management of the women, who do not differ in dress from the Kirghiz women. In the interior of the aul, half-naked children may be seen romping about and fighting with dogs.

Bokhara has a considerable number of Persians, especially Persian captives, who are brought thither in small parties. The greater majority, however, of this people were transplanted from Merv, in the reign of Amir Seyid, when that city fell under his sway. With a view of weakening it, and thereby ensuring his own safety, he ordered 40,000 families to be transported from Merv to the neighbourhood of Samarcand. It is from them the Persians of Bokhara chiefly descend.

The Persian population are easily distinguished by the regularity of their features and their bushy black hair. They profess outwardly the Sunni faith, though in their hearts they remain Shiah. The Jughi, Mezeng, and Luli are classed among Musalmans in Bokhara; their women go unveiled, and the men are careless in their religious duties. Numbers of them are established at Bokhara and other towns as medical men, fortune-tellers, and horse-dealers. Such as lead a wandering life encamp in tents of a coarse cotton stuff called bez. They have permission to halt near all the lakes and rivers of the khanate whenever those places are not previously occupied by Uzbaks; in consequence of which a great number of them are dispersed along the banks of the Zar-afshan, near Samarcand, while others encamp in the neighbourhood of Karakul. Bokhara and Samarcand are the centres of Mahomedan theology. There are no Mahomedans so strict as the inhabitants of Bokhara, but it was the most shameless sink of iniquity in the east. They have a monastery at Bokhara, dedicated to the famous darvesh Mulana Jalal-ud-Din, who centuries ago went from Bokhara to Iconium. Its houses are built of mud and wood. The rooms have no furniture; and glass for windows is unknown, oiled paper being used in lieu. Bokhara and Turkestan send out raw silk of various kinds, caled chilla jaidar, vardanzwi, lab-i-abi, churkhi, from Khokan, Balkh, Kunduz, Akcha, Shibarghan, etc. Bokhara gold coins are budki and tila. Broadcloth is little used, only cotton cloths (alaja), and stiff, loose silken garments. Women's clothes are of a dark colour, often blue, and fit tightly, with a horsehair veil.

Bokhara city, in lat. 39° 46′ 45″ N., long. 64° 26′ E., is about 7 miles from the left bank of the river Zar-afshan. It is about 7½ miles in circumference, and is surrounded by a clay curtain, with bastions at intervals. It has about 15,000 houses, and a population of 75,000 souls. The ark or palace was built by Alp Arslan. The foreign traders have their respective caravansaries. It has numerous mosques, and about 140 schools and colleges. The inhabitants consist of the Tajak, Nogay, Uzbak, Arab, Jews, Persians, and a few Russians. The Jews are dyers and silk traders, and must wear a small cap and girdle around their waist, to be distinguished from the Mahomedans. There are merchants from Sind, and many darvesh. Whole streets contain nothing but shops and magazines for merchants from all parts of Turkestan, Kashgar, Hindustan, and Russia. There are, all around, numbers of country houses, with gardens.

The brothers Polo stayed three years in Bokhara in the time of Barak Khan (A.D. 1264-1274); and Anthony Jenkinson, who together with the brothers Johnson travelled in Central Asia as agent for Russian cloth manufactures, was in Bokhara A.D. 1558–59. It was visited in the early part of the 19th century by Sir Alexander Burnes, Dr. Joseph Wolff, Colonel Stoddart, and Captain Conolly. The two last fell victims to the fanaticism of the people. It was taken by Russia in 1868.—*Wolff's Bokhara*, ii. pp. 3, 4; *De Bode, Bokhara; Vigne, Personal Narrative; Ferrier's Journey; Max Müller; Powell's Handbook; Trotter, Central Asia.*

BOKHARA CLOVER, Melilotus, a genus of plants of the nat. order Fabaceæ, several species of which, native and foreign, are grown in India, Melilotus arvensis, Italica, leucantha, officinalis, parviflora, and sulcata. M. arborea is the Bokhara clover, and affords two or three cuttings in a season; most of them are grown as clover.

BOKHARA, LITTLE, a name of Chinese Tartary or Eastern Turkestan.

BOKHARI, one of the six principal collectors of the hadis or traditions of Mahomed. The other five collectors were, Muslim, Abu Daoud, Tirmidzi, Nasar, Ibn Maja or Ibn Khozeima. Bokhari was a takhallus or literary appellation. His real name and cognomen are Abu Abdullah Muhammad Ismail. He was born A.H. 194, and died A.H. 256.

BOKHARIAN HAKIM. See Gia-i-Khatai.

BOKHDI. See Aryan.

BOKHEE. DUKH. Hiptage madablota.

BOKKADI. TEL. Ehretia, *sp.*

BOKKENA. TEL. Zapania nodiflora, *Lam.*

BOKKUDU. TEL. Hydrocotyle Asiatica.

BOKLA. HIND. Antennaria contorta.

BOK-MAI-ZA. BURM. Kydia calycina.

BOKMO. URIA. Cæsalpinia sappan.

BOKSA, a forest tribe of the western parts of Rohilkhand.

BOKUR. MAHR. Cardia Rothii.

BOL, Bola. HIND. Balsamodendron myrrha, *Nees ab Esen.*; also myrrh.

BOLA. BENG. Paritium tiliaceum, *St. Hil.*

BOLA of Bengal, the fish Corvinus chaptis.

BOLAN, a pass in Saharawan in Baluchistan, 61¾ miles long, leading through the Hala Mts. from Kutchi to Dasht-i-be-Daulat. It is a succession of valleys, bounded by mountains. The road is good over the bed of the torrent, from which large stones can be removed. It is better adapted for camels than horses or wheeled conveyances. It is the principal route for the traffic from Sind to Afghanistan. In 1838, the British Indian army, 13,030 strong, and Shah Shuja's army, 6070 strong, with 40,000 followers, marched through this pass. The water of the Bolan or Kahi river disappears in the shingle at Ab-i-gum, to reappear lower down. The British Indian army again, in the war of 1878-79, marched through the Bolan to Kandahar. The entrance is 800 feet; Ab-i-gum, 2540; crest, 5793 feet. Dr. Hunter says 8500 feet. Average ascent, 90 feet per mile.

The Bolan, with the Moolla pass far to the south, are the only practicable routes intersecting the great chain of mountains, defining, on the east, the low countries of Kutch Gandava and the valley of the Indus; while westward it supports the elevated regions of Kalat and Saharawan. There are many other passes over the chain, but all of them from the east have a steep and difficult ascent, and conduct to the brink of the plateau or table-lands. Such are the passes of Takari and Nagow between the Bolan and Moolla routes, and there are others to the N. of the Bolan. This pass is particularly important, as occurring in the direct line of communication between Sind and the neighbouring countries, with Kandahar and Khorasan. It also constitutes, in this direction, the boundary between the Sard Sair and Garm Sair. The natives say that all below the pass is Hind, and that all above it is Khorasan. This distinction is in great measure warranted, not only because the pass separates very different races from each other, speaking various dialects, but that it marks the line of a complete change of climate, and natural productions.—*Masson's Journeys*, i. p. 338.

BOLARUM, a military cantonment of the Hyderabad contingent, ten miles north of the city of Hyderabad in the Dekhan, continuing to the north of the Secunderabad cantonment. The force comprises a regiment of native cavalry, one of infantry, and a battery of artillery.

BOLBOPHYLLUM, a genus of plants belonging to the natural order Orchiaceæ. B. auricomum, Careyanum, flexuosum, fuscescens, Jenkensonii, serpens, and sunipia, occur in Nepal, the Khassya hills, Burma, and Tenasserim. The most highly valued of the orchid order among the Burmese and Karens is a sweet-scented bolbophyllum, which Karen youths wear in the lobes of the ear, and maidens in their hair. It abounds in almost every part of the jungles, throwing down delicate straw-coloured racemes over the rough grey bark of old Lagerstroemia trees. B. Careyanum is common in the vicinity of Moulmein, and easily recognised by a long leaf at the apex of a false bulb, and by its small purplish flower.—*Mason.*

BOLE ARMENIAN, Berlin red.

Hajr-Armeni, . .	ARAB.	Harmzi, . . .	PANJAB.
Bole de armenie, . .	FR.	Harmuchi, . .	,,
Gil-armeni, . . .	PERS.	Gurukatta, . . .	SANSK.
Gheru mitti, . .	,,	Sime kavi kallu, .	TAM.
Tannam Poo, . .	JAV.	Sima kavi rai, . .	TEL.

An earthy mineral of a fine red colour, one of the hydrous silicates of alumina. That found in the island of Lemnos is white, and called Lemnian earth. Armenian bole is in use in India amongst native practitioners as an astringent; it is largely employed by fraudulent dealers to colour articles of food, etc. It is employed in native painting and gilding. In many countries, Bengal and South America especially, this and other unctuous earths are eaten occasionally by pregnant women, to allay the craving for food so common in that state; and in times of scarcity it has been used by both sexes as a mechanical substitute for proper food. It consists of alumina, silica, magnesia, and oxide of iron. It is brought to India from the Persian Gulf; but it also occurs of fine quality in the Rajmahal hills, also in Mysore, Bellary, and other localities. Reduced to very fine powder, it is used as an absorbent application, sprinkled over ulcers or other raw surfaces. The boles of Blois, Silesia, Lemnos, Armenia, and other places are celebrated. They do not effervesce with acids; are astringent, contain silicate of alumina, and a varying proportion of iron and magnesia. The red varieties are called Armenian bole, and the white varieties are Lemnian earth. —*O'Sh.; Smith.*

BOLEDI, a tribe of Arab descent in the Kaj district of Baluch Makran. They were in brief authority in the early part of the 17th century.

BOLEOPHTHALMUS BODDÆRTII, the leaping fish of the seas of the E. Archipelago. They are salamandrine-looking creatures, scarcely distinguishable from the mud on which they lie, but make a series of leaps on being alarmed. They are 3 or 4 inches long, wedge-shaped, with flat pointed tails, head, and prominent eyes. They are called by sailors Jumping Johnnies. They leap by means of their ventral fins.—*Collingwood.*

BOLETUS DESTRUCTOR, dry-rot fungus.

BOLETUS IGNIARIUS, Agaricus albus.

Buti ka Mochka,	CHENAB.	Gharikun, . . .	PERS.
Jangli Bulgar, .	KASHM.	Kiain, ...	PANJAB.

B. igniarius, dried and sliced, is the amadou or German tinder.—*Eng. Cyc.* See Fungi.

BOLINTRABOLUM. TEL. Bol ka gond, and Bija bol, HIND. A dark, reddish-yellow opaque gum-resin, appears to be true myrrh. It is considered a warm medicine; is given to children in enlarged abdomen, mixed with aloes, as a deobstruent, and is also used in making native ink; one seer costs eleven annas.—*Gen. Med. Top.*

BOLKUKRI. BENG. Adolia castinacarpa.

BOLO CHAPTIS. *Buch.* Corvinus bola, *M'Clell.* Corvinus chaptis. A whiting that furnishes isinglass; the jawbone of the fish is described as Boalee.—*Mason.* See Bola.

BOLOR MOUNTAINS, the mountains of Balti, extend for 300 miles, from the sources of the Gilgit and Yasan rivers in 73°, to the 77th degree E. long., the source of the Nubra river. The Bolor mountains form the western boundary of Chinese Turkestan and Dzungaria. Bolor pro-

duces much gold. The higher mountain range abounds in rock-crystal, called Bilor-stone. The people of the neighbouring Dardu districts on the Indus know Balti only by the name of Palolo. Balti is still famous for its gold washings. Ptolemy calls the people Βύλται, or Byltæ.—*Yule.*

BOLSARI. DUKH. Mimusops elengi.

BOLUNGEE and BANSO. TEL.? URIA.? Two rare bamboos of Ganjam and Gumsur; extreme height 25 feet, circumference ⅛ foot.—*Captain Macdonald.*

BOLWAN, amongst the Mahrattas, the ceremony of conducting a bride to her husband's house; also dismissal of the bridegroom's friends and attendants. Also, the ceremony of propitiating the Bhuta or spirits of deceased persons (pestilence) who have entered a village, inducing them to leave the village, and conducting them across the borders with music and a procession. The exercise of the Bolwan is a cause of great anger to the villagers to whom the pestilence is led. Perhaps from būlāna, to call.—*Wilson.*

BOM or Bun-zu or Bom-du are closely allied tribes, termed collectively Lungkta, Kungye, or Kuki, who occupy the highlands of Tiperah, and extend S.E. towards the head of the Koladyn. Both the Bun-zu and Kuki appear, like the Ku-mi, to belong to the Burman family. The Kuki represent its most archaic and barbarous condition. The tribes that have been exposed, on the seaboard of Arakan or in the basin of the Irawadi, to the influence of the Chinese, Shan, Mon, Bengali, and more distant commercial nations, have attained a comparatively high civilisation. The Singpho, although much behind the Burmans, are greatly in advance of the Kuki; and the Burmese seem, at a very ancient period, when their condition was similar to that of the Kuki, and perhaps in many respects more barbarous, to have spread themselves from the upper Irawadi to the south and west as far as the highlands of Tiperah on the one side, and Pegu on the other. Wherever the stock from which they have been derived was originally located, they probably first appeared on the ultra-Indian ethnic stage as a barbarous Himalayan tribe, immediately to the eastward of the Mishmi, if indeed they were not identical with the Mishmi of that era. The upper Irawadi was probably then occupied by the ruder and inland tribes of the Mon-Anam alliance.

BOMA-PAPATA. TEL. Stylocoryne Webera.

BOMBACEÆ. Several genera of this group of plants, as the adansonia, bombax, durio, ochroma, gossampinus, and salmalia, grow in the East Indies. Salmalia Malabarica and Gossampinus have a soft down attached to their seeds, and yield a powerful bast. Some authors regard this group as a section of the Sterculiaceæ.

BOMBARECK, a rock which British sailors so call. It is the Koh-i-mubarak, also Ras-mubarak, the fortunate or auspicious mountain, or headland, of the Arabs.

BOMBARIMASA. TEL. Citrus decumana.

BOMBAX CEIBA. *Linn.*

Muh-mien, . . . CHIN. | Pan-chi-hwa, . . . CHIN.

A tree of Jamaica introduced into the E. Indies. In South America and the West Indies it is used for canoes. It is common at Canton; and the fleshy petals of the flowers are sometimes prepared as food. It is said to be a large tree of the Burmese country, and its beautiful and soft floss is used for pillows and thin mattresses by the natives. The juice of the root is aperient, and its bark emetic.—*Voigt; Malcom's Travels*, i. p. 187; *Riddell; Williams' Middle Kingdom*, p. 284.

BOMBAX MALABARICUM. *D. C.*

Bombax heptaphyllum, *Cav.*
Salmalia Malabarica, *Sch. and Endl.*
Gossampinus rubra, *Ham.*

Rakto-simal, BENG., HIND.	Sum, ... PANJ.
La-i; Lepan, . . BURM.	Kattu imbal, . . SINGH.
Burrul, mara, . . CAN.	Ilavam, ... TAM.
Red Cotton Tree, . ENG.	Buruga manu, . . TEL.
Simal, HIND., PERS., SANSK.	Mula-buraka manu, ,,
Sair; Sairi, . . . MAHR.	Buro, ... URIA.
Mulu-elavu, . . MALEAL.	

This large and stately tree grows in most parts of British India, and is often from 80 to 100 feet to the first bough. It occurs wild in the Siwalik tract up to 3500 feet, and beyond the Indus, and up to 6000 near the Ravi; and its wood is used there for planks, boxes, water conduits, well curbs, troughs, bridges, and scabbards, and light work, its wood being whitish, coarse-grained, weak, brittle, and very subject to the attacks of white ants, but it stands water well. In the Bombay Presidency, both on the coast and inland, it is one of the most common trees, and the planks are extensively used in making the light packing-boxes used in the export of bulky goods from Bombay and other places; also for fishermen's floats when the Adansonia is not at hand, and for canoes. It is abundant in the plains of British Burma, where its light and loose-grained wood is used for coffins. A cubic foot weighs 28 lbs. When the trees grow large, the stem spreads out towards the base, at intervals, into buttress-like projections. In spring, huge Magnolia-shaped scarlet blossoms cover the trees, and in some places the young flower-buds are cooked and eaten. Its cotton is used for stuffing cushions and pillows. In a full-grown tree on good soil, the average length of the trunk to the first branch is 60 feet, and average girth measured at 6 feet from the ground is 15 feet. It yields the Moochee-ras resin, and its roots constitute the Safed Moosli of the bazars, which, powdered, forms a thick mucilage with cold water, and answers admirably as a nutritious demulcent for convalescent persons.—*Drs. Wight, Brandis, Gibson, O'Shaughnessy, Stewart; Mr. Thompson; Captain Beddome.*

BOMBAY city, in lat. 18° 55′ 5″ N., and long. 75° 53′ 55″ E., is situated on an island of that name, with an area of 18·22 square miles, and gives its name to a presidency under the rule of a Governor and Council; also to the army which holds the Bombay territories and the peninsula of Aden; also to the small naval force of the Bombay Marine; and likewise to a group of islands off the Bombay shore. The English name is a changed form of Mumbadevi, a local Hindu goddess. The countries under the Bombay government present markedly differing features, alike in their physical aspect, in the races occupying them, and in the languages that they speak. In the times preceding and following the Christian era, portions of the territories under notice were distinct nationalities,—Kat'hiawar, Maharashtra, Gujarashtra, Saurashtra, and Sindhu; and a powerful ancient dynasty seems to have had their capital at Wallabhi, in the modern Gohilwad, another being the great Chalukya empire of the Dekhan, in the Dekhan part of the Bombay territories, on a

portion of the plateau between the rivers Nerbadda and Kistna, elevated about 1700 feet above the sea. What is known of the history of these regions while under their early rulers is chiefly derived from legends handed down by traditions relating to the various sectarian religions that were acknowledged, and by the architectural and sculptured remains and rock-inscriptions, which Colonel James Tod, Mr. James Fergusson, Colonel Sykes, Mr. James Prinsep, General Cunningham, and Mr. James Burgess have investigated. But since the time of the Arab, Turk, Moghul, and Pathan conquerors, all of them Mahomedans, and all of them creditably recording races, followed by the Portuguese, the Dutch, and the British, the eventful changes in these countries have been well known. The first of these, after the Scythic and Rajput occupancy, was Mahmud of Ghazni, who in 1024-6 captured and sacked the Saiva temple of Somnath in Gujerat, carrying back with him immense booty. From that time, the Rajput rulers of Gujerat, whose capital was at Anhalwara Patan, had to meet waves of invasion, until their dynasty was at last subverted in 1297 by Alaf Khan, the general of the Turki emperor of Dehli, Ala-ud-Din Khilji. In 1403, Jafar Khan, a Rajput convert, assumed independence, and the dynasty advanced to high power and splendour. The annual revenue rose to 11 millions sterling; and the ruins still at Ahmadabad and Champanier bear a mournful testimony to its former greatness, and to the revolutions to which it has since been subjected; for, in 1573, Gujerat was conquered by the emperor Akbar, and has repeatedly since then changed masters. The Bahmani kings, 1347-1526, the Nizam Shahi dynasty in 1490-1595, at Ahmadnaggur, the Adal Shahi, 1489-1579, at Bijapur, the great Sivaji, 1627-1674, carved out kingdoms for themselves; and on the death, in 1707, of Aurangzeb (Alamgir I.), the disorders led, in 1757, to the cession of the Gujerat Province to the Mahrattas, under the joint rule of the Peshwa and Damaji Gaekwar. While such changes were occurring in these northern tracts, natives of western Europe had appeared on the southern seaboard,—Vasco da Gama, a Portuguese leader, in 1498; the great Albuquerque, 1503, and that nation was in possession of Bombay island in 1532. A ship from England visited Surat in 1608; and the English in 1613 obtained permission from the emperor Jahangir to erect a factory there, which in 1618 was also granted to the Dutch. In 1661 the Portuguese gave Bombay island to Charles II. of England, as part of the dower given with his bride; and Charles sent the Earl of Marlborough, a most experienced sailor, with a strong fleet, to receive it from the Portuguese. In 1668 Charles transferred it to the English East India Company, for an annual rent of £10. In 1686 it was declared the chief seat of the English on that side of India; and in 1708 the territories attached were created the Bombay Presidency. All that remains of the Portuguese power on that coast is the territory of Goa, Daman, and Diu, an area of 1146 square miles, and 428,955 inhabitants.

Since the middle of the 18th century, the Bombay Presidency has been sometimes aggressive, sometimes on its defence. In 1756, in alliance with the Peshwa, the stronghold of Savandrug was captured, and the same year Admiral Watson and Clive stormed Gheria or Viziadrug.

The first war with the Mahrattas, 1774–1782, ended ingloriously, some districts being retained and some delivered up. In the second war, 1802, the British regained some tracts in Gujerat; and in the third war, 1817, the Peshwa Baji Rao was defeated in the Dekhan, and the greater part of what is now the present Bombay territories, Ahmadabad, Nasik, Ahmadnaggur, Poona, Belgaum, Dharwar, Kaladgi, Sholapur, and the Konkan, fell to the British. At the same time Kandesh was obtained from Holkar. In 1843 Sind was conquered. In 1848 Sattara lapsed from want of heirs. In 1860 Sindia ceded the Panch Mahals; and in 1861 North Canara was transferred from the Madras Presidency. The territory thus noticed lies between lat. 13° 53′ to 28° 47′ N., and long. 66° 43′ to 76° 30′ E. Its seaboard, and the rivers Indus and the Gulfs of Cutch and Cambay, 8000 square miles, and the harbours of Bombay and Karwar afford every facility for commercial operations. Its fertilizing rivers being the Mahi, Sabarmati, and Tapti; and its mountains, the Suliman in Sind, the Sahyadri, the Satpura, and the Satwala or Ajunta, are marked features in the landscape. The Manchur lake is on the right bank of the Indus, near Sehwan, and the Ran or Runn, is a level tract partially flooded during the rainy season of the S.W. monsoon. Thurr and Parkur, in Sind, is a sandy desert. The desert talukas of Omerkot consist of a narrow strip of sandhills and waste lying north of the Runn of Cutch, and stretching about 130 miles from District Mahomed Khan's Tanda on the west, to the Jodhpur frontier on the east. The principal town is Omerkot, situated between the desert and the plains. It has long been the acknowledged capital of that part of the country, and with its mud fort was considered the key to the desert commanding the high road between Marwar and Sind.

Aden is under the jurisdiction of Bombay. Almost the most southerly point on the Arabian coast. It is situated in lat. 12° 47′ N., and long. 45° 10′ E. It is a peninsula of about 15 miles in circumference, of an irregular oval form, 5 miles in its greater, and 3 in its lesser diameter, connected with the continent by a low narrow neck of land, 1350 yards in breadth, but which is in one place nearly covered by the sea at spring tides.

Bombay city in 1872 had 644,405 inhabitants. In 1881 the number was 773,196. The island has two hills of very moderate height, which rise from low lands formerly liable to be flooded. A stone embankment called the Vellaurd was built in 1833–34, to connect the Colaba and the Bombay islands. Malabar Hill is on the south-western side of Bombay island. At the north is Mahalakshmi, a ridge 200 feet high, with a handsome Hindu temple. About its centre are the Parsee dokhmas, or exposure towers. At the south end is Walkeshwur, a Brahman village, with interesting temples. Malabar Point, or Shirgundi, its south extreme, forms the north-west limit of the Back Bay. Back Bay lies between Malabar Hill and Colaba, is $2\frac{3}{4}$ miles wide, and unsuccessful efforts to reclaim it have been made.

The Bombay group, indeed, consists of fifteen or twenty islands in all,—the island of Bassein, about thirty miles to the northward of that which gives the cluster its name; Dravee and Versova, just off the shore of Salsette; Salsette, by much the largest of them all; Trombay, conspicuous for

the mountain called Neat's Tongue, which attains the altitude of 1000 feet; Bombay itself, united on the northward to Trombay and Salsette, as these are united to each other by bridges and embankments, and to the southward are Old Woman Island and Colaba. Henery and Kenery are far south. In the spacious harbour formed by the islands of Caranja, Colaba, Bombay, Salsette, Elephanta, Trombay, and the continent, several smaller rocky islands are scattered, bearing different names. Of these are Elephanta, and Butcher Island, called Dipa-devi, or the island of the gods, or holy island; it is low, less than a mile from Elephanta, in the direction of Salsette. Bombay harbour is very capacious, being from N. to S. 8 or 10 miles, with a general width of from 4 to 6 miles; its shores are irregularly indented by bays and inlets. Bombay Island has five or six bands of trap rock, chiefly greenstone and amygdaloid, separated by beds that have an appearance of being of sedimentary origin. The sea-breeze is felt through the island: the anchorage extends along the eastern face; and it is along this face of the island that the most densely crowded parts are. Owing to the value of property in that quarter, much new land has been reclaimed from the sea. The chief public buildings are the fort, the town hall, the government house, museum, and docks.

For administrative and revenue purposes, the Bombay Presidency is arranged into twenty-four districts, which enclose nineteen Native States under British protection. In 1881 the population of Bombay was 14,025,593, and that of Sind 2,404,934; the Native States, 6,831,505.

British Territory, 124,465 sq. m.; pop. 16,349,206, viz.:—

Dekhan, 54,204 sq. m.; pop. 7,966,061, viz.:

	Area.	Pop.		Area.	Pop.
Kandesh,	10,162	1,028,642	Sattara, .	5,378	1,116,050
Nasik, .	8,140	734,386	Sholapur,	3,925	662,986
Ahmad-naggur,	6,647	773,938	Belgaum,	4,592	938,750
			Dharwar,	4,565	988,037
Poona, .	5,099	907,235	Kaladgi, .	5,696	816,037

Konkan, 13,580 sq. m.; pop. 3,259,776, viz.:

Canara, .	4,235	398,406	Bombay City, .	22	644,405
Ratnagiri,	3,789	1,019,136			
Colaba, .	1,482	350,405	Tanna, .	4,052	847,424

Gujerat, 10,082 sq. m.; pop. 2,810,522, viz.:

Surat, .	1,588	607,087	Panch Mahals,	1,731	240,743
Broach, .	1,358	350,322			
Kana, .	1,561	782,733	Ahmad-abad, .	3,844	829,637

Sind, 46,599 sq. m.; pop. 2,192,415, viz.:

Kurachee,	14,091	423,495	Thar and Parkar,	12,729	180,761
Hyderabad,	9,053	721,947	Upper Sind,	1,913	89,985
Shikarpur, .	8,813	776,227			

Native States, 67,370 sq. m.; pop. 6,831,505, viz.:

Cambay, .	350	83,494	Narukot,	143	6,837
Cutch exc. of Runn, .	6,500	487,305	Palanpur,	8,000	502,586
			Pant, . .	960	47,033
Jangira, .	325	71,996	Rewa Kanta,	4,793	505,732
Jawar, .	535	37,406	Sattara		
Kattyawar Agency,	20,338	2,312,629	Jagirs,	3,508	417,295
Khairpur in Sind,	6,109	127,000	Sawant Wari, .	900	190,814
Kandesh			Sawanur,	70	17,288
PettySt.,	3,840	39,111	S. Mahratta		
Kolapur,	3,184	802,691	Jaghirs,	2,734	610,434
Mahi Kanta Agency,	4,000	447,056	Surat Agency,	1,082	124,808

The total area is 191,835 square miles, and the population 23,180,721?

The various castes and sects in the British districts professing Hinduism, number— 12,606,004
and Mahomedans, ... 2,504,338
others, ... 185,409

But of these, 163,972 are descendants of races from beyond the British frontier,—Arab, Baluch, Makran, Persia, and Egypt. The aboriginal races of this part of India, Koli, Bhil, Kolamb, Ahir, and others, are given as 709,025. The number of castes was about 200; and the Sudra were returned, in 1872, as 10,801,393; these being chiefly the cultivators of the Kunbi and Mali sections.

In 1716 the population of Bombay Island was estimated at 16,000
on 1st May 1849, it was 556,119
and in 1872, ... 644,405
as under:—

Hindu Sudras, .	340,868	Bhattia, ...	9,466
Mahomedans, .	137,644	Europeans, . . .	7,253
Parsees, . . .	44,091	Jews, ...	2,669
Hindu out-castes,	31,347	Eurasians, . . .	2,352
Brahmans, . .	25,757	Lingaet, ...	1,242
Native Christians and Portuguese, .	25,119	Negro Africans, . .	1,171
Buddhists or Jains,	15,121	Chinese, ...	305

The vernacular languages spoken are English, Canarese, Kokani, Gujerati, Mahratti, Sindi, and Urdu.

Several of the races are keenly engaged in trade and in banking. Amongst the Hindus, the Bhattia race and the Marwari, Rajput tribes from Central India, and the Banya of Gujerat; amongst the Mahomedans are the Khoja, Borah, and Memon sects; the Lohani of Sind and the N.W. Frontier; with commercial men from Europe and America, Egypt, Arabia, Africa, and Persia, the Parsee (66,498), and a small number of Jews. The Khoja are converts from Hinduism to the Ismaili sect of Mahomedanism, and acknowledge the Imam of the Ismaili as their spiritual head. They have large trading colonies along the east coast of Africa. Cotton, opium, salt, cereals, are the chief articles of the foreign trade; for domestic use, the principal arts and manufactures are, cotton-weaving by hand and steam, cotton thread, woollen fabrics, rugs, carpets, working in leather, gold and silver, and silk lace, kimkhabs or brocades, silk fabrics, embroidery, edgings, paper, pottery, carving from sandal-wood, blackwood, ebony, etc., Bombay or Multan work, and blackwood furniture.

The land-revenue system is the Rayotwari, not, as in Madras, with annual fresh assessments, and the cultivator is part owner of the land. The Government rates levied are Rs. 0·12·7 per acre on dry crops, Rs. 3·9·3 on rice lands, and Rs. 3·11·4 on garden lands. Each village has its potail, who is the head of the village for both revenue and police purposes; the tullati or kulkurni, who is the clerk and accountant; the mhar, who is a kind of beadle; and the watchman. The potail and kulkurni either hold a certain quantity of rent-free land, or are remunerated by a cash payment equivalent to a certain percentage on the collections. The mhar and watchman, in common with the other village servants, also hold land on more or less favourable terms as regards assessment, and receive, besides, grain and other payments in kind from the villagers.—*Imp. Gaz.; Horsburgh; Finlay; Census Report.*

BOMBAY DUCK.

Bummalo of . . BENGAL. | Bamia of . . BOMBAY.

This little fish, Saurus nehereus, *B. Ham.*, in-

habits the seas of the S.E. of Asia. Its total length is 11 inches. The upper part of its head, back, and sides, light grey or dust-coloured, semi-transparent like gelatine, with minute starlike black and brownish dots; anterior part of abdomen pale silvery bluish; rest whitish; cheeks and opercles, pale silvery bluish, dotted like the body; fins transparent, coloured like the body, but more closely dotted, so as to appear blackish. The fish is of most voracious habits, gorging itself with other fishes of nearly its own size, also with its own species and with prawns. It is frequently taken with the stomach and the jaws expanded with prey. It is very short-lived. The whole body becomes at certain seasons brilliantly phosphorescent. In the Straits of Malacca it is at all times very numerous, although less so than it is at the Sandheads or in the mouths of the Ganges. Although very rich, it is a great delicacy immediately after it is taken. Salted and dried, it is also highly valued; and in this state large quantities are annually exported from Bombay and the Malabar coast to all parts of India.

BOMBAY MARINE. See Indian Navy.

BOMBAY WORK. The inlaid work of ivory, white and dyed, of ebony or other coloured woods, for which Bombay has long been famous, is said to have been introduced from the Panjab, and is also familiarly known as Multan work. The art dates from a remote period, and paper-cutters, work-boxes, writing-desks, and similar articles are its chief products. The effect of a large mass of it is very poor; the pattern is too fine for being distinguishable, and it fills the eye with a general greyish tint. In articles which do not present more than a foot or two of surface, it is very pleasing. The ground of the inlaid pattern is generally scented cedar or sandal-wood, the joinery exhibited in which is very indifferent. The inlaying material is prepared as follows: The wood or ivory is cut into slips of a lozenge or triangular section, as may be required, by a long, thin-bladed, fine-toothed saw. The tin is drawn through betwixt a pair of grooved rollers, like those used for laminating or extending iron; they work together by teeth at the extremity. One or two draws through extends the metal into the length desired. The wires and splints are nearly all either lozenge-shaped or triangular, the triangles being equilateral, the lozenges composed of two equilateral triangles. A pattern being fixed on, the splints are built up into pieces about eighteen inches long, and from a quarter to two inches in thickness, firmly glued together. In the case of borders, or continuous pieces of work, the rods are glued together betwixt pieces of ivory, or wood and ivory alternately, so as to form straight lines on each side of the pattern. When about to be used, they are sawn across the thickness of a sixpence, and arranged in a box divided into compartments, something like a printer's case. They are then picked up in succession, and applied with glue to the box or other article to be inlaid.

Work-boxes,	Rs. 4 to 125		Card-cases,	Rs. 1.8 to 5	
Writing-desks,	4 ,, 75		Paper-weights,	. 1.8 ,, 3	
Portfolios,	. . 6 ,, 18		Paper-cutters,	. 0·8 ,, 3	
Watch-stands,	5 ,, 8		Table trays,	. . 10 ,, 15	
Do. cases,	. 3 ,, 6		Pincushions,	. 3 ,, 5	
Envelope cases,	8 ,, 25		Inkstands,	. . 10 to 20	
Baskets of sizes,	3 ,, 20		Jewel boxes of		
Do. open work,	5 ,, 10		sandal-wood,	6 ,, 50	
Cheroot cases,	. 3 ,, 4		Paper stands, do.,	5 ,, 8	

BOMBAZINE, a fabric of worsted and silk, the warp being of silk, and the weft or shoot of worsted.—*Tom.*

BOMBYA, at Gaya, a guide-conductor who precedes Hindu pilgrims, making a noise by beating his mouth.

BOMBYCINA, a group of lepidopterous insects, which, in their metamorphosis, construct a covering or case, generally called a cocoon. Each tribe of the Bombyces produces a cocoon of a peculiar form. They are said to spin or weave their cocoon, and are usually styled silk-moths. The valuable product of the silk-moth is the cocoon; and races have been produced differing much in their cocoons, but hardly at all in their adult states. Several distinct species exist in China and India, some of which can be crossed with the ordinary silk-moth, Bombyx mori. This is believed to have been domesticated in China B.C. 2700. It was brought to Constantinople in the 6th century, whence it was carried into Italy, and in 1494 to France, and has since been transported to many countries, where food and selection have produced many varieties. It is only in some districts of each country that eggs come to perfection. Captain Hutton was of opinion that at least six species have been domesticated. B. Cynthia feeds on the castor-oil plant, and spins very soft threads. Eastward of the city of Canton, on a range of hills called Lo-fau-shan, there are butterflies of large size, and night-moths of immense size and brilliant colouring, which are captured for transmission to the Chinese court and for sale. One of these, the Bombyx Atlas, measures about 9 inches across; the ground colour is a rich and varied orange-brown, and in the centre of each wing there is a triangular transparent spot, resembling a piece of mica. In their scientific classification, the Bombyces are arranged into eight stirpes or types, according to the forms of their larvæ, and those known to occur in India have been classed into 105 genera and 272 species. The most important of these, in a social point of view, are the silk-producing moths, belonging to the genera Bombyx, Cricula, Salassa, Antheræa, Actias, Saturnia, Attacus, Caligula, Neoris, Ocinara, Rhodia, Rinaca, Theophila, and Trilocha. At Simla, nine species of Bombyx, Saturnia, and Actias occur, nearly the whole of which might be turned to account in producing silk.

1. Bombyx mori, *Linn.*, the common domesticated or Chinese silk-worm moth, the Sericaria mori of Blanchard, and the 'pat' of Bengal. It is a native of China, but has been domesticated there and in Siam, India, Persia, France, America, and Italy. The tradition in China is that this was discovered B.C. 2640, in the reign of the emperor Hwang-Te, by his queen. The culture now flourishes principally about Nankin, in lat. 32° N.; but in India, into which it was early introduced, none of the silk filatures extend beyond 26° N. They have been found in a wild state in Kent in England, on shrubs, but the mulberry tree leaves are its favourite food.

2. Bombyx religiosa, *Helfer*, Deo-mooga, HIND., Joree, HIND., is found in Assam and Cachar, but is supposed by Mr. Moore to be identical with B. Huttoni. This feeds on the Ficus Indica and Ficus religiosa. Its cocoon shows the finest filament, has very much lustre, is exceedingly smooth to the touch, and yields a silk, if not superior, yet

certainly equal to that of B. mori. It has not been domesticated.

3. Bombyx Huttoni, *Westwood*, is found in the Himalaya, about Mussoori, where it occurs abundantly from the Doon up to at least 7000 feet. It feeds on the leaves of the wild mulberry, and breeds twice a year. It has not been domesticated, but feeds on the trees. It spins its cocoon on the leaf, which is enclosed; the silk is very fine, and of a very pale yellow tint. It is found in the Western Himalaya in great profusion, at elevations of 3000 to 8000 feet above the sea-level. It occurs in the height of the rainy reason, when the hills are enveloped in dense mists. Its eggs are deposited on the trees, and subjected to the influence of the frosts and snows of those mountain winters. The Agri-Horticultural Society of India declared that silk of the very best description can be obtained from its cocoons by careful reeling. The silk is fine and tough, though perhaps somewhat less soft and silky to the touch than that of the Chinese worm, and was valued by the Dehli shawl merchants at 25s. the pound.

4. Bombyx Horsfieldi, *Moore*, Java.

5. Bombyx sub-notata, *Walker*, Singapore.

6. Bombyx lugubris, *Drury*, Madras.

7. Bombyx yama mai, the oak silk-worm of Japan, has been naturalized in England. In Japan it is the most precious for the produce, and is a monopoly of the royal family. The cocoons are of a beautiful yellowish-green colour. The silk is as fine, thin, and light brown as that of the mulberry worm.

8. Bombyx Pernyi, of the north of China. It produces the gridelin cocoon and silk.

9. Bombyx Mylitta, of India, produces a large cocoon. It feeds on the leaves of the Rhamnus jujuba, and furnishes a dark-coloured or grey silk, coarse but durable, inferior to that of the B. yama mai. Other species are B. Arracanensis, fortunatus, sinensis, and textor.

10. Cricula trifenestratra, *Helfer*, has been arranged under the genera Saturnia, Euphranor, Antheræa, and Phalæna. It occurs in N.E. and S. India, in Sylhet, Assam, Burma, and Java; and feeds on the Protium Javanum, Canarium commune, Mangifera Indica, and Anacardium occidentale. Its cocoon is constructed like network, through which the enclosed chrysalis is visible. It is of a beautiful yellow colour, and of a rich silky lustre. C. drepanoides also occurs.

11. Salassa lola, *Westwood*, formerly in the genera Saturnia and Antheræa, occurs in Sylhet.

12. Antheræa paphia, *Linn.*

Kontkuri Muga, . ASSAM.	Koli-surrah, . . MAHR.
Bughi, . . . BIRBHUM.	Munga, ... MICHI.
Tasseh, ... HIND.	

This has been classed in the genera Phalæna, Saturnia, Bombyx, and Attacus. It is known to occur in Ceylon, S. India, N.W. and N.E. India, Bengal, Behar, Assam, Sylhet, and Java. It feeds on the Shorea robusta, Zizyphus jujuba, Terminalia alata, T. catappa, T. glabra, Bombax heptaphyllum, Tectona grandis or teak, and the mulberry or Morus Indica. The insect has not been domesticated, but is watched on the trees, and, in parts of India, is found in such abundance that the people from time immemorial have been supplied with a very durable, coarse, dark-coloured silk, which is woven into the well-known tasseh silk cloth. In the Bhagulpur district the cocoons are collected in cartloads, and are much used, cut into thongs, as ligatures for binding the matchlock barrel to the stock. In the rainy season the perfect insect appears from the cocoon in about twenty days. But tasseh moths are hatched twice in the year, in May and August. The caterpillar first draws a few leaves together, as if to screen itself from observation, and then spins a strong cord, composed of many threads, till about the thickness of a crow quill, at the end of which it weaves the cocoon. For the first 36 hours the cocoon is so transparent that the larva can be seen working within; but it soon acquires consistence, and is then rendered quite opaque by being covered with a glutinous substance. The moth generally deposits its eggs within a few yards of the cocoon. These the villagers collect and keep in their houses for about ten days, until the young caterpillars come forth, when they are placed on the Asan trees in the jungles, and in eight or ten days more they prepare for change to the chrysalis state. The owners tend them carefully, to protect them from the birds by day and from bats at night, and practise many superstitious ceremonies to aid them in their care.

13. Antheræa Pernyi, *Guerin*, syns. A. Mylitta, Saturnia Pernyi, is a native of China.

14. Antheræa Frithii, *Moore*, Darjiling.

15. Antheræa Roylii, *Moore*, Darjiling.

16. Antheræa Java, *Cramer*, syn. Bombyx Java, found in Java.

17. Antheræa Perottetti, *Guerin*, syn. Bombyx Perottetti, found at Pondicherry.

18. Antheræa Simla, *Westwood*, occurs at Simla and Darjiling. Its expanse of wings is nearly six inches.

19. Antheræa Helferi, *Moore*, Darjiling.

20. Antheræa Assama, *Helfer*, the Saturnia of Westwood, the Mooga or Moonga of the Assamese, is found in Ceylon, Assam, and Sylhet. It can be reared in houses, but thrives best when fed on trees; and its favourite trees are the Addakoory tree, Champa (Michelia) Soom, Kontoolva, Digluttee, and Souhalloo, Tetranthera diglottica and T. macrophylla, and the Pattee shoonda or Laurus obtusifolia. There are generally five broods of Moonga worms in the year.

21. Antheræa larissa, *Westwood*, syn. Saturnia, a beautiful species, found in Java.

22. Antheræa ——? *sp.* This is a native of Manchuria, in a climate as rigorous as that of Britain. It feeds on a species of the oak. Its silk is strong, with little lustre, and resembles strong yellow linen. Introduced into France. A. Andamana and A. mezankooria are also named.

23. Loepa katinka, *Westwood*, syns. Saturnia, Antheræa, native of Assam, Sylhet, Tibet, Java. Others are L. miranda, Sikkima, and Sivalika.

24. Actias selene, syns. Tropæa, Plectropteron, Phalæna, a native of India, at Mussoori and Darjiling, from 5000 to 7000 feet. It feeds on the Coriaria Nepalensis, or Munsuri, HIND., the walnut, Andromeda ovalifolia, and Carpinus. The eggs are laid for a few days after the visit of the male; they hatch in about 18 days, and the larva begins to form its cocoon when 7 weeks old.

25. Actias Mænas, *Doubleday*, syn. Tropæa, a native of Sylhet.

26. Actias Sinensis, *Walker*, syn. Tropæa, a native of N. China. Others are A. ignescens and A. leto.

27. Saturnia pyretorum, *Boisduval*, China.
28. Saturnia Grotei, *Moore*, Darjiling.
29. Attacus Atlas, *Linn.*, syns. Phalæna, Bombyx, Saturnia. This is the largest of all known lepidopterous insects. It is found in Ceylon, all over India, Burma, China, and Java, and the tasseh silk of the Chinese is said to be obtained from its cocoon.
30. Attacus Edwardsi, *White*, a native of Darjiling, of an intensely dark colour.
31. Attacus cynthia, *Drury*, syns. Phalæna, Bombyx, Samia, Saturnia. This is the Eri, Eria, or Arindi silk-worm of Bengal and Assam, which occurs also in N.E. India, Tibet, China, and Java. It feeds on the foliage of the Ricinus communis, the castor-oil plant, hence its name, the Arindi. It spins remarkably soft threads.
32. Attacus ricini, *Boisduval*, syns. Saturnia and Phalæna. This is found in Assam, Ceylon, and is the Arindi or castor-oil silk-worm of Bengal, so called because it feeds solely on the common castor-oil plant, with which, also, they are fed when domesticated. This is reared over a great part of India, but particularly at Dinajpur and Rangpur. The cocoons are remarkably soft and white, but the filament is very delicate; the silk cannot be wound off, and it is therefore spun like cotton. The yarn thus manufactured is woven into a coarse kind of white cloth, of a seemingly loose texture, but of incredible durability; a person rarely can wear out a garment made of it in his lifetime.
33. Attacus Guerini, *Moore*, is smaller than A. Cynthia and A. Ricini. It is found in Bengal. Others are A. Canningii, lunula, obscurus, and silhetica. Caligula Cachara, *Moore;* C. Simla, *Westw.;* C. Thibeta, *Westw.* Neoris Huttoni; N. shadulla; and N. Stolickzkana of Mussoorie, Yarkund, and Ladak. Ocinara lactea; O. Moorei and O. diaphana of the Himalayas. Rhodia newara, *Moore*, Nepal. Rinaca zuleika, *Hope*, Sikkim. Theophila bengalensis; Huttoni; mandarina; religiosa and Sherwilli of N. India and China. Trilocha varians, *Walker*, India.

The species of Bombyx called Bhooa, Buro bhoo, HIND., and Kala Jhanga, attack the maturing poppy plant in February and March in Lower Bengal.—*Major Hutton in* No. 8 *of Universal Review; Horsfield and Moore's Lepidopterous Insects*, 1858-9; *Silk-producing Moths; Pro. Zool. Soc.* 1859. See Lepidoptera.

BOMERANG, a projectile used by the Marawar of the Tondamans country, also in Gujerat, and in Australia; it is made of wood, ivory, iron, and wood and iron. The Indian bomerang, the katureea, is used by the Koli of Gujerat in the same manner as that of Australia. The distribution of the bomerang corresponds nearly to that of the Australian race as defined by Professor Huxley.

BOMKAR. MAHR. Weavers in Kandesh.

BOMLE-MARA, a tree of Canara and Sunda. Wood very serviceable for planks.—*Gibson.*

BOMMA JEMUDU. TEL. Euphorbia antiquorum.

Bomma Kachchika, Costus speciosus, *Sm.*
Bomma Medi, Ficus oppositifolia.
Bomma Papata, Stylocoryne Webera, *Rich.*
Bomma Sari, Polycarpæa corymbosa.
Bommidapu, Indigofera glandulosa, *Willd.*

BOMMIGAL. TAM. Toys.

BOMNI AMLI. DUKH. Adansonia digitata.

BOMORI, a town in Orchastati, Bundelkhand, in the N.W. Provinces, in lat. 25° 26′ 20″ N., and long. 79° 54′ 40″ E., has an artificial lake four miles long and two miles broad.—*Imp. Gaz.*

BOMRAJ, an estate in the Nellore district, Madras. In the 18th century, Bomraj, Venkatagiri, Kalastri (Kalahasti), and Sayyidpur constituted the district of the Western Palayams.—*Imp. Gaz.*

BOM-ZU or Bun-zu, Bom-du of the Rakhoing, dwell north of the Koladyn, inhabiting chiefly the upper basin of the Kurnfuli, or eastern branch of the Chittagong river. To the north of the Bomzu are closely allied tribes, termed collectively Lungkta, Kungye, or Kuki, who occupy the highlands of Tiperah, and extend S.E. towards the head of the Koladyn. Both the Bun-zu and Kuki appear, like the Kumi, to belong to the Burman family. The Kuki represent its most archaic and barbarous condition. The tribes that have been exposed on the seaboard of Arakan or in the basin of the Irawadi, to the influence of the Chinese, Shan, Mon, Bengali, and more distant commercial nations, have attained a comparatively high civilisation. The Singpho, although much behind the Burmans, are greatly in advance of the Kuki; and the Burmese seem at a very ancient period, when their condition was similar to that of the Kuki, and perhaps in many respects more barbarous, to have spread themselves from the Upper Irawadi to the south and west as far as the highlands of Tiperah on the one side, and Pegu on the other.

BONAI, a small tributary state in Chutia Nagpur; area, 1297 square miles. It was ceded to the E. I. Company in 1826. Its Dravidian and Kolarian races are the Bhuiya, Gond, and Kolita. Tigers, leopards, wolves, elephants, and bison are numerous. Population, 24,832.

BONANG. MALAY. A musical instrument of Java.

BONDARA. MAHR. Lagerstrœmia reginæ.

BONDUC NUT. Seeds of Guilandina bonduc, *L.*

BONES.

Os,	FR.	Istakhan,	PERS.
Knochen, Grate,	GER.	Asthi,	SANSK.
Haddi,	GUJ., HIND.	Hueso, dado,	SP.
Osso,	IT.	Yellumbugall,	TAM.
Tulang,	MALAY.	Yemukálu,	TEL.

The bones of cattle and other animals are extensively used in the arts, in forming handles for knives, walking-sticks, inlaying small boxes; lanterns, paper knives, buttons, and many small articles of dress, are made in China from horn and bones. Subjected to destructive distillation in large retorts, amongst the other products which pass over, is a peculiar oil, which is collected, and afterwards employed to feed lamps burning in small, close chambers, the sides of which thus become covered with lamp-black. The mass remaining in the retorts is called ivory black, bone black, and animal charcoal. This substance has a remarkable attraction for organic colouring matter, and is largely used for removing the colouring matter from syrup, in the refining of sugar, and in the purification of many other organic liquors. By exposing ivory black to an open fire, the carbon is driven off, and the bones are nearly blanched. These are reduced to powder, which is used for making the cupels of the assayer, also as a polish-

ing powder for plate and other articles, and also by the manufacturers of phosphorus for making lucifer matches.—*Morrison*, p. 197; *Toml.*

BONG. BENG. Solanum melongena.

BONGKO. JAV. Hernandia sonora.

BONG LONG THA. BURM. A timber tree of Amherst, Tavoy, and the Mergui Archipelago. It has a durable yet light wood with a very straight grain. Used for every purpose by the Burmese.

BONGS. TAGALA. Areca catechu.

BONGU VEDURU. TEL. Bambusa arundinacea. Bongu means hollow.

BONIN, of Kashmir, Platanus orientalis.

BONITO, the Scomber pelamys, *Linn.*, one of the mackerel tribe. It inhabits the southern seas, and is often caught by hook and line. Its flesh resembles raw beef, and when cooked is not inviting.—*Bennett*, p. 22.

BONO KONIARÉE. TEL.? URIA.? A scarce tree of Ganjam; extreme height 50 feet, circumference 3 feet. Used for planks, boxes, and walking-sticks.—*Captain Macdonald.*

BONOMI, JOSEPH, born 1796, died at Wimbledon Park 3d Dec. 1878. He was the son of Joseph Bonomi, architect to St. Peter's, Rome, and he came to England in 1796 with his father. In 1824 he went to Egypt with Mr. Robert Hay, a naval officer, and remained for eight years studying and drawing the hieroglyphics with Hay, Burton, Arundale, and others. In 1833 he went with Arundale and Catherwood to Jerusalem; they were the first to visit the Mosque of Omar and make detailed sketches of it. From these sketches Mr. Fergusson founded his opinion that this structure was built by order of Justinian over what was then believed to be the Holy Sepulchre. He also visited Sinai, Damascus, and Balbec. On his return to England he was busily employed in making drawings in connection with the works, on Egypt, of Sir Gardner Wilkinson, Dr. Birch, and others. In 1842 he was in the great expedition sent under Lepsius by the King of Prussia, and was another two years in that country. In 1853 he assisted Owen Jones in the works at the Egyptian Courts of the Crystal Palace, which convey a very perfect notion of Egyptian art. In 1861 he was appointed curator of Sir John Soane's Museum in Lincoln's-Inn-Fields. He produced Nineveh and its Palaces, besides numerous papers for learned societies, and contributions to scientific and other journals of the time. He was versed in the reading of hieroglyphics, but never pretended to be an authority.

BON RHEA. See Boehmeria.

BON SONE. BURM.? A tree of Moulmein. Wood used for house-building purposes.

BON SURAT, the commercial name given to the fibres of the Urtica crenulata, Orchor putta.—*Royle*, p. 366.

BONTA. TEL. Mullet fish.

Bonta Ariti, Musa paradisiaca.

Bonta chemudu, Euphorbia antiquorum, *L.*

Bonta Vempali, Tephrosia purpurea.

BONZE, a corruption of the Japanese Busso, a pious man. The term was given by the Portuguese to the priests of Japan, and has since been applied to the priests of China, Cochin-China, and the neighbouring countries. In China, the bonze are the priests of the sect of Fuh (Buddha), and they are distinguished from the laity by their dress. In Japan they are gentlemen of families. The term has been applied also to the Talapoin of Siam, and to the Phoungye and Raban of Burma.

BOO-AMBILLA-GASS. SINGH. Antidesma paniculata.

BOOBY, Pelicanus sula.

BOOK.

Kitab; Kutub, .	ARAB.	Pusthakam, Pustak-	
Chopdi, . . .	GUJ.	angal, . . .	TAM.
Poti, ...	MAHR.	Pusthakalu, . .	TEL.
Tulisab; Katal,	MALAY.		

The material of which European books are now made is paper. But the peoples of South-Eastern Asia still use largely the prepared leaf of the palmyra palm tree, on which they write with an iron style. Also a thick paper board, blackened, is largely used by many as a book, on which they write with a soapstone pencil.

Eastern races give the term book-religions to the creeds of the Buddhists, Brahmans, Zoroastrians, Confucius, Lâo-tze, Jesus Christ, and Mahomed. Mahomedans designate the Jews, the Christians, and their own sect, Ahl-i-Kitāb, people of the book. The book-religions form three groups, corresponding to the race of the early worshippers. The first is the Aryan. It includes the religion of the Brahmans, professed by the mass of the people of India; the religion of Zoroaster, a branch of the Vedic, preserved by the Parsees, a remnant of the ancient Persian race now settled at Bombay; and the religion of Buddha, a schism from the later Vedic. In the third century B.C., Buddhism became, under king Asoka, a state religion. Some centuries later it was rejected by the Hindus, and now there is scarcely a Buddhist in India; while it has become a religion in China, Tibet, Siam, Japan, Burma, and Ceylon, and its members cannot comprise less than one-third of the human race. The *second* group is formed by the three Semitic religions, Mosaism, with its two offshoots, Christianity and Islam. European Christianity is a resultant of Semitic and Indo-European religions. The three Semitic religions claim a spiritual descent from their forefather Abraham. The *third* group contains the two Chinese religions of Kung-Fu and Lâo-tze. All book-religions, with the exception of Brahmanism, had a founder with a distinct personality. Zoroaster, Buddha, Lâo-tze, Confucius, Jesus, and Mahomed lived noble lives, and left their words a rich legacy to mankind. None of them professed to found a new religion; they all claimed to restore an original faith. Zoroaster spoke of the prophets who were before him: 'Such sayings of ancient times hast thou revealed, O Ahura.' Buddha only claimed to be a link in the chain of wise men; Confucius said that he was 'a transmitter, not a maker, believing in and loving the ancients;' Lâo-tze desired to revive the faith of the earliest and purest age; Moses was 'educated in all the wisdom of the Egyptians;' Jesus assures us that he came 'not to destroy but to fulfil;' Mahomed said, 'Follow the religion of Abraham; he was neither Jew nor Christian, but righteous, pious, and no idolater.'

BOOK ATTENÉ. SINGH. Alstonia scholaris.

BOOKHOOR. HIND. Perfumes burnt in exorcising.

BOOK THA. BURM. A scarce tree on the sea-coast from Amherst to Mergui. When seasoned it floats in water. It is used by the Burmese for helves, but rots quickly.—*Captain Dance.*

BOOLAQ. HIND. A nose ornament of Mahomedan women.

BOOLDANA, a revenue district and town in the Hyderabad Assigned Territories in Berar.

BOOLOO. SINGH. Myrobalan. Booloo-gass, Terminalia bellerica, *Roxb.*

BOOLUN. HIND. Gold thread used in making gold lace and brocades.

BOOM, a Tibetan work in twelve volumes, containing tracts of the Eloopka Section; eleven volumes were sent to the Indian Museum.

BOOM. SINGPHO. A river.

BOORAQ, a fabulous animal on which Mahomed is said to have passed from Jerusalem to heaven.

BOORBOOROOK or Boorboorqa. HIND. A small double hand-drum.

BOOR-COLE is grown in India to great perfection; the leaves are curled. The tops should be cut off when two feet high; the sprouts are the only part fit for use.

BO-PHALLI. HIND. Corchorus olitorius, C. depressus, C. acutangula, and other species.

BOPP, F., a Sanskrit scholar, who from the year 1816 printed works on Sanskrit grammar and comparative philology. He was the founder of comparative philology; in 1816 published his work Das Conjugations-system, and between 1833 and 1853 his Comparative Grammar of Sanskrit, Zend, Greek, Latin, Lithuanian, Slavonic, Gothic, and German. His Sanskrit grammars were published in 1827, 1832, and 1834, and his Vergleichendes Accentuations-system in 1854.—*Sayce.*

BOPPAYI. TEL. Carica papaya.

BORA. HIND. Dolichos catjang.

BOR-ABOR, a race dwelling on the north of the Abor, occupying the mountains on the north of the Brahmaputra river, in lat. 28° N. and long. 95° E., to the west of the Dihong river. Bor and Abor are Assamese names for the people who call themselves Padam. Bor means tribute; hence Abor, free from tribute; and the Padam race are so arranged into the payers and non-payers of tribute. Bor is also said to mean great, and we find the term of Bor Khamti employed. They carry bows and arrows, some of which are poisoned. Their dress is made of the bark of the Udhal tree. The Bor-Abor is the more distant, the more independent, and stronger portion. The Bor-Abor lie on the higher hills. Considerable numbers of these people are also found on the shores of the two great northern branches of the Brahmaputra river. The British Government make money payments to the Bor-Abor, Dola, Miri, and Aka, to abstain from levying black-mail in Assam. In the end of 1861, the Meyong Abor attacked and plundered a village in British territory, but the tribe expressed a desire to renew friendly relations, and begged that their offences might be overlooked. On the 5th November 1862, an agreement was made with them, binding them to respect British territory; and the same engagement was subscribed on 16th January 1863 by the Kelong Abor. On 8th November 1862, a similar engagement was concluded with the Abor of the Dihong Dibang Doars.

The Abor Miri language belongs to the old Assam alliance, but it has been greatly modified by Tibetan. It has a strong ideologic resemblance to the Dhimal, Bodo, Garo, and Naga.—*Jour. Ind. Arch.* 1853; *Treaties*, vii. p. 343; *Indian Annals; Latham's Ethnology.*

BORA-CHUNG, or ground-fish of Bhutan. It inhabits the jhils and slow-running streams near the hills, but lives principally in the banks, into which they penetrate from one to five or six feet, and are found generally two in each chamber, coiled concentrically like snakes. The entrance to these retreats leading from the river into the bank is generally a few inches below the surface, so that the fish can return to the water at pleasure. It is believed that they take possession of holes made by land-crabs. The bora-chung appear to be an Ophiocephalus, probably the O. barka described by Buchanan as inhabiting holes in the banks of rivers tributary to the Ganges.—*Tennent's Ceylon*, p. 367.

BORAGINACEÆ. *Lindley.* The borage tribe, comprising the genera anchusa, borago, coldenia, cynoglossum, echinospermum, echium, ehretia, heliotropium, lithospermum, messerschmidia, myosotis, onosma, tiaridium, tournefortia, and trichodesma. Borago officinalis, *Linn.*, Ch'ota Kulpa, HIND., a plant of Europe; is grown in India as a pot herb, and the young shoots and leaves for salad; requires treatment similar to Angelica. It is suitable for the flower garden. Country borage is the Coleus Amboinicus.

BORASSUS FLABELLIFORMIS. *Linn.*

Lontarus domestica, *Rumph.*

Dom, Tafi, . .	ARAB.	Pana, Am-Pana,	MALEAL.
Tal-gach'h, . .	BENG.	Tala, ...	SANSK.
Palmyra Brab tree,	ENG.	Panam maram, . .	TAM.
Tar ka jhar, . .	HIND.	Tatti, Penti-tati, .	TEL.
Rontal, . . .	JAV.	Karata-lamu, . .	,,
Lontar, . . .	MALAY.	Potu-tadi, ...	,,

To eastern nations, the palmyra tree is only inferior in usefulness to the bamboo, the date tree, and the cocoanut palm. It grows straight to a height of 70 feet, with a girth of 5½ feet at bottom and 2½ at top. A Tamil poem of Ceylon, the Tala Vilásam, enumerates 801 purposes to which the palmyra may be applied. The trees have to attain a considerable age before they become fit for timber, as their wood becomes harder and blacker by age, and the harder and blacker it is the better. The wood near the circumference of old trees is very hard, black, heavy, and durable. A cubic foot weighs 65 lbs., and it is calculated to last 80 years. In some parts of the Ceylon and Madras coasts, this tree is very abundant, especially in sandy tracts near the sea, though it is to be seen in most parts of India, and occasionally so far north as 30°. It is used chiefly for rafters, joists, and reepers. When of good age, the timber is very valuable for this purpose. The trunk is split into 4 for rafters, into 8 for reepers; these are dressed with an adze. Those of the Jaffna palmyras are famous, and were, in former times, largely exported. From the structure of the wood, it splits easily in the direction of its length, yet supports a greater cross strain than any other wood. Old black palmyra wood was, next to the casuarina, the strongest wood that Dr. Wight tried. One specimen bore upwards of 700 lbs., and five of them gave an average of 648 lbs., though he found some very bad. Mr. Rohde also remarks that it is the strongest wood he tried, retaining for a length of time the position it assumed when loaded, without increase of deflexion. Iron nails soon rust in this wood. The thickness of rafters when trimmed up rarely exceeds two inches four feet from the ground, and one inch at twenty or twenty-four feet from it.

The fruit and the fusiform roots of the young trees are used as articles of food by the poorer classes, the fruit when young being jelly-like and palatable. Next to Caryota urens, it is the largest palm on the coast of the Peninsula. The dried leaves are used for writing upon with an iron style; also in thatching, making fans and light baskets for irrigation. The fibres of the petioles of the leaves (Palmyra nar) are employed for making twine and small rope; they are about two feet in length. The large carpenter beetle, Xylocopa, delights in boring this hard wood, though cumboo wood is still more attractive to it. Small canoes are formed of this tree. Two of the stems lashed to a couple of spars form the usual mode of crossing lakes and rivers in the Circars; the root forms the head of the canoe, the smaller end is either elevated out of water by the form, or some six inches of the pith is left at that end; as this decays, a lump of clay supplies its place. Formerly sea-going vessels were planked with this wood, but the iron fastenings were soon destroyed. Boats planked with it were, till the middle of the 19th century, common on the Godavery, being built probably where sawyers are not procurable. The peculiar structure of the wood of all the palms deserves attention; it appears formed of a series of hard, stiff longitudinal fibres, not interlaced or twisted, but crossed at considerable intervals at various angles by similar fibres, which proceed from the soft heart of the tree to the outer part, probably to the leaf-stem. A radial section of palmyra rafter shows this. The interstices are filled up with pith, the proportion of which increases with the distance from the outer part. The wood, known as porcupine wood, is used in England for veneers and inlaying. In Ceylon it is used for rafters, pillars, and posts of native houses. In the sandy parts of Jaffna, in Ceylon, a hollow palmyra is inserted to form a well. The dark outside wood of very old trees is used to some extent in Europe for umbrella handles, walking-canes, paper-rulers, fancy boxes, wafer stamps, and other articles. The timber of the female tree is the hardest and best; and that of the male tree is never used unless the tree be very old. At certain seasons of the year, thousands are employed in felling and dressing it. Each tree has from 25 to 40 fresh green leaves upon it at a time, of which the natives cut off twelve or fifteen annually, to be employed as thatch, fences, manure, mat, and mat baskets; bags, irrigation baskets, winnows, hats, caps, fans, umbrellas, etc.; books and olay, tatakoo or puttay, for writing on. In the Northern Konkan it is in some parts so abundant that it might be termed a forest. It is a rare tree in the southern jungles of the Bombay Presidency. The wood, when protected from moisture, is very durable, and may be used with advantage for terraces, etc., when the upper covering is complete. Its fruit, of the size of an ostrich egg, grows in clusters; but trees from which toddy or palm wine is drawn, cannot bear fruit. When the spathes of the fruit-bearing trees appear, the toddy drawer, climbing to the top of the tree, binds the spathes tightly with thongs to prevent their further expansion, and thoroughly bruises the embryo flowers within. For several succeeding mornings this operation of crushing is repeated, and each day a thin slice is taken off the end of the racemes, to facilitate the exit of the sap and prevent it bursting the spathe. About the morning of the eighth day, the sap begins to exude, when the toddy drawer again trims this truncated spathe, and inserts its extremity into an earthen pot to collect the juice. These vessels are emptied morning and evening, and the palmyra will continue for four or five months to pour forth its sap at the rate of three or four quarts a day; but once in every three years the operation is omitted, and the fruit is permitted to form, without which the natives assert that the tree would pine and die. The tree, during the first part of the season, yields a pretty large quantity of palm wine. This is either drunk fresh drawn from the tree, or boiled down into a coarse kind of syrup called jagari, or it is fermented for distillation. The date tree in South India also furnishes toddy, and the amount of daily drunkenness exceeds all that is ever witnessed in Europe. A farina, called Ila-Pananki jangu mavu, is obtained from the root by treating it as in manufacturing manioc. It is very nourishing. The germinating seeds (Ponatoo, SING.) are boiled and eaten in Ceylon as a vegetable.—*Seeman; Simmonds; Drs. Wight, Cleghorn, Gibson; Mr. Rohde; Hartwig*, p. 139; *Sir J. E. Tennent*, ii. p. 523.

BORAX, Bi-borate of soda, Tincal.

Buruq, Tunkar, .	ARAB.	Pijer, . . .	JAV., MALAY.
Kuddia-khar, . .	BENG.	Sodæ biboras, . .	LAT.
Pung-sha, Pang-sha,	CHIN.	Patteri, ...	MALAY.
Yueh-shih, Pwan-sha,	,,	Chaularaya, . .	NEP.
H'wang p'ung-sha,	,,	Tunkar, ...	PERS.
Boras, ...	DUT.	Tunkana, . . .	SANSK.
Borate de soude, .	FR.	Lansipuscara, . .	SINGH.
Tunkun-khar, . .	GUJ.	Vengaram, . . .	TAM.
Borace, ...	IT.	Velligaram, . .	TEL.
Sohaga, ...	HIND.	Tsale, ...	TIB.

The greater part of the crude borax or tincal met with in commerce, was formerly obtained from lakes in Tibet, the waters of which yield a yellowish-white mass, containing from 30 to 50 per cent. of real borax. That was refined chiefly at Venice and Amsterdam. Recently, a lake with waters similarly impregnated has been discovered at California. But, for a long time past, in Europe, the borax of commerce has been obtained by treating with carbonate of sodium, the boric acid obtained from the volcanic district of Tuscany, where jets of vapour issue from the ground. Natural borax is obtainable in large quantities in the valley of Puga, in Ladakh, from Lake Jigatzi in Tibet, 20 miles in circumference; also in the course of the Sanpu river, and from the Chaba lake beyond the Kylas hills. It is collected on the borders of the Tibetan lakes as the water dries up, then smeared with fat to prevent loss by evaporation, and transported across the Himalaya on the backs of sheep and goats, then refined at Umritsur and Lahore by washing with lime water. The salt and borax fields of Gnari, called Lha-lhaka or Lhali-lhaka, are to the north of Bongbwa Tal. Borax is procurable at Rudok in Changtan at ten annas per maund, of such quality that only about a quarter is lost in refining. That obtained at Puga, in the territory of the maharaja of Kashmir, loses one half. The Rudok borax is conveyed on sheep to Rampur on the Sutlej, at the rate of two miles a day, so that the price on the plains of raw borax rises to 7 rupees the maund, and of refined borax to 25 rupees.—*M. and M. Pr.* 1872–3. It is largely imported into Digarchi, whence it is distributed to other parts of Tibet and to India,

via Nepal, Sikkim, and Bhutan. It is used in the arts to clean metals before soldering, to form a glaze on earthenware, and in the preparation of varnishes. It is employed as a chemical flux, and in experiments with the blow-pipe, and in the moist way as a solvent for gum-lac. It is much used by the goldsmith, tinkers (Cannar, TAM.), and tinmen (Tagara-velecarer, TAM.), to facilitate the fusion of their metals. With it and lime-juice, the vaishnava Hindus prepare the irred Tiruchurnum, with which they mark their fore-heads perpendicularly. Borax is readily purified by simple solution and crystallization. It is sometimes adulterated with alum and common salt; but ammonia gives a white precipitate (alumina) if the former, and nitrate of silver a white precipitate if the latter, be present. Price of raw borax, 4d. per lb.; of refined borax, 6d. per lb.—*Beng. Phar.; Ains. Mat. Med.; Cal. Cat. Ex.* 1862; *Powell, Handbook.*

BORE or Tidal wave.

The dee lon, . . BURM.	Bana, ... MALAY.
Eagre, ... CHIN.	Bar, ... PERS.
Ban, Bora, . . . HIND.	

The bore occurs in Southern and Eastern Asia on several rivers, in the Gulf of Cambay, the Ganges, the Irawadi, and the Sitang, and on some rivers in China. Arrian (Exped. Alex. vi. 19) mentions how this phenomenon astonished the soldiers of Alexander, who had been accustomed to the tideless waters of the Mediterranean. The bore is a tidal wave which comes rolling in from the sea. In the Hoogly this is called Bora or Bore; in China it is known as Eagre; in the mouth of the united Tigris and Euphrates it is called Bar; in the Dordogne in France, it is called Mascaret; in the Maranon it bears the name of the Rollers; but by the American Indians it is called Pororca. This phenomenon is connected with the tides, as it always occurs at the springs.

The crest of the tidal wave in the Bay of Bengal, to the south of the bay, is almost a straight line running N.W. and S.E. between the south coast of Ceylon and the southern coast of Java. As it proceeds up the bay, it becomes convex towards the shore, and near the estuary of the Megna encounters at an obtuse angle vast quantities of fresh water coming down the three channels. When the tide is more than usually strong, as at full moon or under the influence of a strong S.W. wind, or when the river is heavily flooded, the opposing masses of water accumulate more rapidly, and the bore is produced. But when this occurs there are always two bores, one of salt water up the Sundip channel, known as the Chittagong bore; the other, called the Daula bore, up the middle and western channels. These two bores meet to the north of Siddhi. When the bore is violent, as during the equinoxes, and also when the S.W. wind is strong, it advances as a wall of water several feet high, stretching across the channels, and is so dangerous that native boatmen will for no consideration venture out into the river. Dr. Hooker mentions that, at the mouth of the Megna river, the great object in the navigation is to keep afloat and to make progress towards the top of the tide and during its flood, and to ground during the ebb in creeks where the bore (tidal wave) is not violent.

Similarly, the bore in the Hoogly is occasioned by the flood-tide, driven into the narrow river through the broad estuary, overcoming the freshes sent down by the heavy rains of the S.W. monsoon. It occurs between May and October, but is heaviest between July and September, between two days before and two days after the full moon. It also occurs at the change, but not with such violence. The wave usually rises on the Diamond Sand, where the river suddenly contracts and comes in 12 or 15 feet perpendicular with tremendous noise, carrying everything before it, though not with equal force, on both sides of the river, as it goes from point to point in the reaches, travelling at the rate of nearly 20 miles an hour to above Calcutta. There are generally three rollers following one another in quick succession, at 13 to 15 feet apart. When the S.W. monsoon has set in, the bore, for three or four days at the full and change of the moon, may be seen racing up the Hoogly river at the rate of twenty miles an hour, dashing from side to side of the river according as the bends or reaches deflect it in its course. Upon the approach of this wave a distant murmur is heard, which soon turns into the cry, Ban! ban! ban! from the mouths of thousands of people, boatmen, sailors, and others, who are on the look-out for this much-dreaded wave. This cry is the signal for all sorts of small craft to push out into the centre of the river, the only spot where the wave does not curl over and break. Should any boat or small craft be caught in that portion of the wave that breaks, instant destruction is inevitable. Numerous boats from the up-country provinces are lost every year, from the crew being ignorant either of the existence of the bore, or from not knowing the correct position to take up so as to meet it. Ships at anchor in Calcutta, though not exposed to the breaking portion of the wave, frequently part their cables when struck with the wave. Standing on the shore during the rapid rushing passage of the bore, it is a curious sight to see the lower portion of the river, or that nearest to the sea, six or eight feet higher than the upper portion of the river, the tide rising that number of feet in an instant. The height of the bore in the Hoogly, varies from five to twelve feet; it is exceedingly dangerous in some parts of the river, but more moderate in others; it never breaks on both sides of the river at the same time. Deep water engulfs its force, but shallow water, or a sandbank, brings out all its power and fury. The bore, in 1782, flowed as far as Nuddea in the Hoogly, but at the present day it falls short of that place by many miles, not ascending much beyond Sooksagor. It reaches Dacca on the Buree Gunga, and Castec on the Horinghatta branch.

In the Sitang river, of Burma, its fury is great, and occasions much loss of life. Burmans name 30 feet as the height to which it occasionally rises, and this may perhaps be the case in the bends of the river, where the rush has attained its full speed, before being reflected to the next bend. Even in the Hoogly at Calcutta, near the bend at Chandpal Ghat, the pointed curling wave may be seen several feet high.

The bore of the Tsien-tang river, in China, according to a Chinese proverb, is one of the three wonders of the world, the other two being the demons at Tang-chan and the thunder at Lung-chan. As in other countries, it appears generally on the 2d or 3d day after the full and

change of the moon, or at what are called spring tides, and particularly in spring and autumn, about the time the sun is crossing the line. Should it so happen that strong easterly gales blow at these times, the eagre rolls along in all its grandeur, and carries everything before it. Dr. Macgowan gave an account of it at Hang-chow-fu. Mr. Fortune, from a terrace in front of the Triwave temple, saw on a sudden all traffic in the thronged mart suspended; porters cleared the front street of every description of merchandise; boatmen ceased lading and unlading their vessels, and put out into the middle of the stream; so that a few minutes sufficed to give a deserted appearance to the busiest part of one of the busiest cities in Asia. The centre of the river teemed with craft, from small boats to large barges, including the gay flower boats; loud shouting from the fleet announced the appearance of the flood, which seemed like a glistening white cable stretched athwart the river at its mouth, as far down as the eye could reach. Its noise, compared by Chinese poets to that of thunder, speedily drowned that of the boatmen, and as it advanced, at the rate of 25 miles an hour, it assumed the appearance of an alabaster wall, or rather of a cataract, four or five miles across, and about thirty feet high, moving bodily onward. Soon it reached the advanced guard of the immense assemblage of vessels awaiting its approach, all intently occupied in keeping their prows towards the wave, which threatened to submerge everything afloat; but their boats all vaulted, as it were, to the summit with perfect safety, and when the eagre had passed about halfway among the craft, on one side they were quietly reposing on the surface of the unruffled stream, while those on the nether portion were pitching and heaving in tumultuous confusion on the flood, and others were scaling with the agility of salmon the formidable cascade. This grand and exciting scene was but of a moment's duration. The wave passed up the river in an instant, but from this point with gradually diminishing force, size, and velocity, until it ceased to be perceptible, which Chinese accounts represent to be eighty miles distant from the city. A slight flood continued after the passage of the wave, but it soon began to ebb. The Chinese say that the rise and fall of the tide is sometimes forty feet at Hang-chow. The maximum rise and fall at spring tides is probably at the mouth of the river, or upper part of the bay, where the eagre is hardly discoverable. In the Bay of Fundy, where the tides rush in with amazing velocity, there is at one place a rise of twenty feet, but there the magnificent phenomenon in question does not appear to be known at all. It is not, therefore, where tides attain their greatest rapidity, or maximum rise and fall, that the wave is met with, but where a river and its estuary both present a peculiar configuration.—*Fortune, A Res. among the Chi.* p. 316; *Calcutta Review; Arrian; Geog. Mag.* 1877; *Findlay.*

BORECOLE, Brassica oleracea, var. Scotch Kale; winter greens of England and Scotland.

BOREE and Boregaum are names for numerous towns of British India, many seemingly obtaining their designation from the Hindi word Burha, meaning old. Boregaum would be old town.

BOREE. SIND. Typha elephanta.

BOREGHAT, a pass in the Western Ghats leading from Bombay to Poona, in lat. 18° 46′ 45″ N., and long. 13° 23′ 30″ E. Its summit is 1798 feet above the sea.

BORENDA or Buang, a pass in the Himalaya, in 31° 22′ N. and 78° 6′ E., in Garhwal-Kanawar. The top of the pass is 15,296 feet according to Herb. and Hodgson, but 15,095 feet according to Gerrard. The source of the Pabar is 12,914 feet, Herb. and Hodgs., but 13,839 feet, Ger. It leads from the Baspa valley to the upper part of the Pabar or Tons river.—*Thomson, Tr.* 75; *Schl.*

BORER. ENG. A name given to the larva of coleopterous beetles which injure coffee trees, though the Casuarina and the Cinchona are also attacked by insects which have not been determined. There are two, the white and red borer, and the former and chief of these is the Xylotrechus quadripes of Chevrolat. The white borer has been likewise named the Sirex gigas, and popularly the worm or coffee fly. Whole estates in Coorg have been entirely destroyed by this scourge. In its complete stage the insect appears as a fly or winged beetle from 6 to 9 lines in length, with a hard slimy coat, in colour red and black, or yellow and black, in alternate transverse lines. It bores a passage into the stem of the coffee tree, generally a few inches above the ground. This passage, at first horizontal, soon takes an upward or spiral direction, and after a little a retreat is formed in which to deposit its larva. The tree soon begins to droop, and in a short time dies down to the point where the entry was effected, at which part it can be easily broken off by a sharp pull at the upper part. The large and rapid introduction of coffee-growing into Ceylon and India has shown that the plant is liable to be attacked by many enemies, and ignorance of that has been the cause of much loss. Coffee trees in Coorg have also been injured by the rot, a disease resulting from improper pruning. The rot attacks and decays the centre of the stem. In Coorg, when the tree is attacked by the borer, the leaves become yellow and droop. The insects are generally about the diameter of a small quill, are always confined to the wood, and never enter the bark until the larva has done its work, passed through the pupa stage, and is about to escape in the form of a beetle. The eggs are deposited by the females near the root of the tree, and the pupa borers tunnel up the heart of the plant.—*Dr. Bidie on Coffee Planting.* See Bug.

BORI. MAL. Croton seed.

BORI, a sweetmeat of Dera Ghazi Khan, in yellow lumps, consisting of the pollen of the dib grass (Typha elephanta and T. angustifolia) collected and kneaded together, perhaps with the aid of a little treacle or sugar.

BORI, a small forest tract 30 square miles in extent, situated S. of the Pachmari range of hills in the Ch'hindwara district, and containing some fine teak and other timber.

BORNA COTI, in Hinduism, an imaginary city, supposed to lie under the equator at 90° from Lanca.

BORNELLA DIGITATA. *Adams.* A nudibranch or marine slug, which occurs in the tropical seas in the south of Asia, at Aden, in the Straits of Sunda, and on the Madras coast. It has brilliant colours, with vermilion streaks, is delicately marbled, and has waving elegant tufts. It swims by a lateral movement of the body.—*Collingwood, Rambles of a Naturalist*, London, 1868.

BORNEO, after New Holland, is the greatest island on the globe. If we comprise the numerous archipelagoes by which the island is environed, this group may be said to occupy more than eleven degrees of longitude and about ten of latitude, between lat. 7° N. and 4° 20′ S., and between long. 106° 40′ and 116° 45′ E. Its length from north to south will be about 300 leagues, and its breadth varying from 250 to 150 leagues. Its superficies, calculated by Melvill von Carnbee, and published in Le Moniteur des Indes, gives Borneo a surface of 12,741 square leagues, or 6992 myriametres, which makes it 2589 myriametres greater than Sumatra, and 5723 myriametres greater than Java. A native of Portugal, Lorenzo de Gomez, was the first of the European navigators who approached the northern part of this island, in 1518, in the ship St. Sebastien, on his route to China. He says that the natives termed it Braunai or Brauni, but the aborigines do not use any name appropriated to the whole extent of the country. The seaboard is even most often unknown to the savage and wandering tribes, who are separated by great distances from each other. The different tribes designate themselves by the names which they give to the rivers on the borders of which they have established their abode; it is thus that all the Dyaks of the great river Duson (the Banger of the maps) call themselves Orang Duson, and those of the river Sampit, Orang Sampit; Raja Brooke makes mention of Dyak tribes under the names of Sarebu, Sakarran, Lundu, Sibnuw, etc., established on the rivers which bear those names. Lofty ranges of mountains are in the centre and the north-west. Mr. St. John, in 1858, found each range looking more lofty as he approached the interior, but presenting one uniform aspect of forest, covering hill and valley. The great mountain Kinibaloa, in the N.E., is 13,000 feet high. The land on all sides gradually slopes towards the coast. The Sultan of Braunai claims an immense territory. The Dutch claim a territory exceeding 200,000 square miles on its western and south-eastern sides, with a population in 1881 of 1,014,547. The Spaniards till lately claimed territorial rights; and in 1881 Great Britain allowed a British company to obtain from the Sultan 30,000 square miles and 500 miles of seaboard, with the royal rights of life and death. Labuan has belonged to Great Britain since the middle of the 19th century, and Sarawak to the Brooke family.

Its inhabitants are generally recognised as of the Malay, the Kyan, and Dyak stocks. The Malay are settlers along the coast from Sumatra, Java, and Malacca; the Dyak is the name for the prior races, divided into land and sea Dyak, the latter being richer and more powerful, those of the interior being broken up into innumerable clans, some of them being tributary to the Sultan of Braunai, some of them under the Dutch in the south and west of the island, and some under the Sarawak Government. The *Millanowe* are on the north-east of the Sarawak territory. They are of a fair complexion, and are occupied with agriculture, trade, and peaceful pursuits. The *Kyan* are a powerful tribe of about 100,000 souls, who occupy the country from the south of the kingdom of Braunai right away into the interior; they strongly resemble the Dyak.

The *Dyak* are generally well made, with a muscular, well-knit frame, and are rather under than over the middle height. Their features are regular. Their colour is a deep brown, occasionally varying to a lighter shade. They dwell in very long houses, occasionally large enough to contain a community. From their supposition that the owner of every human head which they can procure will serve them in the next world, the system of human sacrifice surpassed that which was practised by the Batta of Sumatra, or, it is believed, by any people yet known. A man could not marry until he had procured a human head; and the possessor of several was distinguishable by his proud and lofty bearing. The chiefs sometimes made excursions of considerable duration for the sole purpose of acquiring heads, proceeding in their canoes to the more distant parts of the country, to which the numerous ramifications of the rivers afford them easy access. Upon their arrival near a village, if the party were small, they would take up their position in the bushes close to some pathway, and attack a passer-by unawares. A larger party would attempt perhaps to surprise a whole village; would remain concealed in the jungle on the banks of the river during the day, and at night surround the village so completely as to prevent the escape of the intended victims; an hour or two before daybreak, the attack commenced by setting fire to the houses, and their victims were destroyed as they endeavoured to escape. Apparently head-hunting was only general among those tribes inhabiting the banks of the large rivers, on which distant voyages can be made with facility, the Dyak race in the northern parts of the island being content with an occasional human sacrifice on the death of a chief. The sacrifice of a cock is sacred, as with the Karen and Chinese, and they believe that the Divine Being eats the spirit or essence of the offerings made to him. Head-hunting is now scarcely heard of. They are brave, hospitable, simple, and truthful, loyal, grateful, and willing to receive instruction. Chastity before marriage is not insisted on, and they marry when grown up. The men wear a narrow cloth passed between the thighs. The women have a still narrower strip, allowed to fall from the hips half way down the thighs, and affords little concealment. The clans have different languages, and they had no written character. With some Dyak tribes the couvade custom prevails. Among the Millanowe Dyaks the custom prevails of burying a slave at the foot of the excavation for a house post. The Millanowe, southward and westward, living on rivers near the sea, an industrious, intelligent people, who occasionally took heads, but have not the ferocity of the Kyan.

Orang Poonan, a forest race near the territory of the Mahomedan sultan of Koetei. Their tribes, like the Veddahs of Ceylon, pass day and night entirely in the open air, with no other shelter than a mat. They keep up fires all night. They wear a head-dress and a waistcloth of bark, and eat monkeys and game, which they kill with the sumpitan or blow-tube and poisoned arrows. The women are fairer than the Dyaks, but very dirty in their persons. They welcomed Mr. Bock by asking for beads and tobacco.

Mr. Carl Bock, writing in 1881, mentions his visit to a chief of the cannibal Dyaks, who had just slaughtered, and, with his followers, eaten up

seventy victims. He allowed himself to be sketched, and presented the author with two crania and a shield, in return for rice, beads, and twenty-four yards of calico. A high priestess of these savages stated that the palms of the hand were considered the best eating. A war-dance was executed by a Dyak, with much shouting, stamping, and flourishing of a sword. A Dyak is never without his sword, and his basket for betel and tobacco. Generally he wears a cloth or piece of bark round his loins, and a covering for the head of the same material. The lobes of their ears are hideously enlarged by artificial means; and when a warrior has secured a good many skulls, he is allowed to deck his ears with the canine teeth of a leopard. The Dyak, in their physical and social characteristics, resemble the Tarajah of Celebes.

The *Idaan*, occupying the northern parts of Borneo, suspended human skulls in their houses. The dominant Malay and the colonists of China are an active and industrious but turbulent and intractable part of the population (Revue de deux Mondes, ii.).

The *Orang Duson* villagers of the north are agricultural; the *Murut* in the inland parts of Braunai; the *Kadians* of the same country, are industrious, peaceful nations, valuable for those qualities.

The *Kyan* are more numerous, more powerful, and more warlike than any other in Borneo. They are an inland race, inhabiting a district extending from about sixty miles up the interior from Tanjong Barram to within a similar distance on the eastern shore. Fierce, reckless of life, and hot-blooded in their nature, they are nevertheless represented to be hospitable, kind, and faithful to their word, and honest in their dealings. The Kyan, on the Kapuas, are said to have been cannibals, eating the flesh of their enemies. They prize heads like the Dyaks. They carry spits in the scabbards of their swords. The Dyaks of Jangkang also are said to be cannibals. They live between Sangow and Sadong on the Sakiam, a branch of the Sadong river. The Jangkang people eat Malays or Dyaks or any one else whom they kill in war, and they kill their own sick if near death, and eat them. Whilst a party of this people were staying at Sangkang, one of them fell out of a mango tree and broke his arm, besides being otherwise much hurt, and his companions cut his throat and ate him up. The Jangkang Dyaks are said to eat only the tongue, brain, and muscles of the leg. The men of this tribe file down their front teeth to a point, like the teeth of a saw. They cut off their beards.

The *Tatau*, *Balinian*, and *Kanawit* have dialects of their own, and are wild and savage in their manners. Nine vocabularies have been collected, the most extensive by Mr. Robert Burns, and it is that of the most numerous, advanced, and powerful tribe in the island, the Kayan or Kyan, whose possessions extend from the northern to the southern coast. No native tribe of Borneo has ever invented letters. Mr. Crawfurd had seen the names of at least sixty of these small nations who have no common name by which to distinguish themselves from the people of other regions. The many languages of this island belong to the same class of languages as the Malay and Javanese; and the aboriginal inhabitants of Borneo are all of the same race with the Malays and Javanese. In 1824, out of the forty wild tribes in its interior, eight had adopted Mahomedanism and the Malay language. Amongst these were the Dyak race of Sugalam, who long since abandoned the cruel practice of head-hunting. There are eleven tribes located between the Malay of the coast and the Kyan, namely the Kanawit, Bakatan, Lugat, Tan-yong, Tatau, Balinian, Punan, Sokapan, Kajaman, Bintulu, and Tilian, the majority of whom are tributary to the Kyan. The six first mentioned are all more or less tattooed, both male and female, and certainly have all sprung from the one called Kanawit, who in habits closely assimilate to the Dyak of all Saribus, whose neighbours they are. The tribes Punan, Sakopan, and Kajaman are the chief collectors of camphor and birds' nests. The trees, which produce excellent timber, amount to upwards of sixty species.

At the mouths of most of the rivers on the east coast of Borneo, and also on the north and north-east coasts, the *Orang Baju* are found. They dwell in boats of eight or ten tons burden, which are covered, when in harbour, with a roof of matting. Each boat contains about fifteen inhabitants, men, women, and children, who employ themselves chiefly in catching and curing fish and trepang, and in making salt from seaweed. The latter they dispose of to the Dyaks. The women are equally skilful with the men, both in fishing and in the management of the boats. During the south-east monsoon, when the weather is fine in the southern parts of the island, they cruise about Passir and Pulo Laut; but when the monsoon changes, they sail on the northern parts of the island. In addition to these, living in prahus, and wandering about the shores of the island, are the *Lanun* from Magindano, and the *Orang Tidong*, country unknown. Brazen images, ruins of temples, and other remains of Hindu civilisation, are still to be seen on the southern coast. The coasts of the island are inhabited by several nations, totally unconnected with each other, governed by their own laws, and adopting their own peculiar manners and customs. The west coast is occupied by Malays and Chinese, the north-west coast by the half-caste descendants of the Moors of Western India, the north part by the Cochin-Chinese, the north-east coast by the Sulu, and the east and south coasts by the Bugis tribes of Celebes. The greater part of the coast of Borneo is rather dotted than peopled by Malay settlements, according to the Malays themselves, the result of migrations from Sumatra dating as far back as thirty generations. A small portion of the eastern coast is occupied by settlements of the Bugis of the Celebes of more recent date. The aboriginal inhabitants are thus in a great measure locked up in the interior, and precluded from access to that commerce with strangers which might civilise them. The Malays and natives of Celebes, by their superior civilisation and power, domineer over the rude aborigines, without, however, being able to penetrate into the interior, or to dispossess them of their land. The Malays build their houses 18 or 20 feet high, to avoid the Dyak spears. All the houses in a kampong are erected on posts 10 or 12 feet high, and are all under one roof, with only a slight partition separating the families.

Borneo, as a mineral country, is very rich, producing gold, coal, antimony, and iron, while caoutchouc and gutta-percha are amongst its

vegetable products. From the river Baram coal is traced to the upper parts of the Bintulu, and thence southward to the Rajang river, on the left bank of which, at Tujol Nang, there is a seam exposed, upwards of thirteen feet in thickness. At different other parts of the river, and also in several of its branches, coal is in abundance. From Tujol Nang the strike of the coal is southward across Dragon's plain. It is again found in the river Lang-Tha (a distance from the former place of about fifty miles), where it remained in a state of ignition for several years. Iron ore, yielding from 60 to 80 per cent. of iron, abounds in the Baluwi or Rajang district, over nearly one-half of the extreme breadth of the island. The iron is preferred to that of Europe.

The varieties of animal life are great. Some species of Actinia of enormous size occur in the China seas and on the coasts of Borneo, and fish live within them. Of 29 species of birds in Borneo and 21 in Sumatra, 20 are common to both islands. Of 29 in Borneo and 27 in Java, 20 are common to both islands. Of 21 of Sumatra and 27 of Java, 11 are common to both islands. The remarkable coleoptera beetles found in Borneo by Mr. Wallace, were the Neocerambyx æneas, Cladognathus tarandus, Diurus furcellatus, Ectatorrhinus Wallacei, Megacriodes Saundersii, Cyriopalus Wallacei. He collected about 2000 distinct kinds of beetles.

On every mountain-top is the pitcher plant, climbing over trees or running along the ground. The finest are on the summit of Kinibaloa; and the pitcher of the broad sort, Nepenthes raja, will hold two quarts of water. Another, the Nepenthes Edwardsiana, has a narrow pitcher twenty inches long, and grows to a length of 20 feet. Ferns are abundant. The Vanda Lowii, one of the Orchidaceæ, grows on the lower branches of trees. Its flower-spikes, 6 or 8 feet long, hang down to the ground, bearing large handsome flowers, 3 inches across, colours varying orange to red. The Polyalthea or tree-fern rises from a pyramid of roots, which descend for 70 or 80 feet to the ground below.—*Wallace*, i. 37, 161; *Journ. Ind. Arch.* 1845, 1849; *John's Ind. Arch.* ii. p. 265; *Quarterly Review*, No. 222; *Marryat's Ind. Arch.* p. 10; *Earl's Ind. Arch.* p. 270; *Voyage of the Menander in J. I. Arch.* 1853; *Carl Bock's Headhunters of Borneo; Regering's Almanac; Low's Sarawak*, p. 59; *Pritchard's Researches.*

BORO or Bodo, a race chiefly found in the forest tract, 15 to 20 miles broad, between the Himalaya mountains and the plains. They entered from northern Assam along the southern side of the Brahmaputra to the Surma, and along the skirts of the Himalaya as far west as the Konki, and are also spread in large numbers over the eastern portion of the space between these two diverging lands, that is, Middle and Lower Assam, outside the forest limits, between lat. 25° to 27° N., and long. 88° to 93° 30′ E. It is the northern Cachari who are said to have occupied the eastern part of Assam, and to have conquered Kamrup about 1000 years ago, spreading over Assam, Cachar, Tiperah, and Sylhet, and it is presumed as far as the present western boundary, on the north. The Rangtsa have for many centuries been intermixed with Nagas and Mikirs. The Hajong, who are found along the foot of the hills from Gauhatti to Sylhet, appear to preserve the same name. Mr. Hodgson considers that they and the Rabhas of the same tract are Bodo. The Rangtsa, according to their own traditions, come from the N.E. of Assam, where they conquered Kamrup, and extended their sway over all Assam, Cachar, the Barak valley, and Tiperah, nearly four centuries before the Ahom invasion. The period falls within the era when Tibetans spread into the Sub-Himalayas and Bengal; and as the conquest or resumption of Kamrup by the Koch'h took place some time before the beginning of the 12th century, the event was probably connected with the decay of the Tibetan or Tibeto-Himalayan predominance. They seem to have been the principal Tibetanized tribe of Lower Bhutan. The ruling families in Hirumbha (Cachar) and Tiperah appear to have remained Cachari; and it is probable that the Cachari retained a certain degree of independence along the skirts of the Himalaya. The Hirumbha tribe call themselves Rangtsa or Ramsa, and give the same name, Ramsa, to the languages of the Cacharis of the plain; Bodo, their own tongue being called Hoje or Hojai. The Hojai, according to Mr. Grange, is totally different from that of the Cacharis of the plain.

The western branch of this tribe belongs to Behar and Bengal, and to the Sikkim and Bhutan frontiers; the eastern branch occupies Assam and Koch-Bahar. They reside in villages of from ten to twenty huts; their clothing consists of cotton and silk materials. Fermented barley, rice, or millet is used by them as a slightly intoxicating beverage, which resembles the ajimana of the Newar of Nepal. They do not occupy a locality permanently, clearing and cropping and moving again to clear and crop another spot. A Bodo and Dhimal will only touch flesh which has been offered to the gods by a priest. The bridegroom purchases his bride either by money or labour. Polygamy is rare. There are professed exorcists among them.

The eastern Bodo in Cachar are called Borro, and are divided into the Cachari of the hill country and those of the plains. They are partly Hindu and partly pagan. Those in the plains in Assam are called Hazai, Hojai, or Hajong; are of the Hindu creed, and speak a Hindi dialect. The hill Cachari is stouter, hardier, and more turbulent, and lives in villages of from 20 to 100 houses. Like the Naga, their young men reside together in a large building. Chatgari, a frontier district between Desh During and the Bhutan hills, is the chief locality of the Borro of Cachar, the numbers there being about half the whole Boro population. Of the three separate people, the Koch'h, the Bodo, and the Dhimal, the faintly yet distinctly marked type of the Mongolian family is similar in all three, but best expressed in the Bodo features and form. When the Mahomedan power was established in Bengal, the Koch'h (Kocch or Kavach) kingdom extended from long. 88° to 93° E., and from lat. 26° to 27° N., from the south-eastern extremity of Nepal along the southern extremity of Sikkim and Bhutan into Assam, with Koch-Bahar as its capital; and the people consisted of the present Koch'h, Dhimal, and Bodo. They dwell in the sal forests with impunity.—*Latham's Descrip. Ethn.; Hodgson.* See Cachar; India; Kocch.

BORO-BODOR, a great Buddhist temple in Java, with figures similar to those in the Buddhist

temple at Gaya. It was designed by artists from the west of India, and is supposed to have been erected during the latter half of the 7th century A.D. It must have taken about 100 years to complete. Its figures show that the Buddhist Mahayana doctrines prevailed.—*Ferg.* p. 345.

BORODHA. URIA. Bauhinia variegata.

BOROJUAN. BENG. Ptychotis ajwain.

BOROKOLEE. TEL., URIA. This tree is supposed to be a species of Zizyphus. Planks, doors, boxes, matchlock stocks, and palanquins are made of its wood; the leaves, pounded and mixed with turmeric, are said to be efficacious in curing rheumatism; the seeds are also used medicinally in diseases of infants; the tree yields lac.—*Captain Macdonald.*

BORRERA ASHNEH, *Royle*, is the Chulchilhera lichen of the Himalaya. With ammonia it gives a reddish-brown colouring matter, and is used accordingly as a dye-stuff. Dr. J. D. Hooker found only this Borrera on the Donkia pass of the Himalaya, at an elevation of 22,000 feet; it migrates over the lofty slopes and ridges, blown about by the violent winds.—*Royle; Hook. Him. Journ.; O'Sh.* p. 672; *Z. in Indian Field.*

BORSIPPA. See Birs Nimrud.

BOS, a genus of bovine animals. See Bovinæ.

BOSCA TRINERVA. *Roxb.* A large tree of the Circar mountains.—*Rohde, MSS.; Roxb.*

BOSCAWEN, a British admiral, who in 1747 sailed for India with a great armament. On his arrival at Fort St. David, he took command of all the land and sea forces, and marched against Pondicherry, to which he laid siege on 23d June 1748, but raised it in November. In 1749 he took part in the war against Tanjore. In August he received Madras from the French, and in October returned to Britain.

BOSTAN AFROZ. HIND. Celosia cristata.

BOSTRICHUS. See Insects.

BOSWELLIA glabra and B. thurifera occur in India. They yield a fragrant gum-resin, called in Arabic Luban, also Kundur, supposed to be the Λιβανος of Theophrastus, and the Thurea virgo of the Romans. It seems to be olibanum, and identical with the frankincense that was used by the ancients in their religious ceremonies. Dr. Carter described and figured the frankincense tree of Arabia; and Captains Cruttenden, Vaughan, and Kempthorne have noted the presence of frankincense trees in the Somali country. Dr. Birdwood described three of these trees, with figures, and is of opinion that the frankincense or olibanum of commerce is obtained from the Somali country, and from Hadramaut in Arabia, being partly re-exported from India to Europe. He described five plants under this genus, and named the three new ones, Boswellia Carterii (Mohr Madow of the Somali), Boswellia Bhau Dajiana (Mohr Add of the Somali), and Boswellia Frereana (Yegar of the Somali). B. glabra yields a resin used as incense and as pitch. Resins analogous to olibanum are obtained from species of Croton, Bailleria, Amyris, Icica, and Lœtia of America. —*Birdwood.*

BOSWELLIA GLABRA. *Roxb.* p. 384.

Kungli, ... TAM. | Anduga, Gugulu, . TEL.

The Gum-resin, Olibanum.

Koondricum, MALE., TAM. | Salaee Gond, Gugal, HIND.

Captain Beddome says this fragrant resin-yielding tree is very common in many of the dry sub-alpine jungles of the Madras Presidency, particularly on the eastern side of the presidency, on the Vellore, Cuddapah, North Arcot, and Kurnool hills; Mysore, Guzzlehatty pass, etc. etc. It grows also in Kumaon, though rare west of the Jumna, but it does not occur in Ceylon. It flowers in January and February, generally when quite destitute of leaves, and the tree is of good size. The gum-resin is the olibanum of commerce, and is much used as a fragrant incense, and (when boiled with oil) as pitch. It is said to possess stimulant, astringent, and diaphoretic properties. It is largely used in some parts of India as an application to indolent sores, and is supposed to form the chief ingredient in 'Wroughton's ointment.' It is well deserving of careful attention, and can be procured in almost any quantity. The substance is bitter and pungent, and is soluble in ether and spirits of wine. In Kumaon nothing is known of its yielding the salaee, gum-resin. Its timber is said by the natives to be of little or no value.—*Roxb.; Powell, Handbook; Econ. Prod. Panjab; Rohde, MSS.; Beddome, Fl. Sylv.* p. 124; *Mr. Thompson.* See Olibanum.

BOSWELLIA THURIFERA. *Colebr.*

B. serrata, *Stach.*
Canarium hirsutum, *Willd.*
C. odoriferum hirs., *Rumph.*

Kundur; Zuchir, AR., GUJ.
Bistuj, ... ,,
Luban, . . DUKH., PERS.
Awul kundur, . HIND.
Dup-salai, Salai lassa, ,,
Sukha Biroza, . ,,
Ganda Biroza, . HIND.
Kundurya, . . SANSK.
Lubanya, . . SYRIAC.
Parangi Sambrani, TAM.
Kunduru, ... TEL.

A large tree with pinnate leaves, which grows on the hills of the Dekhan, in the Konkan jungles, above Rajoor, in the hill of Shendur, in the Belgaum collectorate, in Bundelkhand, the mountainous tracts of C. India, Chutia Nagpur, Ajmir hills, and very common in the Shahabad country. Dr. Hooker, in ascending from Belcuppi in Behar to the height of 1360 feet, came upon a small forest of it, conspicuous from its pale bark and spreading curved branches, leafy at their tip; its general appearance being a good deal like that of the mountain ash. The gum, celebrated throughout the east, was flowing abundantly from the trunk, very fragrant and transparent. Ganda biroza is prepared from the gum-resin of this tree, and is similar in appearance and qualities to Venice turpentine. It is brought from Mewar, Haraoti, and the Shekhawatti hills, and is considered stimulating. An oil is distilled from it said to cure gonorrhœa. It is much used in painting, and by the lakheri, one maund costing twelve rupees from the Shahabad country. At Chandalgur it is termed, in the dry state, sukha biroza. B. glabra and B. thurifera both furnish the male frankincense of Dioscorides. The resin olibanum occurs in reddish or pale yellow tears, oval, oblong, and obtuse, sometimes in dense, opaque, brittle masses. The ganda biroza of the bazars is soft, ductile, opaque, greenish, and white. The odour is balsamic and resinous, especially while the resin is burning; the flavour balsamic, and rather bitter. The powder is citron yellow. It is frequently adulterated by dammer, sandarach, and other cheaper resins; when chewed, the hard variety softens, and dissolves partially in saliva, which it renders white and emulsive. Used for incense; also medicinally as a stimulant, astringent, and diaphoretic in affections of the

chest, also in chronic affections of mucous membranes, but chiefly in plasters, ointments, and for fumigation.—*Royle*, p. 338; *Hooker's Him. Jour.* p. 29; *Med. Top. of Ajmir; O'Sh. Beng. Phar.* p. 383; *Faulkner; Birdwood; Roxb.* ii. 383; *Powell, Handbook*, i. p. 336; *Cal. Cat. Ex.* 1862; *Mr. Rohde, MSS.*

BOT, also written Bhot, the race occupying Tibet, Bhutan, Ladakh, and Balti. Their language is the oldest of the Turanian formations. See Bhot; Bhutan.

BOTA KADIMI, also Botta kadapa chettu. TEL. Nauclea parvifolia. The Telugu is from the resemblance of the capsule to the stamp used for impressing the bottu or sectarial marks of the Madhavacharya Brahmans.

BOTANY is the Ilm-i-Nabatat of the Persians. There has not been any branch of natural science, in its relation to the East Indies, so devotedly followed out as scientific and economic botany. Whether we regard the numbers working, the personal labour undertaken, the vast sums expended by its cultivators, or the important advantages which eastern countries have derived from them, their names ought ever to be kept in remembrance. During the past 300 years, amongst others who have worked in the East Indies, may be named, Governor Henry van Rheede, George Everhard Rumph, Leonard Plukenet, Koenig, Dr. John, Klein, Rottler, Sonnerat, Thunberg, the elder John Burmann, and the younger Nicholas Laur. Burmann, Hermann, Father Loureiro, Leschenault, Forskaol, Kæmpfer, Swartz, Jack, Carey, John Gerard, Jones, Fleming, Hunter, Anderson, Berry, Heyne, Buchanan, Russell, Noton, Shuter, Govan, Finlayson, Roxburgh, Wallich, Royle, Blume, Horsfield, Spry, Voigt, Griffiths, Wight, Sir Joseph Dalton Hooker, Thomas Thomson, J. L. Stewart, Baden Powell, Hugh Cleghorn, Heber Drury, A. Moon, W. Munro, Arnot, J. E. Stocks, Edward Waring, K. Aitchison, Maclelland, Sir Whitelaw Ainslie, Sir William Hardwicke, Sir William O'Shaughnessy, Sir Stamford Raffles; Colonel Beddome, Sir George Birdwood, Edgeworth, C. B. Clarke, Clement Markham; Drs. Mason, Thwaites, Jameson, Brandis, Forskal, Don, Bentham, Bidie, and Kurz; and notices of them will be found in this work under their respective headings.

In the 18th century Madras was the great home of research. In the 19th century the botany of the Bombay Presidency was greatly advanced by Mr. John Graham, Mr. Joseph Nimmo, Mr. Law of the Civil Service, Mr. Dalzell, and Drs. Lush, A. Gibson, Murray, and Heddle. And in the Bengal Presidency, William Roxburgh, Nathaniel Wallich, John Forbes Royle reigned supreme; and many younger men are treading in the footsteps of the above.

Agri-Horticultural Societies and their gardens have been formed at Calcutta, Saharunpur, Dapoolie, Bombay, Madras, Bangalore, and Ootacamund, to attend to the introduction of new plants into India, and to the useful application of the natural products of the country.

In March 1768 a Botanical Garden was established in Calcutta, under the care of Colonel R. Kydd. In 1793 Dr. Roxburgh was put in charge; and its superintendents have been successively, Dr. Roxburgh (obiit 1814), H. T. Colebrooke, Dr. Francis Hamilton, Dr. Nathaniel Wallich, Mr. Bentham, and Assistant-Surgeon W. Griffiths.

The Botanical Gardens at Peridenia are about five miles from Kandy, in Ceylon, and occupy a considerable extent of ground.

Baron Ferdinand von Mueller, of the Melbourne Gardens, has written a volume of great value (Select Extra-Tropical Plants, 1880), enumerating the plants which could be beneficially introduced and interchanged between Australia and the East Indies. In the middle of the 19th century, Clement Markham, C.B., devoted years of his life, risking life and health in a residence in South America and voyaging to the Neilgherry hills, in order to introduce there species of the Cinchona trees; and his efforts were so eminently successful, that the Cinchona alkaloids by 1882 were being sold at a rupee an ounce.

The total estimated number of Indian species are 12,000 to 15,000. The climate of India is generally tropical, and even on mountains of 4000 to 5000 feet the vegetation is temperate. The perennially humid forests are uniformly characterized by the prevalence of ferns; and at elevations below 5000 to 7000 feet, by the immense number of epiphytal orchidaceæ, orontiaceæ, and scitamineæ. They contain a far greater amount of species than the dry forest of North India, and are further characterized by zingiberaceæ, xylideæ, palms, pandaneæ, dracæna, piper, chloranthus, artocarpeæ, fici; urticaceæ, araliaceæ, apocyneæ, shrubby rubiaceæ, aurantiaceæ, garciniaceæ, anonaceæ, nutmegs, and dipterocarpeæ.

In the Himalaya, the truly temperate vegetation supersedes the subtropical above 4000 feet, and ascends to 12,000 feet, when it is succeeded by the alpine.

India contains representatives of almost every natural family on the globe, a very few American, Australian, and S. African orders of plants being the chief exceptions. In India the number of peculiar families largely represented in it is very limited. The Aurantiaceæ, Dipteraceæ, Balsamineæ, Ebenaceæ, Jasmineæ, and Cyrtandraceæ are the only orders which are largely developed in India, and sparingly elsewhere, and of these few contain a hundred Indian species. Sir Joseph Hooker is bringing out a descriptive work on the flora of India.

The species are much scattered. It is believed that nowhere in British India could more than 2000 flowering plants be found in a radius of 10 miles; and there is in India an almost complete absence of absolutely local plants. The plains of India are everywhere poor in species, and such as abound in individuals are usually of a weedy character. Indeed, there are few other countries in which the vegetation of the more accessible parts presents so little beauty or such short seasons of bloom. The great number of 222 British plants extend into India. Many North African and Arabian forms occur. Several Australian species are found in the Malayan Peninsula. Many of the Himalayan, Neilgherries, Khassya, and Ceylon species are found in the Malay Peninsula and in Java. Gualtheria nummularia extends from the N.W. Himalaya to the Java mountains; and plants common to India and Java are Sedgwickia cerasifolia, *Griff.*, Marlea, Cardiopteris lobata, several oaks and chestnuts, antidesmeæ, a willow, and Myrica. The Chinese type is abundant in

the temperate region of the Himalaya; and plants of N. America, west of the Rocky Mountains, also occur.

An immense proportion of annual plants, which vegetate on the last rainy seasons in the plains, and ascend the lofty mountains, are uniformly distributed throughout India. Of these the most conspicuous are gramineæ, cyperaceæ, a vast number of small leguminosæ and scrophularinæ, compositæ, some labiatæ, amaranthaceæ, convolvulaceæ, and acanthaceæ.

The winter months of the colder northern countries have a corresponding cold season in India, during which ex-tropical cereals, wheat, barley, and more rarely oats, with various kinds of pulse, are cultivated; and many wild plants appear, very many cyperaceæ, grasses, and such aquatics as myriophyllum, potamogeton, vallisneria, zannichellia, zemna, and others. The mountainous regions of Afghanistan are rich in Himalayan forms, and contain an immense number of European and Persian plants, which find their eastern limits within the British Himalaya; and many plants are found in those mountainous regions common to Europe and the Himalaya. Nepal, Bhutan, East Tibet, and the Khassya mountains present a flora which has much in common, and, in a geographico-botanical point of view, is one of the most important regions in India, if not in all Asia. In the Himalaya, the genera rhododendron, monotropa, pedicularis, corydalis, nepeta, carex, spiræa, primula, cerasus, lonicera, and viburnum attain their maximum of development.

In the Himalaya the truly temperate vegetation supersedes the sub-tropical above 4000 to 6000 feet, an elevation at which there generally is an annual fall of snow.

On the Himalaya, and on the isolated mountain ranges of the Peninsula of India, on the heights of Ceylon, and on the volcanic cones of Java, many plants occur, either identically the same or representing each other, and at the same time representing plants of Europe not found in the intervening hot lowlands. A list of the genera collected on the loftier peaks of Java raises a picture of a collection made on a hill in Europe. Still more striking is the fact that Southern Australian forms are clearly represented by plants growing on the summits of the mountains of Borneo. Some of these Australian forms extend along the heights of the Peninsula of Malacca, and are thinly scattered, on the one hand, over India, and, on the other, as far north as Japan. Along the Himalaya, at points 900 miles apart, glaciers have left the marks of their former low descent; and in Sikkim Dr. Hooker saw maize growing in gigantic ancient morasses. There are plants on the Himalaya and Neilgherries, Ceylon, and the Khassya mountains, and in the Malay Peninsula, and the moister and more equal parts of India, identical with those of Java. The genus calamus, orchids, araceæ, zingiberaceæ, and ferns are especially abundant; the genus grammatophyllum, the wonderful nepenthaceæ, or pitcher plants, of which solitary species occur in Madagascar, Ceylon, the Seychelles, Celebes, and the Moluccas.

Several species of Australian genera, myrtaceæ, the leptospermum, Bæckia, and metrosideros, are found in the Malay Peninsula. The *Eastern Archipelago* type forms the bulk of the flora of all the perennially humid regions of India, the Khassya mountains, the Upper Assam valley, the forests of the base of the Himalaya from the Brahmaputra to Nepal, the Malabar coast, Ceylon, and the whole of the Malayan Peninsula, many of the plants being identical with Javanese mountain species. Gualtheria nummularia ranges from the N.W. Himalaya to Java; and the more conspicuous of the trees common to Java and India are the Sedgwickia cerasifolia, *Griffith*, which is undoubtedly the Liquidamber altingia, *Blume*, Marlea, extending from China to Kashmir. The curious Cardiopteris lobata of Java is also a native of Assam; and several oaks and chestnuts, antidesmæ, a willow, and myrica, are common to Khassya and Java.

The *Chinese* type is abundant in the temperate regions of the Himalaya, extending westward to Garhwal and Kamaon, but is most fully developed in Sikkim, Bhutan, and the Khassya, and, as examples, are species of aucuba, Helwingia, stachyurus, enkianthus, Abelia, Skimmia, Adamia, Benthamia, and corylopsis, all of them genera that have been regarded almost exclusively Japanese and Chinese; also Microptelea parviflora, Hammamelis Chinensis, Nymphæa pygmæa, Vaccinium bracteatum, Quercus serrata, illicium, thea, magnolia, the schizandreæ, lardizabaleæ, camellia, deutzia, viburnum, Corneæ, Houttuynia, Bowringia, Wikstræmia, daphneæ, Henslovia, scepa, antidesma, Benthamia, Goughia. Euryale ferox, which is wild in the Gangetic delta, and is found as far westward as Kashmir, is abundant in China; and Nepenthes phyllamphora, a native of the Khassya mountains, is also found at Macao and eastward to the Louisiade Archipelago.

European forms abound in India. 222 British plants extend into India; and a multitude of mountain plants, and many of the most conspicuous ones of Europe, range from the coasts of the Levant and the Black Sea to the Himalaya, as Corylus colurna, Quercus ilex, Ulmus campestris, Celtis Australis, C. orientalis. Few European species, comparatively, extend into Nepal, and still fewer occur in Sikkim.

Egypt, southern Arabia, the warmer parts of Persia, Baluchistan, Sind, and the Panjab, have a remarkable similarity of climate. Many North African or Arabian forms extend throughout all the drier parts of India. Others are restricted to northern and western India; and though tropical Asia and Africa are separated by a vast expanse of ocean, there is a great similarity in the families of the trees and shrubs; and an affinity can be traced between the mountain vegetation of western tropical Africa and that of the peninsular chain.—*Royle on the Productive Resources of India; Wight's Prodromus Floræ Indicæ; Hooker et Thomson's Introductory Essay to the Flora Indica; Darwin, Origin of Species; Wallace; Ind. Ann. Med. Science.*

BOTERO. Giovanni Botero, an Italian, in A.D. 1550, was the first European author who treated of the tea-plant. His book was written to indicate the causes of the splendour and wealth of cities.

BOTLA BENDA. TEL. Abutilon Indicum.

BOT-PA, a race occupying Ladakh, or Little Tibet. They speak the Tibetan language, and are Buddhists, with a hierarchy of monks called Lama.

BO-TREE, ANGLO-SINGH, Ficus religiosa, grows

all over India. One of these is to be found within the precincts of every Buddhist temple in Ceylon, and it is frequently met with in deserted localities, or near the sites of ancient villages, and there the occurrence of a solitary Bo Tree, with its circular buttress of stonework round the stem, indicates the existence, at some former period, of a Buddhist temple in the vicinity. The planting of the Bo Tree in Ceylon, a ceremony coeval with and typical of the introduction there of Buddhism, is one of the most striking passages in the 18th chapter of the Mahawanso, entitled 'The obtaining of the Bo branch;' and the 19th chapter describes the arrival of the Bo Tree. A tree of unusual dimensions, which occupies the centre of a sacred enclosure at Anarajapoora, is still reverenced as the identical one which the sacred books record to have been planted by Mahendra 250 years before the Christian era, consequently in the year 1900 it will be 2150 years old. So sedulously is it preserved, that the removal of a single twig is prohibited; and even the fallen leaves, as they are scattered by the wind, are collected with reverence as relics of the holy place.

When Asoka, 250 B.C., sent his son Mahendra and his daughter Sangamitta to introduce Buddhism into Ceylon, one of the most precious things which they carried with them was a branch of that celebrated pipal tree beneath which Sakya became a Buddha, and which is still growing from the top of a small pyramid at Gaya. It was received with the utmost reverence by Devanampiyatisso, and planted in the most conspicuous spot in the centre of his capital. There it has been reverenced as the chief and most important numen of Ceylon. The city is in ruins, its great daghobas have fallen to decay, its monasteries have disappeared; but the great Bo Tree still flourishes; annually thousands repair to the sacred precincts within which it stands, to offer up prayers for health and prosperity. On the altars at the foot of the sacred Bo Tree, the Buddhists place offerings of flowers and perform their accustomed devotions.—*Tennent's Ceylon; Tennent, Christianity in Ceylon; Hardy's Eastern Monachism.*

BOTRYCHIUM VIRGINICUM. This large succulent fern grows plentifully in the Raklang pass in the Sikkim Himalaya. It is boiled and eaten, both there and in New Zealand. Other ferns are used for food. In Calcutta, the Hindus boil the young tops of a Polypodium with their shrimp curries; and both in Sikkim and Nepal the watery tubers of an aspidium are abundantly eaten. So also the pulp of one tree-fern affords food, but only in times of scarcity, as does that of another species in New Zealand, the Cyathea medullaris. The pith of all is composed of a coarse sago, that is to say, of cellular tissue with starch granules.—*Hooker, Him. Jour.*

BOTRYTIS BASSIANA. See Dry Rot.

BOTTA, French consul at Mosul, in 1842 began excavations on the sites of the buried cities of Assyria. He commenced his labours at Kouyunjik, a large mound opposite Mosul. Along with Mr. Layard, he made large researches, and during the entire period of his excavations, M. Botta sent to Mr. Layard not only his descriptions, but copies of the inscriptions.—*Layard's Nineveh.*

BOTTA-GENDA. GOND. Spilornis cheela.

BOTTA KADAPA CHETTU. TEL. Nauclea parviflora. The name is taken from the resemblance of the capsule to the stamp used for impressing the bottu or sectarial marks of the Madhavacharya Brahmans.

BOTTLE GOURD, Lagenaria vulgaris.

BOTTLES.

Butli, Budla, ANG.-HIND.	Buddigal, . . . TAM.
Bottiglie, Fiaschi, . IT.	Budlu, ... TEL.
Kacha, buli, balang, MAL.	

Skin or glass or stoneware vessels for holding liquids are of various shapes and sizes. The leather budla in which the people of India carry ghi and oil, is manufactured in many places by stretching skins over a clay model, which is afterwards broken and shaken out.

BOTTLE TREE, Delabechia rupestris of Australia. It is one of the order Sterculiaceæ. It attains a height of 35 to 55 feet, with huge branches at the summit, and the bark rugged. The foliage is small in comparison with the great size of the tree. The interior substance of the tree abounds in a mucilage resembling gum-tragacanth. The circumference of the trees, measured 7 feet from the base, is from 12 to 35 feet. The trees grow very luxuriantly in a soil of sand or sandy loam, and are often tapped by stockmen and others, who procure from them a glutinous and refreshing beverage. Large-sized trees scooped out form excellent canoes. It should be introduced into India. See Brachychiton.

BOTTU. TEL. The sectarial marks of the Madhavacharya Brahmans.

BOTTU KURA. TEL. Cordia polygama.

BOT YUL, the Tibetan name for Tibet.

BOUCEROSIA AUCHERI. *Dne.*

Chungi, Char-ungli, HIND.	Pawanne, Pauwauke,
Panj-angusht, . PERS.	PANJ.

This plant is found in the N.W. Himalaya, Trans-Indus, and Salt Range up to 3000 feet. Its stems, four or five inches long, resemble the fingers of the hand, are juicy, generally eaten raw, and deemed medicinal.—*Dr. J. L. Stewart.*

BOUCEROSIA EDULIS. *Edgeworth.*

Chung, Pippu, . PANJ.	Pippa, Sittu, Situ, PANJ.
Suhi Gandhal, . ,,	

Stem used as a relish for farinaceous food; not uncommon in the arid tract from the Salt Range southward to the boundary of the Panjab, and in Sind.—*Edgeworth; Dr. J. L. Stewart.*

BOUGHTON, GABRIEL, surgeon of the E.I. Company's ship Hopewell; about the year 1639 was summoned to the Dekhan from Surat to attend on a daughter of Shah Jahan, who had been severely burned. He asked as his reward liberty for the E.I. Company to trade in Bengal free of duties. Orme says he was sent for that purpose from Surat to Agra. The patient recovered; and the emperor, besides other favours, granted him a sunnud to trade free of customs throughout his dominions. Boughton proceeded to Bengal, on reaching which the nawab obtained his aid in order to attend on one of his favourite women, who recovered. Boughton remained in the nawab's service, who gave him and the English the right to trade; and Boughton induced the Company to send, in 1640, two ships.—*Broome, Hist. of the Bengal Army*, London, 1850; *Orme*, ii. p. 8.

BOULMALA, a stone procured from the hill state of Dhenkanal, in Orissa, used to make small mortars and the little tripods on which sandal-wood is ground by natives.—*Cal. Cat. Ex.* 1862.

BOURA CHANG, a fish of Bhutan, believed by

the natives to fall from heaven, from the circumstance of its being found after rain far from the water.

BOURBON, also called Reunion and Mascarhenas, is an island of a round form above 42 miles from N.W. to S.E. A volcano near its S.E. part, is in lat. 21° 9′ S. It is larger than the Mauritius; but it is only a great mountain cleft in three places, and clothed with wood, though portions below are cultivated. It was discovered by the Portuguese, who called it Mascarhenas. The French took possession of it in 1675. It was captured 10th July 1810 by the British, but restored at the general peace. Bourbon cotton is Gossypium Barbadense, *Roxb.*, and Bourbon Tacamahaca, Calophyllum inophyllum.—*Horsburgh.*

BOURDONNAIS, La, sailed for India when only 14 years of age. He became the governor of Mauritius and Bourbon in 1734. He returned to France; but in 1746 he revisited India, had an encounter with the British fleet, and on the 10th September he captured Madras, which capitulated, but was ransomed on the 10th October. He sailed for France, but was captured on his way. He was shortly after released, in consideration of his lenient treatment of Madras; but on arriving in France he was thrown into the prison of the Bastile, where he lingered for three years and died. Dupleix was jealous of him, and caused his imprisonment. He introduced cotton and indigo into the Mauritius.

BOURO ISLAND, one of the Moluccas. It is high, and has a semicircular mountain on its N.W. part. The island has two races; the larger number are Malays of the Celebes type, often exactly similar to the Tomore people of East Celebes, who are settled in Batchian; but the other, a taller, bearded race, resemble the Alfura of Ceram. Amongst its birds are two kingfishers, Tanysiptera acis and Ceyx cajeli; a beautiful sun bird, Nectarinea proserpina; and a black and white flycatcher, Monarcha loricata.—*Wall.*

BOVIDÆ, a family of mammals, comprising the sub-families Antilopinæ, Caprinæ, and Bovinæ.

The Antilopinæ have been enumerated under their own heading; the others are as under:—

Sub-Fam. Caprinæ, goats and sheep.

Nemorhœdus bubalina, *Jerdon.*

N. proclivus, *Hodgs.*	Antilope thar, *Hodgs.*
Sarao, saroowa, . HIM.	Thar, ... NEPAL.
Ramu, . . . KASHMIR.	Eimu, ... SUTLEJ.

The serow or forest goat occurs in the central ranges of the Himalaya, from Kashmir to Sikkim.

Nemorhœdus goral, *Jerdon.*

Antilope Duvaucelei, *H. Smith.*

Ra-giyu, ... BHUT.	Suh-ging, . . . LEPCH.
Gooral, ... HIM.	Sah; Sarr, . . SUTLEJ.
Pijur, . . . KASHMIR.	

The gooral or Himalayan chamois occurs in the whole range of the Himalaya from Bhutan and Sikkim to Kashmir.

True Goats.

Hemitragus jemlaicus, *Jerdon.*

H. quadrimammis, *Hodg.*	Capra jharal, *Hodg.*
Tare, tehr, tahir, . HIND.	Jharal, . . . NEPAL.
Kras, Jagla, . . KASH.	Jehr, ... SIMLA.
Kart, ... KULU.	Eshu, Eshi, . . SUTLEJ.
Jula (*m*), thar, tharni, KUN.	

The tehr or Himalayan wild goat inhabits the whole of the Himalaya.

Hemitragus hylocrius, *Jerdon.*

Kemas, *Ogilby.*	Capra warryato, *Gray.*
Ibex, . . NEILGHERRIES.	Warra-adu-watu, . TAM.

The Neilgherry wild goat occurs there and in the neighbouring hills in the W. Ghats, south to Cape Comorin.

Capra megaceros, *Hodgson.*

C. Falconeri, *Hugel.*

Ra-che; Ra-po-che, . LAD.	Mar-khor, . . . PUSHT.

The Mar-khor inhabits the Pir Panjal range of the Himalayas to the south of the valley of Kashmir, in the Hazara hills, and the hills on the north of the Jhelum, the Wurdwan hills, the Sulimani range, Ladakh, and Afghanistan.

Capra Sibirica, *Meyer.*

C. Sakeen, *Blyth.*	Ibex Himalayanus, *Blyth.*
C. Pallasii, ,,	
Skin, Sakyn, Iskin, Sakin, HIM.	Tangrol, ... KULU.
	Buz, ... SUTLEJ.
Kyl, ... KASH.	Dan mo (*f.*), . . TIB.

The Himalayan ibex occurs from Kashmir to Nepal in the Himalaya.

Ovis cycloceros, *Hutton.*

O. Vignei, *Blyth.*

Uria, urial, . . . HIND.	Koch, Kuch, SUL. HILLS.

The urial or Panjab wild sheep occurs in the Salt Range, Sulimani Range, Hazara hills, and hills near Peshawur, at from 800 to 2000 feet elevation.

Ovis Vignei, *Blyth.*

O. montana, *Cunningham.*

The Sha or Sha-poo of Tibet.

Ovis nahura, *Hodgson.*

O. Nahoor, *Hodgs.*	O. Burhel, *Blyth.*
Bharal; Bharur, . HIM.	Nervati, . . . NEPAL.
Menda (*m.*), . . . ,,	Wa, War, . . SUTLEJ.
Na, Sna, . . . LADAKH.	

The burhel or blue wild sheep is from Sikkim to near Simla.

Ovis Ammon., *Linn.*

O. argali, *Pallas.*	O. Ammonoides, *Hodgs.*
O. Hodgsoni, *Blyth.*	

Hyan, nuan, nyan, niar, nyund, gnow, of Tibet. It is found beyond the great central snowy range on the Tibet side, never under 15,000 feet in summer.

Ovis Polii, *Blyth*, the rass or rush of the plains of Pamir, east of Bokhara, at 16,000 feet.

Sub-Fam. Bovinæ, cattle.

Gavæus gaurus, *Jerd.*, gaur.

Bibos cavifrons, *Hodgs.*, *Ell.*	B. assel, *Horsf.*
Bos gour, *Traill.*	B. aculeatus, *Cuv.*
Vana-go, ... BENG.	Gauri-Gai, . . . HIND.
Ban-gau, ... ,,	Jangli-Khulga, . . ,,
Pyoung, ... BURM.	Gaoiya, ... MAHR.
Kar-Kona, . . . CAN.	Ban-parra of MUNDLAH.
The Gaur Bison, . ENG.	Bod of . . . . SEONI.
Peroo-maoo, . . . GOND.	Katu Yeni, . . . TAM.
Gour, ... HIND.	

Bison of Madras sportsmen. All the large forests of India.

Gavæus frontalis, gayal or mithun of the hilly tracts east of the Brahmaputra.

Gavæus sondaicus, the ban-teng, is the Burmese wild cow of Chittagong, Burma, and Malayana. It is the tsoing of the Burmese.

Bos Indicus, the zebu or humped cattle, known as the Brahmany bull, is wild in the Guntur district of the Madras Presidency, in parts of Oudh and Rohilkhand, and maintain themselves in dis-

tricts infested with the tiger. They have been domesticated in India and the Archipelago.

The Buffaloes.

Bubalus Arni, *Jerdon.*

Bos arni, *Kerr, Shaw.*	B. bubalus, *Anderson.*
B. buffelus, *Blyth.*	
Mung of . BHAGULPUR.	Jangli bhyus (*m.*), HIND.
Gera erumi, . . GOND.	,, mhyus (*f.*), . ,,
Arna (*m.*), Arni (*f.*), HIND.	

Occurs wild in Assam, in the Terai from Bhutan to Oudh, in Central India from Midnapur to Raipur, in the Purniah district, and a few in the N. and N.E. of Ceylon. The domesticated species is little changed from the wild buffalo.

BOVRA KORRO. PERS. A large desert partridge in northern Persia; Ptereocles exusta.

BOWRING, SIR JOHN, K.C.B., governor of Hong-Kong, but best known as an author by his political and literary writings. He was born at Exeter 17th October 1792, and became, in early life, a pupil of Jeremy Bentham, maintaining his master's principles for some years in the Westminster Review, of which he was the editor. He wrote Bowring's Siam, and a work on the Philippine Islands. Obiit 1872.

BOWSTRING HEMP, fibre of Sanseviera Zeylanica. Very tenacious fibre; the natives make their best bowstrings of it.

BOXWOOD, Buxus sempervirens, *Wall.* This is a valuable wood of a yellowish colour, close-grained, very hard, and heavy; it cuts better than any other wood, and is susceptible of a very fine polish. It was highly valued by the ancients as a material for musical instruments. It is of use for the turner, engraver, mathematical instrument maker, comb and pipe maker. The Himalayan box, Buxus sempervirens, *Wallich*, appears to be identical with the tree common all over south Europe, and extending into Persia, chiefly in valleys, at an elevation of from 3000 to 6000 feet. Dr. Stewart met with it from Mount Tira, near Jhelum, to Wangtu bridge on the Sutlej. It is variable in size, being generally 7 to 8 feet high and the stem only a few inches thick, but attaining sometimes a height of 15 to 17 feet, as at Manikarn in Kulu, and a girth of 22 inches as a maximum. It is found in the valleys of the Sutlej, Parbati, and near Dharmsala, and in the Salt Range. In the Nepal valley it is larger and more abundant than in other parts of the Himalaya. It is made by the villagers into little boxes for holding ghi, honey, snuff, and tinder. It is in demand for plugs for Minie rifle balls, and at Sealkote it is turned into pill boxes. The wood is liable to split in the hot weather, and should be seasoned and stored under cover. Thunberg says that B. sempervirens was not uncommon in Japan, in a wild and cultivated state. The annual consumption in Great Britain exceeds 2000 tons, half of which is of foreign growth. The wood of Sarcococca trinerva also gets this name. The Karens sometimes furnished Mr. Mason with specimens of a wood that can scarcely be distinguished from the boxwood of Europe. Nauclea cordifolia has wood coloured like that of the box tree, but much lighter, and at the same time very close-grained. Dr. Hunter highly praises the wood of the Euonymus dichotomus of the Pulney hills.—*Jour. A. H. Soc.* xi. 413, 1859; *Cleghorn, Panjab Rep.; Statistics of Commerce; Thunberg's Travels; J. L. Stewart; Powell's Handbook; Hunter; Royle.*

BOY, an Anglo-Indian term applied to a native domestic man-servant, supposed to have come from Bhui, the name of a Teling tribe.

BOYA, plural Boyadu or Boyidu, also Boyi. TEL. A mountaineer, a forester; was a title of some Teling chieftains, as Avare-Boyidu, Māra-Boyidu, Gondla-prote Boyidu.

BOYAR, a race widely diffused in the hilly parts of Palamau, Sirguja, Singrauli, Korea Bhakhar, Rewa, and other places. They cultivate millets and pulses on the virgin soil of newly-cleared forests. They live in small hamlets or detached houses. They bury their dead, depositing with each body of a male an axe, a knife, and a bow and arrow. The Boyar are generally of a dark-brown colour, fairly proportioned, and averaging upwards of five feet in height. The features have great breadth across the cheek-bones, very narrow forehead, nose broad, nostrils wide apart, the nasal bone more prominent, the mouth so wide as nearly to equal the space occupied by both eyes, lips protuberant, chin receding, but not so the brow, more hair on the face than is generally found amongst the tribes of this class.—*Dalton, Ethnol.* p. 134.

BOYILLA or Boiggiah, a race in the southern Mahratta country, whose sections take the name of Bhaka, Holga, and Berdur. The Bhaka again subdivide into the Ramusi, Yadu, Roray, and Gurgal. The four branches of the Bhaka constitute one people apart from the Holga or the Berdur. They are hardy, active, and enterprising, but predatory, covetous, rapacious, and treacherous.

BOZAH. HIND. A fermented liquor obtained from Eleusine coracana, and somewhat resembling country beer. It is chiefly used in the higher provinces of India, but the materials used in brewing or fermenting it vary in different places. The Sorghum vulgare is occasionally used, and it is occasionally made more intoxicating by the addition of drugs.—*Ainslie's Mat. Med.* p. 263.

BOZDAR, a border tribe on the N.W. frontier of India, with about 2500 fighting men. They dwell west of the Derajat, in the hills opposite Mungrota, about 50 miles north of Dehra-Ghazi Khan. After a series of troublesome inroads on the plains, a force was sent against them in March 1857, through the Mahvi and Mungrota passes, and, after seeing their green crops destroyed, and seeing the Osterani, a small but warlike tribe, join the British, one morning the Bozdar chiefs rode into the British camp and sued for peace. They were received in solemn durbar; and for every man they had slain in their forays 125 rupees were paid, and 50 rupees for every wounded man, this being the regular price of blood in the hills. A few months afterwards, they furnished a contingent to protect the frontier when the troops were sent to quell the mutiny of 1857. This Baluch tribe occupy the mountains and the low country, and have the following sections—Sehrani, Suwarni, Gulamanni, Jelalani, Chandiah, and Shahani. From the Kusranee limits the hills of the Bozdar tribe extend along the British frontier for about 15 or 20 miles. The range is intersected by some nine passes leading into the plains, the chief of which is the Sungurh pass, through which there is considerable traffic with Kandahar and the Panjab. Opposite these hills lies the Sungurh lowland (forming the upper portion of

the Dehra-Ghazi Khan district and cultivated by several peaceful tribes), and very much at the mercy of the Bozdars. There is only one Bozdar village in the plains, but there is much scattered cultivation belonging to the tribe. Almost the whole tribe and their chiefs live in the hills. They can muster 3000 or 4000 fighting men, some portion of whom are horsemen. They were probably the most formidable robbers in this part of the frontier. Under the Sikh regime they repeatedly carried fire and sword into the Dehra-Ghazi Khan district. The direct and main pass which leads into the Bozdar country is the Sungurh pass, opposite Munghrata, the one by which Sir N. Chamberlain's force entered. The Sukhi Surwar pass is below Dera-Ghazi Khan, in the Loggharri (Baluch) country, between which and the Bozdars there is also another Baluch tribe, the Khosahs. The Chachar pass, again, is still further lower down, near Hurrund, and more distant still from the Bozdars.—*Medley's Year's Campaigning.*

BOZGAND, also Bozghanj. HIND. Galls of Pistacia terebinthus, said to be flower-buds dried.

BOZIDAN, also Bozandan. HIND. Asparagus sarmentosus, A. racemosus.

BRAA. HIND. Colutea arborescens.

BRAB TREE, Borassus flabelliformis.

BRACELET.

Bracelet, Brassard, . FR.	Braccialetto, smaniglia, IT.
Armband, ... GER.	Brazalete, ... SP.
Khangni; Rakhi, HIND.	

Bracelets, anklets, and armlets of gold, silver, brass, copper, and deer horn, the metals being solidly massive or in the form of chains, are in use in all eastern countries, amongst Hindus and Mahomedans. Occasionally a grown man of the Hindus may be seen with a small gold or silver arm-ring or anklet, but in general they are restricted to women and children. The custom has doubtless obtained through all ages; and they are alluded to in Genesis xxxviii. 18; Isaiah iii. 19. Those of some of the Hindus are inconveniently massive, and heavy rings, usually of silver set with a fringe of small bells, are often worn by Hindu ladies. The brass ornaments of the Santal women weigh several pounds. Allusion is made in Scripture to a tinkling with the feet. Hindu women wear loose ornaments one above another on their ankles, which, at every motion of the feet, produce a tinkling noise. Armlets are worn alike by Hindus and Mahomedans, and by men and women; are of gold or silver; some are in the form of massive carved rings, some as lockets, the more expensive worn by royalty are their bazu-band, literally arm-binder. These are generally worn as ornaments, since the most ancient times, like earrings (Gen. xxxv. 4; Exod. xxxii. 3, 4; Hos. ii. 13; Judg. viii. 25). The *Ενοτια* in aures were often of gold, like those of the Ishmaelites; but ornaments were often caskets containing, as with the Mahomedans, charms, their taviz, or, like the Jangam sect of Hindus, the phallic lingam. These ornaments are often worn round the neck, like the golden bulla and leathern torum of the Roman youth, and as in Prov. vi. 21, and most women have frontlet ornaments, such as are alluded to in Deut. vi. 8.

The bracelets largely worn in India by all Hindu and Mahomedan women are of coloured glass, ornamented with lac and brass or tinfoil; some of the colours are beautiful; the manufacture of shell bracelets is one of the indigenous arts of Bengal, in which the caste of Sankhari at Dacca excel. The chanks of which they are made are large univalve shells (Turbinella pyrum) from six to seven inches long, and of a pure white colour. They are imported into Calcutta from Ramnad in Southern India, and from the Maldive Islands. At Dacca these shells are used for beetling fine muslins, but principally for making the large massive bracelets which are worn by Hindu women. They are sawn into semicircular pieces, and these are riveted and cemented to form the bracelets, some of which are elaborately carved, and inlaid with a composition of lac and a red pigment. A pair of bracelets of this description frequently costs as high as 80 rupees. Of the thick pieces of the shells, beads are made to form the necklaces, which the Bengal sepoys wear.

Some Marwari women and the Binjara women have the entire forearm from the wrist to the elbow covered with heavy massive bracelets, and the lower part of the legs equally covered with anklets. The armlets of the Binjara women are of deer-horn. Amongst the Rajputs, the women adopt a brother by the gift of a bracelet. The intrinsic value of such pledge is never looked to, nor is it requisite it should be costly, though it varies with the means and rank of the donor, and may be of flock silk and spangles, or gold chains and gems. The acceptance of the pledge and its return is by the Katchli, or corset, of simple silk or satin, or gold brocade, and pearls. Colonel Tod was the Rakhi band Bhai of the three queens of Udaipur, Boondi, and Kotah, besides Chund-Bai, the maiden sister of the Rana, as well as of many ladies of the chieftains of rank. Though the bracelet may be sent by maidens, it is only on occasions of urgent necessity or danger. The festival of the bracelet (Rakhi) is in spring. The adopted brother may hazard his life in his adopted sister's cause, and yet never receive a mite in reward, for he cannot even see the fair object who, as brother of her adoption, has constituted him her defender.—*Tod's Travels in Rajasthan.* See Phylactery; Talsam; Taviz.

BRACHIOPODA, a class of molluscs, comprising the families Terebratulidæ, Spiriferidæ, Rhynchonelidæ, Orthidæ, Productidæ, Craniadæ, Discinidæ, and Lingulidæ. See Mollusca.

BRACHYCHITON DELABECHEI, Australian bottle tree, trunk similar to a soda-water bottle. The natives refresh themselves with the mucilaginous sweet substance, and make nets of its fibre.

BRACHYPTERNUS AURANTIUS. *Linn.* The orange-coloured woodpecker of Ceylon. B. Ceylonus and B. rubescens also occur there.

BRACHYPTERUM SCANDENS. *Benth.* A creeper of Coromandel, Konkan, Travancore, Siam, Bengal, and Assam, with small pale rose fragrant flowers, well adapted for trellis work.

BRADDOCK, LIEUTENANT, a Madras officer, wrote on balances for delicate weighing in the Mad. Lit. Soc. Trans.; On the Assay of Silver; On the Induration of Chunam; On Chemical Tests; On the Sculptures at the Seven Pagodas. —*Dr. Buist's Catalogue.*

BRADLEY, DR. W. H., a Bombay medical officer, who wrote a statistical memoir on Circar Dowlatabad in Mad. Lit. Trans. xvi. p. 481; A Statistical Memoir on the Circar of Pytun, ibid.

235; On the Meteorology of Ellichpur, Bom. Geo. Trans. 1844, 1846, vii. p. 167; Desultory Observations on the Gond Tribes, with a Vocabulary of the Language spoken by them, ibid. 209; Some Account of the Topography of Chikuldah, ibid.—*Dr. Buist's Catalogue.*

BRAGANTIA WALLICHII. *R. Br.*

Apama siliquosa. | Alpam, . . . MALEAL.

A shrub of the natural order Aristolochiacea, growing in the western parts of the Peninsula of India, the S. Konkans, Wynad, and Travancore. It is about 3 feet high; root and leaves demulcent and tonic. The root is supposed to be an antidote to poison, and is used in snakebites and applied to ulcers. B. tomentosa is intensely bitter, and used as medicine in Java.—*Drury, Useful Plants.*

BRAHM, or Para Brahm, SANSK., the Supreme Being, is a name that first appears in Hindu religious books, in some of the best upanishads, or appendages to the Vedas, of later date than the first three, and introducing a different and superior theology. It seems to have been a first effort towards the recognition of a Creator; and many Hindus of the present day recognise that the almighty, the infinite, the eternal, incomprehensible, self-existent being, he whose power is too infinite to be imagined, is Brahm! creator, preserver, and destroyer of the universe, from whom all souls come, and to him again return. While the learned Brahmans thus acknowledge one God, they have confined their doctrines to their own school of philosophy, and have tacitly assented to, even taught in public, a religion in which the most discordant fictions have been erected, and have woven a mythology of the most extensive character. A philosophic few excepted, Hindus are worshippers of a superstitious and idolatrous polytheism, and Hindus erect no altars to Brahm (Hindoo Pantheon, p. 4). The Narayana of the present Hindus is rather the Spirit of God (Ins. of Menu, chap. 1., v. 10), though the two Hindu sects claim for Vishnu and Siva the title of Narayana, and Brahma himself is sometimes called Narayana. At present there will not be found two Hindu families whose belief is identical, though almost all the educated of the people recognise one God under one name or another. From time to time great reformers rise, condemning the prevailing Hindu idolatry, and so anxious are the people to know the truth, that every new teacher immediately gathers round him a number of disciples. But it is without the basis of a recognised revealed religion, and the zeal of the pupils soon calms down. In the meantime the bulk of the Hindu people are engaged in spirit-worship and hero-worship; in the worship of the manes of ancestors; in the worship of plants and animals; of the inanimate objects of nature and of natural phenomena, of forms of men and women, and of shapeless blocks of stone and wood. Some forms of Hindu belief are systems of rationalism, others are systems of philosophy, and others are physiological doctrines, with emblems to illustrate views entertained as to cosmogony and production which take the place of religion. The human form in its natural state, or possessing the heads or limbs of various animals, the elements, rivers, fountains, stones, and trees, have been deified, and become objects of religious adoration. The sun, moon, and all the heavenly host; fire, earth, and all natural phenomena,—all nature, indeed,—the passions and emotions of human beings, their vices and virtues, are transformed into persons, and act appropriate parts in the history of man. —*Taylor; Moor, Hindoo Pantheon; Coleman; Wilson.* See Upanishad.

BRAHMA, a word supposed by some to be from the Sanskrit 'vrih' or 'brih,' to increase. Brahma occurs in a hymn of the Rig-Veda, and, according to Dr. Haug, this word originally meant the strewing of the sacrificial grass on the spot appointed for the immolation. One of the earliest meanings of the word, as used in the Veda, was 'food,' also riches. In the Rig-Veda, a more frequent meaning is sacrificial food. But in the same work Brahma is repeatedly used to express the song of the soma singers, a magic spell; and is applied to ceremonies having a song of praise as their characteristic. In the language of the Zendavesta, 'baresman,' an absolutely identical word, is found, which the Parsees interpret to mean a bundle of twigs tied together with grass, used in the fire-worship like the bundle of kusa grass used by the Brahmans in the soma sacrifices. In both worships the bundle is a symbol of 'growing,' 'increase,' or 'prosperity;' and the name of the symbol was transferred to the texts, hymns, sacrifices, and ceremonies used in the rites. 'As sacrifice among the Vedic Hindus was the chief means of obtaining all earthly and spiritual blessings, but was useless without the Brahma, *i.e.* success, the latter was at last regarded as the original causes of all being.' The Imperial Gazetteer says Brahma means a prayer; and Brahman, a praying person.

Brahma, with Siva and Vishnu, form the triad of Hindu deities. There is nothing extant to show either that Brahma ever had much consideration shown him, or that his worship was overwhelmed by the intrusion of the Vaishnava and Saiva religions. Brahma in former times is said to have had temples the same as Siva and Vishnu, and to have been worshipped separately, but the followers of the two last are said to have entirely destroyed the temples and worship of Brahma. Brahma alone of the three is mentioned by Menu (Kennedy's Researches, p. 270). He seems to have had some sort of pre-eminence in ancient times, but there is no evidence that he was ever much worshipped. According to Colonel Tod, he has now but one temple in India (Tod's Rajasthan, vi. p. 774); and though invoked in the daily ritual, his separate worship is almost entirely neglected. His Sakti or consort, Saraswati, has not fallen so completely out of notice. A figure of Brahma is shown in a temple at Gumli, three-faced, seated cross-legged on two hansa, with two female attendants, and to his right is Siva, three-faced, with Nandi below, and two females.

A Saiva legend, in the Tamil book Arunasala Puranam, is to the effect that Brahma and Vishnu endeavoured to overthrow the religion of Siva; that Vishnu abandoned the attempt, and Brahma was overpowered, and condemned to have neither temple nor worship for evermore. Also the Brahma-koond, in Brindapur, is a little square tank, supposed to be of natural excavation, and regarded as the sacred spot of Vishnu's triumph over Brahma. In Benares they make Vishnu worship Siva. In Brindabun they make Brahma worship Vishnu, to assert the superiority of sect over sect (Tr. of Hind. ii. p. 65). At the present

day, Brahma is worshipped or reverenced at Bittur on the Ganges (Oudh Census, p. 114). He is particularly reverenced at Pushkara, near Ajmir, as also at Bittur in the Doab, where, at the Brahmavarta ghat, he is said to have offered an Aswa Medha on completing the act of creation. The pin of his slipper is still worshipped there. On the full of the moon Agrahayana (November and December) a mela or fair, a meeting that mixes piety with profit, is anuually held at that place.—(*Wilson.*) There is no doubt that he is the least important, at the present day, of the Hindu deities, though termed the creator, or the ancestor of gods and men. He has been imagined to correspond with the Saturn of the Greeks and Latins. He is usually represented as a red or golden-coloured figure with four heads. He is said, by the Saiva sect, to have once possessed five; but as he would not acknowledge the superiority of Siva, as Vishnu had done, that deity cut off one of them. He has also four arms, in one of which he holds a spoon, in another a string of beads, in the third a water-jug (articles used in worship), and in the fourth the Veda or sacred writings of the Hindus. He is frequently attended by his vahan or vehicle, the hansa, a goose or a swan.—*Moor's Pantheon; Tod's Rajasthan*, vi. p. 774; *Sonnerat's Voyage*, p. 5; *Kennedy's Researches*, p. 270; *Hindu Theatre*, ii. p. 58; *Travels of a Hindoo*, p. 65; *Sir G. Campbell*, p. 61; *Wilson; Oudh Census*, p. 114.—*Imp. Gaz.*

BRAHMACHARYA. SANSK. The state or period of pupillage of a Brahman, Kshatriya, Vaisya, or Sudra youth, who is thus called a Brahmachari. It is also applied to men who are mendicants, but affect to be students. Mr. Sherring says this name is given to a sect of Brahman ascetics who wear red cloth and the rudraksha, let their hair and beard grow, and besmear their bodies with ashes. They are worshippers of Siva. The Brahmacharis live as recluses apart from their families, and at death their bodies are burnt.—*Sherring's Tribes*, p. 265.

BRAHMA DANDA PURANA, a religious book of the Hindus, the object of which is similar to that of the Skanda Siva Purana and Linga Purana, viz. to inculcate the worship of the lingam. See Lingam.

BRAHMADANDI. SANSK. Argemone Mexicana.

BRAHMADICA, supposed by Hindus in their mythology to be the first created beings; but in their cosmogonies their origin and names are variously explained. It is said, in the Institutes of Menu (chap. i. 32), that the Almighty Power, having divided his own substance, became male and female, and from that female produced Viraj. Viraj produced the first Menu, named Swayambhuva; he, the ten Brahmadica or Prajapati, whom he calls the ten lords of created beings, also the sons of Brahma. They produced seven other Menu, whose names were Swayambhuva, Swarochesha, Uttama, Tamasa, Rivata, Chacshusha, and Satyavrata. These Menu are by some authorities said to have produced the seven Rishi; but others state the seven Rishi to have sprung immediately from Brahma. Their usual names are Kasyapa, Atri, Vasishta, Viswamitra, Gautama, Jamadagni, and Bharadwaja.—*Wilford, As. Res.* v. p. 246. The seven Brahmadica are, however, according to Coleman, named Marichi, Atri, Vasishta, Palastia, Angiras, Pulastia, and Kritu. Colonel Wilford, in the Asiatic Researches, has considered the Brahmadica, the Menu, and the Rishi to be seven individuals only. The names of some of the Brahmadica correspond with those of some of the Rishi.—*Cole. Myth. Hind.* p. 8. In an account of Viraj, translated by Mr. Colebrooke from the White Yajur Veda, it is said He (the primeval being) felt no delight; therefore man delights not when alone. He caused his own self to fall in twain, and thus became a husband and wife, and the human race was produced; and, changing their forms, all created beings appeared. Another account makes Rudra assist in the theogony. Brahma said, 'Rise up, O Rudra, and form man to govern the world.' Rudra immediately obeyed. He began the work, but the men he made were fiercer than tigers, having nothing but the destructive quality in their composition, and they soon destroyed one another, for anger was their only passion. Brahma, Vishnu, and Rudra then joined their different powers, and created ten men, whose names were Nareda, Daksha, Vasishta, Bhrigu, Kritu, Puluha, Pulastya, Angira, Atri, and Marichi (that is, Reason, Ingenuity, Emulation, Humility, Piety, Pride, Patience, Charity, Deceit, Morality), the general name of whom is the Muni. Brahma then produced Dharma, Justice, from the breast; Adharma, Injustice, from his back; Labha, Appetite or Passion, from his lips; and Kama, Love or Desire, from his heart. The last was a beautiful female, and Brahma looked upon her with amorous emotions; but the Muni telling him she was his own daughter, he shrank back, and Ladja, Shame, a blushing virgin, sprang from him. Brahma, deeming his body defiled by its emotions towards Kama, purified himself by partially changing it into ten females, who were respectively espoused by the ten Muni.—*Moor, Hindoo Pantheon*, p. 91; *Colebrooke; Wilford, As. Research.* v. p. 246; *Coleman, Mythology of the Hindoos*, p. 8; *Menu*, i. 32.

BRAHMAGUPTA. Colebrooke thinks that Brahmagupta and the author of the Sūrya Sidhanta were contemporary about the seventh century, A.D. 628, of the Christian era. Brahmacharya and Brahmagupta are supposed by some to be one and the same astronomer, the inventor of the system disclosed in the Sūrya Sidhanta; by others to be two distinct commentators of that shastra.—*Capt. E. Warren, Kala Sanhita.*

BRAHMAKUND, in lat. 27° N., and long. 96° E. It is a pool 70 feet by 30, twelve days' journey up the Lohit, into which several minor streams break over a precipice. It is considered by Hindus as sacred a spot as Gangotri, and it was at one time largely resorted to by pilgrims.

BRAHMA-LOKA. SANSK. The abode or heaven of Brahma. In the Buddhism of Ceylon, it is the highest of the celestial worlds, sixteen in number.—*Hardy*, p. 434.

BRAHMAN. This is written Brahmana, but the final a is dropped in conversation. It is the designation of the highest of the Hindu castes, whom it is usual to call the priestly class. Their duties, according to Menu, are—(1) Performances of holy sacrifices; (2) assisting at the performance of such by others; (3) reading the Vedas; (4) teaching the Vedas; (5) making gifts; (6) accepting gifts. If any of these means of existence failed, they were permitted to resort to certain

trading occupations, being restricted, however, as to the articles in which they might trade. But now-a-days Brahmans employed in sacerdotal functions are considered to be in a degraded position. The author of the Gita says, 'The prescribed duties of the Brahmans are peace, self-restraint, zeal, purity, patience, rectitude, wisdom, learning, and theology' (Gita, p. 130). The word Brahman, according to Weber, means drawing forth, as well in a physical sense 'producing,' 'creating,' as in a spiritual sense 'lifting up,' 'elevating,' 'strengthening' (Weber).

The Maha-brahman of Hindustan, who performs funeral ceremonies, is deemed so unclean that other Brahmans will not touch him. Gunga-putra or Ghat Brahman is a byword; and the Panda or temple priests, the Barna Brahmans who conduct the worship of the lower castes, the Gyawal and Prayagwal who rule over the ceremonies connected with pilgrimages to Gya and Allahabad, the Ojhas exercising the vocation of wizards, the Dayabagya, the Ganak, and the Jaudi Brahmans who cast horoscopes and predict events, are all looked upon by other Brahmans as lower classes. Menu writes in high-flown terms (Instit. chaps. ii. iii. vii. viii. ix.) of the sacred character of the Brahman learned in the Vedas, but comments with an equal severity on the unlearned of this class.

There are ten great divisions of Brahmans, viz. five Gaur, the Kanya-Kubhya, Saraswat, Gaur, Maithala, and Utkala; and five Dravidian, viz. Dravida, Telinga, Karnata, Maharashtra, and Gurjara. These have many subdivisions. The Gaur tribe, for instance, has 56 branches; the Kanoujia are divided into Sarwaria, Sanaudha, Jijhotia, and Bhunhar, and these again have subdivisions. Some of the subdivisions' names are taken from the district to which they originally belonged, others are named from their sects, or literary acquirements. The Chaturji of Bengal are so named from their acquaintance with the four Vedas, Chaturpadhya. The Chuckerbutty of Bengal are the Chakravarti, meaning a prince or ruler. Smartta is the name of a religious sect of Brahmans founded by Sankaracharya, whose expositions of the principle of unity, according to the Vedanta doctrine, they professedly follow. Siva is held by them in especial honour.

Brahmans are also recognised as of three classes, viz. Loukik or secular; Vaidik or theologian; and Bhikuk, whose sole means of support is the alms obtained by begging.

The Brahman as a distinct class seems to be first mentioned in the Atharva Veda, the oldest of the Vedas. They were known before the great war between the Kaurava and Pandava, but were seemingly in humble positions. Arjuna disguised himself as a Brahman when he competed at the Swayamvara of Draupadi, and won her, as he hit the golden fish with his arrow after all the rajas had failed. Draupadi became the wife of the five Pandu brothers.

The great bulk of the Brahmans of India are admissibly of Aryan origin,—tall, robust men, and light yellow in colour. In the Tamil and Telugu countries of Southern India, the recognised Brahmans are all undoubtedly of the same stock. Some of them can converse in Sanskrit, although they use the vernacular language of the district in which they reside, and are styled Dravida, Kerala, and Karnatica, etc., with reference to the language of their district. Brahmanical tribes are as much separated as are other castes. Some of them may eat together, but they do not intermarry; and the first approach at union is seemingly to be with the Konkan, Mahratta, and Gujerat Brahmans, amongst whom the influence of European knowledge has had more effect than upon any of all the other races in India. Good seed has fallen there on a good soil; and from a body of mendicants, these have become active, powerful, and useful men.

There are Brahmans in the hills north of the Panjab, in the extreme N.W. of India, occupying both the valley of Kashmir and the hills immediately to the west and south of it. Kashmir itself is a Brahman country,—all its people, though long since converted to Mahomedanism, having been of the Brahmanical race. The educated class there, who maintained their own tenets and are still very numerous, are known as pandits, and form quite an aristocracy. They are all educated, are exceedingly clever, and are an excessive and somewhat oppressive bureaucracy, which has ruled Kashmir under every successive government, and has sent out colonies to seek their livelihood in Northern India. The features of the Kashmir Brahmans proclaim them to be one of the highest and purest races in the world. They are of quite high Aryan type, very fair, handsome, with chiselled features. In many the nose is high and slightly aquiline, but not Jewish; but in others the nose is straight. Their brow is a little more raised and their nose more arched than in the Greek statues. The ordinary Kashmiri has a strong athletic figure, but none of them are martial; and the Brahmans in these respects correspond,—they rule by the brain and pen. They have a greater refinement and regularity of feature than the Afghans and others of a rougher type, with, however, a less manly-looking physique, a colour less ruddy, and more induced to a somewhat sallow fairness. The Kashmir Brahmans eat meat, and are excluded by the Indian Brahmans alike from the five Gaur and from the five Dravid, and form a separate Brahmanical class, being more secular than the priestly Brahmans of Hindustan and the Dekhan, than whom they are altogether looser in their observances.

Kashmiri pandits are known all over N. India as a very clever and energetic race of office-seekers; as a body, they excel in acuteness the same number of any other race with whom they come in contact. Almost all the secular pandits use the Persian character freely. They are perfectly versatile, and, serving abroad, will mount a horse, gird on a sword, and assume at a push a semi-military air.

The lower classes of Kashmir have long since been converted to Mahomedanism, but they seem to be ethnologically identical with the Brahmans; and tradition asserts that they are of the same race.—*Campbell.* The Brahmans of Kashmir are regarded by those of Bengal as of an inferior order, and the agricultural Brahmans on the Saraswati banks are similarly regarded. Brahmans are numerous in Kamaon and Garhwal, where education is more advanced and the Nagri character used. People of Brahmanical origin, approximating to the Panjabi, but in language, habits, manners, and dress quite different from the Kashmiri, dwell in the hills between Kashmir and

the Panjab, but they have abandoned the Hindu religion, and are now partly Sikhs and in part Mahomedans. Their language is a dialect of the Panjabi. They are good soldiers. Mr. Campbell thinks that the Brahmans of the frontier hills are even handsomer than the Kashmiri, the people in general of these hills being the handsomest of the human race. Bamba dwell in the hill frontier beyond the Jhelum. They are of Brahmanical origin, but now profess Mahomedanism. On the eastern side of the Jhelum the hills are shared with other races by a numerous tribe of Sikhs, converts from Brahmanism. Their Brahman ancestors became converts to the Sikh religion before it became a political power, and entirely threw off their Hinduism. They are very useful soldiers and servants. There are some Brahmans at the foot of the N.W. Himalaya. They are not found beyond the Indus, but are pretty numerous in part of the Rawal Pindi district. South of the Salt Range, in the plains, the Rajput and Jat occupy the country. But there are villages of agricultural Brahmans in the fertile plains under the hills in the districts of Sealkote, Goordaspur, and in the valleys of the broken country between Hushearpur and Kangra, and in parts of the Umballa district and the adjoining Simla hills. They are not numerous near the source of the Saraswati; but lower down its course, in the somewhat desolate countries of Marwar and Jeysulmir, where the lands are moist, the Brahmans are still numerous, and are good cultivators, and claim to have occupied the country before the Jats and Rajputs became dominant.

In Central India, the town of Palli seems to be a Brahmanical centre. The Marwari or Saraswati Brahmans form a considerable portion of the most industrious of the cultivators in Malwa. The Saraswati Brahmans seem to have kept much to the tenets of their forefathers. They are called in the south, Kashastale Brahmans. The oldest of the Brahmanical race are the people of the upper hills in the western Himalayas, who date from a time anterior to Hinduism. The Kashmiri were a civilised and literary Brahmanical people, not yet fully Hindu. The Saraswati Brahmans were the earliest, most simple, and pure Hindus of Vedic faith; and those of the Ganges and the rest of India are in various phases of modern Hinduism. There are ten classes of Saraswati Brahmans, who are supposed to come from the N.W. of India.

In the Panjab, Sind, and countries about the Saraswati, having been superseded by other races, there are few Brahmans, except in the eastern part of those tracts, where they are industrious cultivators, and claim to be the ancient occupants of the country.

Hindustan.—The main country of the Brahmans is that part of Hindustan lying between the Vindhya on the one side, and the Himalaya on the north, from the longitude of Kanouj and Lucknow to near the frontiers of Bengal, with a large segment of more especially Rajput country cut out of the centre of this tract. The Brahmans of Hindustan are generally good-sized, and, on the whole, well-looking men, with good features, not particularly fair. They are not of the high Aryan type. The greater number are quite illiterate. The priests and pandits have never adopted the Persian writing character. They are not very clever, have little social position, but serve humbly as soldiers and servants about courts and jails.

From the Gulcheter down to Dehli, and in the country about Dehli, there are Brahman villages, quite industrious and intelligent, the women working as well as the men; but Brahmans do not form a large proportion of the agricultural population. They were kind to and protected fugitives during the mutiny. Some of the less pure agricultural Brahmans of these parts are called Tuga or Gaur Tuga. All the Dehli country is occupied by Gaur Brahmans. South of Dehli, in the Jaipur country, Brahmans are numerous; and in the Saharunpur districts there are a good many Brahmans following secular pursuits, besides the priests of Hurdwar.

About Benares and the greater part of Behar are a numerous class of Brahmans called Bahman or Bhaban, or, according to Sir H. Elliot, Bhoonhar, to which the raja of Benares and all the great landholders of Behar belong.

Brahmans are many in the Banda district, and numerous in Baghelcund or Rewah, and there they condescend to very menial vocations, and groomed most of the horses on the Jubbulpur road. In the proper Brahman country, some of them affect the Rajput prejudice against actually holding the plough, though performing every other agricultural labour, and take the names of Dobi, Tewari, and Chaubi, *i.e.* men with a knowledge of two, three, and four Vedas, and are considered to be of very high caste. Between the Ganges and the Gogra, as we recede from the Ganges, the population becomes more Rajput than Brahman, but there are many Brahmans about Ajodiah, the old Oudh. Beyond the Gogra is a numerous Brahman population, humble, not soldiers. Thence to the north of the Gogra and Ganges, all the way to Tirhut, there are many Brahmans. South of the Gogra, and thence across the Ganges into the Arrah district (Bojpur), runs the Rajput dominions.

The Tuga Gaur Brahmans seem to be identical with the Bhuinhar, and the Bengali Tagores (properly Thakur) may be an offshoot from them. Like the Bhuinhar, the regular Brahmans repudiate all connection with them; and Mr. Beames even says there seems no reason for supposing them to be anything but low Aryans.

Bengal.—The Brahmans of Bengal are numerous. They claim for themselves a northern origin, but they differ much from the Hindustan Brahmans in language, dress, and habits. They are fairer and larger than the mass of the Bengali population, and some are fine-looking men in size and feature. They are largely employed as clerks and accountants, in learned professions, merchants and bankers, sharing the scriptory work with Kayasths. They are acute and intellectually capable, but not energetic. In Bengal about nine per cent. of the Hindu prisoners in jails are Brahmans. They will not put their hands to the plough, are aristocratic, but altogether unwarlike and effeminate, and in mercantile business are not equal to the Marwari. They are not numerous in Eastern Bengal. There are many in Orissa and in the Urya portion of the Ganjam district. Many of the Urya Brahmans are cultivators and traders, and are stated to be also brickmakers and bricklayers.

In Gujerat, the Brahmans are numerous, and are employed in public offices and in trade.

In the Peninsula, the Brahmans are numerous from Damaun to Goa, and from Bombay to Nagpur and the Wain Ganga, that is, all through the Mahratta country. They principally trace their got or clan from Kasyapa, the first Rishi. There are two classes intermixing here,—the Konkani Brahman and the Mahratta Brahman. *Mahratta* Brahmans are a highly intellectual race, and have been distinguished as accountants and clerks. Some of them, as Peshwas, put aside the descendants of Sivaji, ruled over the greater part of India, and took the command of Mahratta armies. The *Mahratta* or Deshasth Brahmans are dark, swarthy men, much shorter than the Konkani Brahman, often squat, with large, coarse features, large lips, and becoming in advancing life unwieldy. The men are not good-looking, and the women are decidedly plain. The men are largely engaged in public offices as accountants and clerks. They are stolid men, inactive, and of sedentary habits, with literary tastes, and may be justly proud of their poets.

The *Konkani* or Konkanistha Brahmans belong to that small strip of land lying between the Syhadri mountains and the Indian Ocean. They are all fair men, not large, but with lithe and agile frames, and decidedly of Aryan descent. They are good-looking, though in this respect inferior to the Afghan and Rajput races; and their women are fair and have pleasing countenances, with good figures, but even by their own relations are not considered to be equal to other of the women of India, amongst whom the fair Jewesses of Western India may be quoted. The race were agricultural until the British became supreme. The men are ready to move abroad in search of employment, and are met with amongst the Mahratta nation, throughout Berar, and are largely employed in the various public offices as accountants, clerks, in the educational department, and in mercantile houses. They are not military nor agricultural, nor do they engage in trade. The Konkan Brahman has a pleasant expression, is easily moved to laughter, much enjoys a joke, and is of an active turn of mind. They are easily distinguishable by the peculiarly large turbans which they wear.

Konkani and Mahratta Brahmans eat together, but do not intermarry. They do not marry in their own tribe or got; but the Mahratta Brahman will marry his mother's sister's daughter, and the Konkani Brahman will not marry a relative unless very remotely related.

The Mahratta or Deshasth Brahman is a reserved man, little inclined to seek friendships, and rarely seen to laugh. They at one time filled almost every office under the Peshwa and under the British, and even in Madras till the middle of the 19th century the revenue accounts were kept in Mahrati by these Brahmans; and in their own country they were zamindars, deshmookhs, and deshpandi, and almost all the village accountants were Deshasth Brahmans. Both these castes have to compete for employment with the writers known as Purbhu (Prabahu), of which there are two classes, the Patri Purbhu and the Kayasth Purbhu.

Canara, Mysore.—Mr. (Sir George) Campbell mentions (pp. 74,130) that in the N. Canara district, in the high hilly country above and about the ghats, and on the adjoining parts of Mysore, there is a large population of Brahmans, industrious and thriving cultivators and landowners. Most of these are called Haiga Brahmans, and the culture of the betel-nut is their especial pursuit. They are very fair, with large eyes and aquiline noses. In the Nagar district of Mysore they are very numerous, not very literary or highly educated, but devoted to agriculture.

In *South Canara* and the *Tuluva* country are many Brahmans, who do much cultivation; and all down the west coast to the extreme south of India, the country is said to have been extensively colonized by Brahmans led from Calpee by Parasarama.

They have been, from political and hostile circumstances, much removed from Malabar, but they are very numerous in Travancore and Cochin; and in the Palghat valley they are numerous, and are industrious and good cultivators.

Travancore.—On the south-west coast the chief class of Brahmans are the Namburi, who have some very peculiar customs, but they principally engage in priestly offices. The Namburi Brahmans resemble the Nair and the Hindu population of the S.W. coast, but are fair.

Brahmans are scattered through *Telingana* and through the *Tamil* country, all tall, fair, and portly men; are aristocratic, do not engage in any menial avocation, but restrict themselves to priestly offices, to clerking in Government establishments; but in these the Sudra Naidu or Naik of Telingana, and the Mudali and Pillay Sudra of Tamil districts, and Vaisya Chettyar, East Indians and Portuguese, descendants of Europeans, largely compete with them.—*Mr. (Sir George) Campbell*, pp. 57–67.

In the festival of Bhaubij, on the 2d day of the month Kartik, the wives of all Brahmans, whether of the Saiva or Vaishnava sects, worship their husbands, standing before them, sacrificing with the lamp and ghi, and pouring rice over their heads.

In Canarese-speaking countries the Brahmans are largely employed as accountants and office clerks. They are much disliked by the Vira-Saiva lingaets. A village of lingaets near Kaladgi abstained from digging a well in their village, to avoid attracting Brahmans amongst them.

Among the population of Southern India, out of a total population of about 32 millions, over one million belong to the Brahman caste,—547,027 males and 548,418 females. In 1871, of the 547,027 male Brahmans in the Madras Presidency, 332,934 were occupied as follows:—

Professional,	Government Civil Service,	8,887
	Military or Police service,	747
	Learned Professions,	18,499
	Minor ,,	55,504
Domestic,	Personal service,	19,584
Commercial,	Traders,	12,910
	Conveyors,	969
Agricultural,	Cultivators,	132,443
Industrial,	Dress,	165
	Food,	1,778
	Metals,	20
	Construction,	55
	Books,	40
	Household goods,	16
	Combustibles,	11
Indefinite and Unproductive,	Labourers,	5,384
	Property,	64,545
	Unproductive,	15,529
	Others,	1,898

Over 24 per cent. are agriculturists, and over 11 per cent. are classed as deriving income from property. In the southern districts, especially, a large proportion of the Brahmans are agriculturists. In Tinnevelly over 40 per cent. of them come under this head. But as a rule these Brahmans do not work with their own hands in agricultural pursuits, and employ labourers to till the ground. In the northern districts and Tanjore the Brahman landowners figure chiefly as owners of land, and as deriving their income from property.

Avocations and Customs.—Among the earliest functions of the Indian priestly tribe was that of Purohita, or house-priest attached to a princely household. But their character and avocations have altered with changing circumstances. The descriptions in the Vedas show us a primitive race of shepherds and husbandmen praying to the gods for the safety of their flocks and crops, but as the Arians came into India they seem to have risen above manual labour; and Menu (iii. 165, iv. 5) even denounces agriculture as absolutely degrading. There are, however, in Orissa numerous Brahmans who cultivate vegetables, but they are stigmatized as yam-growers, also lokik or worldly Brahmans; also brickmakers and bricklayers. In the Himalaya, in Chamba and near Dalhousie, they are shepherds. In Kangra, the Doab, and Benares, Brahmans guide the plough. In Central India there are peasant Brahmans; and in Southern India Brahmans are to be seen as betel-leaf growers and fishermen; while throughout the Tamil and Telugu countries they are to be found as blacksmiths and goldsmiths, who wear the sacred thread, and refuse precedence to the recognised Brahmans; and in Ceylon the descendants of an imported race, the Goi Bamano, are cultivators.

Almost every Indian province contains two or more distinct classes of Brahmans, descendants of different immigrations. The Chamba Brahman shepherds are a fierce, stalwart race, very fair, and their women singularly handsome. In the *Simla hills* the Brahman population consists indiscriminately of shepherds, husbandmen, day-labourers, cooks, and menials. In the inner hills they marry the widows of their elder brothers, like the lower castes of Orissa, and sell their daughters into a slavery faintly disguised by the name of concubinage. The *Patiala* Brahmans engage as day-labourers and are palanquin-bearers. Bishnuvi cultivators and graziers are numerous in Dhat; some in Chore and in Oomerkote, Dharnas, and Mitti.

In *Benares* and the districts along the Ganges to the southward, a large peasant population claim the title of Brahman; and their claim was recognised by the native governments exempting them from capital punishment. The Buinhar or Babhan of *Behar*, a peasant Brahman, number three-fourths of the whole Brahman population of the Bhagulpur district. They resemble the ordinary husbandmen.

There have been at times large manufactures of Brahmans by rulers. Some princes have imported Brahmans from distant localities, and other princes have raised lower castes to the dignity of Brahmans. Jeypore has a class of ploughing Brahmans, as regards whom a tradition relates that a warlike prince required a vast concourse of priests to give dignity to his sacrifice, and accordingly created five tribes of Brahmans out of the surrounding populations. They migrated into Oudh, where also is one of the Brahmanical families, who derive their origin from a prince whose self-importance would not allow him to offer sacrifice until he had 125,000 priests in attendance, and who accordingly invested the common people of the country with the sacred thread. In Behar the mass of the peasant Brahmans attribute their origin to a manufacture of a hundred thousand priests in prehistoric times. In Malabar, Parasurama made the whole fisherman population into Brahmans. They claim a very exalted rank. The Konkani Brahmans also are descendants of a fisher race; and to the present day the casting of a net and the catching of a fish form part of their wedding ceremonial.

Adisur, the founder of the Sen dynasty, brought from Kanouj five Sagnic Brahmans of the tribes or gotra, Sanhila, Kashyapa, Vatsa, Saverna, and Bharudwaja. Several Sudra families, Ghose, Bhose, Dutt, Guha, Mittra, etc., accompanied them, and these take the position of Kulin Kayasths. In the reign of Bullal Sen, about 284 years before the Mahomedan invasion, all these Kulin Brahmans and Kulin Sudras had greatly increased, and, though degenerated in learning, they arrogated to themselves a position above all the Sapta-sala or aboriginal Brahmans; and Bullal Sen ennobled those Brahmans by giving to them the title of Kulin. The Kulin Brahman subsequently consented to marry the daughters of the aboriginal Brahman, who eagerly seek alliances with the Kulin; and the Kulin have taken advantage of this, and have established a scale of fees for condescending to accept a daughter of an inferior. They marry gold. Of the Kayasths who came from Kanouj, Bhose, Ghose, and Mittra were ennobled by Bullal Singh into Kulin Kayasths, and are still in Bengal. The Dass, Day, Dutt, Guha, Kar, Paulit, Sen, and Sing hold a second rank.

Kulin Brahman women are married with difficulty, and generally to aged men. In 1868 there were 11 Kulin men in Hoogly and 1 in Bardwan, each of whom had contracted 50 to 80 marriages; 24 in Hoogly and 12 in Bardwan, who had contracted from 20 to 50 marriages; and 48 in Hoogly and 20 in Bardwan, who had contracted between 10 and 20 marriages. Kulinism is thus a great polygamic institution, and a few Kulin women have become prostitutes. In 1867 the abolition of this polygamy was contemplated, and will doubtless soon be carried out (*Cal. Rev.* May 1868).

Agnihotra Brahmans are the remnant of the worshippers of Agni, who still preserve the family fire, but in other respects conform to some mode of popular Hindu devotion. According to prescribed rule, where a perpetual flame is maintained, it is used to light the fire round which the bride and bridegroom step at the marriage ceremony, and the funeral pile of either; but the household fire is preserved only by this particular sect, the Agnihotra, and the great body of the people have nothing of the kind. In this case they distinguish between the sources whence they obtain the kindling flame according to the purposes of its application, and the fire of the marriage rite is taken from the hearth of a respectable person, or from a fire lighted on some auspicious occasion; whilst for the funeral pile any unpolluted fire may be used. It is only necessary to avoid taking it from

another pile, or from the abode of an outcast, of a man belonging to the tribe of executioners, of a woman who has lately borne a child, or of any person who is unclean.

The *Agnicula* was a supposed Scythic race, whom the Brahmans, in order to oppose the Buddhists, formed into a religious confederacy.

Aradhya Brahmans profess the Jangam creed, but adhere to their caste views. They are chiefly in the Canarese country. In other sects of Hindus, the Brahman uniformly take precedence of other castes; but among the Jangam or Vira-Saiva he is degraded beneath all others. Hence there is a perpetual feud between the Aradhya Brahman and the Jangams, who (unless at funerals, where all are bound to assist) treat these Brahmans with contempt (*Brown on the Creed and Customs and Literature of the Jangams*, p. 8).

The emigration of the Brahmans to peninsular India appears to have been subsequent to the first great change in their religious system. The religion they introduced was probably a rudimental form of Saivaism, with a tendency to the mystical and mythological system of the Puranas. There is not the least reason to suppose that the Vedic or elementary system was ever known in the Tamil country, either as an indigenous religion or as introduced by the Brahmans.

The Brahmans deeply impressed Alexander by their learning and austerities. One of them, Kalanos by name, was tempted, notwithstanding the reproaches of his brethren, to enter the service of the conqueror. But, falling sick in Persia, Kalanos determined to put an end to his life. Alexander, on hearing of his philosopher's resolve, vainly tried to dissuade him; then loaded him with jewels, and directed that he should be attended with all honours to the last scene. Distributing the costly gifts of his master as he advanced, wearing a garland of flowers, and singing hymns, the Brahman mounted a funeral pyre, and perished in the flames.

The Brahmans of the present day are a race of the highest culture, the result of 3000 years of hereditary education and self-restraint, and they have evolved a type of mankind quite distinct from the surrounding population. Even the passing traveller in India marks them out alike from the bronze-cheeked, large-limbed, leisure-loving Rajput or warrior caste of Aryan descent, and from the dark-skinned, flat-nosed, thick-lipped, low castes of non-Aryan origin, with their short bodies and bullet heads. The bulk of the Brahmans stand apart from both, tall and slim, with finely-modelled lips and nose, fair complexion, high forehead, and slightly cocoanut-shaped skull,—the man of self-centred refinement. He is an example of a class becoming the ruling power in a country, not by force of arms, but by the vigour of hereditary culture and temperance. One race has swept across India after another; dynasties have risen and fallen; religions have spread themselves over the land, and disappeared. But since the dawn of history, the Brahman has calmly ruled, swaying the minds and receiving the homage of the people, and accepted by foreign nations as the highest type of Indian mankind (*Imp. Gaz.* vol. iv.).

Brahmanism is the ordinary designation of the Hindu religion at present prevailing. It is accommodating to anything that partakes of idol-worship; similarly as a Roman would worship Isis and Osiris, so a Hindu makes offerings to apotheosized Mahomedans, such as Shaikh Sadu, Ghazi Mian, and Shaikh Madar in Northern India; and throughout all India there are multitudes of figures of local divinities who have been admitted into the Hindu Pantheon as avatars of Vishnu or Siva, the chief gods of the modern Hindus. The Vaishnava doctrine raises Vishnu to the highest place, and adores his different avatars, together with a multitude of other deities, powers of nature, and mythical persons. The Saiva doctrine places Siva highest in the rank of the gods. The professors of this doctrine number many millions more than the professors of Vishnuism. Although Siva is the god of destruction, he is also the god of reproduction, considered with respect to the idea, which ever pervades the doctrine of Brahma, namely, that death is but the recommencement of a new life. Vedantism, so named after the Vedanta of Vyasa, has few adherents, consisting of some philosophical Brahmans. Of the thousands of temples in India consecrated to various deities, only one, it is said, is consecrated to this doctrine, in which Brahma is worshipped alone.

Various ceremonies are attendant upon Hindu boys between infancy and the age of eight years. After that age, and before a Brahman lad is fifteen, it is imperative upon him to receive the poita, yadnupavita, zonar, janavi, or jhandiam, the sacred thread, which the Brahmans in their secret ceremonies call Yadnupavita. In the investiture, the priest offers a burnt sacrifice, and worships the salagrama, repeating a number of prayers. The boy's white garments are then taken off, and he is dressed in yellow or red, and a cloth is brought over his head, that no Sudra may see his face; after which he takes in his right hand a branch of the vilva, Ægle marmelos, and a piece of cloth in the form of a pocket, and places the branch on his shoulder, with shoes on feet and umbrella in hand. A poita of three threads, made of the fibres of the suru, to which a piece of deer's skin is fastened, is suspended from the boy's left shoulder, falling under his right arm, during the reading of the incantations or invocations. The father of the boy then repeats certain formulas, and in a low voice pronounces three times, the Gaitri, O'm! Bhurbhuvă ssuvâhā, O'm! Tatsa vit'hru varennyâm, B'hargo devâsyâ dhimahi dhiyo yonaha pracho dayath. O'm! earth, air, and heaven, O'm! 'Let us meditate on the adorable light of the divine Sun (Savitri), may it guide our intellects.' After this prayer the suru poita is taken off, and the real poita, or sacred thread, put on. The receiving of the poita is considered as the second birth of a Hindu, who is from that time denominated 'dwija' or twice-born. A Brahman boy cannot be married till he has received the poita. The sacred thread must be made by a religious Brahman. It consists of three strings, each ninety-six hat'h (forty-eight yards), which are twisted together; it is then folded into three, and again twisted; these a second time folded into the same number, and tied at each end in knots. It is worn over the left shoulder (next the skin, extending half-way down the right thigh) by the Brahman, Kshatriya, and Vaisya castes. The first are usually invested with it at eight years of age, the second at eleven, and the Vaisya at twelve.

The period may, from especial causes, be deferred; but it is indispensable that it should be received, or the parties resisting it become outcastes. An individual is not fully a member of this class until he have assumed this emblem. It is like the Roman lad's assumption of the toga virilis.

A *Kulin Brahman* can marry as many wives as he likes; but there are certain Brahmans in Bengal who find the greatest difficulty in getting married to even one wife. These are the Bangshaja Brahmans of the Shrotriya class. While a Kulin Brahman gets for every wife that he marries a handsome bribe, a Bangshaja Shrotriya Brahman has to pay down a large sum of money to the father of the girl whose hand he seeks to obtain. The consequence is that, owing to their poverty, numbers of Bangshaja Shrotriya Brahmans never get married at all. To remedy this evil, in Eastern Bengal, when in any village the number of unmarried Shrotriya becomes inconveniently large, one of the ghatak of the place—those underservants of Bidhata who take a prominent part in all marriages—goes to Shrihatta in Sylhet. There, with the assistance of his agents in the district, and by means whether fair or foul, he procures a number of girls, to whom he holds out the prospect of a pleasant settlement in life. The girls may not all be Brahman girls, some of them may be of the Chandal caste, and others may be young widows; but whatever may be their caste, character, and antecedents, they are huddled together in a boat, often fifteen or sixteen in number, and taken to the ghat of the Shrotriya village. The faces of the old Shrotriya bachelors become lighted up with joy, when they hear of the arrival of the hymeneal boat. The sensation which these highly-favoured boats create in Eastern Bengal, is infinitely greater than that produced in Calcutta by the orange-boats of Sylhet, or the mango boats of Malda. The Bangshaja bachelors besiege the boat in numbers. Each one selects a girl according to his taste, a bargain is struck with the ghatak, and the celebration of the rites of marriage, according to the forms prescribed in the Shastras, soon follows. The plain-looking girl, for whom no Shrotriya may have a fancy, is employed as a maid-servant either of the ghatak himself, or of any other who may stand in need of her services.

The influence on India of the Brahman races has been great. They developed a noble language and literature. They were the priests and the philosophers of their race; also the lawgivers, administrators, men of science, and poets. They have brought the mass of the backward races into the social and religious organization of Hinduism. They wrote the Vedas, Brahmanas, Sutras, and Upanishads, meaning the science of God and his identity with the soul; the Aranyakas, or tracts for the forest recluse; and the more recent Puranas, or traditions. The six Darsana, or schools of philosophy—Sankhya, Yoga, (3, 4) Yedanta, (5) Nyaya, and (6) Vaiseshika—originated from them. They treated philosophy as a branch of religion. They had also a circle of the sciences, the Science of Language. Panini, B.C. 350, was the founder of Sanskrit grammar. Under every dynasty and government in India, Brahmans have held the highest executive offices alike in the civil executive and in the political administration of the country, for, until the middle of the nineteenth century, all learning and science centred in them. The introduction into India, by the British, of the western forms of education, and the system of grants-in-aid to schools, however, have permitted, particularly in the south of India, all the Sudra and Vaisya races to compete with the Brahmans, who are being largely displaced from their former exclusive position, though they are still a great power in the state.

There is no being more aristocratic in his ideas than the secular Brahman or priest, who deems the bare name a passport to respect. The Kulin Brahman of Bengal piques himself upon his title of nobility, granted by the last Hindu king of Kanouj (whence they migrated to Bengal), and in virtue of which his alliance in matrimony is courted. But although Menu has imposed obligations towards the Brahman little short of adoration, these are limited by him to the learned in the Vedas: he classes an unlearned Brahman with an elephant made of wood, or an antelope of leather, —nullities save in name.

Owing to the segregation which all the Hindu races practise, Brahmans have never formed a compact body, and their influence and power have been local. Learned Brahmans are much respected. At festivals, weddings, and feasts for the dead, they are invited to the houses of the wealthy, are feasted, treated with honour, and on their departure receive gifts of value, dresses, gold and silver vessels, ornaments of numerous kinds, food, and also money. A man of learning often takes one or more of his scholars to such assemblies, both to enhance his own reputation and to accustom them to respectable society; and the students also obtain a share of the presents. From gifts of this kind the larger number both of teachers and students in the Hindu schools of learning are supported, their food procured, and their house accommodation provided. Tolas, or native colleges of this kind, are scattered all over the province of Bengal, and one or more may be found in all the great villages. The Zillah of Bardwan, for example, though not particularly celebrated for learning, contained, a few years ago, 190 Sanskrit schools and 1350 students. Some places are more celebrated as seats of learning than others. In North India, for instance, Nuddea, Santipur, Tirhut, and above all Benares, contain a large number of colleges. In South India they are chiefly found in the provinces of Tanjore and Madura. These schools are divided into three classes,—those wherein general literature is studied, the schools of law, and those of philosophy. In the first the subject-matter of study embraces grammar, lexicology, poetical works, and rhetoric. According to Bunsen, Brahmans have systematically adulterated and adjusted the early history of India (iii. 513). Brahmans were acquainted with the Talmud; and Sir W. Jones thought that Genesis ii. 21, 23 is referred to in the form of Siva and Parvati, known as Art'hanesvari, of which the right hand half is Siva and on the left hand Parvati.—*Brown on the Jangams; Bunsen's Egypt*, iii. 513; *Chow-Chow*, p. 44; *Mullen's Hindu Philosophy*, pp. 10, 11; *Coleman's Mythology*, p. 154; *Calcutta Review*, May 1868; *Tod's Rajasthan*, i. p. 512; *Taylor, Mackenzie MSS. Bhagavad-Gita; Sir George Campbell's Ethnology; Bowring's Ethnology in B. As. Soc. Jo.; Darwinism in Morals*, p. 279; *Hunter's Orissa; Imp. Gaz.; Moor's*

Pantheon; Weber's Indian Literature; Wilson's Glossary.

BRAHMANA, Sanskrit prose works, of later date than the Vedas; the oldest is the Aitareya, which has much historical information. The several Brahmana are chiefly liturgical, ritualistic, and legendary, and, in the various Upanishad, passing into the rationalized state, and becoming metaphysical and mystical. Their professed objects are to teach the sacrifice; they appeal continually to earlier authorities, and evolve their dogmas under the guise of free Mimánsá or discussion. They are the work of several individuals, and Professor Müller limits their age to the two centuries from B.C. 800 to 600, if not prior thereto. Each of the Sanhitas or collection of hymns has its Brahmana, and these generally maintain the essential character of the Veda to which they belong. The Rig-Veda has the Aitareya Brahmana, also the Kanshitaki or Sankhayana; the Yajur-Veda, in its Taittiriya Sanhita, has the Taittiriya Brahmana; and its Vajasaneyi Sanhita has the Satapatha Brahmana. The Sama Veda has eight Brahmanas, and the Atharva one.—*Weber; Müller; Dowson.*

BRAHMANABAD, a ruined city in the Hyderabad district in Sind, supposed to have been destroyed by an earthquake; and recent excavations show whole households overwhelmed together, men and women at their work, and cattle in their stalls. Sculptures, engraved gems, carved ivory, earthenware and coloured glass, have been found. Tradition says it was destroyed in the seventh century by the gods, in punishment for king Doloras' iniquities.—*Imp. Gaz.*

BRAHMANA WANSE, a race in Ceylon who take a high place amongst the Hindu races of the island.

BRAHMANDA, in Hinduism, the mundane egg created by Brahma; also the visible sky, which is supposed to be the shell of this egg.

BRAHMANI, a name of Saraswati as goddess of learning; also any Brahman woman.

BRAHMANICAL CAVES. See Architecture.

BRAHMANICIDE, the sin of killing a Brahman.

BRAHMANISM. Early writers on the religions of India, who drew their information exclusively from Sanskrit and Brahmanical sources, amongst whom was Klaproth, inclined to favour the pretensions of Brahmanism as more ancient than Buddhism; but in later times the translations of the Pali records and other sacred volumes of Buddhism in Western India, Ceylon, Burma, and Nepal, have inclined the preponderance of opinion in favour of at least a contemporaneous development. A summary of the arguments in favour of the superior antiquity of Buddhism is to be found in the notes, etc., by Colonel Sykes, in the twelfth volume of the Asiatic Journal, and in the Essai sur l'Origine des Principaux Peuples Anciens, par F. L. M. Maupied, chap. viii. The Rev. Mr. Gogerly says the sacred Buddhist books in Ceylon expressly demonstrate that its doctrines had been preached by the twenty-four Buddhas who had lived in succession prior to Gautama or Sakya, in periods incredibly remote, but that they had entirely disappeared at the time of Gautama's birth, so that he re-discovered the whole, and revived an extinguished or nearly extinct school of philosophy. (Notes on Buddhism by the Rev. D. J. Gogerly, appendix to Lee's translation of Ribeyro, p. 265, quoted in Tennent's Christianity of Ceylon, p. 197.) Bunsen says (iii. 516) the worship by the Aryan immigrants and the institution of castes seems to have commenced after they crossed the Sutlej river; and the original seat of this worship extended from the Indus to the Ganges and to Bengal (Behar). He adds that Brahmans, after crossing the Sutlej, introduced Siva and other deities, and threw those of the Vedic period into the shade. According to Bunsen, also, it was about the year 3000 B.C. that the schism took place amongst the Aryans, when all India east of the Sutlej adopted Brahmanism, and the religious views, forms, and habits of Bactria were for ever abandoned. According to Menu, the world had passed through four yogas when Brahmanism was introduced.

Fa Hian, the Chinese priest of Buddha, who travelled through Tartary to India and Ceylon in the fourth and fifth centuries A.D., mentions that in the whole of that vast route, including Afghanistan and Bokhara, he found a Buddhist people and dynasty, with traditions of its endurance for the preceding thousand years. As to Hindustan itself, he says, from the time of leaving the deserts of Jeysulmir and Bikanir and the river Jumna to the west, all the kings of the different kingdoms in India are firmly attached to the law of Buddha, and when they do honour to the ecclesiastics they take off their diadems. See also Maupied, Essai sur l'Origine des Principaux Peuples Anciens, chap. ix. p. 209.

According to Strabo (Dionysos, p. 117), Siva was worshipped in the mountains (Rudra, Soma, Siva); Herakles (Indra, Vishnu) in the plains. Brahmanism was found established in Hindustan by Megasthenes, ambassador of Seleucus at the court of Chandragupta, and at the time of the Periplus the very southernmost point of the Peninsula was, as now, a seat of worship of Siva's wife.

From the above it would appear that prior to the preaching of Sakya Sinha, there were in India numbers who entertained doctrines with some similarity to those which he taught; but until Asoka (B.C. 257) adopted the Buddhist beliefs, the followers of the Vedic and Puranic doctrines, as expounded by the Brahmans, were by far the most numerous. The two creeds were, however, coexistent throughout India, and in the same towns, but Brahmanism fell into the shade for about a thousand years, from the time of Buddha, B.C. 623-5, till the reappearance of Brahmans at the court of Vikramaditya, A.D. 490-530, when the religion they recognised began to assume the form which it still presents in India, a confused mass of local superstitions and myths. About B.C. 700-1 Brahmans had became a recognised caste, who shared power with the Kshatriya; the Vaisya, as merchants, had become a power; and the Sudras had become a recognised division of the population. Between the times before Sakya's advent and the centuries after Brahmans began to rise in power, the old Vedic books and their doctrines had been pushed aside by other old writings, now known as the Puranas. The Brahmanism of the Vedas and that of the Puranas are of very different characters, the change having been greatly influenced by the rise and progress of Buddhism which intervened between the two forms.

The change from Buddhism to Brahmanism was brought about often with much violence and cruelty, by great efforts of the Brahmanical sectarians. The great champions of Brahmanism were Kumarila Bhatta, who was a violent opposer of the Buddhists; Sankara Acharya, the great Vedantic reformer, who flourished in the 8th or 9th century; Ramanuja, who lived in the 12th, Madhavacharya in the 14th, and Valabhacharya in the 16th century A.D. The last three were Vaishnava teachers. Ramanuja was the first to inculcate the Bhakti doctrine, and he was followed by several others, including Chaitanya in Bengal. Brahmanism is at present synonymous with Hinduism, and the Brahmanical religionists are of three classes, the worshippers of Vishnu, of Siva, and of the Sakta or female energies of the gods. But it is in some places a nature-worship, in others an idolatry, in others a hero-worship, in others a physiology, in others a philosophy, perhaps in all a spirit-worship.

Learned Hindus, however, have six schools of philosophy, called the six Darsana, viz. Nyaya, Vaiseshika, Sankhya, Yoga, Purva Mimansa and Uttara Mimansa. These have one starting-point, *ex nihilo nihil fit;* and all have the same final object, the emancipation of the soul from future birth and existence, and absorption into the supreme soul of the universe. Besides these six are a later system, known as the Puranic and the Eclectic school.—*Weber's Indian Literature; Elphinstone's India; Bunsen's Egypt; Tod's Rajasthan; Rebeyro's Ceylon; Tennent's Christianity*, p. 199; *Calcutta Review; Dowson's Classical Dictionary; Weber.*

BRAHMANY, a river of Orissa, rises in the Palamow table-land, lat. 23° 25′, long. 84° 13′. It is formed by the South Koel and the Sankh rivers, at the prettiest spot in the Gangpur state of Chutia Nagpur, from which it passes through the Bonai, the Talcher, and Dhenkanal states and the Cuttack district into the Bay of Bengal, near Pt. Palmyras. Length, 410 miles. The confluence of the South Koel and the Sankh is said by local tradition to be the scene of the amour of the sage Parāsara with the fisher-girl Matsya Gandha, who became the mother of Vyasa, the reputed compiler of the Vedas and the Mahabharata.—*Imp. Gaz.*

BRAHMANY BULL, a term applied to the humped cattle of India and the Archipelago; the Bos Indicus of authors, partly wild and partly domesticated; also the votive liberated bull, set free by Hindus to roam. See Bovidæ; Bijar; Brihhotsarg; Saur.

BRAHMANY DUCK, Casarca rutila.

BRAHMANY KITE, the name given in the Peninsula of India to the Haliastur Indicus. It receives its name from Europeans because Hindus reverence it, and regard it as the vahan of Vishnu. It is often fed by Hindus, on whose call of Hari! Hari! the birds assemble, and animal food is tossed to them. This is to be seen daily, everywhere. The birds are expert fishers. See Garuda; Vahan.

BRAHMA PURA, the fabled city or heaven of Brahma on the top of Mount Meru.—*Dowson.*

BRAHMA PURANA, the first of the Puranas. It chiefly relates to sun-worship, hence another name, Saurya Purana.—*Dowson.*

BRAHMAPUTRA, a river in the N.E. of India, flowing into the Bay of Bengal. It has not been traced from its source, but is generally believed to rise among gigantic glaciers to the S.E. of lake Manasarowara. An old Lama told Abbé Desgodins that in his youth he had visited nearly the whole of Tibet, and had followed the great river from its source, in or near the lakes of Too-ma-pang, in the western part of the province of Nogaré, the most western of Tibet, and the Lama said that some days to the east of Lassa the river turns towards the south, making a long bend, and traverses the Tibetan district of Hia-yul, a rich and well-peopled district just to the north of Lhopa. The river enters the country of the wild Lhopa tribe, and winds its way among steep and rugged bare rocks, without roads, and which can be passed only by means of wretched ladders made of lianas. After a certain course among the Lhopa, the river falls over a high rock into a valley which is not known. The height of the fall is so great that the Lama said it made him giddy to look down. At this place, he said, the river is almost as considerable as the Kin-sha-kiang at Bathang.

The Imperial Gazetteer says that the Dihang is believed to be the continuation of the Sangpu or Narichu Sangpu of Tibet, which rises on the further side of the Himalayas, in about 31° N. and 83° E., and flows past Lassa eastwards through the whole of Tibet, but the continuity has not been verified, owing to the difficulties of the mountainous region and to the inhospitable character of its occupants. The main stream in the Assam valley is made up by the confluence of three swift rivers, the Dibang, Dihang, and Brahmaputra proper, in lat. 27° 70′ N. and long. 95° 50′ E.; the two latter are supposed to penetrate the Himalaya by a rocky gorge.

On entering the valley of Assam, the united stream rolls for 450 miles from the N.E. to the S.S.W. through the plain, with a vast expanse of water, broken by innumerable islands. On leaving Assam near Dhubri, it turns sharply due S., sweeping round the spurs of the Garo hills, and runs S. for 180 miles through the plain of Eastern Bengal as far as its confluence with the Padma, or main stream of the Ganges at Goalanda. Here the conjoint delta of the two rivers commences. The great bulk of the waters of the Brahmaputra flow toward the S.W., and ultimately reaches the sea by the broad estuary known as the Megna. Shortly after leaving Assam, what is at present (1882) the chief channel of the Brahmaputra takes the name of Jamuna, the bed along which it flowed in the middle of the 18th century running past Maimansinh further to the east, and, retaining the original name, to re-unite with the larger body of water by means of the Megna. After the confluence of the Brahmaputra, Dibang, and Dihang, as it rolls to the sea it receives successively the Subansiri, 180; Bhoroli, Manas, 189; Gadadhar or Sankas, 160; Dharla and Tista, 313, on the right bank; and the Noa Dihing, 100; Buri Dihing, 150; Di Sang, Dhansiri, and Kapili, on the left. All of these are navigable by country boats of the largest size.

The Brahmakund, a place of Hindu pilgrimage, is a very deep basin-shaped enlargement of the river, just before it emerges from the mountains to descend into the plains of Assam. The velocity of the current, which both above and below the Brahmakund is very great, suffers a great diminution at this point. In its S.W. course, along the whole length of the left shore

of the Brahmaputra, and nearly parallel to the broad valley through which it runs, we meet with a longitudinal range of secondary hills, inhabited by the various scattered tribes of the Naga, Khassya, Jaintia, and Garo, in the Patkoi, Khassya, and Garo hills. These latter hills run south-east, skirting the rice-fields of Maimansinh, Comillah, and Noa Colly, and forming the greater part of Chittagong and Arakan down to the Irawadi. The level of the Brahmaputra at Sadia is 210 feet, the fall from Sadia to the delta consequently amounting to half a foot per mile. Sadia is situated near the spot where the most considerable of its affluents join the Brahmaputra, viz. the Dihang, a river seemingly identical with the Tibetan Zambu, or Sang-pu. The ebb and flood of the tide extend, in the season when the river is low, upwards beyond Dacca. The branches of the Brahmaputra, together with those of the Ganges, intersect Lower Bengal in such a variety of directions as to form a complete system of inland navigation. The Brahmaputra begins to rise in April, owing to the melting of the snow at its alpine sources. About the 1st July it is at full flood, and all the level country is submerged; herds of buffaloes, deer, and hogs then swim for refuge to the hills. The Brahmaputra drains Assam in every direction. It is known in Assam by the name Hiranyo or golden. In the rainy season it rises 30 or 40 feet above its lowest level, overflows its banks, and inundates the country like an inland sea. In the dry season it is a labyrinth of half-filled channels, rendering the navigation intricate, and fit only for steamers of light draught. It is not navigable for steamers higher than Dibrugarh; 800 miles. As seen from Ogri hill, near Tezpur, the river is sweeping along in a bed of from ten to twelve miles in breadth, with numerous islands, covered with canes and shrubs. The chief towns on the banks of the river are Bishnath, Durrung, Gowhatty, Goalpara, Nasseerabad. It is navigable from the Bay of Bengal to Dibrugarh near the head of the Assam valley, within 500 miles of Pengshaw, on the Yang-tze-kiang river. Of these 500 miles, 300 are known, and if this route can be opened, the rich province of the Yang-tze-kiang may hereafter be opened to India.—*Schlagentweit's General Hypsometry of India*, ii. p. 98; *Imperial Gazetteer*. See Assam; Megna.

BRAHMA RAKSHASI. TAM. Fourcroya cantala.

BRAHMA-RANDHRA, Pineal gland. See Yug-byasa.

BRAHMARI. TEL. Clerodendron serratum.

BRAHMA-RISHI, five patriarchs of the Hindu people who founded clans or gotra of Brahmans, viz. Kasyapa, Vasishta, Angiras, Atri, and Brighu.

BRAHMA SAMPRADAYI, or Madhavachari, a small Vaishnava sect of Hindus in Southern India, founded by Madhavacharya, a Brahman, son of Madhige Bhatta, born A.D. 1199 in Tuluva. At Udipi, Madhyatala, Subrahmanya, and other places, he established temples, and eight maths in Tuluva, below the Ghats. The superiors or gurus of the Madhava sect are Brahmans and Sanyasis, or profess cœnobitic observances. The disciples, who are domesticated in the several maths, profess also perpetual celibacy, lay aside the Brahmanical cord, carry a staff and a water-pot, go bareheaded, and wear a single wrapper stained of an orange colour with an ochrey clay. They are usually adopted into the order from their boyhood, and acknowledge no social affinities nor interests. They regard Vishnu as the supreme spirit, as the pre-existent cause of the universe, from whose substance the world was made.—*Wilson.*

BRAHMA SAVARNI, one of the 14 patriarchs who are supposed to preside successively over the 14 Manwantara of the Calpa.—*Warren, Kala Sanhita.*

BRAHMA SIDDHANTA, the second of the authentic Hindu Shastra.

BRAHMA SUTRA, or Brahma Mimansa Sutra, aphorisms on the Vedanta philosophy, by Badarayana or Vyasa.—*Dowson.* See Sutra; Veda.

BRAHMA VAIVARTA PURANA contains 18,000 stanzas; a sectarian work on the youthful Krishna and Radha.—*Dowson.* See Sacta.

BRAHMAVARTA, according to Menu, a tract of land immediately to the westward of the Jumna, between the rivers Saraswati (Sersooty) and Drishadwati (Dhrisdavati) (Caggar), about 100 miles to the N.W. of Dehli, and in extent about 65 miles long and from 20 to 40 miles broad. Its customs are models to pious Hindus. The country between that tract and the Jumna, and all to the north of the Jumna and Ganges, including North Behar, is called Bramarshi by Menu; and Brahmans born within that tract are pronounced to be suitable teachers of the several usages of men.—*Elphin.* p. 205.

BRAHMESWARA, in Cuttack, not far from Bhubaneswara. Here a slab was found with an inscription in Sanskrit verse. It commemorates the temple of Brahmeswara being erected to Siva by Kolavati, the mother of Udyotaka. The era Samvat 18 is used. The temple was no doubt erected after that to Siva at Bhubaneswar, which Mr. Stirling says was completed A.D. 657, and that at Kanarak A.D. 1241. If the Samvat era 18 be that of Gaur of the dynasty that subverted the Bhupala, it corresponds to A.D. 1141.—*J. A. S. B.* v. p. 660, vii. p. 557.

BRAHMO, a name applied by Mr. Hodgson to the Kusunda, a Bhot tribe occupying the dense forests of the central region of Nepal.

BRAHMO-SAMAJ'H, a small reforming Hindu sect, who regard their views as a pure theism, recognise the absolute unity and spirituality of God, the abolition of caste, and the elevation and instruction of woman. During a very few years, Brahmoism ran through three different stages. In the first it had for its foundation Vedic testimony tempered by reason; in the second stage, reason and philosophy; and about 1870 it was supposed to stand on intuition guided by reason. But quite one-fourth of the total number of Brahmo rest on Vedic testimony, and nearly one-third look up to reason alone. And though the intuitive Brahmo have done away with Srads, Anoprashans, etc., their brethren of the first stage perform those Hindu ceremonies in all their forms. The Brahmo of the second stage hold a middle place. On its decline, another theistical body arose, the Dharma Sabha. Brahmoism, in all its phases of development, has carried on a crusade against the institution and usages of caste. Its leading members have strongly advocated a repudiation of two great social customs, that of infant marriages and the prohibition of widow marriages. They have deprecated polygamy, and have striven to place

the marriage institution on a footing similar to that which has received the moral and practical sanction of civilised communities. In 1880 there were 149 Samaj'hs scattered throughout India. In Calcutta alone there were 20; in Bengal, 54; in Assam, 7; Chutia Nagpur, 3; Behar, 7; Orissa, 2; N.W.P., 8; Central Provinces, 1; Punjab, 5; Sind, 3; Gujerat, 3; Bombay, 6; and Madras, 6. Of these, 44 have mandirs, or places of worship. In connection with the society eighteen different periodicals were published. Of these, six were in English, nine Bengali, one each in the Hindi and Uria languages, and one in Anglo-Mahratti. There are schools kept up by the society, besides schools and classes kept up by the local Samaj'h.

BRAHMYA, in Hindu astronomy, the Yoga Star of the 25th lunar mansion, 'a' Pegasi.—*Warren.*

BRAHUI, the dominant race in Baluchistan. Their tribes, above 70 in number, are nomades, residing in one part of the country in summer, migrating to another for the winter season, and constantly shifting for pasturage. The Baluchi has a tall figure, long visage, and raised features. The Brahui have short, thick bones, with round faces and flat lineaments, are stout and squat, and numbers of them have brown hair and beards. Their name is said to be from an affix 'boan,' and 'roh,' a hill; and the name of the Narui, or Baluch, race is said to mean 'not mountaineers.' The Brahui have no religious men, whether syud, pir, mullah, or fakir. The tribes reside in tomans, or collections of tents. These tents are made of goat's hair, black or striped. The furniture is very simple, —a few metal cooking-pots, a stone hand-mill, and some rough carpets and rugs, with a distaff for spinning wool, and a hookah, are all that are usually found in a Brahui tent. That of the chief may perhaps be better furnished, and he is richer than his neighbours in flocks and herds. The dress of the lower orders is made up of a long tunic, trousers loose at the feet. The Kamburani, the chief tribe, are divided into three distinct gradations of rank, called Ahmedzai, Khani, and Kamburani. The first supplies the khan; the Khani are of the secondary rank of chiefs. The word Kamburani includes all the remainder of the tribe, but in common is applicable to the whole body. They receive wives from, but do not marry their daughters into, other tribes. The typical Brahui are certain tribes in Saharawan and Jhalawan. The Brahui are Sunni Mahomedans. They have, both in feature and speech, indications of a Turanian element. Their political chief is the Khan of Kalat.

They are entirely illiterate; not a single book exists in their language, or specimen of their language reduced to any form of writing. It is called Kur-Gali, and, according to Dr. Caldwell, is mainly Panjabi, with a Dravidian element; according to Mr. Campbell, is mainly Aryan (Indo-Persic), with a Turanian element. Ethnologists are inclined to consider them to be of the same Scythic stock as the Dravidian races in the Peninsula, and infer from this that the passage of the Dravidian tribes from Turan was along the valley of the Indus.—*Mr. Campbell*, pp. 54–56.

BRAJ or Braj-mandal, a pastoral district extending in a circuit of 84 cos around the town of Mathura, celebrated in the traditions of Hindustan as the country where Krishna pastured his herds. The soil is poor and thin, with few trees, the nim, faras, and species of the fig tribe being the most prominent. The Jumna is the only great river; for the rainy season it is a mighty stream, a mile or more broad, but for eight months in the year, meanders, a mere rivulet, between wide expanses of sand. The untidy Jat and Gujar are the chief proprietary classes. Hindu pilgrims, commencing in August, perambulate its 24 groves or ripa ban and 12 ban or woods. The people are still pastoral; the villages contain much horned cattle. Braj-bhasha is a term applied to the Hindi tongue of that district.

BRAJBASI, a native of Braj; an armed attendant, a guard, a watchman or doorkeeper.

BRALLAH. MALEAL. A small tree on the Malabar coast, used for boats, and for timbers and knees in larger vessels; it is considered strong and durable.—*Edye, M. and C.*

BRAMATSA. HIND. Astragalus multiceps.

BRAMBANG. MALAY. A sour fruit used for chatnis and in curries, perhaps the Averrhoa bilimbi; also said to mean the onion, Allium cepa.

BRAM-BUG. See Insects.

BRAMI. HIND. Anemone, *sp.*; also Taxus baccata, BENG. Sarcostemma brevistigma.—*W.*

BRAN or Bren. HIND. Quercus annulata. Brankul, Ulmus campestris. Branna, U. erosa.

BRAN.

Meh-fu-tsze, . . . CHIN.	Sakam, . . . MALAY.
Bhusa, . . GUJ., HIND.	Towru, Toudu, TAM., TEL.

The thin light skin or husk of wheat, separated by means of the sieve from ground wheat.

BRANCH OF A TREE.

Ghussun, ... ARAB.	Dalia, Dali, HIND., MAHR.
Thit-kain, . . . BURM.	Ramo, ... IT., SP.
Shakavu, ... CAN.	Shakh, ... PERS.
Branche, ... FR.	Shakha, . . . SANSK.
Zweig, ... GER.	Kalai, ... TAM.
Dankalu, ... GUJ.	Komma, ... TEL.

BRANDIS, DR., Conservator of Forests of Bengal, author of works on forestry. In 1881 his recommendation to form a school of forestry at Dehra was acted on by the Government of India.

BRANDY, Cognac.

Shau-tsiu, . . . CHIN.	Aquarzente, . . . IT.
Hwang-tsiu, . . ,,	Vinum adustum, . . LAT.
Brandewyn, . . DUT.	Aguardente, . . PORT.
Eau de vie, . . . FR.	Wino, ... RUS.
Brantewein, . . GER.	Aguardiente, . . . SP.

A spirit largely imported into India from France and England, obtained by distilling wine. Its qualities vary with the kind of wine employed. It is manufactured in the south of Europe, from white or pale red wines and the skins of grapes. Cognac is made from the palest, eau de vie is from dark red wines; British brandy is a compound of rectified spirits. Brandy began to be distilled in France about the year 1343, but used only as a medicine, and was considered as possessing such marvellous strengthening powers that the physicians termed it eau de vie, 'the water of life.' Raymond Lully, a disciple of Arnold de Villa Nova, considered that it was intended to reanimate and prolong the life of man.—*Statistics of Commerce.*

BRANSH BRANTI. HIND. Myrsine Africana.

BRANTEY. —? In Penang, a light, brown-coloured, weak wood, used for building.

BRARRAH, a wood-louse in Swat which infests mosques and houses where old mats are lying about; the place bitten by them becomes red and

inflamed. The insect is of the shape of a bug, but larger.—*Lt.-Col. MacGregor.*

BRAS. HIND. Rhododendron arboreum.

BRAS. MALAY. Rice.

BRAS-BRAS, the Glam tree of the Malay Peninsula; furnishes a paper-like bark much used in caulking the seams of vessels. Wood used as floats for fishing nets.

BRASILETTO WOOD, Cæsalpinia sappan.

BRASS.

Hwang t'ung, . . CHIN.	Orichalcum, Aurichalcum, ... LAT.
Missing, Messing; Gilkoper, Geelkoper, DUT.	Kuningan, Loyang, Tambaga-kuning, . MALAY.
Cuivre jaune, Laiton, FR.	Selenoi-mjed, . . RUS.
Messing, ... GER.	Laton, Azofar, . . SP.
Nehest, ... HEB.	Pittalei, ... TAM.
Pital, ... HIND.	Itadi, ... TEL.
Ottone, ... IT.	

Brass is an alloy of copper and zinc, generally the yellow alloy, with about an equal weight of zinc and copper, called yellow brass; copper alloyed with about one-ninth its weight of tin is the metal of brass ordnance or gun-metal. Similar alloys used for the brasses or bearings of machinery are called hard brass, and when employed for statues or medals they are called bronze. Brass is extensively used in India for domestic utensils, and is in greater request than copper among the natives. Generally, Mahomedans use copper, and Hindus brass utensils. In the Panjab, for smaller work, they prepare the alloy in their own kuthali, or crucibles; for making the larger sizes, however, the gagara, shamadan, etc., they prefer the fine sheet metals imported from Europe. A metal giving a beautiful sonorous ring when struck, and called Phul or Khani, is made in the Panjab; Roin, a genuine bell-metal, is also manufactured; also an alloy called Barth, and an inferior one called Kuth. A good brass may be made by fusing two parts of copper and one of zinc; but various proportions should be used according to the purpose required. The substances used in alloying are in various proportions by native braziers to form brass, gun-metal (lokam), pewter (satki), bell-metal (kansu), and bedery ware. Occasionally silver is added to form gongs and bells. In general, however, the proportions used are regulated by reducing the quantities of the more expensive and increasing those of the cheaper metal, as far as may be practicable. Repeated meltings, by drawing off the excess of zinc, leave a good malleable brass; and for this reason old brass is much sought after by smiths when they desire it for any work requiring it to be particularly malleable. Guns taken at Kurnool were little better than spelter. Ordinary yellow brass is rendered very sensibly harder by a small addition of tin, say a fifth or half ounce to the pound; on the other hand, by the addition of a like quantity of lead, it becomes more malleable and cuts sharply. Brass becomes a little whiter for the tin and redder for the lead; the addition of nickel to brass constitutes German silver. Gun-metal (copper and tin), by the addition of a small proportion of zinc, mixes better, and the malleability is increased without materially reducing the hardness. Lead in small quantities improves the ductility of the metal, but at the expense of its hardness and colour; it is seldom added.—*Tomlinson, M. E.; Mr. Rohde.* See Bells.

BRASSAK, a subdivision of the district of Pangkal-pinang, in the island of Banka, producing much tin. See Tin.

BRASS CAMPHIRE.

Brass-capur, GUJ., HIND. | Karpuram, . TAM., TEL.

This commercial term is a corruption of Barus camphor, also called Borneo and Malay camphor. It is the product of the Dryobalanops camphora of Sumatra, Borneo, and the Malayan Peninsula. It is found only in small quantities, in concrete masses, in the fissures of the wood. It is more fragrant, and less biting and pungent, than the common camphor, and is held in much higher repute. It is imported into Bombay from China. —*Faulkner.*

BRASSFOUNDER. The brassfounder or brazier trade in India is almost exclusively in Hindu hands. They form one of the five Kumalar or artisan classes, the other four being the goldsmith, blacksmith, stonecutter, and carpenter. These castes all wear the zonar or sacred string. They do not allow any Brahmanical interference with them, have their own priests and ritual, and they bury their dead in a sitting posture.

BRASSICA. *Linn.* A genus of cruciferous plants, containing several very important alimentary species.

Brassica campestris, *Linn.*, Sarson, HIND. This has been supposed to be the source of the Swedish turnip; it furnishes the colza oil of Europe. It is grown as a cold-weather crop in the plains of India, and as a summer crop at Ambala. It is cultivated in Afghanistan, and in Tibet up to 10,000 feet. The seed is being largely exported from Kurachee, but in N.W. India a bland oil is largely expressed from it.

Brassica eruca, *Linn.*, garden rocket.

Eruca sativa, . . . LAM. | Kala Sarson, . . HIND.

This is largely cultivated in the arid parts of the Panjab for its bitter oil from its seeds, which is used for lamps.

Brassica erucastrum, *Linn.*, of France, Italy, Switzerland, etc., is largely cultivated in the Panjab and Oudh for its seed and oil. The cost of the (Teorah) oil is from 3 to 10 seers per rupee. It is used for burning.

Brassica juncea, *Linn.*, Rai, Turia, and Khardil, HIND., is grown largely in the Panjab, also in the Himalaya, and up to 10,000 feet in Tibet; also in Afghanistan. Its oil, somewhat acrid, is burned, and occasionally used in cooking. Its seeds are an ingredient in pickles.

Brassica napus, *Linn.*, rape, wild cabbage; colza, cole seed, or sursul of Gujerat. Much cultivated in Europe. Used as salad similar to mustard; the leaves are eaten when the plant is in seed, but it is of no great value as a vegetable. This plant is cultivated for the sake of its seeds, from which oil is extracted by grinding and pressure.

Brassica oleracea, cabbage.

Thæm bau mung la, BURM. | Karam, Kopi, Gobi, HIND.

Amongst Europeans, both in Europe and India, a highly-esteemed vegetable; its varieties are—

a. Acephala, *D. C.*
- ramosa, cavalier cabbage.
- vulgaris, common green colewort.
- quercifolia, oak-leaved cabbage.
- sabellica, Scotch kale.

b. Bullata, *D. C.*
- major, Savoy cabbage.
- gemmifera, Brussels sprouts.

c. Capitata, *D. C.*
depressa, drumhead cabbage.
sphærica, great round Scotch cabbage.
obovata, Penton cabbage.
elliptica, early York cabbage.
conica, sugar-loaf cabbage.
rubra, red cabbage.
d. Caulo-rapa, *D. C.*, kohl-rabi.
e. Botrytis, *D. C.*
cauliflora, cauliflower, Phool-kopi.
asparagoides, broccoli.

The cabbage plant is supposed to be indigenous in the Kashmir valley at 5000 to 5500 feet.

Brassica rapa, *Linn.*, the turnip, rape.

Luft, ... ARAB.	Gonglu, ... PERS.
Shalgam, . BENG., PERS.	Gohheu, ... SIND.
Mung-la-do-waing, BURM.	

Turnips are grown in Europe, India, the Tenasserim Provinces, and in parts of the N.W. Himalaya up to 8000 feet, and in Ladakh up to 13,000.

Brassica Sinensis, *Smith*, Yun-tai, Yu-ts'ai, CHIN., is largely cultivated in the Yang-tze valley for the oil which is expressed from the seeds. It serves also for a cabbage.—*Smith; Von Mueller.*

BRASS LEAF, or tinsel, is manufactured by the Chinese to an enormous extent, for making the kin-hwa or 'golden flowers' used in worship. It is exported to India in boxes estimated to hold 50 catties.—*Morrison*, p. 143.

BRAT or Bart. HIND. A vow or fast.

BRATA. BENG. A religious ceremony with the Bengal Hindwani. The Siva puja, the Hari Krishna puja, the Sajooti Brata are the chief.

BRATA. HIND. Ephedra alata.

BRAUGBANG. JAV. Onion.

BRAZEN AGE. See Kalpa; Suryavansa.

BRAZIL CHERRY has spread itself all over the Neilgherry, the Pulney, and Shevaroy mountains of Southern India. It is the Cicca disticha, and the fruit is much prized.

BRAZILIAN BARK. See Inga.

BRAZILIAN ELEMI, also Accouchi balsam, a resin obtained from the Icica heterophylla.

BRAZIL WOOD, Queen's wood.

Brasilienhout, . . DUT.	Pao Brazil, Pao de
Bois de bresil, . . FR.	Rainha, . . . PORT.
Brasilien-holz, . . GER.	Madera del Bresil, . . SP.
Legno del Brasile, IT.	

This wood is employed by cabinetmakers in Europe, but its principal use is in dyeing red. It is, however, a commercial term for woods procured in many parts of the western hemisphere, from one or two species of Cæsalpinia, West Indian and South American trees, but, within the last fifteen years, from the Cam wood imported from Africa. The true Brazil wood is supposed to be the Bahia nitida, which yields a finer and more permanent colour than any other.—*Toml.; Faulkner; M'C.* See Cæsalpinia; Dyes.

BRE. HIND. Quercus Ilex, Eremurus spectabilis.

BRE, also Pre. TIB. 1-20th of a bushel.

BREAD.

Eish, Khabz, . . ARAB.	Roti, ... HIND.
Ching ping, Man-tu, CHIN.	Pane, ... IT.
Mien pau, Mo-mo, ,,	Nan, ... PERS.
Pain, ... FR.	Pan, ... SP.
Brod, ... GER.	

Bread may be leavened, or unleavened or unfermented. In the latter, flour, water, with perhaps the addition of salt, are alone employed. In the former, the substances employed are yeast in Europe, and in Eastern and Southern Asia the palm wines or toddies. And the substitutes for these are sesqui-carbonate of ammonia; carbonate of soda and hydrochloric acid; or carbonate of soda and tartaric acid. The breadstuffs of commerce consist of nutritious cereal grains, tuberous-rooted plants, and farina yielded by trees. Amongst them wheat, barley, oats, rice, maize, millet, Guinea corn, the sago of palms, the plantain and banana, the bread-fruit tree, the edible root crops, and starch-producing plants, the last a somewhat extensive class, the chief of which, however, are the common potato, yams, cocos or eddoes, sweet potatoes, the bitter and sweet cassava or manioc, the arrowroot and other plants.

Wheat and wheat-flour, maize, and rice form very important articles of commerce, and enter largely into cultivation in various countries for home consumption and export, a portion being consumed in the arts, as starch for stiffening linens, etc., and for other purposes not coming under the term of food. The kind of bread in common use in a country depends partly on the taste of the inhabitants, but more on the sort of grain suitable for its soil.

In India, in making bread of wheat, one process is first thoroughly to clean the wheat, and for this one woman will clean 430 lbs. in a day; then in the evening, the cleaned wheat is placed on a table and thoroughly wetted, and the water left to drain from it during the night. The next morning, the still moist grain is ground in handmills by women, a woman grinding 40 lbs. in a day. It is then sifted, and as much fine flour and soojie as can be obtained are laid aside. The remainder, then termed 'naka,' is subjected to a more powerful mill, and an inferior kind of soojie and a second sort of flour obtained from it. The residue is then ground in a large mill, and yields a coarse flour and bran.

Bran is what remains of wheat after the flour and soojie are extracted.

Soojie is the heart of the wheat, and is obtained by coarsely sifting the coarsely ground wheat with sieves and sooras, by which all the small particles of the bran are separated from it; one woman can thus clean 50 lbs. a day. It is semolina.

First sort flour is produced by finer sifting from the first grinding of the wheat.

Second sort flour is sifted from the first grinding of the wheat, after the fine is extracted, and also from the second grinding.

Bread.—The materials for bread are 60 lbs. of first soojie, 20 lbs. of second sort or naka soojie, and 20 lbs. of first sort flour. 100 lbs. of these ingredients produce 128 lbs. of bread.

Biscuit is made from second sort soojie and flour mixed in the proportion of 75 lbs. of naka soojie and 85 lbs. of second sort flour. This produces only about 85 lbs. of biscuit, which, after being well baked, is dried for two days in a kiln.

Barm or yeast sufficient for 800 loaves, 1 lb. each, is made of brown sugar, 2 lbs.; potatoes, 1½ lbs.; hops, ½ oz., with half a gallon of water. Boil and mash the potatoes; boil the hops until none appear on the surface of the water; strain and dissolve the sugar in the liquor. The potatoes are then added, and the whole is strained into a jar or small tub. The quantity produces about 3½ pints, and is generally ready for use in twelve hours. The addition of a small portion of the old barm hastens fermentation.

Wheaten bread is largely used in Northern India and by the Chinese. In Ho-nan, Shen-si, Shan-si, and Shan-tung, wheaten bread and pastry are staple articles of diet. Chinese bread is free from alum. It is raised by means of leaven, pearl-ash; and the small loaves or cakes are steamed in a very ingenious and simple way.

Cakes of wheat-flour, prepared on the girdle, are a common article of diet amongst the well-to-do races of Northern and Central India. Further south, on the table-lands of the Peninsula, the natives of India use unleavened cakes made of the flour of the Indian corn, the zea mays, rather less nutritious than that made from wheat, but more fattening, in consequence of the greater quantity of oil contained in it. Also, amongst the millets, bread is made of the great millet, Sorghum vulgare; the spiked millet, Penicilloria spicata; and the very poor of the people use the hard raggy, Eleusine coracana, in the form of cakes or porridge. Barley is occasionally used to the westward. Along the seaboard of all Southern Asia, and eastward into China, however, boiled rice is the great article of diet, and it is often cooked, with unfermented palm-wine, into the cakes familiarly known in India as 'hoppers,' the 'apa' of the people.

Rice flour is scarcely ever made into fermented bread, although it is said to be occasionally mixed with wheat flour for that purpose. The superiority of wheat to all other farinaceous plants, in the manufacture of bread, is very great. Its essential constituents are starch, also called farina or fecula, gluten, and a little sugar and albumen. It is occasionally adulterated with alum, which is added to whiten the flour, and to enable it to retain a larger quantity of water. Salt is also employed in the adulteration of wheaten bread, to whiten the flour and enable it to hold more water; and carbonate of magnesia is improperly used to obtain the same result.

In Eastern and Southern Asia, the well-known sago is made from the starch granules contained in the pith of several species of palms. It is largely used as an article of diet, alike for the robust labourer as for the invalid, and is extensively exported for the use of the sick and the nursery. Amongst the Arabs, burgoul is wheat boiled with leaven, and then dried in the sun. The dried wheat is preserved for a year, and boiled with butter and oil. Leavened bread is called khabz. —*Robinson's Travels*, ii. 132; *Tomlinson; Hassall, Simmonds*, p. 217; *Royle; Bombay Times; Stewart; Smith; Powell; M'Culloch.* See Cereal Grains.

BREAD-FRUIT TREE, Artocarpus incisa, *Willde.* When cultivated, its seeds are abortive. It is grown in Ceylon, in some parts of India, and its fruit is a staple food of the South Sea islanders. Their principal bread-fruit season is in March and April, but some kinds ripen considerably later or earlier, whilst in some districts the season itself is altogether later, and it may be said that there is ripe bread-fruit, more or less abundant, throughout the year. . . . The fruit is made into puddings, or simply boiled or baked. Quantities of it are preserved underground to make native bread. The tree is hollowed out as a canoe; its gum forms a good pitch; its bark can be made into a cloth. The skin of the fruit being pared away, the pulp is sliced and roasted, or baked in ovens.—*Dr. Seeman, Viti; Montgomery*, p. 222.

BREJ or Brege pam is an article which is occasionally brought to the Panjab from Siberia (Sebere, Seetha or Seth, by the natives of the N.W. Himalaya and Panjab, Scythia?). It is seen usually as a lining to postins, caps, stockings, gloves, neckties, etc. From its nature it cannot be spun into thread. It is of a white colour, with a certain gloss, and is supposed to be a species of eider down. It is fancy-priced.—*Powell, Handb.*

BREN. HIND. Quercus annulata, also Breri, Ulmus erosa.

BRES. HIND., of Kulu; also Karma-bres. Fagopyrum esculentum, buckwheat.

BRI. HIND., of Kulu. Desmodium, *sp.*

BRIALI. HIND. Colebrookia oppositifolia.

BRICK.

Karmīd, ... AR.	Bata, ... MALAY.
Brique, ... FR.	Ladrillo, ... SP.
Ziegelstein, . . . GER.	Shengal, Shengkallu, TAM.
Int, . . . GUJ., HIND.	Itika-rai, ... TEL.
Mattone, ... IT.	

A building material formed of clay, hardened either by the sun's rays or the heat of a furnace, the former being called sun-dried bricks, and the latter burnt bricks. The various argillaceous earths are for the most part unfit to be used alone for brickmaking. Some are almost pure clay or alumina, and are strong and exceedingly plastic, but cannot be dried without splitting; light and sandy clays or loams are too loose to be made into bricks without the admixture of lime as a flux to bind the materials; others, again, natural compounds of alumina and silica, if free from lime, magnesia, or metallic oxides, are exceedingly valuable clays, being, from their infusible nature, well adapted for making fireclays for lining furnaces, for making crucibles, glasshouse pots, etc. Fireclay is found in many places in India. Bricks, burnt almost to vitrifaction, are much employed as a road material on all alluvial lands of India. Sun-dried unburnt bricks of a very large size were formerly employed in building, and they may still be seen in the basements of some of the old ruined Jain temples at Hira Tumbal in the Ceded Districts, Anagherry in the Southern Mahratta country, and in the walls of the mud forts at Gudduk, Dummul, and other localities. The bricks appear to have been usually 2½ feet in length by 15 inches in breadth, and 7 or 8 inches in thickness. The seams are apparent from the effect of the weather, but the bricks cannot be separated without breaking. The basement and a good deal of the interior of the solid muntapums or pyramidal towers of these Jain temples were built with unburnt bricks; and the masonry and carved slabs, ornaments, and pillars were erected over this foundation of earthwork. This accounts for the dilapidated condition of parts of these temples. In some of the old forts in Southern India the lower part of the walls is made of unburnt bricks and the upper part of hewn stones. The more modern forts are chiefly constructed of mud embankments, cased in large blocks of stone, very accurately fitted, but not cemented with lime or mortar. In the ancient buildings of India, brickwork does not appear to have been extensively employed, although in some of the temples we find the upper storeys made of brick, while the lower ones are of stone. The earth-walls of the Bellary district are formed of sun-dried bricks of great size.

The material used in Babylon was unburnt

brick. Many of the ancient ruined cities of Persia are built of unburnt bricks, beaten up with straw or rush to make the ingredient adhere, and then baked in the sun. In the days of the Egyptian bondage, Pharaoh commanded the taskmasters of the people and their officers, saying, 'Ye shall no more give the people straw to make brick as heretofore; let them go and gather straw for themselves' (Exodus v. 7). 'And they had brick for stone, and slime had they for mortar' (Genesis xi. 3). Assyria abounds with asphalt, or bitumen. Herodotus and many ancient authors affirm that the walls of Babylon were cemented with it; and Arrian says, 'The temple of Belus, in the midst of the city of Babylon, was made of brick, cemented with asphaltus.'—*Mignan's Travels*, p. 166; *Dr. Hunter in M. E. J. R.*

BRICK TEA, Tung-k'au, CHIN., is tea compressed into a solid form. This article, and the khata, or 'scarf of felicity,' are great articles of trade between China and Tibet. A prodigious quantity of these goods is exported annually from the provinces of Kan-su and Sech-u'en. In Ya-tcheon or Ya-tzon, the last large town of Western China, brick tea gives occupation to thousands of workmen either in its manufacture or transport to Ta-tsien-lu. This tea can only be made with a particular leaf. The tree which furnishes it grows on the banks of the river Yaho. It attains often 15 feet in height, and the leaves are large and rough to the touch. The cultivation requires little care. It is planted often on the borders of fields, or round the houses. Each grower gathers his little harvest of leaves, and finds a ready sale for them in the market of the town. The manufacture of brick tea is a monopoly secured to the dealers of this town, and for which they pay a considerable sum to the Chinese Government. For the first quality tea, the leaves are gathered in June and July, before the spring rains commence. The leaves at this period of the year are about an inch in length. As soon as detached, they are spread in the sun, and, when slightly dried or withered, they are rolled with the hand until they become humid by the exudation of the sap. They are then made into balls about the size of a large teacup, and left to ferment. When they are in fermentation, they are placed between wooden moulds or lever presses secured by pegs or bolts. These moulds are then placed over a wood fire. The tea is taken out in a compact mass, and forms the brick tea of commerce. They are then delivered to the merchants of the town, by whom they are wrapped in yellow paper, on which is impressed the stamp of the Government and the mark of the dealer who exports it. They are then packed in baskets of plaited bamboo, about four feet long. One of these baskets, weighing about twenty pounds, is the unit of trade. The baskets are carried on men's backs to Ta-tsien-lu, a distance of two hundred miles. There they are carefully wrapped in fresh hides, to prevent the tea from imbibing moisture. They are then fit to be sent to Lassa, or even beyond. A basket costs about twelve taels, that is, at the rate of 4s. 8d. the English pound. A second kind is made with older and yellow leaves. The mode of preparing is the same. It is sent chiefly to Lithang and Bathang. At the latter place it sells for about five taels the basket, or at the rate of 1s. 6d. the pound. A third quality is made with the waste and *débris* of the leaves. The bricks of this quality resemble those sometimes made with the young shoots of the tea tree cut up. The manufacture differs from the two other sorts, inasmuch as it is necessary to add rice water to combine the substance and to make it retain the form of the mould. This quality is only sold at Ta-tsien-lu and its neighbourhood, and fetches 9d. per pound. The quantity of brick tea exported annually from Ya-tcheon to Tibet is roughly estimated at six million pounds. The high price of tea in the markets of Tibet arises from the monopoly of the Chinese, which is increased by that of the Lamas, who keep in their hands the retail sale. And as tea is an article of prime necessity in Tibet, the Celestial Empire keeps in dependence the Lamas, and by them the people of Tibet. Brick tea is cooked in a varied manner. Mr. Atkinson (Orient. West. Siberia, p. 477) was given it mixed with milk, butter, salt, and flour, presenting the appearance of thick soup. The form of bricks was doubtless given to it for the convenience of carriage.—*Mr. Cooper in Statesman; Huc, Chinese Empire.*

BRIDELIA LANCÆFOLIA. *Roxb.* A tree of considerable size, native of Bengal.

BRIDELIA MONTANA. *Gibson.*

Goonjun Mara, . . CAN. | Asanna, . . . MAHR.

Found in Canara, common in Dandelee, where it reaches a great size. Hardly inferior to teak, and stands water equally well. It seems well worthy a trial for naval purposes. In Cuttack, sells at 6 annas per cubic foot. It is a light brown-coloured wood, and strong. Plentiful in the Santal jungles from Ranibahal to Hasdiha, used for beams, planks, and building purposes generally. The tasar silkworm feeds chiefly upon this tree.—*Cal. Engineer's Journal*, July 1860; *Dr. Gibson.*

BRIDELIA MOONII. *Thw.*

Cluytia retusa, *Moon's Cat.* | Pat-kaa-la-gass, . SING.

Common in Ceylon up to an elevation of 2000 feet. The Singhalese consider this quite distinct from B. retusa, which it, however, very closely resembles, differing in its somewhat larger leaves, axillary not spiked, inflorescence, and ovoid fruit. They are probably mere varieties of one species. The timber of both is useful for building purposes. —*Thw. Zeyl.* p. 279.

BRIDELIA RETUSA. *Linn., Spreng.*

B. spinosa, *Roxb.*
B. crenulata, *Roxb.*
Cluytia retusa, *Linn.*

Kosi, ... GUMSUR.
Kat takaa la-gas, SING.
Adamaruthu, . . . TAM.
Duriamaddi, . . . TEL.
Koraman, Koramaddi, ,,

This is a large and very valuable timber tree. It is common in most jungles and dry forests throughout Ceylon and the Madras Presidency, in Ganjam, Gumsur, Bengal, in the lower spurs of the Himalayas. The wood is of a dirty red or copper colour, very stiff, strong, close-grained, and durable, but not easily worked. Its extreme height is 30 feet, circumference 3 feet. A cubic foot unseasoned weighs 68 to 70 lbs., and 60 lbs. when seasoned, and its specific gravity is ·960; it is used for house-building, construction of carts, agricultural implements, railway sleepers, rafters; spinning-wheels, and a variety of other purposes, and it stands the action of water; the bark is a strong astringent. Cattle eat the leaves greedily, and they are supposed to act as a vermifuge.

In Gumsur it is also burnt for firewood, the tree being very common. The leaf is used medicinally for itch. The bark of this tree is said to be poisonous, and a preparation of it is often used for the purpose of destroying life, particularly by Oriya widows, among whom suicide is a frequent occurrence.—*Captain Macdonald; Beddome, Fl. Sylv.* part xxii. p. 260.

BRIDELIA SPINOSA. *Willde, Roxb.*

Cluytia spinosa, *Roxb. C. Pl.*

Assanna, Asun, MAHR.	Mulla vengay, . . . TAM.
Mullu vangay, . MALEAL.	Kora manu, Duria
Katu Kœta Kœla, SINGH.	madde? . . . . TEL.

This large tree is a native of several parts of Southern India; in the alpine jungles of Coimbatore it attains a considerable size, in the Godavery forests, where its wood is esteemed as very strong and good. It is rather a common tree in the Bombay forests, both coast and inland. The wood is strong and tough, and stands the action of water well; hence it is often used for the frames of wells, whereon the superstructure of masonry is erected. It is also used as beams for houses. This wood deserves, in Dr. Gibson's opinion, to be more extensively known than it is; cattle eat the leaves voraciously. They are said to destroy worms in their bowels. The undooroo wood of the Northern Circars is a species of Bridelia.—*Drs. Roxb., O'Sh., Gibson, Wight, and Cleghorn; Captain Beddome, Flor. Andh.*

BRIDGE.

Pont, ... FR.	Bashi, ... JAP.
Brucke, Steg, . . GER.	Pul, Pool, HIND., PERS.
Ponti, ... IT.	Puente, ... SP.

Bridges in the S.E. of Asia are built of stone, brick, wood, iron, rope, bamboos, canes, and twigs. Hindu and Mahomedan rulers in India built but few bridges. The Bhot, Mongol, and Tartar races of the Himalaya and Burma have numbers of them. In Burma, bridges are seldom wanting near villages where nullahs or inundated fields obstruct the communication; near towns they are sometimes of extraordinary length. The construction there never varies. Large teak posts are driven in pairs or triplets, with bays between, not exceeding twelve or thirteen feet. Mortice holes are cut through those parts in which cross bearers are laid, with beams and solid planking over those, and a railing is added.

The most characteristic of Hindu bridges are composed of stone posts, several of which form a pier, and are connected by stone beams. Others are on thick piers of masonry, with narrow Gothic arches.

Turner tells us of a simple bridge for the accommodation of single passengers, constructed between two opposite mountains, which consisted of two large ropes made of twisted creepers, stretched parallel to each other, and encircled with a hoop (Embassy, p. 54). This is the original of the jhula or rope bridges of the Himalaya. In the early part of the 19th century, Mr. C. Shakespear advocated rope bridges in India, and one of 160 feet span was erected over a stream at Benares. The bridges of Kamaon are of four kinds,—a simple spar thrown across from bank to bank; the sanga, by successive layers of timber, those above gradually projecting to form an arch; the *jhula* of ropes stretched from bank to bank, with a suspended ladder; and (4) a single cable across a stream along which a basket traverses. In Jummoo the *chiha* or haul bridge is in use; a smooth rope of several strands is hung across from bank to bank, on which traverses a wooden ring, from which is suspended a loop. In this the traveller seats himself, and another traversing rope pulls the ring and traveller across. Down the curve the passage is quick, but the pulling up is tedious. The ordinary bridge is of three ropes, made of birch or other twigs, and hung, one for the foot to traverse, the other two a yard above it for the traveller to steady himself.

The *jhula* consists usually of three ropes stretched across the stream, at a height of 8 or 10 feet, between two buttress piers. The three ropes are suspended like the letter V, two parallel ropes forming the upper plane and a central one the lower plane. This disposition is secured by large V-shaped prongs of wood, which at intervals of four or five yards are secured in position above and below by thongs of raw hide, and further strengthened above by a cording, which is passed across between the two upper points where they are fixed to those ropes. It is crossed by the traveller walking on the lower of the ropes, which is sometimes of double or triple strands, and holding his balance with the hands on the upper ropes, which run at each side on a level with his shoulders.

The *Kaddal* bridge of Kashmir is made of wood, and is very strong and durable. It consists of undressed logs of pine and cedar timber, the undressed trunks of the trees supported on piers 20 to 25 feet apart. The piers rest on a foundation of stones embedded in the muddy bottom of the river, and protected by a cutwater pointing up the stream, and built of loose stones filled into a frame of logs of wood. Those above Serahan, opposite Miru, and at Poari, whether swinging or suspension bridges, are unsuited for the passage of sheep and mules. The elevation of the rope bridge (jhula) at Tuni on the Tonse river is nearly 3000 feet above the sea.

The *Nara*, over the Nyn Sukh, near its junction with the Jhelum, consists of a single cord stretched across from bank to bank, and secured on either side to some projecting rock or firmly set tree. The cord is furnished with a loop-cradle, which is slung on to it by a forked piece of wood. This last forms the upper part of the cradle, which, when once adjusted, is irremoveable from the cord, though it slides freely backwards and forwards on it by shaking the cord. The cord is made of a climbing plant, with the straight twigs of a species of indigofera.

In the N.W. Himalaya the timbers used for ordinary wooden bridges are Alnus, *sp.*, Bombax heptaphyllum, Cedrela toona, C. serrata, Phœnix dactylifera, P. sylvestris, and Salix alba. For swing bridges, Andropogon involuta, Betula bhojputra, Cotoneaster obtusa, Indigofera heterantha, Olea Europæa, Parrotia Jacquemontiana, and Salix alba.

A writer in the Bengal Asiatic Society's Journal (vol. xiii. p. 614) mentions that he had seen half a dozen bridges, within as many miles of Cherra, made by intertwining the growing india-rubber tree. The rope bridges of the Panjab Himalaya, made of the twigs of the Parrotia Jacquemontiana, *Decaisne*, have often a span of 300 feet. Lt. Wilcox, in 1825-28, described a bridge or *saku* near the Dihang river, consisting of two strong canes stretched between stages

of bamboo, which are secured in piles of the largest portable stones heaped up around them; the points of suspension were 80 yards distant. A cradle or long basket, in which a passenger may sit or lie, is hung on the canes by two loops, and two or three men pulled it across when loaded.

The three rivers of Western Yunnan are the Lan, Lu, and Lung. The suspension bridges, which are the pride of Yunnan, are all constructed on the same principle,—five or more chains, formed of oval links about 6 inches in the long diameter and ¾ inch thickness, are strained very tightly across, the ends being imbedded in rock or masonry. The way consists of planks laid on these, not suspended from them; and two other chains, hung from massive gatehouses at both ends, form a protection and assistance to the passenger. In some cases the road chains are tied with bars. The bridges vibrate considerably, but the curve is not great.

It is mentioned in the Bengal Asiatic Society's Journal (xiii. 613), that on the top of a huge boulder by the river-side was growing a large india-rubber tree, clasping the stone in its multitude of roots. Two or three of the long fibres, whilst still easily pliable, had been stretched across the stream, and their free ends fastened on the other bank. There they had struck firmly into the earth, and now formed a living bridge of great and yearly increasing strength. Two great roots run directly one over the other, and the secondary shoots from the upper have been bound round and grown into the lower, so that the former affords at once a hand-rail and suspending chain, the latter a footway. Other roots have been laced and twisted into a sort of ladder as an ascent from the bank to the bridge. The greatest thickness of the upper root is a foot, from which it tapers to six or eight inches. The length of the bridge is above eighty feet, and its height about twenty above the water in the dry season. One bridge measured ninety feet in clear span. They were generally composed of the roots of two opposite trees (apparently planted for the purpose) bound together in the middle.

On the Wa-lingtia, or larger branch of the river, were several other remarkable bridges. One on the suspension principle, across a precipitous gorge on the road between Cherra and Tringhai, was about 200 feet long. It was composed of long rattans stretched between two trees, at a height of forty feet above the river in the dry season. The footway was a bundle of small canes lashed together, and connected with two large rattans forming hand-rails, but these so low and so far apart, that it must be difficult to grasp both together. The hill Kasias are afraid to trust themselves on it, but the War, or men of the valleys, cross it drunk or sober, light or laden, with indifference and security. Still further up the river, and near the little village of Nongpriang, immediately under Cherra, is another specimen of Kasia engineering and ingenuity,—a bridge of about 80 feet span, composed entirely of strong bamboos, bent into a semicircular arch, affording a sound footing and firm rails for the hand.

The bridge has been metaphorically in use with many nations to indicate the means of passage of the soul of the dead. The Zoroastrians were devout believers in the immortality of the soul and a conscious future existence. They taught that immediately after death, the souls of men, both good and bad, proceeded together along an appointed path to the bridge of the gatherer, Chinvat-neretu (Haug). This was a narrow road conducting to heaven or paradise, over which the souls of the pious alone could pass, while the wicked fell from it into the gulf below, the place of punishment, in the kingdom of Angromanyus. The good soul was assisted across the bridge by the angel, 'the happy, well-formed, swift, tall, Serosh;' and as he entered, the archangel Vohumano rose from his throne, greeting him with, 'How happy art thou who hast come here to us from the mortality to immortality.' Then the pious soul went joyfully on to paradise.

The modern Parsee has still the bridge Chinvat neretu that leads to heaven; and on life departing, a dog is brought to gaze on the dead (Sag-did), that its passage over Chinvat may be secured. And the Mahomedan has the Pul-i-Sirat, across which the good walk easily, but it is as sharp as a razor for the wicked, whom it cuts in two. There is a bridge for the dead in Java, and in N. and S. America. In Polynesia, a canoe is the object typified, as with the Greeks and Romans, with whom a boat was the supposed means of transport. The river Baitarani of Orissa is the Styx of the Hindus.—*Drew, The Northern Barrier; Turner; Drs. Cleghorn, Stewart, and Mason; Jour. of Asia. Soc.* xiii. p. 614; *G. Rawl.* ii. p. 339.

BRIGGS, a general officer of the Madras army, author of Letters on India; Translation of Ferishta, Lond. 1829, 4 vols.; A Short Account of the Sheilly Family, Lond. As. Trans., vol. vi. 77; Description of a Persian Painting, ibid. vol. v. 314; On the Land-tax of India. Editor of the Persian Tarikh-i-Ferishta. He was Assistant Resident at Poona under Mr. Elphinstone as Resident, and was there when the last Baji Rao moved out of Poona and burned down the Residency, and with it his manuscript of the translation of Ferishta. When peace was restored, he re-translated and printed it.—*Dr. Buist's Catalogue.*

BRIGGS, H. G., author of Cities of Gujarashtra, Bombay 1849; On the Parsees, Bombay 1852. —*Dr. Buist's Catalogue.*

BRIGU, in Hindu mythology, is a Vedic sage. Many traditions are related of him; his name is frequently found in the Hindu writings.—*Cole. Myth.*

BRIHADRATHA, of the line of Pandu, father of Jarasandha, one of the Barhadratha dynasty of Indian kings. According to Bunsen, he ruled B.C. 866 to B.C. 847.—*Bunsen*, iii. p. 547.

BRIHASPATI, also Brahmanaspati, a deity of the ancient Hindus, to whom several positions are assigned.—*Dowson.* See Hindu; Vrihaspati.

BRIHAT-CHAKRAMED. HIND. Sesbania aculeata.

BRIHATCHITRA. HIND. Cassia sophora.

BRIHATEE. BENG. Solanum ferox.

BRIHAT SANHITA, an astronomical work by Varaha Mihira.—*Dowson.*

BRIJ BHASHA, the Hindi tongue proper. See Braj.

BRIKHOTSARG, Brishotsarga, or Vrishotsarga, is the marriage ceremony performed in the name of the bull which the Hindus of N. India liberate on the eleventh day of mourning for a near relative. In the Northern Dekhan, in Oudh

and the N.W. Provinces, these are known as saur (taurus) bijar, and the British call them Brahmany bull. They are a nuisance in the streets. See Banotsarg; Jalotsarg.

BRIKU. BENG. Agati grandiflora.

BRIMDU, Brimla. HIND. Celtis Caucasica.

BRIMO or Duno. TIBETAN. The yak cow.

BRIM POSH. HIND. Nymphæa alba.

BRIN. KASH. Arctomys bobac.

BRINDA. SANSK. Ocimum sanctum.

BRINDABAN is an ancient town in Muttra (Mathura), on the right bank of the Jumna, in lat. 27° 23′ 20″ N., and long. 77° 44′ 10″ E., and 6 miles north of Muttra; population, 21,004. It is the centre of the Vrinda Vana of ancient India, the pastoral and forest land near Mathura, where Krishna and the Gopin shepherdesses sported. Hindus of Northern India regard it as one of their holy cities, and it contains a large number of ghats, wells, tanks, temples, shrines, and sacred sites. The temple of Govind Deva was erected 1590, by raja Man Singh of Ambar; that of Madan Mohan is at the upper end of the town, Gopi-nath, built by Raesil Jai about 1580, and the great temple of the Sikhs, 1845–51, dedicated to Rangji, which cost 25 lakhs. The Brahmakund and Govindkund tanks possess great sanctity for Hindus, to whom, since the middle of the 16th century, they have been places of pilgrimage. Hindus also make many other pilgrimages — to Pooshkur in Rajputana, to Dwarka in Gujerat, to Jaganath at Puri, to Badrinath in the Himalaya, to Benares on the Ganges, to Ramisseram near Ceylon, to Punderpur on the Bhima, to Tripati near Madras, Hinglaz on the coast of Makran, etc. Their religious mendicants even travel to Baku, the site of a sacred fire on the Caspian.—*Cal. Rev.* See Temples.

BRINJ. PERS. Properly Birinj, husked rice.

BRINJAL, Egg-plant.

Bengan,	HIND.	Bodingan,	SUMATRAN.
Tarung, Trung,	MALAY.	Kattarikai,	TAM.
Vartaka,	SANSK.	Vankaia,	TEL.
Dirgavartaka,	,,		

For culinary purposes, the vegetable egg, or brinjal, Solanum melongena, is one of the best vegetables in India. Several varieties are extensively cultivated and eaten by all classes. One variety is a large round-shaped fruit, both purple and white; another is white, thin, and long; a smaller species, again, is pear-shaped, red and purple striped; and there is one seldom exceeding the size of an egg. They are all dressed alike, and used both in curries and other native dishes, and are much on the tables of Europeans. Their propagation is by seed, at the commencement of the rains. The young plants are placed at about 18 inches apart, and require watering every third or fourth day.

BRINJARA. See Banjara.

BRINKOL. HIND. Berchemia, *sp.*

BRINRAJ BUNGRA. HIND. Eclipta erecta.

BRISARI. HIND. Edwardsia mollis.

BRISHABDEO, properly Vrishabdeva, has the same meaning as Nandeswar of the Saiva sect, the bull being the effigy of both. In order to distinguish the particular pontiff to whom any Jain shrine is consecrated, it is only requisite to look on the pedestal for the symbol, as the bull, the serpent, the lion, etc., each having his peculiar emblem.—*Tod's Travels*, p. 97.

BRISTLES.

Borstels,	DUT.	Ruma,	MALAY.
Soies,	FR.	Szezeciny,	POL.
Borsten,	GER.	Schtschetina,	RUS.
Setole,	IT.	Cerdas, Setas,	SP.

The strong hair from the back of the hog and wild boar, used by brushmakers, shoemakers, saddlers, etc. Russia is the great mart for such bristles. Those of the elephant's tail, hedgehog, and bandycoot rat, are also utilized.—*Faulkner; M'Culloch, Dict.*

BRISYA, called Vishu in the Karnatic. In Hindu astronomy, the 15th year of the cycle of Jupiter.—*Warren.*

BRITAIN. The United Kingdom of Great Britain and Ireland is a dominion in the extreme west of Europe, which now sways the destinies of British India, and has many colonies. It is ruled over by a sovereign, with responsible ministers, and two Houses of Parliament, viz. the House of Commons and the House of Lords. And for the government of India, there is, in London, a minister with a council of twelve, composed of men acquainted with India; it also sends to British India for administration, a Viceroy and Governor-General, with a Governor for Bombay and one for Madras; appoints councillors and finance ministers, with judges for the High Courts of Calcutta, Madras, and Bombay, and for the North-West Provinces. For the command of the three British-Indian armies, Great Britain sends three Commanders-in-chief, with several generals of divisions. The United Kingdom of Great Britain has many colonies and dependencies, and its entire dominions are usually designated the *British Empire*, over which it rules by means of viceroys, governors-general with councils, governors with councils, parliaments, and commissioners. The area and population are as under:—

	Sq. Miles.	Population.
Brit. N. America, Gt. Britain, and Brit. India,	5,438,000	188,514,000
British Feudatory India,	596,700	47,909,109
Colonies of Great Britain,	4,562,000	161,486,000

In *Europe*, it includes Heligoland, with five square miles of territory; Gibraltar, with less than two; and Malta with 115,—the last two being military stations, with garrisons amounting to some 14,000 men. The population of Heligoland in 1871 was 1813; of Gibraltar, 26,216; and of Malta, 29,084.

In *America*, in the Dominion of Canada, a population but slightly exceeding that of Scotland inhabits a country ten times the extent of Scotland, and is increasing steadily, but not rapidly, at something like an average rate of 14 per cent. in the decade. Of the several provinces of which the Dominion is made up, Ontario (which contains the purest Anglo-Saxon population) had in 1871, 1,620,851 inhabitants, Quebec had 1,191,516, and New Brunswick had 285,594. Nova Scotia had 387,800. Prince Edward Island, which joined the confederation in 1873, had 94,021; and Newfoundland numbers 146,000 inhabitants. Besides these are Manitoba (formerly known as the Red River Settlement), British Columbia, and the sparsely-peopled territory formerly ruled by the Hudson's Bay Company.

With the Bermudas, but excluding the unenumerated provinces of the North-West, the total population of this section of British dominions

is set down at 3,789,670, inhabiting an area of 3,376,925 square miles.

The *West India Islands*, with an area of 13,109 square miles, have a population of a little more than one million, and there is abundant room for the development of the human race in their splendid climate and genial soil. Jamaica, which had 377,000 inhabitants in 1844, and 441,000 in 1861, reached in 1871 the aggregate of 506,154; and in the last ten years there has been no devastating epidemic. In Barbadoes, the black and mixed population is growing in numbers, while the whites are dwindling.

Passing from the islands of the Mexican Gulf to the continent, there is British Honduras or Belize, a dependency of Jamaica, with a population of 24,710, of whom only 377 are whites. British Guiana reckons 193,491 inhabitants, excluding the 'aborigines,' but including 48,976 'coolies,' immigrants from Asia. The Falkland Islands, with 803 inhabitants, close the list of British American possessions.

In the *African Continent* and the adjacent islands, Britain claims 236,860 square miles of territory, peopled by 1,813,450 inhabitants, of which the island of Ascension has 27, and that of St. Helena 6241. On the mainland, Sierra Leone had 38,936 inhabitants in 1871. The Gambia Settlements, 14,190 inhabitants; the Gold Coast about 400,000. The island of Lagos, which was ceded in 1861, has 62,021 inhabitants, of whom 94 are whites. In South Africa, the colonized or partially colonized settlements—the Cape, Griqualand, and Natal—comprise an area of 229,582 square miles, and have an estimated population of 961,505 inhabitants.

In the *Indian Seas*, the Mauritius, with its dependent islets, has its area of 708 miles, closely packed with a thriving population of 330,460 inhabitants, the Indian immigration numbering here on the census day 153,703. West Australia has not yet been, in the proper sense of the word, colonized, and has only 24,785 inhabitants to its 978,000 square miles of domain. South Australia, with an area of 760,000 square miles, has 185,626 whites and 3369 aboriginal inhabitants. Victoria, with an area of 84,000 square miles, has 731,528 inhabitants (including 17,935 Chinese and 1300 aborigines). New South Wales has on its 323,437 square miles, 503,931 inhabitants, the population in 1821 having been no more than 29,000. Queensland has 120,104 inhabitants. Tasmania's present population of 99,328 is only 10 per cent. greater than that registered in 1861. Norfolk Island contains a total population of 401 souls. New Zealand white population numbered, in 1871, 256,393, while the aborigines (all, except a couple of thousands, established in the North Island) were estimated at 37,500. In 1851 the immigrant inhabitants were only 26,000 in number.

The island of Ceylon showed a population of 2,405,287; Singapore had 97,000 inhabitants; Penang, 67,000; Province Wellesley, 71,000; and Malacca, 77,000. The island of Hong-Kong and the peninsula of Kow-loon have an aggregate population of 120,000.

India is divided into twelve provinces, two ruled by governors, three by lieutenant-governors, and seven by chief commissioners, the Viceroy being supreme over all; it is distributed for administrative purposes into 53 divisions, 231 revenue and judicial districts, and 1114 executive subdivisions. The village is the 'recognised territorial unit,' and averages in area something like the fourth part of an English parish. The population of the British Empire in India under direct British control, in 1881, was 209,217,694; and within its borders, under sovereigns in alliance or as feudatories, the people numbered 43,323,596, being a total of 252,541,210. In British India and its feudatory states, about 190,000,000 profess some form of the Hindu or aboriginal religions, about 45,000,000 are Mahomedans, and 3,000,000 Buddhists and Jains. *The empire* possesses 7,769,449 square miles of territory. The United Kingdom, 121,608 square miles; the colonies, 6,685,021; India and Ceylon, 962,820. There are 38 persons to a square mile in the empire; 260 in the United Kingdom, 201 in India, and 141 in the colonies. It should be observed, however, that in some parts of India the density of population more than equals that of Britain. The Empress Queen Victoria, the British sovereign, rules over 234,762,593 souls; her people dwell in 44,142,651 houses.—*Times.*

BRITASTAN, mentioned in the Brahmanda Purana as the place of religious duty, is supposed by some to be the island of Great Britain. It is also called Switadwip, or the White Island, and Suvarnadwip, or the Golden Island; is conjectured also to be Ireland. The British islands are (it is said by some) sometimes called Chundradwip, and likewise Tricalasa, or the island with three peaks, viz. Rajatakuta, Ayacuta, and Suvarnacuta. The British isles are supposed to be the sacred western isles of the Hindus.—*Warren, Kala Sanhita.*

BRITISH GUM, Mien kau, CHIN., is made by heating common wheaten flour up to 400° Fahr. It is very useful in the treatment of starch bandages.—*Smith.*

BRITISH INDIA is a name which is applied to a great collection of different races, with different religions and different forms of government. Its people, in manners and habits, are as diverse as their climates, or as the plains and the mountains, fruitful valleys and savage jungles, that they occupy. The British are only recent arrivals. In 1625-26 the East India Company established a factory at Armagam, on the Coromandel coast. In 1629 a mercantile agency was formed at Surat; in 1634 the emperor of Dehli granted permission to trade in Bengal. In 1645, Gabriel Broughton, a ship's surgeon, obtained for the East India Company the additional privilege of planting factories in Bengal. In 1881 the British territories and those of the allied and feudatory chiefs had a population of 252,541,210, as under:—

Brit. Ter., 209,217,614 viz.:		Nat. States, 43,323,596 viz.:	
Bengal,	68,829,920	Mysore,	4,186,399
Madras,	30,839,181	Baroda,	2,154,469
Bombay,	13,978,488	Travancore,	2,401,158
,, Nat. States,	6,941,631	Cochin,	600,278
,, Sind,	2,404,934	Puducottah,	281,809
Assam,	4,815,157	Banaganapilly,	26,388
N.W. Provinces,	32,699,436	Sundoor,	14,999
Oudh,	11,407,625	Rampur,	345,152
Panjab, British,	18,786,107	Native Garhwal,	200,523
Central Prov.,	11,505,149	Panjab Nat. St.,	3,853,282
Burma, British,	3,707,646	Khaibar Troops,	8,153
Coorg,	178,283	Rajputana,	11,005,512
Ajmir,	453,075	Central India,	9,200,881
Berar,	2,670,982	Hyderabad,	9,167,789

The island of Ceylon and the Straits Settlements, though in the East Indies, are British colonies, and are not included in British India.

The British had been trafficking in the East Indies for some time prior to the grant, by Queen Elizabeth, of a charter to a company of merchants, who, under various re-grants, up to 1833 continued to trade with India, while they were also waging wars with, and acquiring dominions from, its previous rulers. Amongst the earliest of their possessions was the island of Bombay, which Charles II. received as a dower with his Portuguese bride. The British power did not, however, rise to its present magnitude over the ruins of ancient kingdoms, or by dispossessing dynasties that had long held sway. But the fortunes of war set aside a few families whose dominant position was almost ephemeral, and whom the British succeeded in the rule over the various populations. And, brief as has been the British dominion, at no period within historic times have so many portions of British India been so long under one paramount rule. The population of all India by the 1881 returns is 252,541,210. Its foreign trade—imports and exports—is £124,840,000, consisting in round numbers of imports, £50,000,000; exports, £74,000,000. Yet, as a recent writer has well remarked, there never has been anything like a British conquest of India. No plan of such conquest was ever formed in Britain. No armament ever left the British shores for such purpose, nor did the British exchequer ever furnish subsidy or supply with that object; and further, no British viking, no one like the Norman chiefs of the middle ages, ever left Great Britain to found a nation or to acquire a principality in the East Indies, but a trading company and their officials gradually became transformed into the most powerful oligarchy that the world has ever seen. The first occasion of the natives of Britain coming in contact with a force of natives of India, was in 1664, when Sivaji attacked and plundered Surat, on which occasion Sir George Oxenden won the applause of Aurangzeb by an uncommon display of valour. With the formation of factories and the hiring of troops to defend them, was laid the foundation of a central power, which has gradually grown in strength sufficient to control and shelter the various races, and extend its sway from Cape Comorin to the Indus.

Madras was constituted a Presidency in 1639, Bombay in 1662, and Bengal in 1682. In 1773, the Governor of Bengal was made Governor-General of India, with certain powers, chiefly political and financial, over the other two. In 1784, a Board of Control was created in Britain, composed of the king of Great Britain's ministers, who in that capacity bore the title of Commissioners for the Affairs of India; and this system of superintendence continued until the year 1858, when British India was taken under the direct control of the Crown. During that interval the home administrators of India had consisted of a board of 18 members, called the Directors of the East India Company, and the President of the Board of Control. These directors had mostly all the patronage as to appointments, except to the higher offices and commands which were made in communication with the British ministry, who likewise originated all questions of peace and war, possessed the power of reversing the acts of the East India Company and those of the Government of India, and also of sending out instructions on special matters to the Governor-General, without consulting the Directors.

Sir George Birdwood has furnished the following list of the acquisitions of territory:—

1757, 20th Dec., the Twenty-four Parganas, from the Nawab of Bengal.
1759, 14th May, Masulipatam, from the Nizam.
1760, 27th Sept., Bardwan, Midnapur, and Chittagong, from the Nawab of Bengal.
1765, 12th Augt., Bengal, Behar, and Orissa, from the Emperor of Dehli.
1765, 30th Augt., Chingleput, from the Nawab of Arcot.
1766, 12th Nov., the Northern Circars, from the Nizam.
1775, 21st May, the zamindari of Benares, from the Vizir of Oudh.
1776, 22d May, Salsette island, from the Mahrattas.
1778, 17th June, Nagore, from the Raja of Tanjore.
1778, 18th Sept., the Guntur Circar, from the Nizam.
1786, Penang island, from the King of Queda.
1792, 17th March, Malabar, Dindigul, Salem, Bara Mahal, from Tipu Sultan.
1795-96, Ceylon, from Holland; in 1801, made a colony.
1799, 13th July, Coimbatore, Canara, Wynad, Neilgherry hills, from Tipu Sultan.
1799, 25th Oct., Tanjore, from Raja of Tanjore.
1800, 12th Oct., the Ceded Districts, from the Nizam.
1801, 31st July, the Carnatic, from the Nawab of Arcot.
1801, 10th Nov., Gorakhpur, Lower Doab, Bareilly, from the Vizir of Oudh.
1802, 31st Dec., Districts in Bundelkhand, from the Peshwa.
1803, 17th Dec., Cuttack and Balasore, from the Raja of Berar.
1803, 30th Dec., Upper Doab, Dehli territory, etc., from Sindia.
1805, 21st April, districts in Gujerat, from the Gaekwar.
1815, 2d Dec., Kamaon and part of Terai, from Nepal.
1817, 13th June, Saugur, Huttah, Dharwar, etc., from the Peshwa.
1817, 6th Nov., Ahmadabad farm, from the Gaekwar.
1818, 6th Jan., Kandesh, etc., from Holkar; Ajmir, from Sindia; Poona, parts of the Konkans, and Southern Mahratta country, from the Peshwa; districts of the Nerbadda, Sumbulpore, Patna, etc., from the Raja of Berar.
1820, 17th Dec., Southern Konkan, from the Raja of Sawuntwaree.
1822, 12th Dec., Bijapur and Ahmadnaggur, from the Nizam.
1824, 2d Aug., Singapore, from the Raja of Johore.
1825, 9th Aug., Chinsura and Malacca, from Holland, in exchange for Bencoolen.
1826, 24th Feb., Assam, Arakan, Tavoy, Tenasserim, from the King of Burma.
1832, Cachar, lapsed.
1834, Coorg, from the Raja of Coorg.
1839, Aden, captured.
1841, Bhutan Dwars, from the Raja of Bhutan.
1843, Sind.
1845, The Jullundur Doab; Serampur and Tranquebar.
1849, The Panjab and Satara.
1849, Jeitpur, Bundelkhand.
1850, Sumbulpur, S.W. Frontier.
1850, Bughat, Cis-Sutlej.
1852, Part of Sikkim.
1852, Oodeypur, S.W. Frontier.
1852, Part of lands of Mir Ali Murad.
1852, Pegu.
1853, Part of N. Cachar.
1853-54, Nagpur and Jhansi.
1856, Oudh and Tanjore.
1865, Boodawal in Kandesh.

The statistical abstract, also, shows, as follows, the increments in the area and population since 1839-40:—

Year.	Sq. Mls.	Pop. Millions.	Year.	Sq. Mls.	Pop. Millions.
1839-41	618,000	147·99	1850-51	773,000	167·41
1841-43	628,000	149·44	1851-52	779,000	167·93
1843-46	670,000	151·18	1852-53	806,000	169·85
1846-47	688,000	155·83	1853-54	830,000	172·58
1847-48	694,000	156·94	1854-55	834,000	172·82
1848-49	768,000	166·73	1855-66	858,000	184·04
1849-50	769,000	166·84	1866-82	860,000	184·13

Boundaries.—British India is enclosed on its north, its west, and its east by mountain ranges, amongst which are to be found the highest summits in the world. The *seaboard* on the south extends from Cape Monze, in lat. 24° 50′ N., and long. 66° 43′ E., to the Pakchan river in the Mergui district of Tenasserim.

The *inland* boundary, on the *west*, extends from the Arabian Sea to the Himalaya, running northward from Cape Monze along the Hala, the Suliman, and the Safed Koh mountains, up to the Kābul river; thence it skirts the lower slopes of the Himalaya along the plain of Peshawur up to the river Indus, and, crossing this great river, the boundary penetrates the Himalaya up to the north-western extremity of the British district of Hazara, in lat. 35° 2′ N., and long. 74° 9′ E., separating Kashmir from a group of independent tribes, up to the Chinese province of Ili or Yarkand. The passes through the enclosing mountains are not numerous, and are all difficult, particularly those on the north and on the west. On the north-west are the Khaibar, 3373 feet, and the Kuram, leading into Afghanistan; and on the west are the Gwalari near Dera Ismail Khan, the Tal near Dera Ghazi Khan, and the Bolan, which at top is 5800 feet. The districts on the British side of this western frontier are occupied by many tribes, under the administrative control of the Commissioner of Sind and the Lieutenant-Governor of the Panjab; the foreign side being occupied by similar Baluch, Brahui, and Pathan tribes under democratic constitutions.

On the *north*, British India is bounded throughout by the *Himalayas*, the native principality of Kashmir occupying their north-western angle; among their more southern ranges lie the independent states of Nepal and Bhutan and Sikkim; and up to long. 97° 5′ E., the mountain face of Assam is occupied by many uncivilised, even barbarous, tribes.

Turning south from Assam in 97° 5′ E., the *eastern* boundary runs conterminous with other tribes, and with native Burma as far as the Karen highlands and the Salwin river, where it joins the frontier of the kingdom of Siam, and runs south with it to the Pakchan river, in lat. 10° 48′ 14″ N., and long. 98° 55′ 40″ E.

Several *mountain ranges* and several rivers traverse the region within these bounds. The Vindhya north of the Narbada, with the Satpura hills south of that river, separate Hindustan from the Dekhan, and from prehistoric times their forests and valleys have given shelter to aboriginal tribes whom intruding races had driven from the plains. The *Vindhyas* run eastwards from Gujerat across Malwa and the central parts of India, rising from 1500 to 4500 feet high, and the Rajmahal Hills jut into the valley of the Ganges in long. 80° 45′ E.

The *Satpura* stretch from east to west for 600 miles. Amarkantak is their eastern boundary. Their plateaux are elevated between 3000 and 4000 feet above the sea.

From the north-east angle of the Himalaya spurs and chains project southwards. They are known successively as the Abar, Naga, Patkoi, and Barel ranges, culminating, in lat. 22° N., in the Blue Mountain, 7100 feet high, and then stretch south under the name of the Arakan Yoma, which also are sheltering many uncivilised tribes. The Arakan Yoma range, starting from the Blue Mountain, in 22° 37′ N., strikes southwards from the mountains of S.E. Assam, separating Arakan from Independent Burma in the north, and from British Pegu in the south, and terminating at Cape Negrais. The Pegu Yoma, starting from Independent Burma, separates the valleys of Sitang and Salwin, and terminates near the head of the Irawadi delta. Further southwards, the mountains on the Tenasserim coast mark the boundary line to the Pakchan river, already noticed.

Within these outer barriers are less prominent ranges running north and south, and detached hilly tracts and spurs tenanted by tribes in various stages of civilisation, but mostly of a low type, several of them utterly barbarous, addicted to human sacrifice, and one at least, the Birhor, still cannibals.

On the east of Assam and Bengal, the low ranges and the valleys of *Hill Tiperah* are occupied by the Tiperah, the Nowattia, and the Riang populations, numbering 75,792 in an area of 3876 square miles.

The *Garo* hills, in the S.W. corner of Assam, between lat. 25° 9′ and 26° 1′ N., and long. 89° 52′ and 91° 3′ E., are occupied by a race with polyandric customs. The *Khassya* and *Jaintia* hills have an area of 6157 square miles; they lie between lat. 25° 1′ and 26° 14′ N., and long. 90° 47′ and 92° 52′ E. They form the central section of the watershed between the valleys of the Brahmaputra and the Surma. The Garo and the Syn-teng of the Jaintia have both fought with the British for independence; the Syn-teng so recently as 1862-3.

In Rajputana, the *Aravalli* hills, from 6 to 60 miles broad, and rising 1000 to 2855 feet above the sea, run for 300 miles in a N.E. and S.W. direction between the Rajput states and Ajmir-Mhairwara, dividing the plain of Marwar from the high table-land of Mewar, and merging into the Vindhyas near Abu. It is sparsely occupied by the Mhair and other Mongoloid races. Mhairs of the Ajmir-Mhairwara hill tract are still a small body of 69,234 souls, in an area of 602 square miles. They are brave mountaineers, but were wild and highly predatory, until Lieutenant-Colonel Dixon transformed them into disciplined soldiers.

In Southern India are the *Eastern Ghats*, commencing in Orissa, and skirting the east coast southwards to Tinnevelly, affording shelter to many large tribes,—Gond, Juang, Kandh, Saura, Chensuar, and Yenadi.

The *Western Ghats* run from the valley of the Tapti southwards for 800 miles, and terminate in Cape Comorin, presenting several high peaks about Mahabaleshwar above 4000 feet, and in the Neilgherries up to 8000 feet elevation. In their most northerly parts they give shelter to the Bhil and the Koli, and in their southern forest and hill tracts to the Kadar, Pulliar, Malai Arasar, and Maleali, with Irular, Toda, Badaga, and Kurubar.

The great alluvial low-level tract of Northern India, watered by the Ganges and Indus and their tributaries, is known as the *Indo-Gangetic plain.* It is an immense expanse of flat country stretching from sea to sea, entirely composed of alluvial deposits of very late geological age, and separating the hilly ground of the Peninsula from the various mountain and hill ranges of Sind, the Panjab, the Himalaya, Assam, Burma. The *geological* formations of the peninsular area are arranged in the

Manual of Geology as recent and post-tertiary, cænozoic, mesozoic, palæozoic, and azoic, the last comprising the Vindhyan series, the transition, and the metamorphic or gneissic. The formations in extra-peninsular territories being recent and post-tertiary, pliocene, miocene, eocene, cretaceous, jurassic, trias, permian, carboniferous, and silurian and infra-silurian, all the infra-silurian being non-fossiliferous.

Rivers.—The navigable rivers of India are the Ganges, the Indus, the Brahmaputra, the Irawadi. The *Ganges* rises in the Garhwal State, in lat. 30° 56′ N., and 79° 6′ 40″ E., and enters the Bay of Bengal by many mouths, after a course of 1557 miles. Under the name of Bhagirathi, it issues from an ice-cave at the foot of a Himalayan snow-bed, 13,800 feet above the sea. Twelve rivers of British India are deemed holy by the Hindus, and the pushkaram festival is held at them. But the *Ganges* is the most sacred. To live on its banks, or near it, is a happiness; and to die on its banks, or in its waters, a great privilege. It is used for navigation and for irrigation. Its catchment basin is 391,100 square miles, and maximum flood-discharge 1,800,000 cubic feet per second.

The *Jumna*, Jamna, or Yamuna, joins the Ganges at Allahabad, after a course of 680 miles. Its source is in Garhwal, in the Himalaya, 5 miles N. of Jumnotri, 10,849 feet above the sea; and its catchment basin is 118,000 square miles. On its banks are the cities of Hamirpur, Agra, and Dehli; the eastern and western Jumna canals have been led from it at Faizabad and above Agra, but in the hot weather it dwindles to a small stream. The Jumna at Agra, and at other places, since many years had been bridged by a line of boats, and now splendid railway bridges span it at Dehli, Agra, and Allahabad.

The *Brahmaputra* river course is 1800 miles; and it is navigable for steamers up to Dibrugarh, 800 miles from the sea. Its drainage basin is 361,200 square miles. Its valley is the province of Assam, and many tribes occupy both its banks. At Goalanda, about half-way between the delta head and the sea, the Ganges unites with the main stream of the Brahmaputra, and farther down with the Megna. Their combined waters represent the drainage collected by the two vast river-systems from an aggregate catchment basin of 752,000 square miles on both sides of the Himalaya, together with the rainfall poured into the Megna from the Burmese watershed.

The *Indus* river was known to the Greeks as the Sindhu or Σινθος. It rises in lat. 32° N., and long. 81° E., on the north-western slope of the Kailas mountain, the Sutlej river rising on its southern slope, and the Brahmaputra, under its Tibetan name of Tsang-pu, at some distance from its eastern base, in lat. 31° N., and long. 83° E., and 16,000 feet above the sea, the Dihang river being supposed the connecting link between the Tsang-pu of Tibet and the Brahmaputra of Assam. The Indus pours its waters into the Arabian Sea after a course of 1800 miles, its drainage basin being 372,700 square miles.

The *Ravi* in the Panjab is the Hydraotes of Arrian, the Sanskrit Airavati. This stream has been utilized to supply the Bari Doab canal. In March and April its depth on the borders of the district of Amritsar is not more than a foot. Between June and September it rises to 18 or 20 feet. The main bed alters but little, and the greatest volume of water only floods a mere fringe on either bank. In 1870 it carried away a Sikh shrine near Dera Nanuk, and it still threatens damage.

The *Irawadi* river (Airavati), after a course of 900 miles, disembogues by several mouths into the Gulf of Martaban. It rises, by two branches, from the Patkoi mountains, one of them in lat. 27° 43′ N., and long. 97° 25′ E., the other a little to the east, the Myit-gyee and Myit-gne, which unite about lat. 26° N., and run to the south along a catchment basin of 158,000 square miles. It is navigable above 500 miles north to Bhamo; and at Mogoung, when at its lowest, the bottom was not sounded at 40 fathoms.

The *Koladyn* or Kuladan, a river of Arakan, is supposed to have its origin near the Blue Mountain (22° 37′ N.), and it passes the town of Akyab to enter the Bay of Bengal. It is navigable for 50 miles for vessels of 300 or 400 tons.

The chief rivers of the Peninsula of India, are the Mahanadi, Godavery, Kistna, and Cauvery, and, though not navigable, are valuable for irrigation.

The *Mahanadi* rises in the Raipur district, in lat. 20° 10′ N., and long. 82° 3′ E., and, after a tortuous course of 520 miles through the Central Provinces and Orissa, falls into the Bay of Bengal. Its catchment basin is estimated at 43,800 square miles; its flow is rapid, and its flood-discharge 1,800,000 cubic feet per second. An elaborate system of canals has been constructed to husband its water, and designed to irrigate 1,600,000 acres.

The *Godavery* river, rising near Trimbak, in lat. 19° 55′ N., and long. 73° 34′ E., 50 miles from the sea, runs through the Hyderabad dominions into the Northern Circars, where it forms a delta of 3000 square miles, and enters the Bay of Bengal by seven mouths (three of which are large), after a course of 898 miles. Its drainage basin, 112,200 square miles. A great dam has been constructed across it at Dowlaishwaram, the head of its delta.

The *Kistna* river is south of the Godavery. It also has been largely utilized for irrigation, by throwing a dam across it at Bezwara. It rises near Mahabaleshwar, in lat. 18° 1′ N., and long. 73° 41′ E. Its catchment basin is 95,500 square miles, and its maximum flood discharge is 1,188,000 cubic feet per second.

Still further south is the *Cauvery*, the Χαβηρος of Ptolemy, with a river basin of 27,700 square miles. It flows across the southern parts of the Peninsula. It rises in the Western Ghats, in lat. 12° 25′ N., and long. 75° 34′ E.; and its length is 465 miles. It is one of the twelve holy rivers of the Hindus, who call it the Dakshina Ganga. Crowds of Hindu pilgrims annually visit its banks. Its waters are utilized for irrigation in Mysore and in Coimbatore; and at Srirangam, near Trichinopoly, a prehistoric Hindu king constructed a dam, and led off its waters into the Cauvery proper and Colerun; 835,000 acres in the districts of Trichinopoly, Tanjore, and S. Arcot are now irrigated by it, yielding a revenue of £353,000. In the benefits it bestows on those districts, it vies in usefulness with the canals of the Godavery, the Ganges, and the Indus.

In the river system of British India there is a

peculiarity which merits notice. Shortly after issuing from the mountains among which they rise, the rivers run through low-lying valleys to the sea. Their fall is so gentle, that, following their windings for even 1000 miles from the ocean, they are still found in beds only seven or eight hundred feet above the level of the sea. Where the united streams of the Panjab join the Indus, the altitude is only 369 feet at a distance of 450 miles from the sea; the confluence of the Ganges and Jumna at Allahabad, 846 miles from the sea, is 340 feet. This peculiarity is the more worthy of notice, because, throughout these territories, there are no natural inland lakes or seas which can be used for commerce, most of them being only fit for purposes of irrigation. The largest natural waters in the country are equalled, and in many cases surpassed, by the magnificent tanks which have been formed in several places by throwing embankments across great valleys. The many shallow marine lagoons, known as backwaters, found running close around the shores of the Bay of Bengal and of the Indian Ocean, some of them from 20 to 50 miles long, are, however, well meriting notice, and greater attention than has hitherto been given to them, as they afford facilities for a safe inland traffic along the coast line, the violence of the monsoons and the few sheltered harbours on the eastern coast of the Peninsula rendering navigation at times perilous, and periodically impossible. After the East India Railway was opened, steamers ceased to ply upon the Ganges, but they still run on the Brahmaputra and its tributary the Barāk, also on the Irawadi, and on the Indus.

Ancient India.—Dr. Vincent was inclined to believe that in the very earliest ages, even prior to Moses, the communication with India was open; that the intercourse with that continent was in the hands of the Arabians; that Thebes had owed its splendour to that commerce; that Memphis, from the same cause, came to the same pre-eminence, and Cairo succeeded to both in wealth, grandeur, and magnificence. Passing by the mythological Bacchus, also Semiramis, queen of the Assyrians, who is said to have crossed the Indus about B.C. 1960, and to have been defeated by Stabrobates, as also Sesostris, king of Egypt, who is said to have led an army to the Ganges B.C. 1308, we come to the first mention in the Bible, of India, by that name, in the book of Esther about B.C. 450.

Of the *ancient dynasties* who ruled in India, Colonel Tod, in his Rajasthan (i. p. 44), endeavoured to bring together what was known of the Solar and Lunar races. The wrecks of almost all the vast cities founded by them are yet to be traced in ruins,—the cities of Ieshwaca and Rama on the Sarjoo, Indraprest'ha, Mat'hoora, Soorpoora, Poorag on the Yamuna, Hastinapura, Canyacubja, Rajgraha on the Ganges, Maheswar on the Narbada, Arore on the Indus, and Koosusthulli Dwarica on the shore of the Arabian Sea.

Menu calls India Aryavarta, the abode of the Aryans. Bharata or Bharata-varsha is the classical Sanskrit name; and in Sanskrit poetry it is mentioned as Jambu-dwipa. The name as known to Europeans is derived from the river Sindhu, pronounced by the Aryans Hindu, and known to Europe as the Indus. The Greeks named the people Ἰνδοί. The seven rivers, Sapta Sindhavah, in old Persian or Zand were called Hapta Hindu; and to the present day, all along the western frontier of British India, s and h continue interchangeable.

The first Greek who speaks of India by name is Hecatæus of Miletus, B.C. 509–486. Herodotus, who wrote about B.C. 450, appears to have heard but indistinctly of any but the western part of it, and that only by its being tributary to Persia. He informs us (book iv.) that Darius Hystaspes had despatched Scylax of Caryandra to explore the Indus, about B.C. 508, and that he departed from Caspatyrus and Pactya, which were situated near the head of the Indus. Herodotus continues to say that the Indians who inhabit towards the north, and border on these territories of Caspatyrus and Pactya, resemble the Bactrians (that is, their neighbours) in manners, and are the most valiant people of all India. The eastern part of India, says he, is rendered desert by sands; which description applies only to the country lying east of the Indus and south of the Panjab, and this was the eastern limit of Herodotus' knowledge. Following him, Ctesias, the physician, B.C. 401, brought back from his residence in Persia only a few facts about the products of India.

Prior to Alexander the Great, B.C. 327, there are doubts as to anything historical in the Indian accounts, for the Sanskrit-speaking Indians had no historical pursuits; and east of the Indus was earliest made known by the learned men who accompanied Alexander, and particularly by the writings of Megasthenes, who, B.C. 306–298, was the Greek ambassador at the court of the Hindu prince of Pataliputra-pura. Other of the Greek writings have been lost, but Strabo, Pliny, and Arrian have given them in a condensed form.

Most of the writers about Alexander call the inhabitants of the hilly region to the south of the main ridge of Caucasus and near the Indus, Indians, and also mention an Indian tribe or nation who inhabited the seashore on the western side of the Indus; and close to the Indus, especially on the lower part of its course, there were other Indian tribes, though less considerable than those two. The Indians on the seashore were named Oritæ and Arabitæ, and are recognised by Major Rennell (Memoir, p. 21) as the people called Asiatic Ethiopians by Herodotus. Their country was the narrow tract between the mountains of Baluchistan and the sea, separated from Makran on the west by the range of hills which form Mount Arboo, and on which still stands the famous Hindu temple of Hinglez. The Indians whom Herodotus includes within the satrapies of Darius, are probably the more northern ones under Caucasus, for he mentions (Thalia, pp. 101, 102) that those in the south were independent of the Persian monarchy. Arrian (Indica, pp. 8, 9) denies the alleged invasions of Bacchus, Hercules, Semiramis, Sesostris, and Cyrus; and Strabo (lib. xv. near the beginning) denies the mythological invasions, adding that the Persians hired mercenaries from India, but never invaded it (see Diodorus, lib. ii.). The other Greek writers, though they speak of Indians beyond the Indus, strictly limit India to the eastern side of that river; and Arrian, though he called the mountaineers Indians, from the place where Alexander entered Paropamisus, is careful to explain that India lies east of the Indus; and Strabo (lib. xv.) declares the Indus to be the western boundary of India from the mountains to

the sea. Pliny, indeed, states that some consider the four satrapies of Gedrosia, Arachosia, Aria, and Paropamisus to belong to India, but this would include two-thirds of Persia. The ancient Sanskrit writers also regard the Indus as the western boundary of India, and class the nations beyond it as Yavana and barbarians; and there is a tradition that Hindus ought not to cross that river, the town of Attock taking its name from this prohibition. Later on, the countries between Hindustan and China came to be called the Further India, or India extra-Gangem; whereas Hind, or India, was restricted to the country of the people called Hindus or those of India intra-Gangem.

Conquerors from the North-West.—From the earliest historic times, Persian, Greek, Scythic, Arab, Turk, Moghul, and Afghan conquerors from the N.W. have been coveting the wealth and the fertile plains of the Gangetic valley, and dynasties professing Buddhism, Hinduism, and Mahomedanism have been striving for possession within.

Scythic races appeared in India in the early centuries of the Christian era. They came from the inhospitable mountain and desert lands in the north and north-west; and after them Turk, Moghul, Arab, and Afghan have continued to the present day to seek dominion in the more genial climate of India, and to engage in its commerce. Darius Hystaspes, B.C. 518, had conquered to the N.W. part of it. The Greeks appeared under Alexander B.C. 327–325, and under Seleucus B.C. 312, and Menander B.C. 181–161. During his two years' campaign in the Panjab and Sind, Alexander captured no province, but he made alliances, founded cities, and planted Greek garrisons. At Taxila (Deri-Shahan) and Nikaia (Mong) in the Northern Panjab, at Alexandria (Uchh) in the Southern Panjab, at Patala (Hyderabad) in Sind, and at other points along his route, he established military settlements of Greeks or allies. A body of his troops remained in Bactria; and in the partition of the empire after Alexander's death in 323 B.C., Bactria eventually fell to Seleucus Nicator, the founder of the Syrian monarchy.

During the next six hundred years the Greeks were followed by Scythic tribes of the Su, the Saka, the Hun, the Naga, and the Getæ, who made continuous, several of them successful, efforts to remain. About B.C. 126, the Tartar tribe of Su are said to have driven out the Greek rulers from Bactria. The Græco-Bactrian settlements in the Panjab were overthrown by the Tue-Chi; and during the rule of Kanishka, who held the fourth Buddhist council about A.D. 40, Scythic settlements were formed as far south as the districts now known as the Central Provinces. Scythian races more than once overthrew prior rulers, and more than once sustained great defeats; but some of the Rajput dynasties, and also the Jat, the ancient Getæ, now about 9,000,000 in the Panjab, retained a permanent hold on the country east of the Indus and southwards to the mouth of that river, and Jat princes are still ruling in Bhartpur and Dholpur.

The Sah of Saurashtra (B.C. 70 or 60), the Gupta of Kanauj (A.D. 319-470), and the Valabhi of Cutch (A.D. 480–722), seem to have opposed successive hordes of Scythians. But Mr. Fergusson believes that it was the White Huns who overthrew the Gupta dynasty between A.D. 450 and 475, and that the Saka and the Hun were finally defeated at the great battles of Karur, near Multan and Maushari, which that learned writer supposes to have been fought between A.D. 526 and 544.

During these struggles for dominion, Vikramaditya, a king of Oojain, about B.C. 57, drove back one Scythic invasion, and his victory gave rise to the Samvat era still current in India. Salivahana, another king of Southern India, is supposed to have successfully checked another Scythic invasion, A.D. 78, from which event the Saka era is reckoned; but the repulse was not permanent, for Cosmos Indicopleustes, who traded in the Red Sea about A.D. 535, speaks of the Hun as a powerful nation in Northern India in his day.

Tradition names Nushirwan, king of Persia A.D. 521–579, as having invaded Western India and left descendants there; but from that time till near the 19th century, it was Arab, Turk, Moghul, and Afghan races who were the invaders, till Portuguese, British, Dutch, Danish, and French appeared on the scene.

The Khalif Usman (A.D. 636) sent an expedition to Thana and Broach. A few years later (A.D. 662 and 664), raids were made towards Sind, which the youthful Kasim (A.D. 712–714) conquered, again to be lost and again regained (A.D. 828), only to be finally lost again.

The Valabhi dynasty of Cutch, Malwa, and the N.W. districts of the Bombay Presidency (A.D. 480–722), seem to have been overthrown by the Arab invaders of Sind in the 8th century; and since then the Mahomedan dynasties who have ruled in India have come from Central Asia, and their families have reigned for various periods from 20 to 331 years.

The Jat settled in the country as cultivators of the soil, and they continue to the present day engaged in husbandry, but with the Mahomedan dynasties, the Turk Mahmud, the Moghul Timur, the Persian Nadir, and the Afghan Ahmad seem to have been attracted by the hopes of plunder. Mahmud of Ghazni twelve times (A.D. 1001–1026) made inroads on the south-western parts of the country, carrying back with him immense wealth; Timur (A.D. 1398-99) sacked Dehli and Meerut, and left fifteen years of anarchy, famine, and pestilence behind him. Nadir Shah (A.D. 1738–39) took away with him from Dehli eight or nine millions in gold and silver money; Ahmad Shah, in his invasions, obtained the Panjab (1751–52) and sacked Dehli (1756); and his invasion of 1759 led to the assassination of Alamgir II., but after he overthrew the Mahrattas at Paniput (1761) he left India never to return to it.

The duration of such of the invading dynasties as obtained a hold of the country, was as under :—

House of Ghazni (Turki), .	A.D. 1001–1186	Years	185
,, Ghor (Afghan), .	,, 1186–1206	,,	20
Slave Kings (chiefly Turki),	,, 1206–1290	,,	84
House of Khilji (Turki), .	,, 1290–1320	,,	30
,, Taghalak (Panjab Turks),	,, 1320–1414	,,	94
Timur (Moghul), . . .	,, 1398–1399	,,	—
Syuds, ...	,, 1414–1450	,,	36
Lodi (Afghans), . . .	,, 1450–1526	,,	76
House of Baber (Moghul), .	,, 1526–1857	,,	331

Whilst these races were striving for the possession of the Indo-Gangetic plain, several dynasties of prior occupants in the south of India were overwhelmed by Mahomedan armies, and families professing Islam formed kingdoms in Gujerat, Kulburga, Beder, Golconda, Bijapur, Ahmadnagar, Malwa, Kandesh, Bengal, Berar, Sind Hyderabad, Mysore, and Arcot.

In the 14th century (1347), Hasan Gangu, surnamed Bahmani, headed a successful rebellion in the Dekhan against Mahomed Taghalaq, and drove the armies of Dehli across the Narbada. Hasan was an Afghan of humble origin, but had attained distinction in the Peninsula, and, on declaring for independence of the empire, he fixed his capital at Kulburga. His descendants reigned 179 years (1347–1526), through thirteen generations. Their territory, when at the height of their power, comprised the central parts of the Dekhan from sea to sea, and from Berar in the north, southwards to Conjeveram; and when at length the dynasty became effete, several smaller houses assumed sovereignty:—

Adal Shahi of Bijapur, ...	1489-1579
Nizam Shahi of Ahmadnaggur, . .	1490-1595
Kutub Shahi of Golconda, . . .	1512-1580
Imad Shahi of Berar, ...	1484-1560
Barid Shahi of Beder, ...	1498-1572

Almost contemporaneously (1336-1565) a Hindu race had been dominant at Vijayanagar. But it fell to a combination of four of these Mahomedan dynasties, who were victorious at Talikata. The aged monarch, Rama Raja, was taken prisoner, and put to death at Kala-Chabutra in cold blood. The Vijayanagar monarchy at that time comprehended almost all the south of India, but mutual jealousies prevented the victors from extending their respective frontiers, and they, too, in succession shortly disappeared.

During the 14th and 16th centuries, Bengal, Kandesh, Malwa, and Gujerat saw many changing Mahomedan monarchies; but in the 17th century (1662) a great Hindu power was formed in the Peninsula by Sivaji, a Mahratta, a brave and skilful leader, between whom and the Mahomedans no faith was held, and, on his death, a Brahman tribe, with the title of Peshwa, continued to direct the energy which Sivaji had evoked. The emperor of Dehli, Aurangzeb (Alamgir I.), during a long life strove to hold the Central Dekhan, but from his death, A.D. 1707, the Moghul dominion there was practically at an end, and for the next fifty years the empire even of all India wavered between the Mahrattas of Poona and the Moghuls of Dehli. The Peshwas, however, never recovered from the destruction of their army at Paniput (1761); and the British under Clive, and Hastings, and Coote, and Laurance, and Hector Munro, obtained a prominence which they still maintain; the Mahratta territories of the Peshwas became partitioned into many separate states, often at war,—Kolhapur, Satara, Gujerat, Gwalior, Indore, Tanjore, and Berar, with many Hindu chiefships along the valleys of the Kistna and its affluents. During the convulsions, Mahomedans of Arab, Afghan, Pathan, and Turk descent seized on Cuddapah, Hyderabad, Kurnool, Banaganapilly, the Carnatic, and Mysore; chief officers of the Mahrattas retained the jaghir lands which had been assigned for their own salaries and that of their followers; and rajas of Sundur, Mudhol, Akalkot, and sirdars of the Dekhan, still hold these estates.

The power of the Walajah family of Arcot in the Carnatic, closed after a few troubled years. Hyder Ali and his son Tipu, after a brief sway in the Mysore, which they had won, were followed by a Hindu monarch. Numerous Hindu polygar chiefs apportioned among themselves the lands of the Pathans of Cuddapah; Satara, Berar, and Tanjore disappeared as Mahratta dynasties; and in 1839 the Pathan ruler of Kurnool, dreaming of conquests, was overthrown in battle at Zorapore.

In the north-west, since many thousand years, the Panjab has been a battle-field of the races contending for empire; and within historic times, Greek and Scythian, Hindu and Buddhist, Turk and Moghul, Arab, Persian, Afghan, and British have been there. At the close of the 18th century, Ranjit Singh, an able ruler of the Sikh faith, established his sway over all the parts of it west of the Sutlej, and he conquered also Kashmir. But anarchy followed his death (1839); and the latest contest for dominion was by the East India Company, who fought for safety at Moodkee, Firozshah, Aliwal, and Sobraon in 1845, and at Gujerat in 1849, on which maharaja Dhulip Singh transferred his sovereignty to the British. A few years later on (1856), the king of Oudh, hereditary wazir of the Moghul empire, was set aside for utter misrule. The following year the titular Moghul dynasty of Dehli threw in their lot with mutineers, and were swept away. And the Mahomedan states of Hyderabad, Bhopal, and Banaganapilly, with the Hindu kingdoms at Bhartpur, Dholpur, Baroda, Cochin, Mysore, Jodhpur, Jeypore, Oodeypur, and Travancore in Hindustan, in Rajputana and in the Dekhan, remain the oldest dynasties among the princes of India,—the most ancient, perhaps, in the world, being the Rajput houses of Oodeypur and Jodhpur.

Within historic times, except for brief intervals and in very small principalities, the ancient people of India have never had rulers of their own races. Periodical literature not infrequently alludes to British domination as a foreign rule. But the imperial dynasties ruling from Dehli had merely a military occupation; the cultivators of the Rajput states, and of the Gaekwar, of Holkar, and of Sindia, are largely of the Kurmi, Kunbi, Kach'hi, and Mali races, and of the aboriginal Gond, Koli, Meena, Mhair, Bhil, and others. Hyderabad, in the Dekhan, is a very compact Mahomedan state, with eleven millions of population, but its people are almost all Teling, Canarese, Mahratta, and Gond, in nearly equal numbers. The population of Mysore is of a most varied character; and the Hindu kingdom of Travancore, another compact state, has rulers of the Nair race, and the bulk of their subjects professing some form of Hinduism, has only 440,932 Nair in a population of 2,311,379.

Cities.—With such continuous revolutions, the people have never had time to collect into large town populations. Tradition tells of Ajodhya as a great city, covering an area of ninety-six miles, but there are now, perhaps, more large towns than India has ever before known, and even yet only 139 of them have more than 20,000 inhabitants. The former unsettled state of the country, and the craving of the people for protection in their peaceful labours, are well illustrated by the histories of the strictly British towns of Calcutta, Madras, and Bombay. At these three cities, fortresses were erected by the British, and the people have gathered around them. The great capital of British India, which now contains a population of 794,645 souls, was, at the close of the 17th century, a cluster of three small mud hamlets. The only previous notice of 'Kalikata' is a brief entry of it as a rent-paying village in the emperor

Akbar's great statistical survey of 1596. But in 1686 the English merchants at Hoogly, being compelled to quit their factory in consequence of a rupture with the Moghul authorities, retreated, under their president, Job Charnock, to Sutānati, a village on the east bank of the river, now a northern quarter of Calcutta. In 1696 they built the original Fort William, and a few years later purchased the three villages of Sutānati, Kalikata, and Govindpur from Prince Azim, son of the emperor Aurangzeb. But with the security given by its fortress and its bordering river, the population is now approaching a million of souls.

Madras, as it is called by the British, is still only known to the people as a collection of several hamlets, Chinapatan, Mutialpet, Vepery, Nangambākam, and others. In March 1639, Francis Day, chief of the commercial settlement at Armagon, obtained from the representative of the Vijayanagar dynasty a grant of the site on which Madras now stands, and a factory with some slight fortifications was at once constructed. It may be doubted if there were a thousand people in all the hamlets. But the natives settled around the factory, a better fort was built, and at the census of 1881 the population numbered 406,117.

Bombay Island formed part of the dower of Catharine, queen of Charles II. of England, who in 1688 transferred it to the East India Company for an annual payment of £10. The population was estimated at 10,000 souls. The Company strengthened the fortifications; in 1673 the inhabitants numbered 60,000; piracy was put down; its island position further protected it, and in 1881 its population had increased to 773,196.

Similar increments are going on in and around all the sites taken up by the British as cantonments and military stations. Secunderabad, for instance, had no existence until the British Subsidiary force, during the reign of Secunder Jah (1803), encamped on its present site; but its inhabitants in 1868 numbered 32,000 in 7938 houses.

In the war with Burma of 1852–53, Rangoon, on a branch of the Irawadi, was taken by the British, and its population was estimated at 25,000; in 1872 it had 89,897 (99,745) inhabitants, but in 1881 its population reached 134,176 souls.

The great towns, Calcutta, Bombay, Madras, Rangoon, continue to attract immigrants from all parts of Asia. The 1881 census showed the foreign residents to be,—Asiatics not natives of India, 540,989; British, 75,734; Europeans, 38,463; Africans, Americans, Australians, 6961.

The 540,989 Africans and Asiatics not natives of India comprised—

Abyssinians,	90	Jew,	7,626
Afghans,	3,191	Malay,	1,493
Arabs (Bombay 6090),	8,311	Mekrani in Kurachee,	5,285
Armenians,	1,254	Manipuri (in Assam),	11,866
Baluch, Panjab,	235,123	Nepalese,	31,182
,, Bombay,	144,772	Parsee,	69,476
Bhotia in Assam,	339	Persian,	3,545
Brahui,	845	Siamese,	58
Kashmiri,	142	Syrian,	69
Chinese (Burma 12,109),	13,340	Turk,	923
Japanese,	3	Others,	2,056

Most of the Parsees are permanent residents, and portions of the others must also be so classed, but the numbers suffice to show the continuous stream of immigrant races.

On the other hand, several of the Kolarian and Dravidian races emigrate freely. Rangoon, Tavoy, Mergui, Malacca, Penang, and Singapore contain many of them; and the more distant Mauritius, Bourbon, S. Africa, West Indies, and Central America have received numbers. From 1876–77 to 1880–81, the following—

1876–77,	Left British India	10,036	Returned	4,485
1877–78,	,,	25,219	,,	4,400
1878–79,	,,	22,092	,,	5,586
1879–80,	,,	17,426	,,	7,185
1880–81,	,,	16,794	,,	7,061

Population.—The census taken of India in 1881 *has not yet* (*October* 14, 1882) *been checked.* It showed a population of 252,541,210 in an area of 1,477,763 square miles. In these numbers, however, are included provinces which are British proper, and also territories belonging to native princes and chiefs under treaty, subsidiary or other alliance, as here shown:—

	Pop.		Area.	Sq.m.
British Districts—				
Bengal (Sikkim wanting)	68,829,920		155,997	401
Madras,	30,839,181		140,333	226
Bombay Brit. territory,	13,978,488			
Bombay Native States,	6,941,631		126,445	130*
Sind,	2,404,934			
Assam,	4,815,157		45,303	96
N.W. Provinces,	32,699,436		81,748	376
Oudh,	11,407,625		24,213	469
Panjab Brit. territory (Lahoul, Spiti, and Hazara excluded),	18,786,107		107,010	168
Central Provinces,	11,505,149		84,208	97
British Burma,	3,707,646		87,220	43
Coorg,	178,283		1,572	113
Ajmir,	453,075		2,711	167
Berar,	2,670,982	209,217,614	17,711	151
Native States—				
Mysore,	4,186,399		24,744	169
Baroda,	2,154,469		4,399	..
Travancore,	2,401,158		6,730	..
Cochin,	600,278		1,361	..
Rampur,	545,152		945	..
Nat. Garhwal or Tehri,	200,523		4,180	..
Native States,	3,853,282		*14,742	..
Panjab,	5,370,096		..	..
Khaibar troops,	8,153		..	..
Rajputana St. (estim.),	11,005,149		130,989	77
Central India and Bundelkhand,	9,200,881		89,098	93
Hyderabad,	9,167,789	43,323,596	80,000	112
		252,541,210		
French Possessions,	285,022		178	..
Portuguese Possessions,	444,617	729,639	1,086	..

* Excluding Sind.

Enumerations of the British territories had been previously made between the years 1866 and 1875, and the following is a comparative statement of populations according to census of 1881 and the previous census:—

Province.	Census of 1881, both sexes.	Prev. Census.	Year of Census.	Difference p.c.
Bengal,	68,829,920	62,709,405	1871	+ 10
Assam,	4,815,157	4,056,054	1871	+ 19
Madras,	30,839,181	31,597,872	1871	− 2·4
Bombay,	13,978,488	14,038,359	1872	− ·3
Do. Native States,	6,941,631	6,786,855	1872	+ 2·3
Total,	20,920,119	20,825,214	..	+ ·4
Sind,	2,404,934	2,192,415	1872	+ 10
N.W. Provinces (excluding Rampur and Native Garhwal),	32,699,436	30,769,056	1872	+ 1·6
Oudh,	11,407,625	11,219,675	1868	+ 1·6
Panjab (Brit. ter. only),	18,786,107	17,611,498	1868	+ 7
Central Provinces,	11,505,149	9,251,229	1872	+ 25
Berar,	2,670,982	2,231,565	1867	+ 20
British Burma,	3,707,646	2,747,148	1872	+ 35
Mysore,	4,186,399	5,055,412	1871	− 17
Coorg,	178,283	168,312	1871	+ 6
Ajmir,	453,075	426,268	1866	+ 6
Baroda,	2,154,469	2,000,225	1872	+ 8
Travancore,	2,401,158	2,308,891	1875	+ 4
Cochin,	600,278	601,114	1875	− ·14
Grand total of 17 Provs.	218,559,918	205,771,353	..	..

BRITISH INDIA.

Provinces in India according to (*unchecked*) census of 1881, and total of sexes in previous census:—

Province.	Population according to Census of 1881.			Previous Census.
	Both sexes.	Males.	Females.	Both sexes.
Bengal, . .	68,829,020	*34,220,905	*34,601,015	62,709,405
Assam, . .	4,815,157	2,465,453	2,349,704	4,056,054
Madras, .	30,839,181	15,242,122	15,597,059	31,597,872
Bombay, .	13,978,488	7,164,824	6,813,664	14,038,359
,, Native States	6,941,631	3,575,471	3,366,160	6,786,855
Sind, . .	2,404,934	1,311,006	1,093,928	2,192,415
N.W. Provs.,	32,699,436	17,041,020	15,658,416	30,769,056
Rampur, .	545,152	284,593	260,559	..
Nat. Garhwal,	200,523	102,044	98,479	..
Total, .	33,445,111	17,427,657	16,017,454	..
Oudh, . .	11,407,625	5,860,960	5,546,665	11,219,675
Punjab—				
British ter., .	†18,786,107	10,189,727	8,596,380	17,611,498
Native States,	3,853,282	2,106,359	1,746,923	..
Khaibar troops	8,153	7,970	183	..
Total, .	22,647,542	12,304,056	10,343,486	..
Central Provs.,	11,505,149	5,801,794	5,703,355	9,251,229
Berar, . .	2,670,982	1,378,997	1,291,985	2,231,565
British Burma,	3,707,646	1,987,426	1,720,220	2,747,148
Mysore, . .	4,186,399	2,086,292	2,100,107	5,055,412
Coorg, . .	178,283	100,854	77,429	168,312
Rajputana, .	‡11,005,512	No sex	details.	..
Ajmir, . .	453,075	243,904	209,171	426,268
Central India,	9,200,881	4,848,753	4,352,128	..
Baroda, . .	2,154,469	1,123,311	1,031,158	2,000,225
Hyderabad, .	9,167,789	§4,568,993	§4,448,796	..
Travancore, .	2,401,158	1,197,134	1,204,024	2,308,891
Cochin, . .	600,278	301,415	298,863	601,114
Grand total,	252,541,210	123,211,327	118,166,371	..

* Population details for Sikkim wanting. Excluding Naga hills, not censused.

† Excluding population of the Lahoul, Spiti, and Hazara Districts, not censused.

‡ Approximate.

§ Population details for Paegah Districts wanting.

Note.—The difference of 11,163,512 between the grand total of columns 3 and 4 and that of column 2 is accounted for by the absence of sex details for the whole of Rajputana, for the Paegah Districts of Hyderabad, and for Independent Sikkim.

Food and Races.—Taking the populations and their means of subsistence, from the purely agricultural point of view, the country, as a whole, is under-peopled. In certain districts in Bengal and the N.W. Provinces, there are more cultivators than the land actually requires; but in Assam, the Panjab, Sind, the Madras plateau, and Burma, there are vast tracts of arable land unploughed. Even in portions of Bengal there are still reserves of virgin soil. The difficulty is to induce the population to distribute itself; though several of the races of India, the Tamil, and Teling, and Dhangar, in particular, freely emigrate to remote countries.

The supremacy of British India, while it has brought peace within the borders and improved the salubrity of localities, has not been unattended with difficulties. The population, which was kept down by the wars, pestilences, and famines of former times, has rapidly increased. In the ten years 1871 to 1881, the increase was 12,788,865, notwithstanding the occurrence of a severe famine, causing great loss of life in Mysore, in the Carnatic, in parts of Bombay, and in the N.W. Provinces. In the year 1789, one-third of the land lay unoccupied, but many jungle tracts and swamps have since been reclaimed. Some districts and provinces have become over-peopled; the surplus of some of the races are emigrating to Ceylon, to the Malay countries, to the Mauritius, Bombay, Africa, South America, and the West Indies; and the Government of India is looking at sparsely-peopled Burma as a country to be filled. In Burma, Assam, Berar, and Sind, the increase was the greatest; but in the years 1876 and 1877, a severe famine, and consequent disease, occurred in parts of the Peninsula, which carried off numbers, and in the decade the decrease in the Bombay Presidency was 0·3 per cent., in that of Madras, 2·3 per cent., and in Mysore, 1,130,987, or 17 per cent.

During the decline of the Moghul empire and the raiding expeditions of the Mahrattas, several of the predatory races were actively plundering; armed bands of dacoits made their attacks even on large towns; and the armed and disciplined bodies known as Pindara, composed of all races, traversed the country, till they were finally swept away in the war of 1817–18–19.

But the greatest alteration in the martial habits of the people has occurred amongst the north-west frontier tribes, who had long been inured to war. When first, after the fall of the Sikh power, the British came in contact with the Pathan, Brahui, and Baluch races of the N.W. Frontier, not a year passed by without raids on the Indian territories, and armies were needed to repel them; but these raids are now extremely rare, and the democratic Councils are ready to afford redress. Perhaps the most remarkable instance of civilising a border race has occurred with the Karen on the borders of British Burma, where the Baptist missionaries, and notably Dr. and Mrs. Mason, have done more to subdue and civilise that race than armies could have accomplished.

India is pre-eminently *agricultural*. The (*unchecked*) census shows that the adult male population in 1881 was 62,002,461. Of these, 37,393,055 were engaged in agriculture, 8,137,082 were then labourers, and 8,749,270 were engaged in industrial avocations. Also, 4,136,430 were in domestic employ, 3,425,738 in commerce, and 2,401,630 in professions and Government service.

The bulk of the agriculturists profess some form of Hinduism. In the extreme south of the Peninsula, the Tamil-speaking race, who assume the titular designations of Mudali and Pillai, are there the most numerous; further north are the Canarese-speaking race, who are all agricultural; several tribes in Telingana, the Reddi, the Naidu, the Kamavaru, westwards as far as Beder, and southwards to Mysore and the Carnatic, are engaged in tillage; further north are the Uria race and the Gond, the great Kunbi and Mali races of the Mahratta country; and throughout the plateaux and the plains of Northern India, are the Jat, Kurmi, Kach'hi, Koeri, Lodhi, Mali, Kaibartta, Sadgop, Khasa, and Gujar, with the pastoral Ahar, Ahir, Dhangar, Gadariya, Gop, Goala, Kurubar, and Rangar, the labouring population being the numerous landless, broken, non-Aryan tribes and clans, as the Pariah, Dher, Mhar, Mang, Dom, and others, who are dispersed, are scarcely yet freed from a condition of predial slavery, and evince no inclination to abandon their own fetish and shamanist cults.

The mountain ranges harbour many tribes, who have fled to them for shelter, or been thrust into them by more powerful races; and similarly the corner provinces, as of Kattyawar and Orissa, have a diversified population. In Kattyawar, of the old ruling races there remain the Jaitwa, Churasama, Salunki, and Wala, who exercised sovereignty in the country prior to the immigration of the Jhala, Jarija, Pramara, Kathi, Gohil, Jat, Mahomedans, or Mahrattas. So, in Orissa and Ganjam are the Bhumij; Bhuiya, Gond, Kandh; Khaira, Kol; Pan; Santal, Savara, Teling, and Urya.

The frontiers of British India are nowhere conterminous with any highly-civilised state. On the north Kashmir, on the north-west Nepal, and in the south-east Burma and Siam, alone can claim possession of a literature. Both within the British bounds and beyond are many tribes and nations under democratic rule. The most powerful of these are on the north-west, and may be thus shown:—

Independent Tribes, dwelling along the outer face of the north-west frontier, and inhabiting hills, viz.—

Adjoining frontier of Hazara district,—Hussanzai.
Adjoining frontier of Peshawur district, — Judoon, Bunoorwall, Swati, Ranizai, Osmankheli, Upper Mohmand.
Adjoining frontier of Peshawur and Kohat districts,—Afridi.
Adjoining frontier of Kohat district,—Buzoti, Sipah, Orakzai, Zaimusht Afghan, Turi.
Adjoining frontier of Kohat and Dehra Ismail Khan districts,—Waziri.
Adjoining frontier of Dehra Ismail Khan district,—Sheorani, Oshterani, Kasrani, Bozdar.
Adjoining frontier of Dehra Ghazi Khan district,—Khutran, Kosah, Lughari, Gurchani, Murri, Bugti, Muzari.

British Tribes within the frontier, and British subjects, inhabiting partly hills and partly plains—

Hazara district,—Turnouli, Gukkar, Doond and Sutti, Kaghan Syud, and other tribes of Hazara.
Peshawur district,—Yusufzai, Khaleel, Mohmand of the plains.
Peshawur and Kohat districts,—Khuttuk.
Kohat district,—Bungush.
Dehra Ismail Khan district, — Bunnoochi, Murwuti, Butani, chiefs of Tank, chiefs of Kolachi, chiefs of Dehra Ismail Khan, Nootkani, Loond.
Dehra Ghazi Khan district,—Dreshuk, Muzari.

The number of their fighting men has been estimated at about 170,000, which would represent a total population of one million. The fighting men of the principal tribes being—

Muzari,	2000	Kasrani,	1500	Mohmand,	16,000
Bugti,	1500	Ustrani,	900	Otman Khel,	5000
Murri,	2500	Sheorani,	5000	Swati,	6000
Gurchani,	1200	Waziri,	44,000	Bunerwal,	2000
Laghari,	3700	Turi,	5000	Judun,	2500
Khosa,	4000	Zaimusht,	4500	Chigurzai,	?
Khutran,	4500	Orakzai,	29,500	Hussanzai,	1700
Bozdar,	2700	Kabal Khel, Afridi,	? 23,500	Akazai,	1000

The *Himalaya* on the north is the meeting ground of the Aryan and Turanian races, who in some places are curiously intermingled. In the extreme north-west are found the Dard, an Aryan race abutting on the Afghans on their west, and with the Balti, a Turanian race of Mahomedanized Tibetans, on the east. Here also are the Champa nomades who wander about the high level valleys of Rupshu, and likewise the Ladakhi cultivators in the valleys of Ladakh. The other Aryan races are the Pahari or mountaineers, the Kashmiri and the Dogra and Chibali who inhabit the outer hills.

The people occupying *Garhwal* and *Kamaon* are the Kanawari inhabitants of Bushahr, the Nilang, who do not differ from those of Hundes, and the inhabitants of the Bhotia Mahal of Kamaon and Garhwal, who are of mixed Tartar and Indian descent.

Farther to the east of these, the numerous valleys interspersed throughout the mountains of *Nepal* are occupied by various races. The features of the aboriginal tribes mark them as of Mongoloid origin. They are in the eastern part of the country. West of the Kali river the people are of Hindu origin. Proceeding from west to east, the following tribes occur in Nepal, Sikkim, and Bhutan, viz. the Tibetans or Cis-Himalayan Bhutia, the Sunwar, the pastoral Gurung, the Magar, the Jariya, the Newar, the Dhenwar, Manjhi, Bhutia, Bhaura, Murmi, Newar, Kiranti, Limbu, Lepcha who inhabit Sikkim, and the Bhutanese or Lhopa.

Assam and the north-east frontier province of British Burma have many tribes in their valleys and on their borders, some of them still barbarians. Assam province is bounded on the north by the Himalaya, the frontier tribes from west to east being successively the Bhutia, Aka, Dofla, Miri, Abor, and Mishmi. On the north-east the Mishmi hills sweep round the head of the valley. Along its southern borders are (from west to east) the Kuki or Lushai tribes, the state of Hill Tiperah, the Kom Naga, Angami Naga, Singpho, Shan, Khamti, and Kunoung, and the races in Munipur.

Between lat. 25° and 26° N. are tribes in the Garo, Khassya, and Jaintia hills, and in the valley are the Aham (128,980), Chandal (122,457), Chutia (51,482), Kaibartta (128,525), Koch or Rajbansi (300,000), and Kolita (179,000).

Other tribes occupy the Abar, Naga, Patkoi, and Barel ranges, as also the Chittagong and Arakan hill tracts, and the Yoma mountains separating British India from Independent Burma. These are the Shandoo, Khyen, Ka-mi, Khyn, Mri.

There are other and larger tribes of non-Hinduized aborigines interspersed amongst the civilised nations. In 1872, exclusive of those in the Madras Presidency and in the Feudatory States, they were estimated at 17,716,825.

Bengal,	11,116,883	Berar,	163,059
Assam,	1,490,888	Mysore,	89,067
N.W. Provinces,	377,674	Coorg,	42,516
Oudh,	90,490	British Burma,	1,004,991
Panjab,	959,720	Bombay,	711,702
Central Prov.,	1,669,835		

Nearly all that is known of their early history or origin has been derived from their physical appearance, which has proved them to belong to one or other of the great families of mankind. Mr. B. Hodgson writing from the Himalaya, and Mr. Logan writing from Penang, have laid great stress on this means of ascertaining their first appearance in India, in preference to the linguistic test.

Nearly sixty different tribes are specified among the aboriginal races in the provinces of Bengal and Assam. The most numerous of these are the *Santal*, of whom there are 850,000 in British territory alone, exclusive of others in the Tributary Mahals. The Santal dwell in villages in the jungles or among the mountains, apart from the people of the plains. They give their name to a large district, the Santal Parganas, 140 miles north-west of Calcutta.

The *Gond* are in numerous tribes, many of them semi-barbarous, others of them under rulers who claim a Rajput descent. They are partly under the Hyderabad Government, partly under the British in Chutia Nagpur, Berar, Orissa, and Ganjam, with 1,500,000 of them in the Central Provinces. The Maria Gond still use strong bamboo bows, which they hold with their feet and draw with their hands.

The *Bhumij* of Orissa, of Chutia Nagpur, and dispersed through various districts of Bengal,

numbering in all about 200,000, were known formerly as the Chuar, and distinguished for their martial habits.

The *Bhil* have no language of their own. They are scattered through a wide extent of country, from Dowlatabad in lat. 19° 57′ N. to Mewar in 25° 26′. They are careless, indifferent cultivators, are decidedly predatory, and have suffered severely from all the regular governments; but they are unyielding, and only in 1882 compelled the Mewar Government to give in to their wishes. There are few wilder or more lawless tracts throughout the length and breadth of the Indian Peninsula than the hilly region occupied by the Bhil. The natives of Bombay style them Kala-Puruj, or black men.

Similar observations might be made regarding the widely-dispersed Gujar race, extending from the Panjab to Gujerat, which takes its name from them; or the great Kol tribes of the Vindhyas; or the Koli of the northern parts of the Bombay Presidency; or the Meo, the Mhair, the Mina, the Ramusi, the Kollari, the Maravar, or the Baidara (Pindara). In the Animally Hills are a whole series of broken tribes. Hamlets of long-haired, wild-looking Puliar, who live on jungle products, mice, or any small animals they can catch, and worship demons; Mundaver, who shrink from contact with the outside world, and possess no fixed dwellings, but wander over the innermost hills with their cattle, sheltering themselves under little leaf sheds, and seldom remaining in one spot more than a year; thick-lipped, small-bodied Kaders, 'Lords of the Hills,' a remnant of a higher race, who file the front teeth of the upper jaw as a marriage ceremony, live by the chase, and wield some influence over the ruder forest folk.

Princes and Chiefs of India.—Around and within the borders of British India are many Native States,—feudatories, tributaries, or in subsidiary alliance; and France and Portugal have small possessions, aggregating 1264 square miles, with populations numbering 729,639 souls. The Native States are as under:—

Central India and Bundelkhand (1881 census, 9,200,881), area, 89,098 sq. m.; pop. 8,360,571—

	Sq. M.	Pop.
Gwalior,	33,119	2,500,000
Indore,	8,435	635,450
Bhopal,	8,200	769,200
Rewah,	13,000	2,035,000
Dhar,	2,500	150,000
Dewas,	2,576	121,809
W. Malwa Agency,	2,922	241,900
Bhopal Ag.,	2,009	236,578
Bundelkhand Agency,	10,567	1,278,000
Baghelkhand Agency,	1,250	235,000
Bhopawur or Bhil Agency		
Goona Ag., Deputy Bhil Ag., Grassia Chiefs,	4,520	157,634

Rajputana (1881 census, 11,005,512), area, 130,989 sq. m.; pop. 10,192,871—

Oodeypur or Mewar,	12,670	1,134,700
Jeypore,	14,465	1,750,000
Jodhpur or Marwar,	37,000	2,850,000
Kotah,	3,797	527,000
Bikanir,	23,500	300,000
Boondee,	2,300	224,000
Kerrowlee,	1,260	140,000
Bhurtpur,	1,974	743,710
Tonk,	2,730	320,000
Kishengarh,	724	105,000
Ulwar,	3,024	778,596
Dholepur,	1,200	250,000
Jeysulmir,	16,447	72,000
Jhallawar,	2,500	331,268
Pertabgurh,	1,460	150,000
Banswarra,	1,500	150,000
Serohi,	3,020	153,000
Doongarpur,	1,000	175,000
Shahpura,	400	36,000
Lawa,	18	2,597
Hyderabad, (1881),	80,000	9,167,789
Berar, ,,	17,711	2,670,982
Baroda, ,,	4,399	2,154,469
Manipur,	7,584	...

Central Provinces, Chutia Nagpur, area, 29,112 sq. m.; pop. 1872, 1,049,710—

	Sq. M.	Pop.
15 mahals, S.W. Frontier Agency, viz.—		
Bastar,	13,000	78,856
Karond or Kalahandi,	3,745	133,483
Raigarh Bargarh,	1,486	63,304
Sarangarh,	540	37,091
Patna,	2,399	98,636
Sonpur,	906	130,713
Rairakhol,	833	12,660
Bamra,	1,988	53,613
Sakti,	115	8,394
Kawardha,	887	75,462
Kondka or Chhuikhadan,	174	29,590
Kanker,	1,000	43,542
Khairagarh,	940	122,264
Nandgaon,	884	148,454
Makrai,	215	13,648

Madras Presidency (1881 census, 3,001,436), area, 9818 sq. m.; pop. 1871, 3,247,689—

Travancore,	6,730	2,311,379
Cochin,	1,361	601,114
Puducottah,	1,380	293,809
Banaganapilly,	207	26,388
Sundur,	140	14,999

Bombay (1881 census, 6,941,631), area, 66,408 sq. m.; pop. 1871, 6,784,482—

Kolhapur,	3,184	802,691
Cutch (excl. of the Runn),	6,500	487,305
Mahi Kanta Agency,	4,000	447,056
Sind (Khairpur),	6,109	127,000
Kattyawar Agency,	20,338	2,312,629
Palanpur,	8,000	502,586
Rewa Kanta,	4,792	505,732
Cambay,	350	83,494
Sawantwari,	900	190,814
Junjeera,	325	71,996
S. Mahratta Jaghirs (8),	2,734	610,434
Satara Jaghirs,	3,508	417,295
Jawhar,	534	37,406
Surat Ag.,	1,081	124,808
Sawanur,	70	6,837
Narukot,	143	47,033
Kandesh Dangs (23 States),	3,840	39,111

N. W. Provinces, area, 5125 sq. m.; p. 636,543—

Garhwal or Tehri,	4,180	129,530
Rampur,	945	507,013

Bengal, area, 37,988 sq. m.; pop. 2,328,400—

Sikkim,	2,600	50,000
CoochBahar, Hill	1,307	532,565
Tiperah,	2,869	91,759
Chutia Nagpur Mahals,	16,025	498,607
Cuttack Mahals,	15,187	1,155,509

Panjab (35), area, 114,742 sq. m.; pop. 5,370,096—

Kashmir and Jummoo,	79,784	1,534,972
Patiala,	5,412	1,586,000
Bahawulpur,	15,000	456,653
Jind,	985	190,475
Nabha,	804	226,155
Kapurthala,	620	258,372
Mandi,	1,000	145,939
Sirmur (Nahan),	1,096	90,000
Kahlur (Bilaspur),	448	60,000
Bushahr,	3,320	90,000
Hindur (Nalagarh),	256	70,000
Keonthal (incl. Ratesh),	116	50,000
Maler Kotla,	164	91,650
Faridkot,	600	68,000
Chamba,	3,216	130,000
Suket,	420	44,180
Kalsia,	168	68,910
Pataudi,	53	20,990
Loharu,	285	19,800
Dujana,	100	27,000
Baghal,	124	22,000
Baghat,	36	10,000
Jubbul,	288	40,000
Kumharsain,	90	10,000
Bhajji,	96	19,000
Mailog,	48	9,000
Balsan,	51	6,000
Dhami,	26	5,500
Kuthar,	20	4,000
Kunhiar,	8	2,500
Mangal,	13	800
Bija,	4	800
Darkuti,	8	700
Taroch,	67	10,000
Sangri,	16	700

Mysore (1881 census, 4,186,399), area, 24,744 sq. m.; pop. 1871, 5,055,412—

Bangalore,	2,901	828,354
Kolar,	1,891	618,954
Tumkur,	3,420	632,239
Mysore (with Yelanduru),	2,980	943,187
Hassan,	1,809	668,417
Shimoga,	3,797	498,976
Kadur,	3,075	333,925
Chitaldrug,	4,871	531,360

French Possessions (1877 census, 280,381), area, 178 sq. m.; population, 285,022—

Pondicherry,	113	156,094
Chandernuggur,	3	22,496
Karikal,	52	92,516
Mahe,	5	8,442
Yanaon,	5	5,474

Portuguese, area, 1086 sq. m.; pop. 444,617—

	Sq. M.	Pop.		Sq. M.	Pop.
Goa, . .	1,062	392,234	Diu, . .	2	13,898
Daman, .	22	38,485			
Straits Settlements, . .	1,443	423,384	Ceylon,	24,702	2,638,540

British Empire of India, its Empress and its Princes.—Since the year 1858, the position of Great Britain has been Imperial. The changes introduced in the government of British India on the suppression of the mutiny, altered the position of the native princes. Up till that time, many native states had affected an equality with the British Indian Government, as administered by the East India Company, and that assumption had even led to a war with Gwalior in 1843. But the mutiny swept away the last relics of the Dehli Empire, and with them the East India Company's rule, and the princes of India found themselves brought face to face with their sovereign, Queen Victoria. The maharaja of Patiala then sought for the recognition of himself and his house as an Indian noble of the British empire. Above all rewards for his great services to the empire in those days, he asked for perpetuity for his house and honours, and Sir John Lawrence, Lieutenant-Governor of the Panjab, worked out the chief's idea into a recognition of the right of adoption on the failure of natural heirs; and, after a reference to Her Majesty's Government, the following sunnud or patent of nobility, of 11th March 1862, was framed:—'Her Majesty being desirous that the governments of the several princes and chiefs of India, who now govern their own territories, should be perpetuated, and that the representation and dignity of their houses should be continued: In fulfilment of this desire, this sunnud is given to you, to convey to you the assurance that, on failure of natural heirs, the British Government will recognise and confirm any adoption of a successor made by yourself, or by any future chief of your state, that may be in accordance with Hindu law, and the customs of your race. Be assured that nothing shall disturb the engagement thus made to you, so long as your house is loyal to the crown, and faithful to the conditions of the treaties, grants, or engagements which record its obligations to the British Government. (Sd.) CANNING.'

The following is a list of princes to whom it has been given, but others have since been honoured with it, and all who hold that patent are nobles of the British Indian Empire:—

Ajeygurh, Raja, Bundelkhand.
Akulkote, Raja, S. Mahratta Country.
Alipoora, Jaghirdar, Bundelkhand.
Bansda, Chief, Kolhapur.
Banswarra, Chief, Rajputana.
Baonee, Nawab, Baonee.
Beejah, Chief, Panjab.
Behree, Jaghirdar, Bundelkhand.
Behut, Jaghirdar, Bundelkhand.
Belaspore, Chief, Panjab.
Benares, Raja, Benares.
Beronda, Raja, Bundelkhand.
Bhaghul, Chief, Panjab.
Bhopal, Begum, Bhopal.
Bhownaggar, Chief, Sholapur.
Bhughat, Chief, Panjab.
Bhujjee, Chief, Panjab.
Bhurtpur, Maharaja, Rajputana.
Bikanir, Maharaja, Rajputana.
Bijawur, Raja, Bundelkhand.
Bijna, Chief, Bundelkhand.
Boondee, Raja, Rajputana.
Bulsun, Chief, Panjab.
Bunganpully, Jaghirdar, Ceded Districts.
Bussahir, Chief, Panjab.
Bustar, Raja, Central Provinces.
8 Callinjer Chobeys, Bundelkhand.
Cambay, Nawab, Cambay.
Cashmir, Maharaja, Panjab.
Chumba, Chief, Panjab.
Chutterpore, Raja, Bundelkhand.
Cochin, Raja, Cochin.
Cooch-Bahar, Raja, Cooch-Bahar.
16 Chiefs Tributary Mahals, Orissa.
Dewas, Chief, Central India.
Dhar, Chief, Central India.
Dhami, Chief, Panjab.
Dholepore, Rana, Rajputana.
Dhoorwye, Chief, Bundelkhand.
Doojana, Nawab, Doojana.
Durkote, Chief, Panjab.
Dhurmpore, Chief, Kolhapur.
Doongurpore, Chief, Rajputana.
Dufflay, Jaghirdar, Satara.
Duttia, Raja, Bundelkhand.
Edur, Chief, Kolhapur.
Furreedkote, Raja, Panjab.
Gerowlee, Jaghirdar, Bundelkhand.
Ghurwal, Raja, N. W. Provinces.
Gourihar, Jaghirdar, Bundelkhand.
Gaekwar, Baroda.
Holkar, Central India.
5 Hasht Bhya Jaghirdars, Bundelkhand.
Hyderabad, Nizam, Hyderabad.
Jeypore, Maharaja, Rajputana.
Jheend, Raja, Panjab.
Jhallawar, Rana, Satara.
Jignee, Jaghirdar, Bundelkhand.
Joobul, Chief, Panjab.
Jodhpur, Chief, Rajputana.
Jusso, Jaghirdar, Bundelkhand.
Jeysulmir, Chief, Rajputana.
Karonde, Raja, Central Provinces.
Keonthul, Chief, Panjab.
Kerrowlee, Chief, Rajputana.
Kishengarh, Chief, Rajputana.
Khulsea, Chief, Panjab.
Kolhapur, Raja, Kolhapur.
Koomharsein, Chief, Panjab.
Koonhiar, Chief, Panjab.
Kotah, Chief, Rajputana.
Kothur, Chief, Panjab.
Kothee, Jaghirdar, Bundelkhand.
Kunnya Dhana, Jaghirdar, Bundelkhand.
Kuppoorthulla, Raja, Panjab.
Kutch, Chief, Gujerat.
Logassie, Jaghirdar, Bundelkhand.
Makraie, Chief, Central Provinces.
Moodhole, Chief, S. Mahratta Country.
Mundee, Chief, Panjab.
Mungal, Chief, Panjab.
Myhere, Chief, Bundelkhand.
Mylog, Chief, Panjab.
Nabha, Raja, Panjab.
Nagode, Chief, Bundelkhand.
Nahun, Chief, Panjab.
Nalagurh, Chief, Panjab.
Nimbalkur, Jaghirdar, Satara.
Nowanuggur, Chief, Kolhapur.
Nyagaon Behai, Jaghirdar, Bundelkhand.
Oodeypur, Maharaja, Rajputana.
Paharee, Chief, Bundelkhand.
Puducottah, Chief, Puducottah.
Punnah, Raja, Bundelkhand
Punt Prithee Nidhee, Satara.
Partabgurh, Raja, Rajputana.
5 Putwurdhuns, S. Mahratta Country.
Patiala, Maharaja, Panjab.
Rajpeepla, Chief Kolhapur.
Rewah, Raja, Bundelkhand.
Satara, Jaghirdars, Satara.
Sawantwari, Chief, Sawantwari.
Serohi, Chief, Rajputana.
Shahpura, Raja, N. W. Provinces.
Sindia, Central India.
Sohawul, Chief, Bundelkhand.
Sooket, Chief, Panjab.
Sundur, Chief, Bellary, in Ceded Districts.
Sumpthur, Raja, Bundelkhand.
Sirdar Shumsher Singh, Sindhanwallah, Panjab.
Sureela, Chief, Bundelkhand.
Tehree, Chief, Bundelkhand.
Tej Singh, Panjab.
Toree, Chief, Bundelkhand.
Travancore, Maharaja, Travancore.
Turoch, Chief, Panjab.
Ulwar, Chief, Rajputana.

The sunnud nobles alone constitute the patriciate of India; they govern a population and area larger than those of France and Belgium. Their troops far outnumber the British European and sepoy army; and their ordnance, even that part of it which is serviceable, is equal in number to the British. According to the *Times* newspaper of 29th July 1879, they have 5252 guns, with 314,625 soldiers, viz. artillerymen, 9390; cavalry, 64,172; and infantry, 241,063.

In 1881 the entire number of princes and chiefs of British India was 601, as under; but only about a fourth part of their number have the patent of hereditary nobility:—

a. Dekhan, viz.:—

Hyderabad, Nawab.	Mysore, Maharaja.
Baroda, Gaekwar.	Kashmir, Maharaja.
Baluchistan, Khan.	

b. Central India Agency, viz.:—

Gwalior, Sindia.	Tonk, Thakur.	Dhangaon, Thakur
Indore, Holkar.	Kharsi Jhalaria, ,,	Karandia, ,,
Dewas, Raja, Senr.	Bagli, ,,	Patharia, ,,
,, ,, Junr.	Bhoja Kheri, ,,	Singhana, ,,

c. Bhopal Agency, viz.:—

Bhopal, Begum.	Larawad.	Dhabla Ghosi, Thakur.
Rajgarh.	Agra Barkhera, Thakur.	Dutahia, ,,
Narsingarh.	Hirapur, ,,	Jabria Bhil, ,,
Khilchipur.	Ranigarh, ,,	Tappa, ,,
Kurwai.	Kamalpur, ,,	Jhalera, ,,
Maqsudangarh.	Darya Kheri, ,,	Duleta, ,,
Muhammadgarh.	Kharsia, ,,	Kakar Khari, ,,
Pathari.	Dhabla Dhir, ,,	
Basoda.		

d. Bundelkhand Agency, viz.:—

Orchha Tehri.	Panna.	Bijawar.
Datia.	Charkhari.	Ch'hatarpur.
Samthar.	Ajaigarh.	Baoni.

Jigni.
Baraunda.
Sarila.
Alipura.
Khamadhana.
Dharwai.
Bijna.
Tori Futtehpur.
Pahari Banka.
Jaso.
Lughasi.
Paldeo.
Pahra.
Taraon.
Bhaisaunda.
Bihat.
Beri.
Gaurihar.
Garrauli.
Kamta Rajaula.
Naigawan Rihai.
Pathar Kachhar.

e. Baghelkhand Agency, viz. :—

Rewa.
Nagode.
Maihar (Myhere).
Sohawal.
Kothi.
Sitpura.

f. Western Malwa Agency, viz. :—

Rutlam.
Sailana.
Jaora.
Sitaman.
Ajrauda, Thakur.
Barra, ,,
Bichraud, ,,
Bilanda, ,,
Dhabri, ,,
Datana, ,,
Jawasia, ,,
Kaluhera, ,,
Lalgarh, ,,
Narwar, ,,
Nangaon, ,,
Naulana, ,,
Panth Piplanda, ,,
Shingarh, ,,
Dhar.
Bakhtgarh.
Jhabua.
Ali Rajpur.
Johat.
Kathiwar.
Kathiwara.
Ratanmal.
Dhai and Dharmrai.
Holkar.
Pitlawad.
Chikalda.
Sindia.
Amjhera.
Dikthan.
Sagar.
Piplia.
Bag.
Bakanir.
Manawar.
Nunkhera.
Kali Baori.
Bara Barkhera.
Chota, ,,
Dhotra, Thakur.
Kachchi Baroda, Thakur.
Barwani.
Jamnia.
Rajgarh.
Kothide.
Garhi.
Bharudpura.
Chiktiahar.
Bagand (of Dewas)
Raghogarh.
Paron.
Umri.
Bhadaura.
Gurra.
Sirsi.
Dharnaoda.
Khaltaun.

g. Rajputana Agency, viz. :—

Oodeypur or Mewar.
Dungarpur.
Partabgarh.
Banswara.
Jeypur.
Kishengarh.
Bhurtpur.
Kerrowlee.
Lawa.
Jeysulmir.
Serohi.
Kotah.
Marwar or Jodhpur
Bikanir.
Tonk.
Boondee.
Shahpura.
Ulwar.
Dholpur.
Jhallawar.

h. Madras, or Fort St. George Government, viz. :—

Travancore.
Cochin.
Puducottah.
Banaganapilly.
Sundur.

i. Bombay, or Fort George Government, i to z, viz. :—

j. Cutch.

k. Palanpur Agency, viz. :—

Palanpur.
Radhanpur.
Tharad.
Morwara.
Wao.
Warahi.
Santalpur.
Chadchat.
Suigam.
Bhabhar.
Kankrej.
Deodar.
Terwara.

l. Mahi Kanta Agency, viz. :—

Edar.
Pol.
Mansa.
Mohanpur.
Sathosna.
Danta.
Malpur.
Ghorasar.
Amalyara.
Ranasan.
Pethapur.
Ilol.
Warsora.
Panadra.
Kharal.
Kalosan.
Walasua.
Dhabha.
Wasna.
Rupal.
Dadhalya.
Magore.
Waragam.
Sathamba.
Ramas.
Bolundra.
Likhi.
Gabat.
Hadol.
Satlasan.
Bhalasna.
Prempur.
Kadoli.
Kherwara.
Dedol.
Tajpuri.
Waktapur.
Hapa.
Dedhrota.
Timba.
Mayona.
Tejpura.
Munadpur.
Deloli.
Kasalpura.
Visroda.
Palaj.
Rampura.
Ijpurâ.
Umadi.
Motakotarna.
Rampura.

m. Rewa Kanta Agency, viz. :—

Rajpipla.
Ch'hota Udepur.
Baria.
Lunawara.
Balasinor.
Sunth.
Kadana.
Sanjeli.
Sankhera Meenas, viz. :—
Mandwa.
Sanora.
Agar.
Sindiapura.
Dewahia.
Wanmala.
Alwa.
Gad.
Wajiria.
Nangam.
Wasan.
Bihora.
Dudhpur.
Wara.

Chorangla.
Deroli.
Wardle.
Sarsanda.
Timbi.
Ghelpur.
Bhiloria.
Rampura.
Jiral Kamsoli.
Churesar.
Nalia.
Pandu Meenas, viz. :—
Mewali.
Gotardi.
Kasla Pagi.
Moka Pagina Muwara.
Sitar Gothra.
Jesar.
Aughad.
Sihora.
Amrapur.
Kanora.
Warnol Mal.
Nahara.
Jumkha.
Umeta.
Bhadarwa.
Dhari.
Raeka.
Ch'hahar.
Waktapur.
Rajpar.
Itwad.
Warnoli Moti.
,, Nani.
Poicha.
Pandu.
Dorka.

n. Political Agency, Kattyawar, viz. :—

Junagarh.
Nawanagar.
Bhaunagar.
Dhrangadra.
Morni.
Wankaner.
Palitana.
Dhral.
Limri.
Rajkot.
Gondal.
Wadhwan.
Jafarabad.
Parbandar.
Wala.
Than Lakhtar.
Bantwa.
Jusdon.
Sayla.
Chora.
Muli.
Lathi.
Bajana.
Kotra Sangani.
Virpur.
Mallia.
Jetpur.
Didan.
Wasawar.
Bagasra.
Wichwawad.
Kuntharia.
Karal.
Kamalpur.
Khumbhlao.
Gedi.
Chuchana.
Chulala.
Jakhun.
Khandia.
Talsana.
Sani.
Dewalia.
Darod.
Pulali.
Bhuthan.
Bhulzamra.
Bhudwana.
Laliad.
Wunala.
Samla.
Sahuka.
Untri.
Ankewalia.
Jhampodar.
Kherali.
Gundiah.
Jhammar.
Dudhrej.
Bhalala.
Rajpur.
Warod (Jhalawar).
Wanna.
Vitalyarh.
Kesria.
Majpur.
Karmar.
Dasara.
Patri.
Jhinjuwara.
Wanod.
Bharejda.
Roi Sankli.
Bahra Chamardi.
Derdi Janhoi.
Kothra Pitha.
Kanpur Ishwara.
Bhadli.
Samadhiala.
Kariana.
Anandpur.
Chotila.
Khambalia.
Palyad.
Bhimora.
Bamanbor.
Mewasa.
Matra Timba.
Sanosra.
Itria Yadhala.
Choliari.
Nilwala.
Sadamra Dhandalpur.
Syapur.
Rampurda.
Akdia.
Bilri.
Amreli (Gaekwar).
Kaner.
Kathrota.
Khijudia Nazani.
Garamli Moti.
,, Nani.
Gadhia.
Charkha.
Jhamka.
Dholarwa.
Bholzan Baldhoi.
Manawad.
Lakhapadar.
Monwel.
Vekria.
Wazwari.
Halaria.
Kamadhia.
Dahira.
Gujasaran.
Randhia.
Khijoria.
Silana.
Kuba.
Dhrafa.
Mulila Deri.
Satodar Waori.
Sisang Chandli.
Menyni.
Bhadwa.
Rajpura.
Gouridar.
Kotharia.
Lodhika.
Pal.
Gatka.
Wadali.
Virwa.
Shapur.
Kanksiah.
Mahuwa.
Khirasra.
Jalia Dewani.
Kotra Nayani.
Amrapur.
Ratanpur Dhamonka.
Chamardi.
Toda Todi.
Katoria.
Pachoura.
Wouri Wacha.
Songarh.
Pacheyam.
Chitrawao.
Ramanka.
Warod (Gohelwar).
Alampur.
Dhola.
Gadhali.
Gadhula.
Khijria.
Bhogawadar.
Samadialla Chaparia.
Limra.
Waori Dharwala.
Wangadra.
Agavej.
Shanala.
Shiroda.
Rajpara.
Paa.
Dedara.
Jalia Managi.
Chok.
Ranjarda.
Shatanes.
Wadal.
Morchopua.
Bhandaria.
Bidanones.
Junopodar.
Sheodiradar.
Rohisala.
Samadrala.
Gandhol.
Datha.
Vejanones.
Ranigam.

o to z. Political Agencies of Kaira, Panch Mahal, Surat, Thana, Kolaba, Kandesh, Satara, Akalkot (Sholapur), Kolhapur and S. Mahratta Country, Sawantwari, Dharwar, Shikarpur, viz. :

Cambay.
Karnkot.
Bansda.

Sachin.	Daplapur.	Chandelghat or Kumdighat.
Dharampur.	Akalkot.	
Jawhar.	Kolhapur and S. Mahratta States, viz.:	South Mahratta States, viz.:
Janjira.		Miraj (senior).
Dang States, viz.	Kolhapur.	,, (junior).
Chikhli.	Vishalgad.	Kurandwad (senior).
Gawahali.	Inchal Karangi.	,, (junior).
Kathi.	Banra.	Jamkhandi.
Singpur.	Kagal.	Mudhol.
Nawalpur.	Kapsi.	Ramdrug.
Nal.	Torgal.	Sangli.
Satara Jaghirs, viz.	Malkapur.	Sawantwari.
Phaltan.	Amba.	Savanur.
Bhor.	Prathanwali.	Khairpur (Sind).
Jath.	Ajra.	
Aundh.		

aa. Bengal, Lieutenant-Governor, viz. :—

Sikkim.	Chang Bhakar.	Baramta.
Cooch-Bahar.	Sarai Kala.	Nazagarh.
Hill Tiperah.	Kharsaman.	Khandpara.
9 *Chutia Nagpur Mahals*, viz. :—	17 *Orissa Mahals*, viz. :—	Daspalla Joraura.
Sarguja.	Talcher.	Tigaria.
Oodeypur.	Dhenkanal.	Nilgiri.
Jashpur.	Ranpur.	Keunjhar.
Gangpur.	Morbhanj.	Pal Lahara.
Bonai.	Bod.	Hindol.
Korea.	Ath' Malik.	At'hgarh.
		Narsinhpur.

bb. N. W. Provinces and Oudh, viz. :—

Garhwal or Tehri.	Rampur.

cc. Panjab Government, viz. :—

Patiala.	22 *Simla Hill States*, viz. :—	Jubbal.
Jhind.	Maler Kotla.	Kumharsain.
Nabha.	Kalsia.	Bhajji.
Bahawulpur.	Sirmur (Nahan).	Mailog.
Chamba.	Kahlwa (Bilaspur).	Balsan.
Kapurthalla.	Bashahr.	Dhami.
Mandi.	Hindur (Nalagarh).	Kuthar.
Suket.	Keonthal.	Kunhiar.
Faridkot.	Baghal.	Mangal.
Pattaudi.	Baghat.	Bija.
Laharu.		Darkuti.
Doojana.		Saroch.
		Sangri.

dd. Central Provinces, viz. :—

Bastar.	Sonpur.	Kondka or Ch'hinkadam.
Karond.	Kaira-Khal.	Kanker.
Raigarh Bargarh.	Baura.	Khairagarh.
Sarangarh.	Sakti.	Nandgam.
Patna.	Kawarda.	Makrai.

ee. Assam, viz. Manipur.

The most powerful of these rulers are the nizam of Hyderabad, the maharajas Sindia, Jeypore, Travancore, Jummoo and Kashmir, Jodhpur, Holkar, Patiala, Oodeypur, Bhartpur, the Gaekwar of Baroda, and the Begum of Bhopal. Some of the princes and nobles are wealthy, as also are many of the great zamindars who hold lands on a permanent settlement, and keep up an almost regal state. Many of them freely aid in schemes for improvement.

Titles.—Asiatics are ceremonious in all the duties of life; they have been so from the most ancient times, and their rulers have likewise had the custom of displaying standards and of using crests or armorial symbols, such as the chank shell, the peacock, a palanquin, a lamp, a lion, a sunshade, an umbrella; these were not humble honours, the satrap of the Greeks being the Chatra-pati, lord of the umbrella. Queen Victoria marked the relative rank of the princes of India by an order in Council of the 26th June 1867, regulating the number of guns to be allowed in saluting them.

8 princes had 21 guns.	5 princes had 13 guns.
9 ,, ,, 19 ,,	31 ,, ,, 11 ,,
13 ,, ,, 17 ,,	11 ,, ,, 9 ,,
17 ,, ,, 15 ,,	

and seven nobles had personal salutes allowed of 13 to 21 guns.

Timur had ⁘ as his arms, supposed to represent the three regions over which he ruled. His full titles in the height of his power were Sultan, Kamran, Amir, Kutb-ud-Din, Timur, Kur Khan, Sahib-i-Kuran, meaning 'sovereign, ruler, noble, polar star of the faith; Timur, of the lineage of sovereign princes, lord of the grand conjunctions.' Amongst other titles, three of the emperor of China are, Tien-tsze, son of heaven; also Kwa-jen, the man who stands by himself, and Kwa Kuin, solitary prince. Anak-Agong, son of heaven, is a title of the raja of Lombok.

In 1808, Fattah Ali Shah, emperor of Persia, instituted the order of the Lion and Sun, Sher-o-Khurshid, to decorate foreign envoys who had rendered services to his government, and it is now given to Persian subjects. In the treaty of peace with Persia of 4th March 1857, the emperor is styled 'His Majesty, whose standard is the sun; the sacred, the august, the great monarch, the absolute king of kings of all the States of Persia.' At the same time, his ambassador, then at the court of France, was styled 'His Excellency, the abode of greatness, the favourite of the king; Firokh Khan, Amin-ul-Mulk, the great ambassador of the mighty State of Persia.'

In Mewar, the bala band, a head fillet, the diadem of the Greeks, is the symbol of honour; in Burma, the tsal-wee chain is a badge of nobility; in China, small globes, or buttons, as they are called, of mother-of-pearl and other substances, are used for distinction. In Burma the figure of a peacock and of a hare are painted on the king's throne, a peacock is borne on the royal standard, and Ne dwet bhu yeng, sun-descended monarch, is one of the Burmese royal titles.

The titular designations of the Mahomedan rulers of Southern Asia are almost all formed of Arabic words, with a few derived from the Persian; but in addressing the chiefs of British India, Arabic, Persian, Hindi, and English words are now all intermixed. Along the borders and within, the ordinary royal titles of Mahomedan princes are amir, khan, khakan, malik, malikah (feminine), mir, nazim, nizam, padshah, shah, shahinshah, sultan, bahādur, jung, khan, daulah, umra, jah, and nawab; royal Hindu titles being adiraja, jam, rae, raja, rao, rana, rawal, maharana, maharawal, rama-raja, siwai, thakur, wali, zamarin; and both Mahomedans and Hindus assume takhallus or literary titles.

The Indian Government addresses the Rajput ruler of Jummoo and Kashmir as 'His Highness Ranbir Singh Bahadur, Grand Commander of the Most Exalted Order of the Star of India, Companion of the Indian Empire, Sipar-i-Sultanat (Shield of the Sovereignty), Councillor of the Empress of India, Honorary General in the Imperial Army, Chief of Jummoo and Kashmir;' similarly Kalab-ali-Khan, the Mahomedan ruler of Rampur, is styled 'His Highness Farzand-i-Dil-Pazir-i-Daulat-i-Inglishia, Kalab Ali Khan, Nawab of Rampur, K.G.C.S.I. and C.I.E.,' the Persian words meaning Heart-loved Son of the British Government. The Governors-General have always followed it. In 1805 Sir George Barlow's seal was engraved with Persian words, signifying the cream of the princes, mighty in dignity, high in honour, exalted in position, the noble of nobles, Sir

George Hilaro Barlow, Baronet, Bahadur, Governor-General of the Countries under the Government of the English Company in India, Devoted Servant of the victorious Emperor Shah Alam Bahadur, 1805, year 1220 Hijri. The British Indian Government has now adopted the practice of the native princes in freely granting titles.

Administration. — In 1784, Mr. Pitt, while Prime Minister of Great Britain, brought in a bill to establish a Board of Control over the East India Company. It consisted of six members of the British ministry. It became known as the India Board, and the duties allotted to it were to check, superintend, and control all acts, operations, and concerns which in any way related to the civil and military government of the East India Company's territories; and a secret committee was at the same time authorized, consisting of the President of the Board of Control, with the chairman, or the deputy-chairman, or one of the East India Company's directors.

The directors of the Company consisted of twenty-four members, elected by the votes of the shareholders. The directors elected their own chairman and deputy-chairman, each of whom received a salary of £500 a year, the pay of each of the other directors being £300. Their patronage was great. Governors for India, commanders-in-chief, judges, and bishops were nominated by the British ministers, but the directors appointed all other covenanted and commissioned officers for the civil, military, medical, and naval services—and they averaged about 374 annually.

The mutiny of the Bengal army, and the rebellion in Northern India, was yet scarcely suppressed in 1858, when, on the 1st September of that year, the Court of Directors was abolished, and the government of British India was transferred from the East India Company to Queen Victoria, and a proclamation to the princes, chiefs, and people was made at Allahabad on the 1st November. A Secretary of State, a member of the British Cabinet, with a Council of fifteen members, took the directors' places. The Council is now appointed for ten years, but may be re-appointed for a further five years for special reasons. In 1861, the Indian Councils Act was passed, augmenting the Councillors by the addition of non-official members, the Governor-General was raised to the rank of Viceroy; and by another Act the supreme courts of Calcutta, Madras, and Bombay were amalgamated with the courts of Sadr Adalat of the three presidencies, and the united body designated the High Court of Judicature.

In the proclamation of 1858, Queen Victoria accepted all the treaties made by the East India Company, disclaimed all desire for extension of territory, or to impose the Christian religion on the people; the public service was declared open to all the Queen's subjects, of whatever race or creed; and royal clemency was extended to all, except such as had taken part in the murder of British subjects. In that proclamation, the British sovereign was designated,—Victoria, by the grace of God, of the United Kingdom of Great Britain and Ireland, and of the colonies and dependencies thereof in Europe, Asia, Africa, America, and Australia, Queen, Defender of the Faith. And subsequent to this, on the 28th April 1876, Queen Victoria assumed the title of Indiæ Imperatrix, Empress of India, with the royal style and titles of Victoria, by the grace of God, of the United Kingdom of Great Britain and Ireland, Defender of the Faith. Proclamation of this was made by the Viceroy on the 1st January 1877, in an imperial camp at Dehli, at which the princes of India were present. The maharajas Sindia of Gwalior and Ranbir Singh of Jummoo were raised to the rank of generals; and the orders of the Bath were bestowed on Sindia and the rajas of Bundi, Bhartpur, Benares, Kolhapur, Dhar, Drandra, the jam of Nawanagar, and the nawab of Banaganapilly. That part of the 1858 proclamation which related to employment in the public service was a repetition of 3 & 4 Will. IV. c. 85, sec. 87, which declared that no native of the said territories, nor any natural-born subject of His Majesty resident therein, shall, by reason only of his religion, place of birth, descent, colour, or any of them, be disabled from holding any place, office, or employment under the said Company.

The British administration in India was long purely that of a military government, and the entire policy necessarily conformed to military necessities. Only towards the middle of the 19th century has the condition of the country permitted its British rulers to throw the energy of the government into the path of peaceful development of its resources. The East India Company had governed the country on the simple terms of cheapness and non-intervention. But India has since taken its character from British rule, and has expressed a more positive policy than before. Great improvements in the laws have been made; more economical justice, more extended education, increased irrigation works, and larger appliances of European capital and energy to the undeveloped resources of the country. The prominent Secretaries of State for India have been Lord Stanley, Sir Charles Wood (Lord Halifax), Earl de Grey, Viscount Cranborne, Sir Stafford Northcote, Duke of Argyll, Marquis of Salisbury, Marquis of Hartington.

British India since 1860 has been subdivided into local administrations: Assam, Bengal, Bombay, British Burma, Central Provinces, Madras, N.W. Provinces and Oudh, Panjab. Berar is temporarily assigned. The Government of India has retained direct control over Ajmir, Berar, the Andaman islands, Nicobar islands, Coorg, the provinces of Central India and Bundelkhand, also over the political relations with Baroda, Hyderabad, Manipur, and Rajputana, and with the princes and tribes on the borders; all these are supervised by a Viceroy and Governor-General in Council. But the presidencies of Madras and Bombay, each with a Governor, Commander-in-chief, and a Council composed of officials, are in direct correspondence with the Secretary of State as well as under the Governor-General. Berar is administered for the nizam of Hyderabad. The provinces are administered by a covenanted civil service, an uncovenanted civil service, and military officers of the staff corps in civil employ. Each province is subdivided into zillahs or districts, under collector-magistrates or deputy collectors and commissioners, with joint, deputy, and assistant magistrates. In the Bengal Presidency, these districts are in most cases grouped into divisions, each under a commissioner, supervised by a revenue board or financial commissioner. In

Great Britain, counties average 1000 square miles in extent. In India, the total number of Districts is about 238. They vary greatly in size and number of inhabitants. The average area is 3778 square miles, ranging from 6612 square miles in Madras to 1999 square miles in Oudh. The average population is 802,927 souls, similarly ranging from 1,508,219 in Madras to 161,597 in Burma. In Bombay there are two revenue commissioners, between whom the superintendence of the collectorates are divided. These revenue commissioners correspond immediately with Government, and are also police commissioners of their divisions.

Madras, Bombay, and Bengal have each a Legislative Council, as well as a High Court of Judicature. These Councils, as well as the Legislative Council of the Governor-General, consist of executive members of Government, of two representatives of the British mercantile community, and two or three representatives of the natives, as extraordinary members. The United North-Western Provinces and Oudh have a High Court, and the Panjab a Chief Court. The Governor-General's Council for making laws, legislates for all India in general, and for the provinces which have no legislatures of their own, in detail, these provinces being represented by officials. Every Act of the three subordinate councils must receive the sanction of the Governor-General before it can become law; and the Secretary of State for India may advise Her Majesty to veto any act of the Governor-General's Council.

The following may be accepted as representing the portions of India governed directly by British officials, and those administered indirectly through native chiefs with subsidiary sovereign powers:—

British,	Sq. m. 902,500	Pop.	191,411,434
Feudatory,	,, 575,263	,,	49,096,627

With the increase of empire, the Governor-General's Council had become overburdened with details, and Lord William Bentinck, Sir Charles (Lord) Metcalfe, Lord Dalhousie, and Mr. Bayley had advised that there should be for all India, one Governor-General, one Supreme Executive Council, one Legislative Council, and one Commander-in-Chief, with four subordinate generals under lieutenant-governors, each with a council or board and four lieutenant-generals, and that details should be left to the local governments. These views, somewhat modified, are being gradually given effect to. In 1853 the Governor-General ceased to exercise any more direct supervision over Lower Bengal than over the rest of India. In 1874 Assam was separated from Bengal and made into a chief commissionership; and in 1877 Oudh and the N.W. Provinces were amalgamated, under a lieutenant-governor. In 1882 there is one Commander-in-Chief of all India, who specially attends to the Bengal army and European corps, with Commanders-in-Chief of the Madras and Bombay Presidencies, all of whom have seats in Council.

Every order issued from any of the secretariat departments of the supreme Government, runs in the name of the Governor-General in Council. Up to Lord Canning's administration, all matters were in truth so disposed of; but Lord Canning remodelled it into the semblance of a cabinet, with himself as president, and each member of the Government now holds a separate portfolio, and, with the permanent Government secretary, despatches the ordinary business connected with it on his own responsibility, only reserving matters of exceptional importance for the opinion of a colleague or the decision of the assembled Council. These bureaux, or secretariats, in 1882, comprise the military, financial, home, revenue, agricultural, and commerce.

The particular branch of administration which Lord Canning and succeeding Viceroys reserved for their own special charge, is the Foreign Office, the duties of which relate to all chiefs and princes in India, and all neighbouring foreign princes beyond the limits. With such nations as Persia and China, where there is a diplomatic representative of the British Government, the Governor-General acts in concert with the British Government.

Under the constabulary system introduced by Act 5 of 1861, each district has a superintendent of police, and the districts are grouped for police purposes into circles, under deputy inspectors-general, while the whole police force of each province is under an inspector-general. The constabulary, except on the North-Eastern and Trans-Indus frontiers, is a purely civil force, organized on the Irish system, and subject in all respects, except internal discipline, to the civil authorities, that is, to commissioners of divisions and deputy-commissioners, or collector-magistrates of districts. The districts are approximately as under:—

Provinces.	Square Miles.	Population.	No.
Bengal,	155,997	68,829,920	44
Assam,	45,303	4,815,157	13
N.W. Provinces,	81,748	32,699,436	37
Panjab,	107,010	22,647,542	32
Oudh,	24,213	11,407,625	12
Central Provinces,	84,208	11,505,149	19
Bombay and Sind,	126,445	23,325,053	24
Berar,	17,711	2,670,982	6
Coorg,	1,572	178,283	6
Madras,	140,333	30,839,181	21
British Burma,	87,220	3,707,646	19
Ajmir and Mairwara,	2,711	453,875	1
Total,	902,500	217,266,248	234

In 1880-81, the Administration cost in India, £1,291,483, which included the salaries of the Governor-General, Governors, Councillors, Secretaries, Political Officers, and Revenue Boards.

The more eminent of the presidents of the Board of Control were, Viscount Castlereagh, the Earl of Minto, Robert Dundas, afterwards Lord Melville, George Canning, Earl of Ellenborough, Charles Grant, Sir John Cam Hobhouse, and Sir Charles Wood, afterwards Lord Halifax.

The famed amongst Governors and Governors-General have been, Warren Hastings, Lord Clive, Earl Cornwallis, Marquis Wellesley, Marquis of Hastings, John Adam, Lord William Bentinck, Sir Charles (Lord) Metcalfe, Marquis of Dalhousie, Earl Canning, and Sir John (Lord) Lawrence.

Of the financial members of the Government of India may be named, James Wilson, Samuel Laing, W. N. Massey, and Sir Richard Temple.

The presidents of mark in the Council of the Government of Fort St. George, were Lord Macartney (1781); Major-General Medows (1788 and 1790) at Bombay and Madras; Lieutenant-General Harris (1798); Lord Bentinck (1803); and Major-General Sir Thomas Munro (1820). Bombay has seen Mountstuart Elphinstone (1819), Sir John

Malcolm (1827), Sir George Clarke, and Lord Elphinstone (1856). Robert Lord Clive (1758 and 1765) distinguished himself alike as a soldier and in civil administration as Governor of Bengal; and since 1854, when Bengal was put under a Lieutenant-Governor, the most eminent have been, Sir George Campbell (1871), Sir Richard Temple (1874), and Sir Ashley Eden (1877–1882).

There were six Lieutenant-Governors of the Panjab in the nineteen years 1859 to 1877, amongst them Sir John (Lord) Lawrence and Sir Robert Montgomery (1859–1865). Between 1856 and 1876 there were seventeen Chief Commissioners of Oudh; and the distinguished Sir James Outram, Sir Henry M. Lawrence, Mr. (Sir) Charles Wingfield, and Mr. (Sir) William Muir were amongst the number.

In the Central Provinces there were thirteen Chief Commissioners in eleven years, 1861–1872.

Amongst others of the officers who distinguished themselves in civil and political administration, may be named Sir Bartle Frere in Sind, Sir John Peter Grant, Sir Henry Pottinger in Sind and China, Sir Charles Edward Trevelyan, Sir Arthur Phayre in Burma, Sir George Balfour in the military finance and controul departments.

The appointments of governors, bishops, commanders-in-chief, judges, filled up by the British ministers, were highly paid, the Governor-General's salary being £25,000 annually, but did not carry any pension. It was customary, however, when pre-eminent services had been rendered, for the Directors to reward them in that manner. Amongst civilians who were thus honoured, may be named Warren Hastings, Marquis Wellesley, Marquis Dalhousie; and the following military officers had special pensions for distinguished Indian services:—

Nott, Sir William, G.C.B.,	£1000
Hardinge, Lt.-Gen. Viscount, G.C.B.,	5000
Gough, Lord, G.C.B.,	2000
Pollock, Major-Gen. Sir George, G.C.B.,	1000
Wilson, Major-Gen. Sir Archibald, Bart., K.C.B.,	1000
Campbell, Sir Colin, Lord Clyde,	2000
Outram, Major-Gen. Sir James, Bart., G.C.B.,	1000
Stewart, Gen. Sir Donald, G.C.B., C.I.E.,	1000
Roberts, Major-Gen. Sir F. Sleigh, G.C.B., V.C., C.I.E.,	1000

The East India Company was uniformly just and liberal-handed to its servants. The action of the British nation towards them has been fitful and uncertain. Lord Clive served the East India Company from 1744. He laid the territorial foundations of the British Indian empire, and returned to Britain in 1767. At first he was well received, but he was subsequently impeached before Parliament, and only escaped trial by his death in November 1774. Warren Hastings' service extended from 1750 till his final return to Britain in 1785. He, too, was well received by the King and Queen; but he, too, was impeached by Messrs. Burke, Fox, and Sheridan for alleged acts of oppression. The trial went on for seven years, and he was acquitted in February 1788. He lived till 1818. Shortly before his death he entered the House of Parliament to give evidence, and all the members rose from their seats to do honour to the aged man. Lord Clive had laid the territorial foundations of the British Indian empire in Bengal. Warren Hastings was the administrative organizer of the dominion, reorganized the Indian service, reformed every branch of the revenue collections, and created courts of justice. The Court of Directors allowed him £4000 a-year.

Army.—The native rulers who preceded the British, and all the existing chieftaincies, have had strongholds on which they placed reliance; and Clive's defence of Arcot, the Bhartpur resistance to Lord Lake, the Gurkha mountain campaign, Mulraj in his hold of Multan, all have indicated that the ways of the people are suitable for that mode of defensive warfare. The British, likewise, have formed fortresses at Calcutta, Madras, and Bombay; also strongholds at Dehli, Allahabad, and Secunderabad; and there are many dismantled forts in various parts of the country, all of which could be held against a sudden rush. But the British have hitherto largely trusted to their readiness to hold the open country. The composition and strength of the British Indian forces have, however, constantly been changed in organization and strength. From the first appearance of the British in India, their soldiers have consisted of European and native troops, the latter being wholly raised and maintained as a part of the Indian army. From 1754 till 1861, the European branch of the army of India has been composed partly of detachments of royal troops of Great Britain, and in part of Europeans specially raised for service in India as a part of the Indian army, both arms being maintained out of the revenues of India.

In 1755 the first British regiment, the 39th Foot, reached India. In 1794 the Indian armies numbered 70,000, including 13,500 Europeans. In 1808, at the end of the Mahratta war, Bengal and Madras had each 64,000, and Bombay 26,500; total, 154,500 soldiers. In 1844 there were 235,446 native soldiers. In 1857 a mutiny occurred of almost all the Bengal native army. At its outbreak, in May of that year, there were in India, as a nominal establishment—European soldiers, 45,000 of all ranks; sepoys, 244,000; semi-military police, 80,000. About 250,000 native troops arrayed themselves against the 45,000 British and about 60,000 native soldiery who stood firm. It was a contest for supremacy, and it was severe; but before the end of the year a Sikh army from the Panjab had increased the reliable native forces to 150,000, before July 1858 the British soldiers had been increased to 80,000 of all arms, and before the middle of 1859 India was re-won. After that revolt the established strength was made to stand at about 66,000 Europeans and 120,000 natives of all ranks; and the year 1879–80 saw the respective numbers at 64,520 and 124,978.

Artillery,	12,232	Europ.	902	Nat.
Cavalry,	4,429	,,	18,548	,,
Infantry,	47,519	,,	102,283	,,
Engineers and Sappers,	349	,,	3,245	,,

The armies of the princes and chiefs of India have always far exceeded those of the British, their numbers being about 300,000, fairly drilled and fairly disciplined.

The table given in the London *Times* of 29th July 1879 shows the strength of the forces kept up by the various princes of India, with the population and revenue of the states furnishing these contingents, viz.:—

States.	Population.	Revenue.	Cavalry.	Infry.	Guns.
Rajputana.					
Udaipur,	1,161,400	£400,000	6,240	15,100	538
Jeypore,	1,900,000	360,000	3,530	10,500	312
Jodhpur,	1,783,600	175,000	5,600	4,000	220
Bundi,	220,000	50,000	200	2,000	68
Kotah,	433,000	250,000	700	4,600	119
Tonk,	182,000	80,000	430	2,288	53
Jhalawar,	220,000	145,000	400	3,500	90
Karauli,	188,000	30,000	400	3,200	40
Kishengarh,	70,000	60,000	150	2,000	35
Dholpore,	500,000	60,000	610	3,650	32
Bharatpur,	650,000	210,000	1,460	8,500	38
Alwar,	1,000,000	160,000	2,280	5,633	351
Bikanir,	539,000	60,000	670	940	53
Jaisalmir,	73,700	50,000	500	400	12
Sirohi,	55,000	80,900	375	350	...
Dongarpore,	100,000	75,000	57	632	4
Banswara,	150,000	300,000	60	500	3
Partabgarh,	150,000	26,240	275	950	12
Western India.					
Baroda,	1,710,400	600,000	3,098	11,000	30
Kolhapur,	546,156	100,000	154	1,502	258
Kachh,	409,522	150,000	300	600	38
Kathyawar,	1,475,685	1,000,000	3,033	15,306	508
Central India.					
Gwalior,	2,500,000	931,000	6,058	16,050	210
Indore,	576,000	300,000	3,000	5,500	102
Bhopal,	663,656	137,625	1,194	4,766	39
Dhar,	125,000	43,700	370	790	4
Dewar,	25,000	42,500	...	...	...
Rewa,	1,280,000	225,000	905	2,000	35
Minor States,	435,000	265,000	2,677	22,163	421
Southern India.					
Hyderabad,	10,666,800	2,000,000	8,202	36,890	725
Mysore,	5,055,412	1,082,000	35	1,000	6
Travancore,	1,262,647	428,500	60	1,211	6
Cochin,	400,000	105,749	...	300	3
Cis-Sutlej States.					
Pattiala,	1,586,000	300,000	3,191	7,185	141
Jhind,	311,000	400,000			
Nabha,	276,000	400,000			
Kalsia,	62,000	13,000			
Malair Kotla,	462,000	10,000			
Faridkot,	51,000	7,500			
Kashmir,	1,500,000	65,000	1,393	18,436	96
Bahawulpur,	365,000	30,000	360	2,484	80
Kapurthala,	212,721	57,700	300	3,275	27
Mandi,	139,259	30,000			
Chamba,	120,000	12,000			
Sakit,	44,552	8,000			
Minor Chiefs,	2,445,492	857,200	4,000	18,000	302
Total,	44,082,002	12,173,614	64,172	241,063	5252

In addition to the troops which the princes and chiefs retain for their own purposes, several of them subsidize parts of the British Indian army; and, in the year 1880–81, their tribute, chouth, contributions for the pay of local corps and succession fees amounted to £742,209.

It has been suggested that the troops of the princes should consist of their own subjects, restricted to the number required for their own territories, and that they should be kept at the highest state of discipline, and well armed, so as to be able to hold their own dominions against any foreign aggression, whilst the British attended to the general defence of India. Of the 7428 strength of the Hyderabad Contingent, more than half have been recruited in Hindustan. Nearly all the men in the Bhopal regiments belong to British territories; and recruits for the Nair Brigade are obtained from Tanjore, Madura, and Tinnevelly.

In 1882, the native non-commissioned officers, drummers, buglers, rank and file, serving in the British Indian army, had been drawn from the following provinces:—

Bengal Sappers and Miners, Artillery, Cavalry, and Infantry.		
N.W. Frontier, beyond British territory,	793	
,, within ,, ,,	1,560	
Derajat,	613	
Panjab proper and Hazara,	15,516	
Cis-Sutlej, including Independent States,	4,696	
Dehli territories,	4,241	
N.W. Provinces, including Rohilkhand,	6,429	
Oudh,	9,104	
Nepal,	4,836	
Central Provinces,	648	
Lower ,,	1,601	
Assam,	366	
Other countries,	16	50,419
Madras Sappers and Miners, Cavalry, and Infantry.		
Northern Circars,	11,977	
Central Carnatic,	8,690	
Southern ,,	2,780	
Bara Mahal,	860	
Ceded Districts,	1,857	
Mysore,	1,890	
Tanjore, Madura, Tinnevelly,	2,145	
Other countries,	951	31,150
Nair Brigade, Tanjore, Madura, and Tinnevelly,		1,434
Mysore Troops, from Mysore (2462), Northern Circars (278), Ceded Districts, Carnatic, and Bara Mahal,		2,912
Bombay Sappers and Miners, Artillery, Cavalry, and Infantry.		
N.W. Frontier, beyond British territory,	207	
,, within ,, ,,	245	
Derajat,	95	
Panjab proper and Hazara,	2,230	
Cis-Sutlej, including Independent States,	14	
Dehli territories,	1,107	
N.W. Provinces, including Rohilkhand,	1,001	
Oudh,	1,915	
Nepal,	2	
Central Provinces,	419	
Lower Provinces,	124	
Assam,	12	
Konkan,	10,662	
Dekhan,	6,155	
Gujerat,	657	
Sind,	792	
Other countries,	14	25,651
Hyderabad Contingent, Artillery, Cavalry, and Infantry.		
N.W. Provinces beyond British territory,	9	
,, within ,,	3	
Panjab proper and Hazara,	255	
Dehli territories,	383	
N.W. Provinces and Rohilkhand,	911	
Oudh,	2,244	
Central Provinces,	58	
Lower Provinces,	16	
Dekhan,	3,414	
Other countries,	203	7,496
Panjab Frontier Force, Artillery, Cavalry, and Infantry.		
N.W. Frontier beyond British territory,	705	
,, within ,,	1,615	
Derajat,	93	
Panjab proper and Hazara,	7,875	
Cis-Sutlej, including Independent States,	1,460	
Dehli territories,	578	
N.W. Provinces, including Rohilkhand,	146	
Oudh,	434	
Nepal,	853	
Central Provinces,	158	
Lower Provinces,	40	13,957
Bhopal Battalion.		
Derajat,	4	
Panjab proper,	16	
Cis-Sutlej, including Independent States,	159	
Dehli territories,	4	
N.W. Provinces,	250	
Oudh,	425	
Central Provinces,	42	
Lower Provinces,	2	902

CENTRAL INDIA HORSE.		
N.W. Frontier beyond British territory,	24	
,, and Trans-Indus within ,,	22	
Derajat,	3	
Panjab proper and Hazara,	244	
Cis-Sutlej, including Independent States,	69	
Dehli territories,	402	
N.W. Provinces and Rohilkhand,	48	
Oudh,	38	
Central Provinces,	156	
Other countries,	1	1,007
MALWA BHIL CORPS,		535
MEWAR BHIL CORPS,		699
ERINPURA Irregular Force, Panjab, Dehli, N.W. Provinces, Oudh,		856
DEOLEE,		857
MHAIRWARA Battalion,		849
		138,285

Wars.—The Natives of British India have hitherto been largely employed in the British Indian armies, because they have been considered equal to any troops that could be brought against them, and because of their comparative cheapness, being healthier, and receiving smaller pay. The following are the annual costs of an artillery, cavalry, and infantry soldier of the native army:—

	Artillery.	Cavalry.	Infantry.
Bengal,	...	Rs.401·13·9	Rs.155·1·11
Madras,	...	512·10·0[2]	173·14·5[4]
Bombay,	Rs.165·5·8	473·13·5[3]	184·7·4[4]
Panjab,	169·5·4[1]	397·6·6	141·2·6
Hyderabad Contingent,	158·14·11	476·14·5	162·5·7
Central India,	...	371·13·1	137·2·8
Rajputana Agency,	...	385·10·10	140·9·2
Average yearly,	Rs.164·13·11	Rs.440·0·3	Rs.156·6·4
Monthly,	13·11·9	36·10·3	13·0·6

[1] Huts provided by the State.
[2] Clothing, accoutrements, hutting, horses, provided by the State.
[3] Good conduct pay, good shooting, not allowed to Bombay Native Cavalry.
[4] Do. including rations at Aden and Burma.

The military charges vary with the conditions of peace or war, but the following table of military expenditure of the three years before the mutiny and of the latest available years, will show the gross military charges during peace and war:—

	In India.	At Home.	Total.	
	£	£	£	
1854–55,	9,501,408	1,559,821	11,261,229	Peace.
1855–56,	10,019,436	1,672,757	11,492,193	
1856–57,	11,013,121	1,770,038	12,783,159	
1857–58,	15,569,925	3,165,958	18,735,883	Mutiny.
1858–59,	21,080,948	4,368,856	25,449,804	
1859–60,	20,909,307	2,730,994	23,640,301	
1874–75,	11,757,381	3,617,778	15,375,159	Peace.
1875–76,	11,725,264	3,583,196	15,308,460	
1876–77,	11,847,191	3,944,921	15,792,112	
1877–78,	12,358,511	4,281,250	16,339,761	Preparing for War.
1878–79,	15,109,553	3,982,935	17,092,488	
1879–80,	17,423,938	4,288,924	21,712,862	War.
1880–81,	23,911,394	4,174,808	28,086,202	
1881–82,	14,644,800	4,085,100	18,730,000	

Difficulties are experienced in separating ordinary and war expenditure, but the total cost of the Afghan war of 1879–82 has been estimated at £21,611,000, namely, £17,551,000 for military operations, and £4,060,000 for frontier railways.

In their wars the East India Company had been almost continuously successful. A reverse was sustained by a brigade in Afghanistan in 1842, and many thousand soldiers and followers perished in retreat. But the most severe trial occurred in 1857 and 1858, in which years the Bengal native army revolted, and many of the Hindu and Mahomedan races rebelled. Much has been put forward as to the cause of that disaffection. In the beginning of 1857 the number of British soldiers had fallen very low. The British regiments withdrawn from India for the operations against Russia had not been replaced in India, and the recruits to maintain the full strengths of the regiments remaining in India had not been supplied, and it has been supposed that the disaffected soldiery of the Bengal army took that opportunity to revolt; but a general impression has been that it had its suggestion in the losses during the Afghanistan and Panjab wars, though doubtless a great change had been effected in the temper of a naturally arrogant oriental race, who respect, almost worship, might, by introducing amongst them rules and regulations suitable only for an army drawn from nations advanced in civilisation.

The contest for supremacy was severe and long continued. In May 1857 there were on the establishment in India—European soldiers, 45,000 of all ranks, furnishing about 36,000 rank and file; native army, 244,000; semi-military police, 80,000; and about 250,000 sepoys arrayed themselves against 45,000 Europeans and about 60,000 reliable native soldiery. The latter, before the end of 1857, were increased to about 150,000, by the addition of a Sikh army from the Panjab, and before July 1858 there were over 80,000 British soldiers in India. The successive features of the revolt and re-establishment of authority were as under:—

Revolt commenced at Barrackpur by the 19th Ben. N.I., 26th Feb. 1857.
Outbreak of the native cavalry at Meerut, 10th May 1857.
Dehli massacre occurred 11th May 1857.
At Ghazi-ud-Din Nuggur the mutineers were defeated on the 30th May 1857.
The Shahjahanpur massacre occurred 31st May 1857.
5th June 1857—Mutiny at Jhansi; on the 8th the massacre occurred.
Massacre at Cawnpur of the Futtehghur fugitives, 12th June 1857.
Massacre at Gwalior occurred 14th June 1857.
Massacre of the British at Cawnpur by Nana Rao, 27th June 1857.
Massacre at Cawnpur, 15th July 1857, by Nana Rao, of British women and children.
20th August 1857—Dehli recaptured.
Lucknow entered 25th August 1857, by Generals Havelock and Outram.
Dehli assaulted 14th Sept. 1857.
Lucknow relieved by General Havelock, 25th Sept. 1857.
The second relief of Lucknow effected by Sir Colin Campbell, 17th Nov. 1857.
Cawnpur relieved by Sir Colin Campbell, 28th Nov. 1857, and the Gwalior Contingent routed.
The battle of Nawabganj in Oudh, 14th June 1858.
Gwalior recaptured by Sir Hugh Rose, 28th June 1858.
10th April 1861—The Indian and British-European armies were amalgamated, and the native armies reorganized.

Since the suppression of the mutiny, the relative proportions of the European and native troops have been changed. The European and native forces in India were as under in the years—

	Europeans.	Natives.		Europeans.	Natives.
1839–40,	35,604	199,839	1858–59,	106,290	196,243
1842–43,	46,726	220,947	1865–66,	73,362	131,317
1856–57,	45,522	232,224	1881–82,	66,066	125,894

In 1857 there were on the establishment, or authorized strength, 6944 European and 8963 native artillery; 3136 European and 30,473 native cavalry. But since the revolt of the native army, the policy has been to augment the European arm, remove all native soldiers from the scientific corps, and reduce their numbers.

The composition and establishment of the Indian army in 1857, 1865, 1879–80, and 1881–82, were as under:—

	1857.		1865.		1879-80.		1881-82.	
	Eur.	Na.	Eur.	Na.	Eur.	Na.	Eur.	Na.
Art.,	6,944	8,963	13,672	1,465	12,232	902	11,141	1,943
Cav.,	3,136	30,473	6,274	14,674	4,420	18,548	4,632	16,739
Inf.,	33,254	185,047	48,945	99,353	47,519	102,283	46,866	94,256
Staff,	H. & C.,		1,406	..	..	..	1,404	..
Engin	eers &	Saps.,	438	2,853	349	3,245	549	3,019
Inval.,	Vets.,	Wrnt.,	1,145	..	..	..	136	..
Total,	43,334	224,483	71,880	118,345	64,520	124,978	64,728	115,957

In 1796 the formation was tried of double battalions, and this continued till the early part of the 19th century.

In 1882 four cavalry and eighteen infantry regiments were reduced, and, excluding local corps, the establishment was fixed at 31 cavalry and 113 infantry regiments, with eight European officers to 550 natives of all ranks in the cavalry, and to 822 natives in the infantry.

Revenue.—Up to the year 1856 the increase of territory had been so continuous, that any comparing of the revenue, expenditure, and debt, of preceding with those of subsequent years, would be uninstructive, except as a matter of history. Since 1792–93, the Carnatic, the Ceded Districts, most of the Dekhan territory ruled over by the Peshwas, the greater part of the North-West Provinces, all the Panjab and Sind, the Central Provinces, part of Burma, Assam, Tenasserim, Orissa, Oudh, Satara, and other parts, have been added to British territory; and even since 1849, when the Panjab wars closed, about a hundred thousand square miles of territory have fallen to the paramount power, with a population of over seventeen millions.

It may, however, be interesting from a historical point of view, to contrast the conditions of 1792–3, 1868–9, and 1881–2.

Year.	Gross Revenue.	Gross Charges.
1792–3,	£8,225,628	£6,940,833
1868–9,	51,657,658	54,431,688
1881–2,	70,981,000	74,999,000

The following have been the amounts of revenues, charges, and debt since 1839–40:—

Year.	Total Receipts.	Total Charges in India & England.	Debt. Millions.
1839–40	£20,124,038	£22,228,011	29
1845–46	24,270,608	25,662,738	38
1849–50	27,522,344	26,960,988	45
1855–56	30,817,528	31,637,530	50
1858–59	...	...	...
1859–60	39,705,822	51,861,720	89
1860–61	...	...	94
1861–62	43,829,472	43,880,100	...
1862–63	45,143,752	45,143,752	96
1863–64	44,613,032	44,613,032	90
1864–65	45,652,897	45,846,418	90
1865–66	48,935,220	48,935,220	90
'66-7 (11 mo.)	42,122,433	44,639,924	93
1867–68	48,534,412	50,144,569	95
1868–69	49,262,691	53,407,334	96
1869–70	50,901,081	53,382,026	101

Amounts of revenues, charges, and debt since 1839–40, *continued*—

Year.	Total Receipts.	Total Charges in India & England.	Debt. Millions.
1870–71	£51,413,686	£49,930,696	104
1871–72	50,110,215	46,986,038	106
1872–73	50,219,489	48,453,817	105
1873–74	49,598,253	51,405,921	107
1874–75	50,570,171	50,250,974	118
1875–76	51,310,063	49,641,118	122
1876–77	55,995,785	58,178,563	127
1877–78	58,969,301	62,512,388	134
1878–79	65,199,602	63,165,356	137
1879–80	68,484,666	69,667,615	153
1880–81	...	...	157

The following will show that there have been great alterations in the Home Charges, owing to financial operations and changes in the rate of exchange:—

Year.	In India.	In Britain.	Year.	In India.	In Britain.
1839-40,	£19,649,045	£2,578,966	1869-70,	£42,791,013	£10,591,013
1845-46,	22,618,671	3,044,067	1875-76,	44,008,789	9,902,958
1849-50,	24,210,051	2,750,937	1879-80,	58,108,249	24,654,558
1855-56,	28,372,901	3,264,629	1880-81,	65,331,500	14,991,577
1859-60,	44,622,269	7,239,451	1881-82,	58,573,400	16,426,600
1865-66,	41,120,924	5,048,228			

Land Tenure.—During all ages, the rulers of India have regarded the land as the property of the state, and the bulk of the public revenues has ever been obtained from it. In 1856 it furnished more than one-half of the total revenues of the East India Company. In 1864–65, during which other taxes were levied, out of a total of £45,652,897, the large revenue of £20,087,728 was obtained from the land. In 1878–79, when the ordinary revenue amounted to £58,624,372, that from the land was £22,330,586. During the 18 years ending 1878–79, the ordinary revenue has been increasing, other branches of revenue having improved faster than that of the land. In that period the land ranged between £19,570,147 in 1862–63 and £22,330,586 in 1878–79, but the total revenue ranged between £43,829,472 in 1861–62 and 58,624,372 in 1878–79.

There are three great forms of tenure on which the land is held, viz. the zamindari, the pattadari, and the ryotwari. The last-named prevails in Madras and Bombay, but in the North-West Provinces and in the Saugor and Nerbadda territories, the zamindari and pattadari tenures exist co-extensively. In Madras and Bombay, therefore, there is a joint ownership of the ryot cultivator and the Government.

Under native rulers, a fixed proportion of the gross produce was taken; but the British Indian Government deals with the surplus or net produce which the estate may yield after deducting the expenses of cultivation; and the directions to the revenue settlement officers provide that at least one-third of this net produce shall always be left to the cultivator as his profit. The native powers usually took at least a half of the produce, and not infrequently more; the British rulers have reduced the charge to an average of about 5 per cent.

The late James Mill, writing on this part of the revenue, remarked: 'As far as this source goes, the people of the country remain untaxed. The wants of Government are supplied without any drain either upon the produce of any man's labour or the produce of any man's capital.' Except the British, under the administrations of Lord Cornwallis and Lord Canning, during whose governments were introduced systems of permanent

settlements of portions of the country and a right to purchase free holdings, every dynasty has kept this source of revenue intact. Grants of the royalties of the lands, in the form of jaghir, were usual; but the joint-proprietorship in the soil has remained in the hands of the communities and descendants of the individuals who cleared it a thousand years ago. Although Mahomedan dynasties have been ruling large portions of India for a thousand years, Mahomedans of Arab, Turk, or Moghul descent, have few lands. Converts to Mahomedanism from Indian races, and Pathan, Brahui, and Baluch tribes, retain their proprietory customs.

In Bengal, in 1793, Lord Cornwallis made a permanent settlement with zamindars, a class of middlemen whom he found collecting land revenues, by which these pay direct to Government a sum equal to a little more than one-half what they receive as rent. By that measure Government ceased to have any direct participation in the agricultural improvement of that part of the country. Statesmen have deemed that arrangement a grave error, which has lost to the State several millions of revenue yearly; and there is now much show of reason in the contention that the landowners might reasonably be called to contribute more largely than at present to the expenses of the State. The land is a source of revenue on which the State can, in all circumstances, confidently rely, and than which none is more easily collected or more willingly paid; and the most recent orders permit a redemption only for the land needed for dwelling-houses, factories, gardens, plantations, and similar restricted purposes.

About 1839, a thirty years' lease was made in the N.W. Provinces, and this has been followed in the Panjab. It is estimated that in this mode the assessment was about two-thirds of the surplus, after deducting the expenses of cultivation, profits of stock, and wages of labour; and in the revised settlements it was reduced to one-half the yearly value.

In the Madras Presidency the zamindari tenure exists in a few localities, but principally in the Northern Circars, since the settlement of 1802. Another system, that of village-renters, is in operation, in which the villagers stand in the place of the zamindar. In the Madras ryotwar system, the Government, as the joint landlord, treats direct with the holder, who is recognised as the proprietor so long as he pays the regulated assessment. He can sub-let, sell, transfer, or mortgage it. The assessment is fixed in money, and does not vary from year to year, unless when water is obtained from a Government source of irrigation. An annual settlement is made, not to reassess the land, but to determine upon how much of his holding the ryot shall pay.

In Bombay the ryotwar system prevails, but the assessment is open to revision every 30 years.

	Acres Assessed.		Incidence per Acre.
	1850.	1875-76.	On dry land
Madras,	9,750,000	20,000,000	4½d. and on irrigated land 5s.
Bombay,	12,500,000	20,300,000	

Where the occupants hold directly of the State, as in the Bombay and Madras Presidencies and parts of Upper India, the tenure is secure: tenants' improvements cannot be made the ground of enhancement, and the tenant can surrender the whole or any part of his holding at pleasure. Where, however, as in Bengal and the North-Western Provinces, a landlord class intervenes between the Government and the occupant of the soil, great uncertainty as to the tenants' rights prevails, and gross oppression is frequently practised. The attention of the Indian Government has been long directed to the subject. But though there are certainly not less than six million peasants in Bengal with small holdings, their troubles and grievances are borne with unbroken silence and in unquestioning submission to the law.

The North-Western Provinces and the Panjab have practically one land system. In that part of India, the village community has preserved its integrity more completely than elsewhere. Government therefore recognises the village, and not the zamindar's estate or the ryot's field.

Oudh, the Indian province most recently acquired, has a peculiar land system, arising out of its local history. The Oudh talukdars resemble English landlords more closely even than do the zamindars of Bengal.

How to provide revenue for legitimate State expenditure is a constant subject of thought to the rulers. The poverty of India makes it a country in which it is a matter of extreme difficulty to raise the necessary revenue. New taxes are not easily found, and they are accepted with great unwillingness. The country needs opening up by roads, railroads, and navigation canals; improvements of rivers and of channels, education and sanitation, are urgently needed; and to accomplish these, money has been obtained by loans. Up till the years of the mutiny, the public debt was usually about eighteen or twenty months of the amount of the gross revenue. Since the mutiny, the debt has been equal to twenty-five or twenty-six months' revenue:—

Year.	Gross Rev. £	Debt. £	Year.	Gross Rev. £	Debt. £
1812-13,	16,336,290	30,313,311	1871-72,	50,110,215	106,981,559
1820-21,	21,352,241	33,010,651	1872-73,	50,219,489	105,470,986
1830-31,	22,019,310	36,880,147	1873-74,	49,598,253	107,534,903
1840-41,	20,851,073	31,233,496	1874-75,	50,570,171	118,446,992
1850-51,	27,625,360	49,349,347	1875-76,	51,310,063	122,570,014
1860-61,	42,728,601	93,036,688	1876-77,	55,995,185	127,320,159
1867-68,	48,053,178	94,055,358	1877-78,	58,969,301	124,631,553
1868-69,	48,531,763	93,583,155	1878-79,	65,199,602	137,868,043
1869-70,	50,901,081	..	1879-80,	68,484,666	151,728,065
Excl. outlay on product. works.			1880-81,	72,559,978	..
1870-71,	51,413,686	104,437,274			

Of the amount raised for revenue, 24 millions in no sense represent taxation, being derived partly from opium, partly from the earnings of public works, and the rest from the gross receipts of departments, such as the post-office, which are on the whole an expense to the state. It in no case exceeds 7½ per cent. of the value of the gross produce; in Madras it is little over 6 per cent., and in the Panjab 5·6 per cent.; while in Bengal and the Central Provinces it sinks to less than 4 per cent. The other items of taxation bring up the total incidence to 4s. per head of the population. Dividing it into classes, and apportioning each tax among the classes who pay it, it may be said generally that the landed class pay, including land revenue, 5s. 6d. per head; the labourers pay 7d. per head on salt, or, assuming a family of three persons, 1s. 9d., equivalent to about four days' wages of a man and his wife. Artisans contribute 2s. apiece, or say the earnings of five working days; traders, 3s. 6d.

In 1878-79 the total gross revenue was £58,624,379.

Land revenue,	£22,330,586
Tributes and contributions from Native States,	703,660
Forest timber and products, also sawn, and miscellaneous,	605,433
Opium,	9,399,401
Services of law,	1,091,734
,, telegraph,	426,694
,, post-office,	911,806
,, railways,	10,822
Public works,	571,076
Canals, irrigation,	168,619
Other sources,	22,404,548

About £19,000,000 was raised by taxation, viz.:

Capitation tax in Burma,	£ ...
Assessed taxes,	900,920
Customs,	2,326,561
Excise on spirits and drugs,	2,619,349
Provincial rates,	2,638,835
Stamps (judicial),	3,110,540
Salt,	6,941,120

In that year the total incidence of taxation on the 200,000,000 of population was under 2s. per head; adding the land revenue, the total burden was about 4s. per head.

The salt revenue is entirely an impost of the British Indian Government, and the quantities and the duties were as under:—

Year.	Quantity. Maunds.	Duty. Rs.	Year.	Quantity. Maunds.	Duty. Rs.
1868-69,	22,733,359	5,46,40,640	1875-76,	25,742,236	5,88,99,582
1869-70,	22,646,384	5,71,50,030	1876-77,	25,457,359	5,99,44,050
1870-71,	23,030,790	5,92,98,280	1877-78,	24,715,214	6,20,10,253
1871-72,	22,783,285	5,73,50,150	1878-79,	25,436,794	6,52,45,882
1872-73,	23,673,343	5,91,59,526	1879-80,	27,318,743	6,92,48,600
1873-74,	23,564,703	5,88,87,627	1880-81,	27,240,489	6,73,50,664
1874-75,	23,972,620	5,91,96,694			

It is a tax which is recognised to press unequally on the means of the people, and there have been repeated modifications of it. In 1882-3, the salt duty was reduced to a uniform rate of Rs. 2 per maund everywhere except Burma and the Trans-Indus districts of the Panjab, where the existing lower rates are maintained. This involved a reduction of duty amounting to 30 per cent. in Bengal, and to 20 per cent. elsewhere. The loss of revenue was estimated at £1,423,000, but this has not been the result. The chief blot on Indian taxation is that it falls too heavily on the poor, and leaves many of the wealthy classes wholly untouched. A rich person, for instance, with a couple of millions in the funds, pays literally no taxation but an infinitesimal charge on the salt which his family consume.

The revenue from opium has been as under:—

Year.	Receipts.	Charges.	Year.	Receipts.	Charges.
1861-62,	£6,359,269	£1,449,465	1871-72,	£9,253,859	£1,596,646
1862-63,	8,056,476	1,856,278	1872-73,	8,684,691	1,814,268
1863-64,	6,331,999	2,306,493	1873-74,	8,324,879	2,001,280
1864-65,	7,361,405	2,376,981	1874-75,	8,556,629	2,341,546
1865-66,	8,518,264	1,894,270	1875-76,	8,471,425	2,218,565
1866-67, (11 mo),	6,803,413	1,677,330	1876-77,	9,122,460	2,841,647
1867-68,	8,923,568	1,874,121	1877-78,	9,182,722	2,661,266
1868-69,	8,453,365	1,720,111	1878-79,	9,399,401	1,698,730
1869-70,	7,953,098	1,820,683	1879-80,	10,319,162	2,067,492
1870-71,	8,045,459	2,014,425	1880-81,	10,480,051	2,028,737

The opium manufactured in British territory is a Government monopoly; but about an equal quantity is prepared in Native States, on which a heavy transit duty is levied. It produces a net sum of £6,000,000 to £7,000,000, which is raised without the smallest hardship, without the smallest suffering, without the smallest complaint from the people of India, and, indeed, is almost the only source of revenue which can be raised in India without inflicting some hardship and causing a great deal of discontent. It has been regarded by many persons in Britain as differing from spirits and other drugs, but there is no difference between them.

Languages.—The languages of British India have been investigated by many of the learned of Europe, and a fairly continuous series of inscriptions on rocks, on pillars, and on copper plates, enable us to trace back the Indian alphabets to the 3d century B.C. The Asoka inscriptions, 250 B.C., were in two characters. The northern variety, or Ariano-Pali, is recognised to be of Phœnician origin; the southern variety, or Indo-Pali, is believed by some scholars to be of western origin, others holding it to be an independent Indian alphabet; and an attempt has been made by General Cunningham to trace its letters back to an indigenous system of hieroglyphics in prehistoric India.

Arabic is the only one of the Semitic tongues to any extent used, and even that only in the Koran, as the sacred book of the Mahomedans. Sanskrit is known to all the learned Brahmans of India, and is the language of their sacred texts. Neither Arabic nor Sanskrit is vernacular. But the Sanskritoid tongues, Hindi, Urdu, Bengali, Cutchi, Gujerati, Konkani, Mahratti, have many infused Arabic and Persian words, and the Urdu has grown out of the union of all of these. The Hindi abounds in Sanskrit words, and has many dialects. The tongues spoken in the whole of Upper India, including the Panjab, from the Himalayan to the Vindhyan range, may be said to be Hindi, as also the languages of Kamaon and Garhwal, all along the sub-Himalayan range as far as the Gogra river; the impure dialect of the Gurkhas, the Brij-bhasa (or Baka, as it is pronounced on the Ganges), the Panjabi, Multani, Sindi, Jataki, Herati, Marwari, and, it is said, Konkani. The Bengali is a form of Hindi, but so highly polished as to be classed as a distinct tongue; and Baluchi and Pushtu have relations with the Sanskritoid tongues. At the close of the census of 1871, it was estimated that 41 millions were speaking Bengali, 4 millions Urya, 2 millions Assamese, 60 millions Hindi, and 40 millions (40,882,537) Urdu. These and their dialects comprise the languages of the Aryan stock.

Dr. Hunter (Imp. Gaz.) supposes the languages of the non-Aryan races to indicate that the earlier occupants of India belonged to three great stocks, which he designates the Tibeto-Burman, Kolarian, and Dravidian. He says of the *Tibeto-Burman* tribes, that in some prehistoric time they had dwelt in Central Asia, side by side with the fathers of the Mongolians and the Chinese; that they crossed over the Himalaya into India by the north-eastern passes, but have continued to cling to the skirts of the Himalaya and their north-eastern spurs; and several of the hill languages in Eastern Bengal still preserve Chinese and Mongolian terms. The Tibeto-Burman tongues prevail southwards through the Eastern Peninsula, till they become intermixed with the Mon Anam, and with the Siamese or Tai group, and finally meet the Malay races in the extreme south of the Eastern Peninsula. The Tibeto-Burman tribes have but little amalgamated, some of them being still in a semi-savage state. The known languages and dialects in use amongst them are

above a hundred, and only a few of them are written tongues. The principal are the Aka, Burmese, Cachari or Bodo, Dhimal, Garo, Gurung, Kanawari dialects, Khyeng, Kuki dialects, Lepcha, Manipuri, Mikir, Miri, Mishmi dialects, Murmi, Naga, Newar, Singpho, Tibetan or Bhuteah, Tipura or Mrung.

The *Kolarians*, another non-Aryan race, are scattered in the north-eastern parts of Central India, and in parts of its Western Peninsula. They also are supposed to have entered India through the north-east passes of the Himalaya. The Santal, the largest of the Kol tribes, dwell in the extreme eastern edge of the table-land, where it slopes down into the Gangetic valley; the Kurku, another Kolarian tribe, inhabit a patch of country about 400 miles to the west, and the Santal and Kurku dialects are almost the same. The Savara, once a great Kolarian nation, mentioned by Ptolemy, are now a broken tribe of woodcutters, dwelling in the forests of the northern part of the Eastern Ghats. Other tribes with dialects of the Kolarian group, are the Mundari, Ho or Larka Kol, the Bhumij, the Korwa, Kharria, the Juang, the Kuri, the Kurku, and the Mehto. These mark distinct and isolated tribes, which have never within historic times held any large portion of the country.

The chief *Dravidian* languages are the Tamil, Telugu, Canarese, Malealam, and Tulu, with several uncultivated dialects of the Tamil and Canarese, viz.: Kudaga or Coorg, Toda, Badaga, Kota, several Gond dialects, also the Kandh or Ku, the Uraon or Dhangar, and Rajmahali or Maler, the Yerakala?, Korawa?, Yenadi, and other broken tribes.

Neither the time of the incoming of the Dravidian tribes nor the routes which they followed, are known. They now occupy much of the northern part and lowland of Ceylon; and nearly all the Western Peninsula, several of them in great nationalities. Mr. Hislop and Dr. Caldwell suppose that they entered India through the N.W. passes, and that some Dravidian and Kolarian tribes converged and crossed each other in Central India, ultimately taking up the positions which the Kol and the Gond hold in the mountainous tracts there, —the great bodies of the Dravidians, however, swerving to the south of the Peninsula, and into Ceylon. Forty-eight millions of people speak Dravidian tongues.

The census of 1871 showed the people speaking Telugu to be 11,610,000 souls in the Madras Presidency, besides whom the south-eastern portions of Hyderabad, westwards to Beder and Dangapura, have Telugu as their vernacular; and Teling colonies are in Mysore, about three millions more.

Tamil is spoken in the Madras Presidency by 14,715,000, with colonies in Ceylon and the Straits, and in all the large cantonments of Mysore and Hyderabad.

The Canarese-speaking people of the Madras Presidency number 1,699,000; but the southern portion of the Bombay Presidency, 2,101,931, and the S.W. part of the Hyderabad Dominions, and most of Mysore, are Canarese, and their total number may be 5½ millions. The Imp. Gazetteer says 9 millions; which seems an over-estimate.

Malealam is spoken by 2,324,000 in the Madras Presidency, and by about 1,902,533 in the Travancore State.

The Tuluva people are ceasing to speak Tulu, only 29,000 now using it, and 640,000 speak the Uriya and hill languages.

How languages and dialects become intermixed even at the present day, is shown by the variety of tongues spoken in the N.W. corner of the Peninsula, forming part of the Bombay Presidency. Mahratti is spoken there by 7,751,497 persons; Gujerati by 3,103,311; Canarese by 2,101,931; Sindi by 2,051,726; Hindustani by 871,421; Baluchi by 149,519; Marwari by 141,229; and Brahui by 24,520. Other eastern languages are represented by 5418 persons speaking Arabic, 634 Bengali, 65 Burmese, 310 Chinese, 26 Kashmiri, 26 Kurgi, 325 Malealam, 2052 Negro dialects, 13 Nepali, 23,966 Panjabi, 8498 Pushtu, 4230 Persian, 45,541 Goanese, 2 Singhalese, 2 Uriya, 7830 Tamil, 110,237 Telugu, 595 Tulu, and 203 Turkish. European languages are represented by 26,340 English, 2 Danes, 3 Dutch, 145 French, 322 Germans, 58 Greeks, 80 Italians, 24 Maltese, 4005 Portuguese.

Mr. E. L. Brandreth, in vol. x. of the Royal Asiatic Society's Journal for 1877, gives the following list of the Non-Aryan languages in India:—

Dravidian.				Kolarian.
Tamil.	Gond dialects, viz.:			Santali.
Tamil, schen.	Maha-deo.	Gaeti.		Mundari.
Malealam.		Rutluk.		Ho or Larka Kol.
Telugu.	Raj.	Madi.		Bhumij.
Canarese.	Maria.			Korwa.
Badaga.	Khond or Ku.			Kharria.
Tulu.	Oraon or Dhangar.			Juang.
Kudaga or Coorg.	Rajmahal or Maler.			Kuri.
Toda.	*Miscellaneous:*			Kurku.
Kota.	Naikude.	Yerukala.		Mehto.
	Kolami.			Savara.
	Keikadi.	Gadaba.		

Tibeto-Burman.

i. Cachari or Bodo.
Mech.
Hojai.
Garo.
Pani Koch.
Deori Chutia.
Tipura or Mrung.

ii. Tibetan or Bhotia.
Sarpa.
Lhopa or Bhutani.
Changlo.
Twang.

iii. Gurung.
Murmi.
Thaksya.
Newar.
Pahri.
Magar.

iv. Lepcha.

v. Dophla.
Miri.
Abor.
Bhotia or Lo.

vi. Aka.

vii. Mishmi dialects.
Chulikata.
Taying or Digaru.
Mijhu.

viii. Dhimal.

ix. Kanawari dialects.
Milchan.
Tiberskad or Bunan.
Sumchu.

x. Kiranti, with 17 dialects, viz. Bahingya, Balali, Chhingtangya, Chourasya, Dumi, Dungmali, Khaling, Kulungya, Lambichhong, Lohorong, Nach-chereng, Rodong, Rung-Chenbung, Sangpang, Thulungya, Wa-ling, Yakha.

ii. Limbu.
Sunwar.
Bramu.
Chepang.
Vayn.
Kusanda.

xi. Naga dialects.
Namsang or Jaipuria.
Banpara or Joboka.
Mithan or Muthun.
Tablung.
Mulung.

xii. Naga dialects.
Khari.
Nougong.
Tengsa.
Lhoto.

xiii. Naga dialects.
Angami.
Rengma.
Arung.
Kutcha.
Liyang or Koreng.
Marām.

xiv. Mikir.

xv. Singpho or Ka Kyen-Jili.

xvi. Burmese; Mugh of Chittagong and Rukhong of Arakan.

xvii. Kuki dialects.		Khyeng.
	Thado.	Manipuri.
	Lushai.	Maring.
	Hallami.	Khoibu.

Arabic, Persian, and Urdu are written in modifications of the same character; Sanskrit, Hindi, Mahratti, similarly; but Gujerati, Bengali, Karnati or Canarese, Malealam, Tamil, Telugu, Tulu, and Uriya have each their own writing character; and since the early part of the 19th century, propositions have been made to substitute for them all the Roman printed and Italian cursive characters, but the suggestion has not been carried out. Sir Erskine Perry, about the middle of the century, successfully advocated the introduction of the Arabic numerals in the official documents of the Madras and Bombay Presidencies.

In summing up this part of the subject, it is necessary to mention that since the middle of the 19th century every educated native of India aspires to an acquaintance with the English; and the public examinations for scholastic and collegiate honours show a comparative neglect of their respective vernacular tongues.

Literature.—The literature of India has marked features. In the north, the Indo-Aryan or Sanskrit language and literature was developed by the Brahmans. To them the Hindus are indebted for their sacred Vedic books, with their Sanhitas, Brahmanas, Sutras, and Upanishads, and for the later Puranas. The Sanskrit writers produced works of great beauty in epic, dramatic, lyrical, and ethno-didactic poetry; from early times, the science of language, philosophy, and astronomy, were highly cultivated by them. Medicine seems to have been an independent development. They advanced the arts of music, painting, sculpture, and architecture. Law and religious worship received great attention; and six darsana or schools of philosophy grew up amongst them, and are still fully recognised.

During the 18th and 19th centuries, many of the learned of Europe and India engaged in the study of the Sanskrit writings; and Aufrecht, Ballantyne, Bhau-Daji, Buhler, Burnell, Burnouf, Colebrooke, Goldstücker, Haug, Kern, Lassen, Max Müller, Rajendra Lal, Roer, Rost, Roth, Schlegel, William Taylor, Weber, Westergaard, M. Williams, and H. H. Wilson have been prominent.

Until the middle of the 19th century, it was customary for Indian students of Sanskrit literature to commit the books to memory, and manuscripts older than the 11th century have not been found. The Vedic hymns detail the mythology and domestic customs of the East Aryans till their arrival in India. The Mahabharata, an epic by a Vyasa, describes a war between the Pandava and Kaurava branches of the Lunar race. Another epic, the Ramayana, by Valmiki, relates the exile of Rama, a Solar prince, and his expedition to the south to recover Sita, his wife, whom Ravana, a ruler of Ceylon, had carried off, and the recognition of his two sons, Kusa and Lava. The Puranas relate to modern Hinduism. The Vishnu Purana is supposed to have been written about A.D. 1045, and the date of the Bhagavat Purana is unsettled. Kalidasa, the author of the Raghuvansa, the Kumara Sambhawa, the Megha Duta, and Sakuntala, was the father of the erotic lyric. Jayadeva, author of the Gita Govinda; the astronomical works of Varaha Mihira, Brahmagupta, and Brahmacharya; and the writings of the physicians Charaka and Susruta, also of Panini the grammarian, B.C. 300; and the stories of the Vrihat Katha and the drama of the Toy Cart, the Mrichch'hakati, and Nala and Damayanti, are known to all Europe. The Hindi vernacular, says Dr. Hunter, owes its development into a written language partly to the folk-songs of the peasantry and the war ballads of the Rajput court bards, but chiefly to the literary requirements of the Vaishnava faith. The three best known sets of their religious treatises are the voluminous works ascribed to Kabir (A.D. 1380–1400) and his followers, preserved in the Kabir Chaura at Benares; also the Grant'h, or scriptures of various Bhagats or Vaishnava religious founders, especially of Dudu in Rajputana, and of Nanak and succeeding gurus of the Sikhs; and the Bhaktamala, or 'Garland of the Faithful,' compiled by Nabaji about the fifteenth century, and popularized by Narayan Das (1627–58), Krishna Das (1713). The Prem Sagar, one of the Vaishnava sacred love songs, relating the loves of Radha and Krishna, is prized throughout all Northern India. Chand, the Hindu court bard of Prithwi Raja of Dehli (1193), wrote the Prithwi Rāsan, a ballad chronicle, one of the earliest poems in Hindi.

But in the south of India the Tamil people, certainly from the earliest centuries of the Christian era, developed an independent literature. Some of their books, written by Pariahs, take a very high place in ethics, as the Tolkappayam; Kural of Tiruvalluvar, a Pariah; the five books of Auvaiyar, the Matron, also a Pariah; the Chintamini; and Nannul. The Rev. Dr. Bower says of Auvaiyar, 'She sang like Sappho; yet not of love, but of virtue.'

The literature of foreign countries has also ever been largely available. Aryans, and Semites, and Turks, and Moghuls, brought with them the writings of their own nations, and, while dominant, contributed largely to the literature of the country. The Arab, Moghul, Turk, and Persian were decidedly literary. Timur wrote his Institutes; the autobiography of Baber was written in Chaghtai Turki; Akbar spoke and wrote in Turki; and up to comparatively recent times, the Turk and Persian formed two distinct, often opposing, parties at Dehli. Sir Henry Elliot and Mr. Dowson's labours in writing a history of India, as told by its own historians, have made known many Arab authors. Persian, during the 18th and 19th centuries, was the court correspondence language of all Mahomedan and Hindu rulers; and since the latter years of the 18th century, the dominant British have given to India numerous works in English, and have made widely known the writings of preceding races. The scheme on which this Cyclopædia has been planned requires separate notices of the chief authors, and their names will therefore be found in their respective places, but Sir William Jones, Mountstuart Elphinstone, Sir Henry Pottinger, and Sir John Malcolm are recognised to have led the way to history and travels. The better known of the Asian writers have been as under:—

Abbas Khan, Sarwani.	Abu-l-Hasan.
Abdullah, Wassaf.	Abu-l-Kasim Hasan bin Ahmad, Ansari.
Abd-ur-Rahim.	Abu Rihan, al Biruni.
Abd-ur-Razzaq.	Abu Talib.
Abu-l-Fada.	Abu Zaid-ul-Hasan, Sirafi.
Abu-l-Fazl.	

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Agastiah (3 of this name).
Ahmad Yadgar.
Amara Sinha.
Amin Raza.
Amir Haidar Husaina.
Amir Khusru.
Amirta.
Amirtasa.
Ananda Bhima.
Ananda Giri.
Ananta.
Angirasa.
Apistambha.
Arya Bhatta.
Asoka Piyadasi.
Atbi.
Atri.
Auviyar (3 of this name).
Baber, Zahir ud Din Mahomed.
Badarayayana.
Bahadur Singh.
Baihaki.
Baizawi, Abu Saeed Abdullah.
Balhar.
Basava.
Bedpai.
Bharadwaja.
Bharata.
Bhava Buta.
Bharavi.
Bhartihari.
Bhaskaracharya.
Bhatta Narayana.
Bhrigu.
Biladuri, Ahmad-bin-Yahya.
Brahmagupta.
Budhayana.
Buddhaghosha.
Callaca.
Casi Rao.
Chaitanya.
Chand.
Charaka.
Daksha.
Darad.
Dhanwantri.
Devala.
Dudu.
Fakhr ud Din, Bina-Kiti.
Garga.
Ghias ud Din Mahomed, Khondamir.
Ghulam Ali Khan.
Ghulam Husain Khan.
Govinda.
Hafiz, Khajah Shams-ud-Din.
Haidar Mirza, Doghlat.
Hamad Ullah, Mustaufi.
Hari Charan Das.
Harnam Singh.
Harsukh Rai.
Ibn Batuta.
Ibn Haukal. [Kasim.
Ibn Kurdadba, Abu-l-
Ibrahim bin Hariri.
Idrisi.
Inayat Husain.
Insha.
Istakhri.
Jahangir.
Jaimini.
Jamal-ud-Din Abd-ur-Razzaq.
Jamadagni.
Jami, Nur ud Din Abd-ur-Rahman.
Janaka.
Jatukarna.
Jauhar.
Jaya Deva.
Jiva Goswami.
Joshash.
Joannes Damascenus.
Jugal Kishwar.
Jurat.
Juwaini.
Jye Singh II.
Kabir.
Kalhana.
Kalidasa.
Kampan, author of Chintamini. ?
Kanada.
Kanva.
Kapila.
Kasyapa.
Katayayana.
Kazwini, Zakaria-ibn-Mahomed.
Kazi Ahmad.
Khair ud Din Mahomed.
Khakani.
Khush'hal Chand.
Kishn Dayal.
Kudrat Ullah.
Kumarila Bhatta.
Kuthumi.
Lakakshi.
Latif.
Lomasha.
Madhavacharya.
Magha.
Mahomed Abd-ul-Baki-ur-Rahim-un-Nahavandi.
Mahomed Ali.
Mahomed Ali Khan.
Mahomed bin Khawand Shah bin Mahmud, *Mirkhond.*
Mahomed Hadi, Kamwar Khan.
Mahomed Kasim Hindu Shah, *Ferishta.*
Mahomed Raza.
Mahomed Yakub-bin-Yusuf.
Manik Kavashar.
Manu.
Manu Lal.
Marichi.
Maruf.
Masudi.
Maulana Ahmad.
Maulana Jalal ud Din, Rumi.
Minhaj us Siraj.
Mir Ghias ud Din Ali.
Mir Ghulam Ali.
Mir Masum.
Mir Taki.
Mirza Masita.
Mirza Mahomed Bakhsh.
Mirza Mahomed Mehdi.
Muazzaz.
Mulla Abdul Kadar.
Mulla Zakhi.
Murari Mistra.
Murtuzzu Husain.
Muzaffar Husain.
Nalodaya.
Nannaya Bhatta.
Naraa.
Nawab Muhabbat Khan.
Nawab Mustajjab Khan.
Niamat Ullah.
Nizami.
Nizam-ud-Din-Ahmad, Bakshi.
Nur-ud-Din-Lutf Ullah.
Nur-ul-Haqq.
Omar Khayyam.
Paksha Dhara.
Panini.
Parasara.
Parthinasi.
Patanjali.
Pitamaha.
Prajapati.
Pulaha.
Pulastya.
Qalandar, Sharf-bu-Ali.
Ramanand.
Ramanuja.
Ram Chatarman.
Ram Parsad.
Rashid-ud-Din.
Rasakh.
Rustam Ali.
Saadat Yar Khan.
Sada Sukh.
Sadi, Shaikh Masalah-ud-Din.
Sadik, Isfahani.
Salihotra.
Sambartta.
Sampantar.
Sankaracharya.
Sarup Chand.
Satananda.
Sauda.
Sawan Singh.
Sayyid Ahmad Khan.
Sayyid Mahomed Bakir Ali Khan.
Sayyid Sabir Ali.
Sayyid Sultan Ali.
Shah Nawaz Khan.
Shaikh Abu-l-Faiz, *Faizi.*
Shaikh Mubarak.
Shaikh Zain.
Shams-i-Siraj, Afif.
Shanka.
Sharf-ud-din, Yazdi.
Shatapa.
Sheo Das.
Sheo Parshad.
Shisupala Badha.
Siva Prikasa Tesikar.
Soorjee.
Soz.
Sri-Harsha.
Subhan Rai.
Sudraka.
Suliman the Merchant.
Sultan Firoz Shah.
Sumantu.
Suraj.
Susruta.
Swayambhuva.
Tandava Murtti.
Tan Sen.
Taranatha.
Timur.
Tiruvalluvar.
Tolkappiyanar.
Tulsi-Das.
Trivikrama-Bhatta.
Umrao Singh.
Ungira.
Ushira.
Valabhachari.
Valmiki.
Vana Bhatta.
Varaha-Mihira.
Vararuchi.
Vashista.
Vatsyayana.
Vemana.
Vishnu.
Visva Mitra.
Vrihaspati.
Vyadi.
Vyasa (28 of this name).
Wali.
Yahya bin Abd-ul-Latif.
Yahya bin Abd-Ullah, Sirhindi.
Yajnavalkya.
Yusuf Mahomed Khan.
Zia ud Din, Banri.

All new books in India are registered under Act xxv. of 1867, and the publications in 1878 were 4913, and in 1879, 4869, as under:—

	1878.	1879.		1878.	1879.
Biography,	22	29	Religion,	1502	1256
Drama,	175	146	Science,	135	146
Fiction,	182	209	,, Natural,	114	53
History,	96	143	Travels and Voyages,	2	4
Language,	612	645			
Law,	249	226			
Medicine,	128	158	Viz. in English and European,	576	523
Miscellaneous,	1042	1065	Vernacular,	3148	3008
Philosophy,	43	90	Indian classics,	516	524
Poetry,	604	691	Diglot, etc.,	673	814
Politics,	7	8			

A few officers of the East India Company's service—Gilchrist and Roebuck for Urdu, Brown and Morris for Telugu, and Molesworth for Mahratti—have done much to purify the vernacular tongues. The Christian missionaries have prepared hundreds of works, suited both for schools and for general circulation, in the fifteen most prominent languages of India and in several of their dialects; they are the compilers of several dictionaries and grammars, and they have written important works on the native classics and the Hindu and Buddhist systems of philosophy. During the ten years from 1852, they issued 1,634,940 copies of the Scriptures, chiefly single, and 8,604,033 school-books and books for general circulation. During the ten years between 1862 and 1872, they issued 3410 new works in thirty languages, and circulated 1,315,503 copies of books of Scripture, 2,375,040 school-books, and 8,750,129 Christian books and tracts. In 1870-71 two valuable works were brought to completion, the revision of the Bengali Bible, and the first

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publication of the entire Bible in Sanskrit. Both these were the work of the Rev. Dr. Wenger of the Baptist Mission in Calcutta. (See Bible.)

In 1852 the scholars numbered 81,000, and in 1872 the number was 142,952. Between 1862 and 1872, 1621 students matriculated out of them, 513 passed the first examination in arts, 154 took the degree of B.A., 18 the degree of M.A., 6 that of B.L. Zanana schools and classes are maintained and instituted through missionary agency for the houses of Hindu gentlemen.

Religions.—The chief religions, represented in one part or other of British India, are eight in number:—

i. Judaism, with the Old Testament from Hebrew.
ii. Christianity, with the New Testament from Greek, and in most of the languages current in the East Indies.
iii. Mahomedanism, with the Koran in Arabic, Persian, Urdu, Tamil, Burmese.
iv. Buddhism, with the Tripitaka in Pali and Sanskrit.
v. Brahmanism, with the Vedas and Puranas in Sanskrit.
vi. Zoroastrianism, with portions of the Zendavesta.
vii. Confucius, ethics in 5 volumes or 'King' in Chinese, viz. Yi, Shu, Shi, Li-ki, and Chun-tsin King, and the four 'Shu' or books, some of which were written by Mang-tsze, the Mencius of European writers.
viii. Lao-tsze system, the Tau-te-Kang book of reason and virtue in Chinese.

The Jewish, the Christian, and the Mahomedan religions originated amongst the Semitic races. The Aryans produced the Brahmanical, Buddhist, and Parsee religions, with their sacred books. The (unchecked) census of 1881 returned as under the followers in British India of the several creeds:—

	Towns and Villages.	Hindus.	Sikhs.	Mahomedans.	Buddhists and Jains.	Christians.	Others and religion not known.	Total.
Bengal, . . .	177,042	38,975,418	...	19,553,831	84,974	90,763	1,797,911	60,502,897
Assam, . . .	10,715	2,679,507	...	1,104,601	1,521	1,947	344,443	4,132,019
N.W. Provinces, .	90,684	26,568,071	1,003	4,189,348	...	22,196	586	30,781,204
Oudh, . . .	24,784	10,003,323	4,752	1,197,704	...	7,761	6,135	11,219,675
Ajmir, . . .	725	376,029	182	57,809	24,308	2,225	169	460,722
Panjab, . . .	35,740	6,125,460	1,144,090	9,337,685	36,190	22,154	945,919	17,611,498
Central Provinces, .	31,555	5,879,772	178	233,247	36,569	10,477	2,041,276	8,201,519
Berar, . . .	5,694	1,912,155	406	154,951	...	903	168,219	2,226,496
Mysore, . . .	19,630	4,807,425	...	208,991	13,263	25,676	57	5,055,412
Coorg, . . .	503	162,489	...	12,541	99	3,152	21	178,302
British Burma, .	15,857	88,177	...	168,881	2,447,831	84,219	143,905	3,736,771
Madras, . . .	55,386	28,863,978	...	1,857,857	21,254	533,760	81,276	31,358,125
Bombay, incl. Sind,	26,652	12,989,329	24,007	2,870,450	191,137	126,063	315,685	16,181,741
Total, . .	...	139,343,820	1,174,436	40,867,125	2,832,851	897,682	5,746,673	190,862,587

The Jews on the western coast (7626) are of little social influence.

The *Parsees*, another small body (69,476), are chiefly in the Bombay Presidency. They follow the modified Zoroastrianism which their ancestors in Persia had formed. They are wealthy and enterprising, are largely engaged in foreign trade, and are taking their share in all municipal and civil duties; but they have never served in the Indian army, nor aided, in arms, any of the Indian rulers who have protected them, and they have hampered themselves with some Brahmanical restrictions. There are Jews of fair and others of black skins, showing that at some former time they made converts, but at present neither they nor the Parsees proselytize; and the same may be said of the Jains and of the Buddhists of India; but Sir J. E. Tennent describes as violent the polemical literature of the Buddhists of Ceylon.

The *Christians* of British India proper, at the last census, were found to be 897,682. They are chiefly numerous amongst the non-Aryan races, particularly in Southern India and in Burma,—533,760 being in the Madras Presidency, 126,063 in Bombay, 84,219 in Burma, and 25,676 in Mysore. In 1875, in Travancore there were 468,518 Christians; in Cochin, 140,417; in Puducottah, 11,360. Christians of the Romish sect in French territory number 33,544, and in Portuguese territory 245,318, which makes 1,038,940 Christians for British India and the Native States. Almost all the Christian sects have missionaries from the Mediterranean to China and the Archipelago, zealous propagandists. The Romish clergymen have been the more successful, though the effect of Dr. and Mrs. Mason's teaching amongst the Karen, and of Dr. Caldwell's amongst the Shanars, has been great. The Protestant missionaries have largely used their influence to promote secular education, and Hindus have widely taken advantage of the opportunities their schools have afforded, to acquire a knowledge of English; the Catholic missionaries from France and Italy having rather fostered the vernacular tongues.

The *Sikh* religionists, 1,174,435 in number, are almost exclusively in the Panjab. They had their origin in the semi-Hindu semi-Mahomedan teachings of Nanak. In the early part of the 19th century they were a compact body, and zealous. They were almost exclusively converts from amongst the Jat, who have largely colonized the Panjab and the Indus valley, and have spread eastwards into the N.W. Provinces. Under the maharaja Ranjit Singh, in the early part of the 19th century, they became a truly formidable sect. Nanak preached the abolition of caste, the unity of the Godhead, and the obligation of leading a pure life. From Nanak, ten gurus are traced down to Govind Singh in 1708, with whom the succession stopped.

The *Buddhists and Jains*, in the 1871 census returns, numbered 2,832,851, and of these 2,447,831 were in Burma. But Chinese from Yunnan are immigrating in great numbers into that part of India, and 3,251,589 was the number returned as dwelling there in 1881.

All the *Burmese* and most of the *Chinese* immigrants follow the teachings of Buddhism. The Tripitika, the sacred book of the Burmese Buddhists, is in Pali; but the Chinese have also brought

with them into Burma, a knowledge of the moral philosophies of Confucius, of Lao-tsze, and Mang-tsze, the Mencius of European writers.

The *Mahomedans* in 1881 numbered in India 40,867,125. They are partly descendants of immigrants from Arabia, and of invading and immigrating races from Persia and Central Asia; but the ancestors of the bulk of those in Bengal (and in 1881 these were near twenty millions [19,553,831], with 1,104,601 in Assam) are recognised to have been of a Mongoloid family whom the Mahomedan conquerors found in that region. Their sacred book, the Koran, has been translated into Persian, Urdu, Tamil, Burmese, and Malay, but it is chiefly read in the original Arabic, and their hadees or traditions have almost equal authority with the Koran.

The political animosity which resulted in the death of Ali and his two sons, continues to separate these religionists into the two great sects of Sunni and Shiah, who, even in British India, barely restrain their animosity. It is a feud of 1300 years. The small Mahdavi sect are fanatical. The Ismaili in India are commercially occupied, and the reforming sect, to whom the designation Wahabi has been given, are apt in their zeal to infuse political questions into their social life. They all distinguish their ethnic, or race, descent by the terms Syud, Shaikh, Pathan, and Moghul, as of Arab, Afghan, Persian, Moghul, and Turk origin respectively, and all the converts are classed as Shaikhs. The Syuds, descendants of Mahomed and Ali, are not numerous, and are quiet-mannered men, and mostly Sunni. Many of the Jat and some Rajput clans, during imperial Moghul sway, adopted the Musalman faith.

Hindu is a term ordinarily applied by Europeans to all the idol-worshippers of India, to all who are not Jews, Buddhists, Jains, Parsees, Christians, or Mahomedans. The people themselves restrict the term to their Sudra section, and distinguish by their caste names the higher caste Brahman, and the Rajput, Kshatriya, and the Seth, Chettiar, Banya, Vaisya, and servile races. The non-Aryan Pariahs and other similar races are never called Hindu. Hindus are eminently followers of some part or other of the religious or philosophical doctrines which the Brahmans teach regarding the chief deities and their incarnations, and to some extent are versed in the mythologic tales about Brahma, Vishnu, and Siva, one or other or all of whom, or their avatars or incarnations, Brahmans of the post-Vedic times have come to regard as supreme. But their worship is largely directed to the wives of the deities, to heroes whom they have deified, to plants, to animals, to sculptured images, to shapeless pieces of wood or stone; also to the sun and moon and planets; and everywhere and amongst all classes, to spirits and snakes, and to the weapons or implements of their avocations; and their theological imaginings are as varied as their gods. Brahma has few shrines,—it is said only one at Bithur; Siva is chiefly worshipped in the lingam emblem, and Vishnu in the form of one or other of the avatars in which he is believed by them to have appeared on earth to save mankind, or to punish arrogance and vice. Saraswati, goddess of learning, the wife of Brahma, has escaped the oblivion into which her spouse has fallen. But Siva and his consort Parvati, and Vishnu, with Lakshmi his spouse, claim as worshippers the bulk of those whom Europeans call Hindus. In 1881, Hindus were returned as 139,343,820 in British India; but there was another body, 5,746,673, whose religion at the time of the census was not ascertained.

Castes.—The numbers of Hindus and their higher civilisation have secured for them a recognised superiority over the non-Aryan aborigines, and over all fragmentary tribes. To these, Hindus apply the term m'hlecha, which has the same signification as Gentile had to the Jew, as Barbarian had to the Greek, and as E has to the Chinese. But the whole of the idol-worshippers, alike Aryan and non-Aryan, are separated from each other into a multitude of sections, who neither eat together nor intermarry, but dwell apart in different sections of their towns. These sections, known to Europeans as castes, are designated by the people, Varna, colours, or Jat or Zat, race. Their Varna and Zat names indicate differences in race, or place of birth, or nationality, or avocation, or even simply of the customs they follow. The number of such separate castes in Bengal alone is not short of a thousand. In Maharashtra Dr. Wilson enumerated 145 castes, 23 of whom were deemed unclean, and not permitted to dwell within the town walls. But, to Europeans, much of the action of the Hindus as to caste purity seems strange. Ghi is a food article in use with every Hindu, and it is carried in great leather bottles; yet the bottle-maker is one of the unclean artisans. Many, perhaps most, of the servile races are broken up nations and tribes whom wars and revolutions in prehistoric times have reduced to their present standing. To Europeans it might even seem impossible, under these conditions, for society to exist; but they are held together by an ordinance of Menu, their lawgiver, who laid down the rule that every man is pure in his respective trade.

Prominent amongst the Hindu castes are the *Brahmans*, though they, too, are separated into small sections by differences of religion, philosophy, and descent. Ages of intellectual culture have produced in them a race of recognised ability. For nearly 3000 years they have filled, under the reigning princes, all important executive and administrative offices. Once only, and that in modern times, they attained to dominion under the title of Peshwa; but their power lasted barely about sixty years, and was destroyed in 1761, by their complete defeat at Panipat.

The *Rajput* is generally accepted as representing the ancient martial Kshatriya. Clans of them hold villages in the N.W. Provinces and Oudh, where they were dominant till the 13th century; but they are still ruling in Rajputana and Gondwana, over aboriginal races, who instal their Rajput princes by making with their blood the tika mark of sovereignty.

The *Vaisya*, a third caste, are at the present day admitted to embrace all the Hindu sections who are engaged in trade; but their physical appearance indicates the most diversified origin.

Sudra, the fourth caste, includes all who are Hindus, other than the Brahman, the Kshatriya, and the Vaisya.

The *Jat* race, who followed and pushed the Rajputs farther into N.W. India, are eminently agricultural and pastoral; and, with the tall, robust Kat'hi, dominant in Kattyawar, are of a stock who still maintain many Scythic rites. There are two Jat sovereignties, Bhurtpur and Dholpur, and

several powerful Jat chiefs in the N.W. parts of India. The Jat in the N.W., the Tamil, Teling, and Canarese in the south, and the Karen on the frontiers of Burma, have given the most numerous converts to Hinduism, as nations.

All the Hinduized aborigines of the Kolarian and Dravidian stocks have been admitted into the *Sudra* section. The major part of the Canarese, the Mahratti, the Tamil, and the Telugu speaking races who are engaged in agricultural occupations, are of this division.

Castes.—It might be thought that one Brahman, or Banya, or Kshatriya family might eat or intermarry with any other Brahman, Banya, or Kshatriya household, or that any one Kunbi, or Kurmi, or Pariah, or Dher might eat with or obtain a wife from others of their own caste; but differences in their tribal or clan descent, or in their occupations, keep them apart. In the many languages current, the names of identical trades and avocations necessarily vary, and even that forms a sufficient reason to keep apart the people following them. The respective castes exercise strict supervision over their members. Fines and penances are imposed on parties who deviate from recognised rules,—even excluding them from their caste. In ancient times, neglect of religious rites seems to have been a reason for depriving a person of caste. Menu says (x. 43, 44) the following Kshatriya tribes have gradually sunk into the state of Vrishala, from the extinction of sacred rites, and from having no communication with Brahmans:—Paundraka, Odra, Dravida, Kamboja, Yavana, Saka, Parada, Pahlava, China, Kirata, Darada, Khasa. At the present day, the penalty of exclusion from caste is inflicted on Hindus who have sailed to Europe, notwithstanding that the mercantile Rajputs of Cutch have been trading for centuries on the east coast of Africa, and Hindus are met with westwards through Central Asia to Russia in Europe. Also, Java and Bali, in the Archipelago, were conquered by a Hindu dynasty, and Bali is still Hindu; the Teling and Tamil soldiery of the Madras Presidency, and the Sikh and Hindu soldiery of the Bengal army, have conquered in Burma, China, Persia, Aden, Egypt, and Abyssinia.

A peculiar feature of the Brahmanical supremacy has been the servile position which they have enforced on the non-Hinduized aboriginal tribes, few of whom have, or only partially, adopted Brahmanism. This is not confined to the semi-barbarous forest and mountain tribes, whose long seclusion has superinduced timidity in intercourse with their fellow-men; but outside the walls of every village throughout British India are families of the Pariah, the Dher, the Mahr, the Mhang, the Ramusi, the Koli, Chamar, the Bhil, the Dhor, the Bhur, the Dom, the Mhair, the Mina, who, since two or three thousand years, have been retained in feudal slavery, who have recognised in succession the Hindu, Buddhists, Mahomedans, and Christians as their masters, and have been doing all the servile work, but have nevertheless adhered to their own fetish forms of worship, uninfluenced by their masters' creeds. Many of them are intellectual. They are brave, truthful, docile, and gentle; but the religion of their village authorities has never commended itself to them. There are small, homeless, broken tribes wandering through the country, as the Bazigar, Doomar, Korawa, Kunjar, Nuth, Sansiah, Yerkala, of whom little is known. They almost all are predatory, and pitch their reed mat or grass huts in lone parts of the outskirts of towns.

Sacred Books.—Hindus arrange the whole of their sacred and learned works under eighteen heads, and speak of them as embracing eighteen kinds of knowledge, viz. the four Vedas, the four Upaveda, the six Anga, the four Upanga.

The *Vedas* of the ancient Aryans, styled the Rig, the Yajur, the Sama, and Atharva, are acknowledged by nearly all Hindu and Jaina sects. They consist of collections of hymns, containing a ritual, are in the Sanskrit language, and are supposed to have been composed about fifteen centuries B.C. The Sanhita of the Rig Veda is the earliest record of the eastern Aryans extant. The Sama Veda is a reproduction of parts of the Rig Veda. The Upanishads are books containing the doctrine of the Vedas explained and enlarged.

The *Puranas*, literally the old books, are eighteen in number, are of different ages, between the 8th or 9th and 14th or 15th centuries A.D. They likewise are written in the Sanskrit language, in simple sloka metre, and each treats of five subjects, viz. (1) the creation of the universe, (2) its progress and the renovation of worlds, (3) the genealogy of gods and heroes, (4) mythological chronology, and (5) heroic history, containing the achievements of demigods and heroes. They superseded the Vedas, and are the proper religious books of the modern Hindus; they are practically polytheistic, and yet essentially pantheistic.

The Hindu systems of *philosophy* are six in number. They grew out of the Upanishads, and are sometimes called the six Sastra, or bodies of learning, sometimes the Shad Darsana, or six Demonstrations. They are, (1) the Nyaya, founded by Gautama, which corresponds to the Peripatetic school; (2) the Vaishishika, by Kanada, corresponding to the Ionic; (3) the Sankhya of Kapila, corresponding to the Italic school; (4) the Yoga, founded by Patanjali, resembles the Stoic philosophy; (5) the Maimansa of Jaimini corresponds to the Platonic; (6) and the Vedanta of Vyasa or Badarayana, is likewise a Platonic philosophy.

Their philosophical speculations as to the nature of the soul and its relation to the Supreme, are derived mostly from three great apostles of the Vedantist schools, who flourished in Southern India, viz. Sankaracharya in the 9th century, his follower Anandagiri, author of the Sankara Vijaya; Ramanuja, a Vaishnava, in the 12th century, and Madhavacharya, a Saiva, a little later, in the 14th century; and their several views have separated them into believers in the Adwaita philosophy of Sankara, the Dwaita of Tirthachari, and the Viseshta-dwaita of Ramanuja.

Charvaka founded the materialistic school of the Hindus; he was the Pyrrho and Epicurus of India.

The Hindu mind, particularly in such as are of Aryan descent, is pre-eminently speculative, always ready to go after some new thing in the region of religion or philosophy. While the Arab, Turk, Moghul, and Persian races have been largely historical in their writings, the Hindu mind has revelled in myths, in poetry, and the drama. Their writings are clothed with images; much in them is beautiful and sublime, but so defective in all that relates to their history, that the dates even of their most famed events, the eras in which their celebrated personages have lived, cannot be

more than guessed at. When, and by whom, their great epics, the Mahabharata and Ramayana, or their sacred Vedas and Puranas, were written, has not been determined. The age in which Krishna lived is only surmised; and although he is now worshipped as an avatar of Vishnu, the date of his apotheosis is only supposed to have been about the 5th century of the Christian era. Neither as to the origin of the Saiva and Vaishnava cults have they any information on which the historian can definitely rely. Amos v. 26 gives more information about the era of Siva than all that the Hindu books contain.

What can be traced of the history of the country since the 8th century, discloses continuous religious movements amongst the people. Devout men, in all grades of Hindu society, have drawn followers around them, forming new sects of greater or less importance. The tendency of all of these has been to enjoin faith in the Supreme; and all the great leaders have founded their views on a belief in the brotherhood of man and the abolition of caste restrictions, but each in succession has become as exclusive as any of the Vaishnava sects from which they separated.

Modern Hindus barely recognise or even know several of the gods of the Vedic times. Indra, the Vedic god of the air and of the heavens, the king of the gods, compared with ancient times, is now seldom alluded to. Varuna, god of the waters, with Pavana, god of the wind, Kama, god of love, and Kartakeya, of war, are in similar neglect. Agni, god of fire, with Surya, the sun, Soma, the moon, Kuvera, god of wealth, and Yama, god of the infernal regions and judge of the dead, are better known. But the prominent deities in their invocations and worship are, Brahma the creating principle, Vishnu the preserving and Siva the destroying principles. Each of these has corresponding female divinities, who are mythologically regarded as their wives, but metaphysically as the active powers which develope the principle represented by each of these divinities. The names of these energies or sakta are respectively, Saraswati, the goddess of learning and eloquence, who continues to be invoked by the learned; Lakshmi, the goddess of plenty, who is worshipped in all households; and Parvati, who is largely worshipped, and is known also as Devi, Bhawani, and Durga. Ganesha is invoked at the commencement of all undertakings, as the remover of difficulties, and as such he presides over the entrances to all edifices.

Siva is entitled Eswara, lord, or Mahadeva, great god. He has many temples under various names, and his usual emblem relates to their physiological idea of the cosmogony.

Many of the deities now worshipped—Balaji, Kandoba, Vithoba—have been local deities in pre-Hindu times, whom the Brahman missionaries admitted into their mythology as incarnations of Vishnu and Siva.

There are many saiva sects:—

Aghori.
Akasmukhi.
Avadhuta.
Brahmachari.
Dandi and Dasnami.
Gudara.
Jangama.
Jogi or Yogi.
Kara Lingi.
Naga.
Nakhi.
Paramahansa.
Rukhara.
Sanyasi.
Sivachari or Sri-Saiva.
Sukhara.
Ukkara.
Urd'ha Bahu.

The more important of the vaishnava sects are:—

Charan-Dasi.
Dadu Panthi.
Harischandi.
Kabir-Panthi.
Khaki.
Mad'havi.
Madhavachari or Brahma Sampradayi.
Maluk Dasi.
Mira Bai.
Naga.
Radha-Vallabhi.
Ramanandi or Ramawat.
Ramanuja or Sri-Sampradaya or Sri-Vaishnava.
Raya-Dasi.
Sad'hna-Panthi.
Sak'hi-Bhava.
Sanyasi.
Sena-Panthi.
Vairagi.
Vaishnava or Veshnab of Bengal.
Vallabhachari or Rudra Sampradaya.

Sakta sects are:—

Dakshina or Bhakta.
Vami or Vamachari.
Kan Chuliya.
Karari.

The Tantras are the Sakta sacred books.

Reformers.—From time to time Hindu reformers have appeared, and at the present day Hindu missionaries are actively extending their faith amongst the forest tribes. The more noteworthy have been Kumarila Bhatta, about the middle of the eighth century, followed by his disciple Sankaracharya, the great apostle of Saivaism in the middle of the ninth century, and his historian Anandagiri; Jayadeva, author of the Gita Govinda, lived about the 12th century; Ramanuja, in the middle of the 12th century; his follower, Ramanand of Benares, about the end of the 14th century; Kabir, a follower of Ramanand, about the end of the 14th and beginning of the 15th centuries (1380–1420); Chaitanya, in the latter part of the 15th century; Valabhacharya, in the beginning of the 16th century.

The tendency of all Hindu reformers has been towards monotheism; and the Sad'h or Sad'hnami, the Siva Narayani, and the Brahmo Samaj'h have been the prominent and important theistic movements of the 19th century. The last originated with Dwarkanath Tagore, and was followed up by Keshab Chandra Sen. Separations early occurred amongst them, but they may be characterized as distinctively monotheists in belief, and philosophical rationalists.

Looking at the ordinary everyday life of the people, it may be said that all classes worship the Grama-devata or village gods, and Griha-devata or tutelary divinities; and demons, the cobra snake, the sun; the spirits of the dead are recognised by all,—spirits of their own ancestors, of other Asiatics and of Europeans, of British and French officers, and ladies of Great Britain, to all of whom sacrifices are made, with offerings of flowers or fruits, or alcoholic fluids. When a pestilence breaks out, the malignant deity whom the pestilence is believed to represent, is conveyed in a procession beyond the bounds of the village with music and banners. This is the Bolwan, and is often a cause of violent quarrel with the villages to which the pestilence has been conveyed.

Religious Mendicants.—Byragi, Gosain, Jogi, and Sanyasi amongst the Hindus, all the Buddhist priests and the Qalandar fakir amongst Mahomedans, are ascetic mendicants, as also are the Man Bhao friars and nuns, and some of the followers of Chaitanya.

Mother-worship is adhered to by all the non-Aryans of the south, in the form of the Ai of the Mahratta, and the Amma or Amman of the Tamil people. It is founded on the physiological idea of development from the female principle, which

they have incorporated into all their cosmogonies, and into their saiva religion. Barth, writing as to one form of mother-worship, says (p. 202) the Vedas have a cultus very similar to that of the Tisro Devi, or the three goddesses. In the Mahabharata they are the mothers of Skanda, the god of war, and appear in the inscriptions of the Chalukya and the Kadamba, and are up to 120 in number in different parts of the country.

Spirit and astral and mother worship, in one form or other, prevails amongst all the Aryan and non-Aryan races in India. With the non-Aryans, malignant demons, bhuta, vetala, pai or pisacha, preta, yaksha, vidyadhara, rakshasha, receive attention; with the Aryan Hindus, it is the manes of ancestors that are worshipped, are brought back to the house to be again released, and have offerings presented to them periodically.

Snake and sun worship are adhered to by all castes and classes professing Hinduism. That of the sun has been continued from Vedic times, is a daily duty, and with special rites at the summer and winter solstice and at the spring and autumn equinox; that of the cobra snake also daily and periodically.

Batho is the name of the chief deity of the Cachari or Bodo. He is represented by the Euphorbia plant, which is grown in the courtyard of every Cachari house. The Euphorbia is also worshipped by tribes in Orissa and in Chutia Nagpur. The Bengali people suppose the Euphorbia ligularia to be sacred to Manasa, the goddess of snakes, and it is worshipped on certain days of June to September.

The tulsi plant, Ocimum sanctum, is sacred to Vishnu; and a small plant of it, grown in every vaishnava courtyard, is worshipped every morning by the women of the house. The leaves and flowers of other trees are offered to their deities,—the Phyllanthus emblica, the Ægle marmelos, and others to Siva, the Ficus religiosa, Melia azadirachta, and others to Vishnu. It is also to Vishnu that the Salagram is sacred, and worshipped daily in every vaishnava home, although it is only an ordinary fossil ammonite from the Gandak river. Murmi of the Nepalese hold the Portax pictus (antelope) as sacred, Murmi being their name for that animal. The Santal believe that a wild goose from the great ocean alighted at Ahiri Pipri, and there laid two eggs, from which issued the two first parents of the Santal race. A heron is the emblem of the Baori tribe, and must not be eaten by them; and the dog also is sacred to them. The Oojla Bhil reverence a white ram, and will not eat any white animal. The Oraon tribes are named after plants and animals, and these are tabooed to the tribes bearing their names.

The *gurus*, or spiritual chiefs, may be men of any caste; indeed, Mira Bai, a woman, was a guru in the 16th century, Sahaji Bai in the 18th century, and the Karta-bhaja of Bengal had a female head. Tiru Valluvar, author of the Kural, was a Pariah. The Valluvar are the priests or pujari of the Pariahs. Auvaiyar, authoress of many ethical works, was a Pariah; Valmiki, author of the Ramayana, is said to have been a Koli; Vyasa, author of the Mahabharata and the Puranas, was the illegitimate child of a Brahman and a girl of the fisher caste; Sankaracharya, the great advocate of the Saiva doctrine, is said to have been of humble origin, but has come to be regarded as an incarnation of Siva. Kabir, also, is revered by his followers as an incarnation of the deity, who style him Jnanin, the seer, the one who has knowledge. He is supposed to have been a real personage, and to have lived about A.D. 1449. He left no writings, but his sayings have been preserved in verse, in which he opposes Hindu superstitions, ridicules the Shastras and Puranas, rejects caste and all idolatry, and demands moral purity.

A Hindu prays to avert evil. A Mahomedan prayer is a meditation on the power and majesty, the wisdom and the mercy of God; the Christian idea of a filial relation on the part of the worshipper to the Being whom he worships, which enables him to lay all his wants before God as before a father, is almost wanting in Islam. The religious services of the prayer ritual of the Mahomedans may be conducted in their mosques or in their homes. In India, the Wāz or sermon is rarely given.

A large part of the landed property of the country is in the hands of religious corporations, and the religious duty of feasting and giving alms to Brahmans is said to be at least as onerous a tax as the liability to tithe. One of the best-intentioned measures of the British Government was the transfer of the funds of Hindu and Mahomedan religious bodies from the exchequer of the state to the custody of trustees elected by the worshippers. This was about the middle of the 19th century; but nothing done by the Government is said to have been more profoundly unpopular. In native opinion, not only are endowments just, but the proper protector of them is the Government. Mr. Hunter even asserts that the deepest grievance of the Indian Musalmans was the compulsion put upon them to elect their own Kazi, or ecclesiastical registrar. They said that his appointment could only be validly made by the Government; and though it was true that the Government was of another faith, such a government was better for these purposes than none at all.

Much has been done by Christian missionaries of all denominations. Nothing is known of the martyred St. Thomas, whose supposed remains are shown in a cathedral in the Madras suburbs, nor is anything certain of the early days of the Cochin and Travancore Christians, who have Sassani or metal title-deeds of early centuries of this era; but the great St. Xavier effected much permanent good around the shores of these countries, and in later times, Dubois, Carey, Ward, Marshman, Rottler, Rhenius, Wilson, Duff, have continued his benevolent labours. The influences of Christianity, spiritual, educational, and social, have been felt far and wide. The downtrodden Shanar and Choga, and the despised Pariah and Pulliar, have been raised from their state of demoralization, while many of the objectionable practices that obtained among the higher castes have either entirely disappeared or been greatly mitigated.

Arts, Manufactures, and Trade.—The artisans of India have been famed from the earliest times for excellence in the decorative and ornamental arts. Sir George Birdwood believes that the secret of their continuous success lies in the fact that the arts of India are indissolubly bound up with the popular institutions of the country, and in the patience, perseverance, and

thoroughness of Indian handicraftsmen. Their skill in architecture, displayed in the grandeur of their designs, their fresco paintings, their work in metals for ornamental jewellery and domestic use, the beauty of their woven fabrics, both silken and mixed, as seen in their Kimkhab, Hemroo, and Mushroo, and the taste displayed in their arrangement of colours, have won the admiration of all nations. Notices of these will be found under their respective headings, and reference also may be made to the articles on architecture, armour, arts, Beder ware, Bombay work, brass, carving, carpets, colours, enamel, inlaying, jewellery, lace, sculpture, shawls, silk.

Since the advent of Europeans, with ways and habits different from orientals, and displacement of the wealthier princes, the high art of Indian workmen has suffered, while the yearly value of the trade in the raw and special products of the country, and in the cheaper manufactures of Europe, has increased. Western Asia and Northern Africa have traded with India from prehistoric times; the land routes have changed with the rise and fall of empires, but Povindah caravans still successfully fight their way from India through Central Asia. Since the early part of the 19th century, the sea-borne traffic has increased twenty-fold. Reference may be made to the headings cotton, gunny, hides, jute, leather, opium, pottery, silk.

The production of some of the articles of older trade—raw silk, shawls, sugar—has decreased; but the exports to foreign countries by land and sea have increased beyond the most sanguine expectations—in 1879-80 to the value of £67,212,363. These consist of wheat, rice, and other food-grains, oil-seeds, hides and skins, fibres of coir, cotton, jute, and wool, cinchona, coffee, tea, tobacco, and opium, with indigo and other vegetable dyes, and coal for internal consumption. On the other hand, importing to the value (1879–80) of £41,166,003, chiefly of manufactured articles. Of the exports, the value of the opium sent abroad was £14,324,146, and of raw cotton £11,145,453; while the imported cotton piece goods, twist, yarn, thread, etc., and of woollens, was valued at £19,669,053, £20,697,511.

The cramping effect of the sair or transit duties on traffic was early recognised, and in the early part of the 19th century they were entirely abolished, and a watch has been kept over the action of the municipalities, in their levy of octroi duties, to prevent the reintroduction of the sair in another form.

The growth which, of late years, has taken place in the foreign trade of India, is due in a large measure to the extension of railway communication. The quantity of merchandise, exclusive of minerals, conveyed by railways, increased from 2,633,687 tons in 1870, when the mileage was 4775, to 9,319,421 tons in 1880, when 9325 miles were open. In the same period, the value of exports increased from £55,336,186 to £74,517,957, and of imports from £34,469,119 to £50,278,875. Wheat and other raw products from the distant Panjab, a thousand miles from the sea, are successfully competing in Britain with the products of America. Coal is worked in Bengal by upwards of 60 collieries, the total output being not far short of 1,000,000 tons per annum. Dye-works, tanneries, soap-works, sugar refineries, silk-works, and paper mills are in operation; the Indian breweries turn out 2,000,000 gallons of beer every year. The success of cotton spinning and weaving mills in Bombay led to an extension of this industry in other parts of India, where there is an abundant population from whom to draw for labour, and who are also the consumers of the manufactured fabrics. The jute mills in Bengal have eclipsed the special industry of Dundee,—Dundee capital and Dundee skill having been transferred from the banks of the Tay to the banks of the Hoogly; and the trade in seeds and cereals in India is sufficient to take off any extra quantity of jute bagging that may be produced. Up to 1882 there had been 58 cotton mills established in India, for mule yarn, mule twist, cotton twist, twist and yarn (St. Tab. Br. Ind., 1882), 44 of them in the Bombay Presidency, where the enterprising Bhattia and Parsee have been the leading races in all mercantile transactions; six of the cotton mills are in Bengal, and three in Madras.

Nothing in the history of commercial progress is more healthy than the course of the trade of India, both foreign and coasting, since the mutiny of 1857. The foreign commerce—and it partly feeds the coasting trade—has more than doubled in value since 1855–1856. The figures show the annual averages for quinquennial periods of both merchandise and treasure:—

Years.	Imports.		Exports.	
	Merchandise.	Treasure.	Merchandise.	Treasure.
	£	£	£	£
1834-5-8-9	4,970,619	2,345,335	11,071,529	251,069
'39-40-3-4	7,691,428	2,762,164	13,789,770	462,792
1844-5-8-9	9,136,126	3,073,249	15,675,044	1,320,504
'49-50-3-4	11,058,538	4,792,802	19,023,095	994,030
1865-66	13,943,494	11,301,288	23,039,268	601,177
1854-5-8-9	15,577,392	11,275,150	24,924,770	922,701
'59-60-3-4	23,971,452	17,091,515	42,146,589	1,022,697
1864-5-8-9	31,696,958	17,617,777	55,862,871	1,801,554
'69-70-3-4	33,036,588	8,264,512	56,252,723	1,590,272
1874-5-8-9	38,363,836	9,858,019	60,324,893	2,809,733
1879–80	41,166,003	11,655,595	67,212,363	2,035,148
1880–81	53,116,770	8,997,214	74,554,232	1,440,441

Details of Foreign Trade, exported in 1880–81, £74,554,232.

Articles.	Denomination.	Quantities.	Value.
Coffee,	cwt.	370,714	£1,602,594
Cotton, raw,	cwt.	4,541,548	13,241,744
,, goods, twist, & yarn,	...	...	3,108,113
Dyes—Indigo,	cwt.	116,870	3,571,585
Rice not in the husk,	cwt.	26,769,355	8,971,667
Wheat & other grains,	...	...	3,739,973
Gums and resins,	cwt.	345,110	475,950
Hides and skins,	...	...	3,735,646
Jute, raw,	cwt.	5,809,815	3,934,030
Manuf. gunny bags,	no.	52,386,227	1,130,722
Lac,	cwt.	88,394	578,333
Oils,	galls.	5,323,282	598,342
,,	cwt.	51,612	
Opium, chests,	chests.	92,190	13,600,148
weighing,	cwt.	127,484	
Provisions,	...	...	366,095
Saltpetre,	cwt.	353,005	351,735
Seeds,	cwt.	10,303,776	6,392,185
Silk, raw,	lbs.	1,509,606	618,287
,, manufactures,	...	...	250,256
Spices,	lbs.	17,671,838	368,771
Sugar,	cwt.	644,531	507,055
Tea,	lbs.	46,918,539	3,099,887
Wool, raw,	lbs.	25,748,121	1,170,624
Wood,	...	...	545,853
Other articles,	...	...	2,594,637

BRITISH INDIA.

Values of Principal Imports into India, £53,116,770.

Cotton piece goods,	£22,640,765
,, twist and yarn,	3,699,273
,, thread and other sorts,	273,549
Metals, raw,	832,920
,, manufactured,	3,014,076
Railway materials and stores,	2,742,689
Machinery and mill work,	835,503
Liquors,	1,537,812
Salt,	665,517
Silk, raw,	1,067,018
,, goods,	1,350,384
Sugar, refined and unrefined,	1,611,157
Woollen goods,	1,466,122
Other articles,	4,778,532

The growth of staples of export, during the twenty years since the mutiny, will be seen from the following instructive figures:—

	1859–60.	1864–65.	1868–69.	1869–70.	1880–81.
Coffee,	£188,532	£801,908	£1,101,384	£861,702	£1,602,594
Cotton, raw,	5,637,624	37,573,637	20,149,825	19,079,138	13,241,744
Indigo,	2,021,288	1,860,141	2,893,823	3,178,045	3,578,585
Rice,	2,276,296	5,573,537	4,210,925	3,020,276	8,971,667
Wheat and other kinds of grain,	312,266	382,871	231,143	132,253	3,739,973
Hides and skins,	444,537	725,236	272,991	393,333	...
Jute,	290,018	1,307,844	1,891,899	1,984,495	3,934,030
Opium,	9,054,394	9,911,804	10,695,654	11,693,330	13,600,148
Seeds,	1,548,721	1,912,433	1,967,215	2,189,002	6,392,185
Silk, raw,	817,853	1,165,901	1,335,400	1,422,076	618,287
Sugar and sugar candy,	1,031,944	765,110	373,506	276,946	507,055
Tea,	...	...	951,376	1,037,883	3,099,887
Wool, raw,	436,672	1,151,002	615,125	465,238	1,170,624

With the increasing imports and exports, the number and tonnage of the shipping engaged in the foreign trade has grown from 2189 vessels, aggregating 314,139 tons, entered and cleared in 1858–59, to 3083 ships of 555,220 tons in 1880–81. The size of the ships trading from Europe has been increased from 300 and 400 to 2000 and 3000 tons, but the trade to other foreign countries continues to be carried in small vessels, averaging 143 and 180 tons.

Annual Average of Gold and Silver Imports and Exports.

Years.	Imports.		Exports.	
	Gold.	Silver.	Gold.	Silver.
1834-5-8-9	£2,374,627		£253,370	
1839-40-3-4	2,890,740		562,686	
1848-49	1,401,748	2,798,628	52,830	2,484,724
1849-50-3-4	1,214,690	3,573,288	60,361	939,897
1854-5-8-9	2,566,900	8,708,130	59,245	859,227
1859-60-3-4	5,905,578	11,185,935	16,040	1,004,154
1864-5-8-9	6,156,460	11,461,317	321,342	1,480,212
1869-70-3-4	3,263,586	5,000,926	190,469	1,399,803
1874-5-8-9	1,682,261	8,175,758	1,042,667	1,767,066
1879-80	2,050,393	9,605,002	299,889	1,735,259
1880-81	3,681,058	5,316,156	16,859	1,423,582

Seasons.—In India generally there are three well-marked seasons, the cold, the hot, and the rainy. The cold season of the year corresponds with that of all northern latitudes, and lasts from the middle of December to the middle or end of February; and although it is only in the N.W. Provinces of Bengal or on the Neilgherry hills in the S., and occasionally on the table-lands of Central India, that the thermometer sinks below the freezing point, the dry winds which then blow over the plains and elevated tracts, cause a sensation of great cold. It is in this season that the thermometer has the greatest daily range, varying from 19° to 39°.

The hot season commences in March. By May the heat is intense everywhere but on the mountains. The rivers dry up, and the earth is scorched and fissured by the great heat. The country seems a desert; all nature is hushed; it is the stillness of the winter of the poles. This is succeeded by a few sultry days in the end of May, the forerunner of the rains of the S.W. monsoon; in June and July this monsoon has carried the rains to almost every part of India, reaching the different provinces according to their proximity to the southern oceans, or to the direction given by the mountains to the winds. The face of the country then becomes green with its natural vegetation and the crops of the cultivators, the rivers are all full, and parts of the lowlands flooded, particularly in Bengal, where in several places the ryots go to their fields on rafts. This monsoon is ushered in with great electric changes, and prevails till the end of September, when it disappears with thunder and lightning as it came; the occurrence of these electric phenomena marking the breaking up of the monsoon. The fall of rain, while this monsoon lasts, varies from 12 to 250 inches in the different provinces, but it is distributed to a greater or less extent over almost all India, the only part deprived of it being the Karnatic, where, so far N. as Ongole, only slight showers fall in July. The hot weather consequently continues in the Karnatic from April until November, when the winds change to the N.E., and bring the rains of that monsoon across the Bay of Bengal.

The N.E. monsoon rains, however, only last for six weeks or two months, and do not extend so far inland as those from the S.W. Indeed, at places in the Western Peninsula within a hundred miles of its Eastern Ghats, it is marked only by the occurrence of heavy showers. At Madras, on the Coromandel coast, the annual fall of rain is about 50 inches.

Besides these, in Northern India a well-marked season of winter rain also occurs, commencing about Christmas and extending to February.

The period and the amount of rain differ greatly in the several provinces of India. The fall is very heavy on the tracts offering a front to the S.W. monsoon, as on the Western Ghats, and on the tract between them and the sea, being as much as 70 to 100 inches at the sea level, and as much as 250 inches on the mountain face. Similarly, along the Tenasserim, Pegu, and Arakan coasts, on the mountains of Assam, and along the foot and outer slopes of the Himalaya throughout its whole extent, reaching 100 inches or more.

The country may be classed generally into three regions,—the portion of India E. of the 80° meridian has a rainfall of more than 40 inches; the portion W. of the same meridian has less than 40 inches; and a third region, in which the fall

is less then 30 inches, includes almost the whole of the Panjab, a considerable part of the N.W. Provinces, a large part of Rajputana and Kattyawar, as well as almost the whole plateau of the Dekhan and Mysore. In Sind, and in the southern portion of the Panjab and most western part of Rajputana, the rainfall is less than 15 inches, and is extremely small and irregular, and the country is either actually desert, or agriculture is only possible with the aid of artificial irrigation.

Wars have aggravated distress; but all Indian famines are caused by drought, and the districts most subject to droughts are the western and southern portions of the N.W. Provinces and that part of the Panjab territory which lies east of the Sutlej, also the western and northern states of Rajputana and of the central plateau which border on the N.W. Provinces; likewise the districts of Bombay above the Western Ghats, the western region of Hyderabad, all Mysore, and the districts of Madras above the Eastern Ghats, and those along the E. coast and at the extremity of the Peninsula. The region whose total rainfall is from 20 to 35 inches has frequently suffered from severe scarcity, and within it have occurred the great famines of 1837-38 in the N.W. Provinces, of 1868-69 in Rajputana, and of 1876-77 over nearly the whole of the Peninsula of Southern India. These were mainly due to the failure of the S.W. monsoon. The drought of 1865-66 and some of the earlier scarcities in the Madras Presidency arose from failures of the rain of the N.E. monsoon on the east coast, a failure which in that year extended into Western Bengal.

How varied are the amounts falling at different places, will be seen from the following list:—

Kotri, ...	Inches 2	Bellary, . . .	Inches 22
Soopa, ...	,, 5	Secunderabad, .	,, 27
Multan, ...	,, 6	Honore, ...	,, 114
Sassur, ...	,, 6	Vingorla, . . .	,, 118
Indapore, ...	,, 7	Darjiling, . . .	,, 130
Sirsa, ...	,, 13	Akyab, ...	,, 219
Lahore, ...	,, 15	Mahabaleshwar, .	,, 254
Jhelum, ...	,, 17	Malcolmpet, . .	,, 262
Coimbatore, . . .	,, 21	Cherrapunji, . .	,, 524

In 1861 the rainfall at Cherrapunji was 805 inches, of which 366 fell in July; 559 and 615 inches also have been measured.

The main agricultural operations of the country correspond with the principal seasons of rain, and their relative importance is in a great degree dependent on the local distribution of the rainfall at the various seasons of the year. Where the natural rains have alone to be relied on, only one crop is obtainable; but with an abundant water supply from inundant channels or tanks, two or even three crops are had, the three harvests being spring (arit), asu or autumn, and paush or winter. The fluctuations of the total rainfall from year to year in all parts of the country are very considerable, and scarcely a year passes free from anxiety as to some part or other of India suffering from scarcity of food, or actual famine, caused by drought.

Famines.—However great may be the injuries from Indian rivers, the area affected by an inundation, though large according to European notions, is really insignificant compared with that ruined by an endless hot season. Even the tidal wave which swept over Sandip in 1876, and Saugor island in 1833, and again in 1864, filling the tanks with brackish water, and sweeping away human beings and cattle, with houses and chattels, in the space of three or four minutes, never produced such intense suffering or left such traces as the famines of Orissa, of the N.W. Provinces, and of the Madras Presidency. In Mysore the famine of 1876-77 is calculated to have caused a loss of population of 1,650,000, another estimate being 2,130,987.

Since 1769, with the exception of Burma, the most eastern parts of Bengal and Sind, hardly any part of India has escaped the visitation of severe famine, and over considerable portions acute distress has recurred frequently. Of 21 famines and scarcities recorded up to 1880 in any part of India, the proportion is 24 years of bad seasons to 85 years of good, or about two bad to seven good; in each case, on an average, one-twelfth of the population of the whole country—that is, about 20,000,000—may be approximately taken as the portion affected, so that the result might be said to be equivalent to a famine or scarcity over the whole country once in 54 years. Of these calamities eight may be classed as intense famines, nine as famines, and four as severe scarcities. Omitting severe scarcities, there have been 17 famines affecting 20 years, and occurring at an average interval of five years. Of the 8 greater famines, affecting 11 years, 5 have occurred in the 19th century, and have affected 202,000,000 of people, so that each on an average has been felt by 40,000,000, or one-sixth of the population of India. In Bengal, during the 110 years over which the records extend, four droughts only have occurred, of which two were very severe. Previous to the Orissa famine in 1866, Bengal had enjoyed complete immunity from famine for 81 years; and on this occasion, as well as in 1873-74, only the western parts of the province were affected. In the N.W. Provinces nine droughts are recorded, of which two were intense and three very serious. The two greatest famines in this part of the country, those of 1783 and 1837-8, were separated by an interval of 53 years; but there was a frequent and highly irregular occurrence of less important droughts. In Bombay nine seasons of drought appear, of which two were extreme; and in Madras there were eight such seasons, of which two were excessive. Excluding Bengal, the average interval between the several recorded droughts, great and small, in any one province, is about 11 to 12 years, and between those of the severest type about 50 years. The Government of India has to be prepared for the occurrence of scarcity, in some degree of severity, and in some part of the country, as often as two years out of every nine; and great famines may be anticipated at average intervals of twelve years. Seasons of drought do not occur simultaneously in Southern and Northern India, though some tendency is shown for a bad year in the north immediately to follow a bad year in the south. On the assumption that no famine is likely to be worse than that of 1876-8, which affected a population of 36,000,000, the Famine Commissioners were of opinion that the largest number likely to be severely affected by famine at one time may be put at 30,000,000, of which 15 per cent., or 4 millions, would probably be in receipt of relief in the worst months, and about seven or eight per cent., or from two to two and a half millions, continuously for the space of a year. It was considered by them that a loss of

harvest amounting to less than 50 per cent. of a full crop will not produce famine; but where the whole out-turn of the year is diminished to 25 per cent., it may be taken as certain that intense famine will prevail; whilst an estimated failure of even a third of the year's out-turn will always demand the utmost vigilance and preparedness on the part of the authorities, as relief measures may at any moment become necessary.

British India grows more grain food than the people require. The Famine Commissioners in their report state that the Madras Presidency, during the terrible visitation of 1876-78, was able to draw on the surpluses of Bengal to the extent of two million tons of food-grain, almost all rice, which was not an extension of a pre-existing trade, but the sudden creation of a new one. The same Commissioners estimated the aggregate surpluses of all the provinces, available in case of need for the supply of each other's deficiencies, and for foreign export, at five million tons in a year free from drought, a condition which rarely exists in all the provinces at once. The following is an estimate of the grains under culture:—

Provinces.	Percentage of Food-grain Area under—			Popn. eating Rice.
	Wheat or Barley.	Millet.	Rice.	Millions.
Panjab, . .	54	41	5	1
N.W. Provinces,	57	34	9	4
Bengal and Assam,	...	...	...	...
Central Provinces,	27	39	34	3
Berar, . .	17	82	1	...
Bombay, . .	7	83	10	2
Madras, . .	...	67	33	10
Mysore, . .	...	84	16	1

With augmenting means of intercommunication, it will daily become easier to deliver the food-grains used by man, but no amount of railway extension can possibly suffice to lay down in a famine district the forage needed by its cattle.

Political and Social Reforms.—Dr. Hunter has recorded the opinion that the modern history of the British in India, as benevolent administrators, may be said to begin with Lord William Bentinck. The inscription upon his statue at Calcutta, from the pen of Lord Macaulay, says: 'He abolished cruel rites; he effaced humiliating distinctions; he gave liberty to the expression of public opinion; his constant study was to elevate the intellectual and moral character of the nations committed to his charge.' His two most memorable acts are the abolition of sati, or widow-burning, and the suppression of the thugs.

Much has been done to promote civil and religious liberty. Up to 1882, about 1000 towns had been granted municipalities, a step towards self-government of the country generally. Liberty of conscience is assured to all classes. A Hindu can change his religion, and retain his property. A Hindu widow can re-marry. Courts of justice have been established, and appeals to the British throne permitted.

A code of criminal law has been introduced, and made applicable to all the people; and in civil law, the different races have had their own traditions applied to them.

In 1833, the British Government determined that a body of substantive law, criminal and civil, should be framed for India, and Mr. (afterwards Lord) Macaulay was appointed head of a commission for this purpose. A penal code was the first fruits of this. In 1853, a Legislative Council for all India was formed of Government officers; but in substitution of this, a supreme legislature was appointed in 1861 for all India, and from 1861 to 1871 a commission in London was engaged in preparing drafts of laws. Up to 1870 they submitted draft Acts for civil and criminal procedure; succession, contract; evidence acts, negotiable securities, and transfer of property bills. A law of limitation has been passed.

The Presidencies of Madras and Bombay, and the Lieutenant-Governorships of Bengal and of the North-Western Provinces, have each a High Court, supreme both in civil and criminal business, with an ultimate appeal to the Judicial Committee of the Privy Council in England. Of the minor provinces, the Panjab has a Chief Court, with three judges; the Central Provinces, Oudh and Mysore, have each a Judicial Commissioner, who sits alone; while in Assam and British Burma, the Chief Commissioner, or supreme executive officer, is also the highest judicial authority; and magistrates and judges, European and native, are in numbers in the districts, with Small Cause Courts in all the great towns.

The laws administered in the Indian courts consist mainly of the enactments of the Indian Legislative Councils (imperial and provincial), and of the bodies which preceded them; also statutes of the British Parliament which apply to India; likewise the Hindu and Mahomedan laws of inheritance, and their domestic law in causes affecting Hindus and Mahomedans; and the traditional customary law affecting particular castes and races.

The Hindu and Mahomedan codes of law are observed in all matters relating to marriage, inheritance, adoption, partition of property, testamentary disposition, management of religious institutions, and the like.

A system of police has been introduced throughout all British India, which has been largely imitated by Native States; and jails have been erected for criminals, in place of the mutilation, blindings, and other barbarous punishments. Hitherto, however, mortality in Indian jails has been far higher than that of the adult population.

Amongst the people, the annual death-rate has been 32·57 per 1000. In the native army, in 1877, it was 13·38 per 1000, and the mortality amongst the European troops was 12·71 per 1000, the lowest on record.

Prisoners.	1877.	1878.	1879.
Convicts, . . .	73	92	76
Under trial, . .	70	45	44
Civil, . . .	22	25	21
Total prisoners, . .	118,456	135,227	122,675

The police force in 1879 had 16,180 officers, and 126,189 men, armed in equal numbers with muskets or swords, or only batons.

The British have endeavoured to lighten the forms of the land tax, as they found it prevailing in the acquired provinces, and the ryotwari, the zamindari, and the village tenures now in force, have resulted from the changes made. The zamindari system resembles that of the estates of Great Britain. As before mentioned, it was introduced into Bengal by Lord Cornwallis in his Code of 1793; and by his permanently alienating districts for a rental far below the present value, there

has been lost to the general revenue millions yearly, while the cultivators have been rendered more dependent than in other parts of the dominion. How to remedy the error of 1793 is a constant thought to the rulers. Under Native rule, a simple order would have done it.

In the land laws enacted in 1859, the British Government have endeavoured to protect the cultivators of Bengal, by classing them into—

(1) Tenants since 1793, whose rents the zamindars could not augment;

(2) Tenants of twenty years' standing, whose rents also could not be increased;

(3) Tenants of twelve years' holding, to whom occupancy rights were granted;

And, in 1879, a commission sat for further inquiry, and the twelve years' tenancy was made into a joint proprietory.

Education.—The British Government has founded universities, with colleges, where classics, with the vernacular tongues, also the sciences, are taught. Under the princes of India, both Hindu and Mahomedan, the learned men had been training scholars, mostly private pupils, in all the branches of learning customary in the east, but there never had been more than one or two Mahomedan or Hindu collegiate institutions. Education has received a continuous attention from the British. Warren Hastings, in 1781, established in Calcutta a Madrassa for the Mahomedans; the Marquis Wellesley formed the College of Fort-William; and Lord Amherst, Sir Thomas Munro, and Lord William Bentinck aided in its advancement. In 1880 there were 71,435 colleges, technical, secondary, and primary schools, with 1,951,909 students. Of these institutions, 40,662 were aided by Government, and 14,286 unaided. The receipts were Rs. 1,62,07,138, and the expenditure Rs. 1,61,59,383.

The desire for education has been vastly stimulated by restricting admission into the employ of Government, to such as pass a successful examination. In Britain, any one may appear for the covenanted civil service or for a commissioned military appointment, but only those who attain the highest marks are accepted—about 16 per cent. Similarly, the great uncovenanted civil service of India is also open to all who are successful in a public examination; in all the services, age being the sole limit. In India, in the ten years 1871-1880, the results of the examinations in the lists of passed candidates were as under at the universities:—

	Passed.	1st Arts.	Arts M.A.	Law.	Medi.	Civil Eng.
Calcutta,	9842	2462	269	687	754	53
Madras,	7106	1553	12	88	37	18
Bombay,	2915	503	29	57	292	243

From the earliest arrival of Christian missionaries, especially in the south of India, parents of all creeds, Christian, Hindu, and Mahomedan, have sent children to their schools, though the education they impart is openly and avowedly founded on a Christian basis. Since the middle of the 19th century, universities, with medical, engineering, and other colleges, have been established at all the great centres of government, where the highest branches of western learning are taught; and by grants of money in aid of private efforts of missionary and educational bodies, the masses have been reached. In 1857 the pupils were 200,000. In 1877 they numbered 1,700,000. Museums have been founded at Madras, Calcutta, Bangalore, Allahabad, Bombay, Travancore, and Nagpur; libraries have been formed in many of the cities and towns; model farms have been opened to instruct in agriculture. Agri-horticultural and botanical societies are aiding in the introduction of economic plants. Great efforts have been made to gather and husband the water supply; to protect the trees by means of a forest department; to discover the causes of cattle murrain, through the agency of the veterinary officers; and a meteorological department has been established to aid in spreading information as to possible droughts.

The literature and history of the country during Buddhist, Hindu, and Mahomedan times, are being traced by the Asiatic societies, which were originated in India by the British in the 18th century. Liberal grants have been annually made for marine, topographical, and trigonometrical surveys, for cadastral field survey, for a geological survey, also for a meteorological department, and for geographical and archæological research.

It is amongst the non-Aryan races that Christian missionaries and Government officers have been most successful in their efforts to impart a higher civilisation. Xavier converted to Christianity many of the fisher races of the Indian and Malacca Peninsulas; Augustus Clevland, a civil servant, did good amongst the races of the jungle Terai of Rajmahal; General Sir James Outram, while yet a young officer, was able to make an impression amongst the Bhils; Colonel Dixon, amongst the Mhair race; the Rev. Dr. Mason and Mrs. Mason, among the Karen; and Bishop Caldwell, amongst the Maravar and Shanar.

In ancient times the Hindus had a really scientific acquaintance with the practice of therapeutics and surgery. They appear to have acquired their knowledge and skill from dissection and other methods similar to that of modern Europe; and it is to the rigid imposition of the shackles of caste, forbidding contact with dead or morbid matter, that the decline of this science is to be attributed. But since the early part of the 19th century, the Brahmanical races of Bengal have again taken to the study of medicine.

Private and official correspondence have been largely facilitated by the British. A letter under a tola (180 grains) is carried from one end of India to another for half an anna, equal to 0·75 of a penny. In 1871 the letters, etc., sent through the post-office were 85,689,823. In 1880 the number rose to 142,977,644; but above one-third of all the letters were registered. Improved postal services, with the introduction of telegraphic communication, the opening of roads, railroads, and canals, and the construction of bridges, have done much to extend the range of commerce, and of these the influence of railroads and the Suez Canal has been marked. The Suez Canal is 100 miles long, and ships of many thousand tons burden pass through it.

In 1857 there were 274 miles of railway open. In 1876 there were 6832 miles, and at the commencement of 1881 there were 9619 miles of railway open to traffic, and 646 under construction. During the year 1881, 318 were opened to traffic, and the commencement of 1482 miles was sanctioned. The total capital outlay on railways to the end of 1883 will be £138,937,000,

namely, £68,292,000 on guaranteed railways, £31,852,000 on state lines, and £38,793,000 on the East India Railway.

In 1857 there were 1,825,000 passengers by rail; in 1875, 26,779,000; and in 1880, 48,040,940½, besides season ticket holders. The Government have opened the great thoroughfares, the great trunk lines. They have secured a certain amount of communication between all parts of India; but there remain great tracts of country, some extremely rich in agricultural wealth, some rich in mineral wealth, which have not yet been opened up.

Irrigation.—Canals, inundation channels, dams, and wells, have been constructed both by former rulers and by the British, in order to obtain water for irrigation; and some of the ancient and modern works are on a gigantic scale. Of the cyclopean Ghorbasta builders of Baluchistan, nothing is known; but to have undertaken such gigantic works, they must have been pressed to the utmost. The lands adjoining these, as also the hillsides of the Himalayas, and of the islands in the Archipelago, are levelled and terraced for cultivation.

The Dravidian races of the Peninsula have formed multitudes of tanks. No view can better show the labours of this race, than is to be obtained from the top of a hill in the Karnatic at the close of the N.W. monsoon, when the whole country is seen studded with tanks. Bhandara is watered by the Waingunga, and noted for no less than 3648 tanks made by native engineers, who availed themselves of the dips and hollows of an undulating country, and constructed dams wherever the ground sloped. In the Mewar state in Rajputana, are several fine artificial lakes; that near Debar is 25 or 30 miles in circumference. At Hyderabad, the Husn Sagor tank is about 8 miles in circumference, and the Mir Alam tank has a small steam yacht. At Cumbum, a lake of 15 square miles has been formed by damming up the Gundlakamma river. The Chambrambakam tank supplies 10,000 acres of rice cultivation. In fourteen Madras districts there are 53,000 tanks, with about 30,000 miles of embankments. These are mostly the work of pre-British dynasties.

In the south of India, canals have been led from the Tumbudra; in the deltas of the Godavery, Kistna, and Pennar; the Palar in Chingleput and N. Arcot, the Vellar in South Arcot, the Colerun in the delta of the Cauvery, the last-named a monument of the skill of Colonels Sim and Sir Arthur Cotton.

The eastern and western Jumna canals are the oldest of the perennial canals of Northern India. They were constructed during the Moghul empire, but since 1819 the western canal has been somewhat improved by the British. The eastern Jumna canal in 1875 was 130 miles long, with 618 miles of main distributaries.

The Ganges canal was commenced by the British in 1848, and opened in 1854. Its principal head is about 2½ miles from Hardwar. In 1875 its length was 519 miles, with 3386 miles of distributaries, and with an irrigated area of 889,167 acres.

The Bari Doab canal has been led from the left bank of the river Ravi; it was commenced in 1850.

In the Dehra Doon and Rohilkhand there are five canals, 66 miles in aggregate length; and in Rohilkhand and Bijnaur are a series of badly constructed canals about 300 miles in length. The Sarkand canal leads from the Sutlej, the Agra canal from the Jumna, the Son canal from the Son, and the Orissa canals from the Mahanadi.

In Bundelkhand, canals have been led from the rivers Betwa and Dassan.

The Lower Sutlej and Chenab canals are 19 in number, and 418 miles in aggregate length. The four Upper Sutlej canals have 47 miles of length.

The Indus canals, 13 in number, have an aggregate length of 577 miles. They are all drawn from the right bank of the river in the Dehra Ghazi Khan district.

In the Shahpur district are 18 inundation canals.

In Sind are the Sakhar and Shahdadpur perennial canals, and 8 inundation canals, the Sind, Ghar, Eastern and Western Nara, Bigari, Mitran, Thar, Fallali.

On the Bombay side are the Jamda in Kandesh, the Krishna, and the Ahmadnagar canals.

Forests.—It had long been acknowledged by all writers that trees have a great influence on the humidity of a climate, but it was not until the middle of the 19th century that any regular care was taken of the forests of India. The subject was brought by the editor to the notice of the Madras Government, and the Directors of the E. I. Company ordered the appointment of conservators of forests, but Act vii. of 1865 was the first Forest Act passed by the Government of the country. The continuous denudation of extensive tracts in such fine districts as Midnapur, Bankura, Birbhum, and Bardwan, without any corresponding development of agriculture, is said to have perceptibly decreased the rainfall and the power of the soil to store water. The *forest* reserves in 1879–80 were 15,344 square miles, as under:—

British—			
Bengal,	Sq. m. 2945	Assam,	Sq. m. 2015
N.W. Provinces,	2200	Coorg,	200
Oudh,	1079	Ajmir,	101
Panjab,	795	*Non-British*—	
Central Provinces,	2535	Mysore,	454
British Burma,	1612	Berar,	1388

In the ten years 1871 to 1880 the forest revenues amounted to £5,949,099, and the charges to £4,114,927. With every year the object has more and more been rather to preserve and restore by replanting, than to profit by the sales. Indeed, the destruction has been so great in many places, that the state for many a year to come might expend all in replanting.

The *coffee* plant was not a gift of the British, though its cultivation has been much fostered. It is said to have been introduced into Mysore about the middle of the 17th century, by Bawa Budan, a Mahomedan fakir, and the cultivation extended into Ceylon, and, since the early part of the 19th century, largely into other parts of Mysore, Coorg, Travancore, and Cochin. In 1880 the number of plantations and plants and approximate yield were as under:—

District.	Plantations.	Plants.		Yield, lbs.
		Mature.	Immature.	
Bengal,	1	5	3	320
Madras,	18,315	63,026	10,561	18,513,138
Mysore,	24,843	...	...	4,004,656
Coorg,	4,685	39,750	7,500	7,603,120
Travancore,	119	14,360	2,415	2,515,716
Cochin,	15	1,436	487	463,828
Total,	47,978	162,847	35,482	33,100,778

Cotton has been cultivated in India from prehistoric times; but in the early part of the 19th century, in the Peninsula, much outlay was incurred in efforts to improve the quality. In 1879-80 there were 10,708,031 acres under cotton cultivation, yielding 5,181,550 lbs. of cleaned cotton, or an average of 59 lbs. of cleaned cotton per acre. In the Central Provinces and in Mysore the yield was only 24 and 25 lbs. respectively; but in the Nizam's dominions, the Panjab, and British Burma, 68, 90, and 147 lbs. respectively were obtained.

Tea.—The introduction of tea-planting is wholly a British gift to India. The tea plant was discovered about the year 1825 growing wild in Assam, and it is now largely cultivated in several parts of British India.

District.	Plantations.	Plants.		Yield, lbs.	Average yield in lbs. per acre of Mature Plants.
		Mature.	Immature.		
Assam, . .	1,045	120,512	33,145	34,013,583	282
Bengal, . .	274	27,341	11,464	6,572,481	239
N.W.Prov.,	87	6,848	1,238	838,743	292
Panjab, . .	1,195	4,816	2,780	802,995	167
Madras, .	84	2,573	1,702	649,460	252
Brit. Burma,	6	25	154	16,120	105
Total, .	2,691	162,244	50,354	42,893,796	...

Cinchona trees, another grand gift to India, were introduced in the middle of the 19th century (1860), by Mr. Clements Markham, C.B., who twice visited South America, and twice conveyed to India different species of cinchona, which he and his scientific assistants had obtained there. In 1880-81 the state of the plantations was as under:—

	Sikkim.	Burma.	Neilgherry.	Mysore.
Acres, . . .	2,332	...	847	51¼
Plants, Cuttings, and Seedlings,	5,207,870	64,438	677,355	42,860

The organic constituents of cinchona barks are quina, chinchona, aricina, quinidia, quinia, chinconidia, tannic acid, quinonic acid. The medicinal forms are quinine, quinidine, chinchonine; chinchonidine. Quinine is being steadily superseded in India by a chinchona febrifuge manufactured in the country. It is now in general use in Government hospitals, and enters largely into private practice. Only 3964 lbs. of quinine were imported in 1880–81, as against 7409 lbs. in 1879-80.

Sati.—The efforts of the British to suppress barbarities and crimes have been continuous and successful. Animal sacrifices have decreased; slavery everywhere abolished, and devil-worship largely discouraged.

According to the Abbé Dubois (p. 198), a sati was extremely rare in the south of the Peninsula. During the rule of the Brahman Peshwas, they were of not unfrequent occurrence in the Mahratta territories; and, so late as the year 1835, on the death of Kurun Singh, raja of Ahmadnagar, his widow was forcibly made a sati, at midnight, in defiance of all the exertions of the Political Officer, Mr. Erskine, backed by a small body of troops, who were fired upon and their officer wounded. But now, sati, the voluntary, or at times forcible, immolation of the Hindu widow, has ceased; only rare instances occur of the samadh, or burying alive of lepers or others with incurable diseases; self-immolation beneath the wheels of the Jaganath car are rare; the ghat murders, at one time so common amongst the Hindus, are almost unheard of. Until the middle of the 19th century, human sacrifices occurred amongst the Kandh and the Gond; and instances do still occur, from time to time, amongst the semi-barbarous tribes on the north-eastern frontier, and even amongst fanatic Hindus of the saiva sect, but the criminals are readily detected and punished; the charkh puja, or swinging festival, has been put down, thuggi has been rooted out, and dacoity is only heard of when scarcity prevails.

In the suppression of sati all the native princes have imitated the British.

In 1850 an Act was passed declaring that change of religion should not involve a loss of property or civil rights. In 1856 an Act legalized the re-marriage of Hindu widows. In 1870 (Act viii. 18th March), infanticide was declared criminal.

All through the 19th century the British have striven to prevent infanticide. The sacrifice of children at Saugor was prohibited on the 20th August 1802, and the poisoning of infant girls has been largely checked, though still practised. The relative numbers of the sexes returned in the census of 1871 varied greatly. Excluding Rajputana, which did not furnish a sex return, generally, throughout India, there was an excess of males, in a population of 241,535,698, of 5,094,956. Considerably more than half of this disproportion appears on the face of the returns of the North-Western Provinces and the Panjab. In the North-Western Provinces, females were less than the males by 1,382,000, in a population of about 32½ millions; and in Oudh, in a population of nearly 11½ millions, the females were returned less by 314,000.

In the British districts of the Bombay Presidency, with about 14 millions of inhabitants, the females were 351,000 in excess; but in Sind and the Native States, with a population of 7 millions, the females were 218,000 fewer than the males. In Bengal the females, in a population of nearly 69 millions, were about 380,000 in excess. In Assam, in a population of something over 4¾ millions, the females were less than the males by about 116,000. In Madras, with a population of nearly 31 millions, the females show a preponderance in numbers of 355,000. Several of the Rajput races have a disinclination to state the number of the female members of their families, and men are attracted to the great centres of trade, as to the presidency towns, or to new territories, as Assam or Burma; but infanticide and neglect of girls' healths are supposed to be the causes of these differences.

BRITTANT-PATTA. HIND. The record of a decision given by a panchayat.—*Elliot.*

BROA. HIND. Rhododendron arboreum.

BROACH, Bharuch, or Baroach, a populous commercial town on the right bank of the Nerbadda, 27 miles in direct distance from the bar. The Nerbadda is here two miles broad, and boats of 50 tons come up the channel. It gives its name to a district lying between lat. 21° 26′ and 22° 17′ N., and long. 72° 32′ and 73° 11′ E., with an area of 1458 sq. miles, and a population of 350,322 in 1872. The Hindus, 277,032 in number, are

divided into 142 distinct castes, and these again into numerous subdivisions, whose customs and modes of life are the same, but who are socially separate. The Mahomedans of the Borah (Vohara), Memon, and Khoja sects are numerous; and other converts from Hinduism are the Molislami (formerly Rajputs), Malik, Momina, and Shaikhdas, all but the Borah in a depressed condition. The cultivators are Borah, Koli, Kunbi, and Rajput; the last are a quiet agricultural race. The aboriginal races are Koli, Talāvia, Talwada, and Bhil. Baroach town has 36,932 inhabitants. It has a Panjrapol, or hospital for animals. From ancient times it has been an important commercial site, known in the first century of the Christian era as Barugaza, a name said to be from the sage Bhrigu, who founded it, and named it Bhrigupur. It has since been held by many dynasties, Rajput, Mahomedan, and, since November 1772, by the British. It was twice (1536, 1546) sacked by the Portuguese. Bombay has since attracted many of its people, and the Bhargao Brahmans claim descent from Bhrigu.—*Imp. Gaz.*

BROADBILL, birds of the genera psarisomus and serilophus and family eurylaimidæ.

BROCADE, Kimkhab.

Brokade, . . .	Dut.	Intalas; Kimxa,	Malay.
Brokal, ...	Ger.	Sandus, ...	,,
Luppa; Kimkhab,	Hind.	Parstcha, ...	Rus.
Broccalo, ...	It.	Brocado, ...	Sp.

A fabric composed of satin, striped or purpled with gold or silver, manufactured at Surat, Benares, and Ahmadabad. The looms are very simple in their construction. The gold and silver pass through many hands before they are formed into thread. Brocades (Kimkhab), gold-woven scarves (dopatta), and silks are consigned from Benares, together with a kind of yellow silk dhoti called pitambar, and a dark-blue silk with white spots called bund, also the silk sari or scarves, exclusively for women's wear, forming both a skirt and a scarf.—*Faulkner; M'Culloch; Taylor.*

BROCCOLI, a variety of the Brassica oleracea.

BROMELIACEÆ, the pine-apple tribe or bromel worts, a natural order of herbaceous plants, remarkable for the hardness and dryness of their foliage. The pine-apple, Ananas sativus, belongs to this; also the genera Bromelia, Billbergia, Pitcairnea, and Tillandsia.

BROMICOLLA ALEUTICA, a sea-weed of the Aleutian islands, used as food.

BRONONG. Malay. Baskets.

BRONZE.

Stuck-good, . . .	Dut.	Gangsa; gongsa,	Malay.
Stuckmetall, . .	Ger.	Metal de Canones, .	Sp.
Bronzo, ...	It.		

An alloy of copper and tin much employed in the arts. See Alloys.

BRONZE LEATHER. Kimsana, Hind.

BROOKE, Sir JAMES, raja of Sarawak, was born in 1803 at Benares. At the age of sixteen he received a commission in the Bengal Infantry, and served in the first war against Burma, where he was severely wounded at the storming of a stockade. He lost his appointment by overstaying his home leave. On the death of his father, he succeeded to a handsome patrimony, and on the 27th of October 1838 his yacht 'The Royalist' quitted England for Sarawak. He found its ruler, Muda Hasan, engaged in the suppression of a rebellion, but with a few volleys from the European guns the insurgents surrendered, and Mr. Brooke was duly installed in the rank of raja of Sarawak, previously promised to him. The newly-acquired territory was swampy, and ill cultivated by the native Dyaks, who varied their occupations as tillers of the land by head-hunting excursions among neighbouring villages. He declared head-hunting a crime punishable by death to the offender, and he suppressed it and piracy. On revisiting Britain, the British Government recognised his position, ordered a man-of-war to take him to the seat of his new settlement, gave him the title of Governor of Labuan, with a salary of £1500 a year, with an extra £500 a year as a consular agent, and afforded him the services of a deputy governor, also on a good salary. He compiled a code of laws, declared trade to be free, all roads to be open, all property inviolable, instituted a current coinage, and rigorously suppressed head-hunting, and marauding expeditions gradually became extinct in the province. He died in 1868.

BROOME, Colonel ARTHUR, an officer of the Bengal Artillery, author of History of the Rise and Progress of the Bengal Artillery.

BROOM GRASS, Aristida setacea, *Linn.*

BROOMS.

Balais, ...	Fr.	Escobas; Brozas;	Cepillos;
Besen, ...	Ger.	Escobillas, . . .	Sp.
Jaru, ...	Hind.	Todapam, . . .	Tam.
Scope, ...	It.	Chiparu, ...	Tel.
Metlu, ...	Rus.		

Articles for sweeping floors, walls, ceilings, etc. They get the name of broom, because first made in Europe from the small branches of the plant of that name. In India they are made of the strong grasses which abound. That in Southern India is the torapum pilloo, broom grass; but vullakamar, the erkoo, bamboo branches, the midrib of date and of cocoanut and of the Phœnix sylvestris leaves, are also used, as likewise are the Vitex negundo and Ferreola buxifolia.—*Ains. Mat. Med.* p. 145.

BROONGA MALAGUM. Tam. See Oil.

BRORI. Hind. Ulmus campestris.

BROSIMUM ALICASTRUM. Swz. The Jamaica bread-nut tree and the B. utile, *Endl.*, the cow tree of the Caraccas, were both introduced into the Calcutta Garden. They have a tenacious gummy milk.—*Voigt*, 29. See Cow Tree.

BROTHER.

Akh, ...	Arab.	Fratillo, ...	It.
Frère, ...	Fr.	Brādar, ...	Pers.
Bruder, ...	Ger.	Hermano, . . .	Sp.
Bhai, ...	Hind.	Tambi, ...	Tam.

In eastern countries, this term is applied to relatives not so designated in Europe, as to cousins, also to persons of the same faith, or town, or country, or avocation. These last are supplemented by a class of friends, styled munh-bola-bhai, 'so-called brothers,' common throughout British India. This eastern use of the designation brother has caused difficulties to readers of the Christian Bible. Jude in connection with James, though called (Matthew xiii. 55) the 'brethren of Jesus,' were really his cousins, it being common with the Jews to call the first cousins brethren. They were the sons of Mary, the sister of the mother of Jesus, the wife of Cleophas. In Brittany, at the present day, if two cousins-german be married, the son of one

of these cousins will address the other as 'ma tante,' my aunt; he is her neveu à la mode de Bretagne. Amongst all the Mongoloid people of Asia, the Dravida of Southern India, the nations of the Malay family, and among the aborigines of America, the descendants of a common ancestor, if they are of the same generation, give one another the name of brother and sister.—*Milner's Seven Churches of Asia*, p. 47; *Peschel.*

BROTHER-MAKING. With the ancient Greeks, two persons would vow to each other permanent hospitality and protection for themselves and their descendants,—the Greek ξεῖνος. It is the German Gast-freund. This is practised amongst the Bedouins, who take an oath before one or two witnesses. Amongst the Rajput races of India, the women adopt a brother by the gift of a bracelet. The intrinsic value of such pledge is never looked to, nor is it necessary that it should be costly, though it varies with the means and rank of the donor, and may be of flock silk and spangles, or of gold chains and gems. The acceptance of the pledge is by the katchli or corset, of simple silk, or satin, or gold brocade and pearls. Colonel Tod was the Rakhi-band-bhai of the three queens of Udaipur, Bundi, and Kotah, as also of Chand-Bai, the maiden sister of the Rana, and of many ladies of the chieftains of rank. Though the bracelet may be sent by maidens, it is only on occasions of urgent necessity and danger. The adopted brother may hazard his life in his adopted sister's cause, and yet never receive a mite in reward, for he cannot even see the fair object who, as brother of her adoption, has constituted him her defender.

Hindus take a vow of friendship and mutual support with certain forms, and even in a community little remarkable for faith, it is infamous to break this oath. Part of the ceremony is dividing a bel or wood-apple (Feronia elephantum), half of which is kept by each party, and from this the compact is called Bel Bandhar.

Amongst the Oraon girls, sworn friendships or sister-making occur, called 'Gui,' between two. They each say—'Tu aor main gui jurabi; amren phul lagabi.' Then each plucks flowers and arranges them neatly in the other's hair; they exchange necklaces, embrace, and give a joint feast. When two Karen wish to become brothers, one kills a fowl, cutting off its beak, and rubbing the blood on the front of the other's legs, sticking on them some of the feathers. The augury of the fowl's bones is then consulted, and if favourable, the ceremony is repeated by the other party. If the omens be still auspicious, they say, 'We will be brothers (doh), we will grow old together, we will visit each other.' Brotherhood amongst the Burmese is termed doh, also thway thouk, blood-drinker, because they mix a few drops of blood from the arms of the contracting parties with water, and drink it. The following forms were observed, near the eastern frontier of the Akyab district, on the occasion of the reconciliation of two clans or villages of the Chin (or Khyeng) tribe, named Bainbah and Mantin, between whom a blood-feud had previously existed. At the foot of a Nyoung Bin, supposed to be the residence of a 'Nat,' a pot of khoung was placed half-buried in the earth. In the orifice of the pot some fresh leaves of the tree were placed, and through them, into the liquor, were thrust two pipes to suck with, a gun, a spear, a dah, alligators' teeth, tigers' tusks, and some bamboo sticks with notches, cuts, and splits of a mystic character. This being ready, one of the oldest of the Toungmin (hill chief) present killed a small pig, extracted its heart, and, filling the pot with water, commenced a harangue invoking the 'Nat' to pour down his wrath on the two Mantin and Bainbah men sitting by the pot, and cause their destruction by any of the ways indicated by the different articles thrust into the pot, if they bore each other ill-will, and did not remain friends thenceforth and for ever. This invocation being over, the Mantin took up the pig's heart, and, pressing a drop of blood from it into the liquor, the two men exchanged words, and commenced sucking up the liquor, adding more water. After them, two other representatives of the two villages had a suck, and then the different implements, etc. were removed, and all the other Chins present began drinking (by suction) out of the same pot, and another one supplied for general use. Some war dances were performed, and the Chins then cooked the pig, ate, drank, and were merry. The khoung pots were filled with fermented rice, to which water was added as required. The oath thus administered is said to be most binding on Chins, and, once taken, seldom if ever violated. Bin is the Burmese for tree. Nyoung includes a large number of the ficus tribe. Nat is the Burmese word used to translate the Indian Deva. Originally it denotes a local divinity, often a Hamadryad. Khoung is a kind of rice-beer made and used by the hill tribes all over Burma.

Mr. Burns thus related the ceremony of brother-making among the Kyans:—Singuding sent on board to request me to become his brother according to Kyan fashion. The ceremony is called by the Kyans Ber-biang, by the Borneons Ber-sahibah. I landed with our nakodah, and, after some preliminary talk to allow the crowd to assemble, the affair commenced; we sat in the verandah of a long house, surrounded by some hundreds of men, women, and children, all looking eagerly at the white stranger who was about to enter their tribe. Stripping my left arm, Kum Lia took a small piece of wood, shaped like a knife blade, and, slightly piercing the skin, brought blood to the surface, which he carefully scraped off; then nakodah Gadore drew blood in the same way from Singuding's right arm, the one next me, and a small cigarette being produced, the blood on the wooden blades was spread on the tobacco,—scarcely spread, for the quantity was as small as could be imagined. A chief then rose, and, walking to a sort of window, looked full upon the river, and invoked the spirits of good and evil to be witness of this tie of brotherhood; the cigarette was then lighted, and each of us took several puffs, and the ceremony was over.

In Hindu marriages, one of the necessary forms is for the bridegroom to place the bride's foot successively on seven lines drawn on rice in a platter. From this has been adopted the practice of any two persons pledging mutual friendship by taking seven steps, Saptapathi, together; and the term Saptapathinam has come to signify friendship.—*Elphin.* p. 193; *Tod's Travels; Jour. Indian Archipelago*, v. No. 12; *Forbes*, 290. See Sabat.

BROTO. Beng. A vow; a self-imposed devotional exercise.

BROUGHTON, GABRIEL, surgeon of the ship Hopewell, in 1636 was able to obtain the cession of Balasore to the East India Company. In that year he cured the daughter of the Emperor of India, who had been burned by her clothes taking fire, and in 1640 he successfully treated a lady of the emperor's zenana. When asked to name his own reward, he replied that he wished nothing for himself, but begged that his countrymen might be allowed to have a maritime settlement in Bengal. Accordingly, in 1642, a land factory at Hugli, and a maritime settlement at Balasore, were formed. Balasore was at once fortified, and became the key to the position which the British have since acquired in India.—*Imp. Gaz.*

BROUGHTON, Lieut.-Col. T. D., author of Specimens of the Popular Poetry of the Hindoos.

BROUSSONETIA PAPYRIFERA. *Vent.*

Morus papyrifera, *Linn.*	Papyrus Japonica, *Lam.*
Mahlaing, . . . Burm.	Paper Mulberry, . Eng.
Killia, . . . Celebes.	Gluga, ... Jav.
Che, ... Chin.	

This is a shrub or small tree, with soft, brittle, woolly branches, and large hairy rough leaves, either heart-shaped and undivided, or cut into deep irregular lobes. It is a native of the isles of the Southern Ocean, as well as of China and of Japan, but has been introduced into the Indian gardens. In Tahiti or Otaheite, and other islands, they make tapa cloth of its bark; and it is said that the finest and whitest cloth and mantles worn by the principal people at Otaheite and in the Sandwich Islands were made of the bark, and this when dyed red takes a good colour. For the purposes of making cloth it is not allowed to become higher than about 12 feet, and about one inch in diameter. The bark, taken off in as long strips as possible, is steeped in water, scraped with a chank shell, and then macerated. In this state it is placed on a log of wood, and beaten with a mallet, three sides of which have longitudinal grooves, and the fourth a plain surface. Two strips of tapa are always beaten into one, with the view of strengthening the fibres, an operation increasing the width of the cloth at the expense of its length. Most of the cloth worn is pure white, being bleached in the sun; but printed tapa is also, though not so frequently, seen, whilst that used for curtains is always coloured. The chief dye employed is the juice of Aleurites triloba.

In Japan, they are said to cultivate this plant much as osiers are cultivated in Europe. There, for paper, the young shoots, being cut down in December, after the leaves have fallen, are then cut into good long pieces, and are boiled until the separation of the bark displays the naked wood, from which it is then easily separable with the aid of a longitudinal incision. In order to make paper, dried bark is soaked for a few hours in water, after which the outer cuticle and the internal green layer are scraped off. The stronger and firmer pieces are separated from the youngest shoots, which are of inferior quality. The selected bark is boiled in a ley of wood-ashes till the fibres can be separated by a touch of the finger. The pulp so produced is then agitated in water till it resembles tufts of tow. If not sufficiently washed, the paper will be coarse, but strong; if too much boiled, it will be weaker, but white. It is then beaten on a table, with batons of hard wood, into a pulp. Mucilage obtained from boiled rice, or from a plant called oreni, is added to the pulp. These three are stirred with a clean reed till reduced into a homogeneous liquor, and when of a due consistence are ready for conversion into sheets of paper.—*Dr. Seeman, Viti; Voigt.*

BROWN BEAR, Ursus Isabellinus. The white bear, Ursus arctos; Syrian bear, U. Syriacus; Himalayan bear, U. Tibetanus; Japanese bear, U. Japonicus; Malayan bear, Ursus Malayanus; Sloth bear, Ursus labiatus.

BROWN BUG or Scaly Bug, Lecanium coffeæ.

BROWN HEMP, the commercial name given in Bombay to the fibres of the Hibiscus cannabinus. It is the Ambaree or Mesta-pat of Bengal, and the Palungoo of Madras, and is also known as Indian hemp and 'hemp.' See Ambaree.

BROWN JAWARI. Anglo-Hind. Sorghum vulgare, *var.*

BROWN RAT, Mus decumanus.

B'R PUKHTUN, the language of the Afghan people about Kābul, Kandahar, Shorawak, and Pishin. See Afghan; India; L'r Pukhtun.

BRUCE (JAMES), Author of Travels to Discover the Source of the Nile in 1768-73.

BRUCEA ANTIDYSENTERICA is considered by the Wooginoos of Abyssinia a most valuable remedy in dysentery and severe cases of diarrhœa. The false angustura bark was long supposed to be the produce of this Brucea, and its active principle was accordingly named Brucine. It is now, however, established that the false angustura bark is that of the Strychnos nux vomica, the Kuchila tree of Bengal.—*O'Sh.* p. 626.

BRUCEA SUMATRANA. *Roxb. Fl. I.* i. 449.

Genus amarissimus, *Lour.*

Ampadoo Barrowing, Mal. | Lussa Raja, . Amboyna.

A plant of Assam, Cochin-China, Sumatra, and Moluccas, and has been successfully grown in the Botanic Garden of Calcutta. The leaves are intensely bitter, and possess the same medicinal properties as the Brucea antidysenterica.—*Christison, Dispensatory; Don, Gardener's Dictionary; Engl. Cyc.* p. 671; *Voigt*, 185; *O'Sh.* p. 226.

BRUCHUS. Two species of this genus of insects attack the poppy seed when stored.

BRUCK, Commodore, Indian navy. His report on the Persian Gulf enumerates as articles of trade, —silk, dried fruits, gums, dates, horses, pearls, and spices, to the amount of 60 or 80 lakhs annually. In 1820 he commenced the survey of the Persian Gulf, followed by Captain Haines, I.N., and by Lieuts. Constable and Stiffe in 1860.

BRUGH. Hind. Echinops nivea.

BRUGPA. See Dalai Lama; Hung-Kiao; Tibet.

BRUGUIERA PARVIFLORA. *W. and A.*

Rhizophora parviflora, *R.* | R. cylindrica, *Roxb.*
Pyu, Soung, . . Burm. | Uravada, Varavada, Tel.

This mangrove grows in the Moluccas, Sumatra, Cochin-China, the Malay Islands, in both the Indian Peninsulas, the Khassya mountains, Nepal, Orissa, Jellasore. It has small green and scented flowers. Berries dye black.—*Voigt; Elliot, Fl. Andhrica.*

BRUGUIERA RHEEDII. *L'Herit.*

B. gymnorrhiza, *Lam.* | Rhizophora gymnorr., *L.*
Kankra, ... Beng. | Pyu, Soung, . . Burm.

This species of mangrove is abundant all along the eastern coast of the Bay of Bengal, and it furnishes a hard and durable yellowish timber. The tree is easily distinguished from its associates, for it drops no roots from its branches, but the trunk is divided into numerous roots for half its height, like a small bamboo pavilion. It grows in Cochin-China, the Moluccas, Java, Tenasserim, Penang, the Sunderbuns, and in Malabar. Burmese apply the names Pyu and Soung to B. Rheedii, B. eriopetala, and R. parviflora.—*Mason; Voigt*, 41.

BRUH of Sumatra, species of Macacus, Bruh putik, Bruh sepotong, and Bruh-selapi, are Macacus nemestrinus, *Linn.*

BRUM BRUM. HIND. Hedera helix.

BRUMER ISLAND. The mode of salutation or expression of friendship amongst these islanders consists in first touching the nose with the fore-finger and thumb of one hand, and then pinching the skin on each side of the navel with the other, calling out at the same time, Magásúga! This habit resembles on one hand that of rubbing noses, so general in Polynesia, and, on the other, the custom of pinching the navel and repeating the name for that part, practised by the islanders of Torres Strait.—*Macgillivray's Voyage*, i. p. 258.

BRUMIJ. HIND. Celtis Caucasica, Echinops nivæa.

BRUMO or Dumo. TIBET. The yak cow.

BRUNEI, the capital of Borneo, and the seat of government. Its houses are built on piles in the river, and its population 20,000 souls. Communication by boats.

BRUSH KANGAROO is Macropus cœruleus. The tail and loins are the best for food.

BRUSH TURKEYS of Australia, the Talegalla Lathami, are of the Megapodidæ family, all of which hatch their eggs by the natural heat arising in a mound about 4 feet high, which they construct of vegetable materials, earth and sand. The male bird closely watches the temperature of the mound. The young bird leaves the nest on the second day, and on the third day can fly strongly.

BRYACEÆ, the moss tribe of plants, comprising many Indian genera, calymperes, dicranum, didymodon, grimmia, gymnostomum, orthodon, orthotrichum, schlotheimia, syrrhopodon, and zygodon.

BRYONIA, *sp.*, bryony.

Tien-hwa-fen, . . CHIN.	Tien-kwa, ... CHIN.
Peh-yoh, . . . ,,	

Grows in Kiang-su, Honan, and other places in China.—*Smith.*

BRYONIA LACINIOSA. *Linn.*

Mala, ... BENG.	Nehoe-maka, . MALEAL.
Gurga-naru, . . HIND.	Linga donda, . . TEL.

A creeper growing all over India.—*Roxb.*

BRYONIA UMBELLATA. *Willd.*

Gwal kakri, . . . HIND.	Mohakri, ... HIND.

Not uncommon in the N.W. Himalaya at from 2500 to 7500 feet. The fruit is eaten, and on the Sutlej the root is said to be given for spermatorrhœa.—*Dr. J. L. Stewart, M.D.*

BRYOPHYLLUM CALYCINUM.

Ywet kya pen pouk, . . BURM.

This curious flowering plant, with a leaf like the house-leek, was introduced into India by Lady Clive from the Moluccas, and has been so naturalized on the Tenasserim coast, that it may be sometimes seen growing around old pagodas like a wild plant. The leaves readily produce buds upon their margins, capable of propagating the plant when laid upon damp soil. This marginal production of leaf-buds has been considered analogous to the development of seed-buds (ovules), which in plants generally are also normally marginal, being developed upon the margin of specially modified leaves (carpels).—*Mason.*

B'STAN-HGYUR is a compilation in Tibetan of all sorts of literary works, about 3900 in number, in 225 volumes, written mostly by ancient Indian pandits and some learned Tibetans in the first centuries after the introduction of Buddhism into Tibet. The Rgyud portion is on religious rituals and ceremonies, and the Mdo part on science and literature.—*Csoma Korosi in As. Res.; Weber*, 209.

BTSOD. TIB. Madder.

BUA or Buah. MALAY. Fruit. Bua angur, the grape; Bua dulima, pomegranate; Bua lontar, palmyra fruit; Bua minyak, olive oil; Bua nanka, jack-fruit; Bua pala, nutmeg, the Myristica moschata; Bua-rucum, Carissa spinarum. Bua-kaia-pet, a tree in Bawean which reaches a height of thirty feet, and when covered with its branches of deep red-coloured fruit, it presents a beautiful appearance; the fruit is milky, has an agreeable flavour, and some resemblance to the Sawo fruit.

BU-ALI-SINA, or Avicenna, a celebrated physician; his name was Abu Ali-ul-Husain, ibn Abid Ullah ibn Sina, q.v.

BUBAK, a small town in the Kurachee district, of 5703 inhabitants. The Mahomedan sections are Korichaki, Jamot, and Machi.—*Imp. Gaz.*

BUBALUS, *H. Smith*, a genus of mammals of sub-family Bovinæ; the horns are large, attached to the highest line of the frontals, inclining upwards and backwards; ribs, 13 pairs.

BUBALUS ARNI, the wild buffalo.

Bos arni, *Kerr, Shaw.*	B. bubalus, *Anct.*, wild var.
B. buffelus, *Blyth.*	
Arna (male), Arni (fem.), HIND.	Mung of . . BHAGULPUR.
Jangli bhyus, . . ,,	Gera erumi, . . GOND.

The wild buffalo is found in Assam, in the swampy Terai at the foot of the hills from Bhutan to Oudh, also in the plains of Lower Bengal as far west as Tirhut, but increasing in numbers to the eastwards, on the Brahmaputra and in the Bengal sunderbuns. It also occurs here and there through the eastern portions of the table-land of Central India, from Midnapur to Raipur, and thence extending south nearly to the Godavery; a few are found in the north and north-east of Ceylon. They adhere to the most swampy sites, and never ascend the mountains. Length, 10½ feet and upwards from snout to root of tail; height at shoulder, 6½ feet; tail short. The horns are of two kinds, the one very long, nearly straight, well thrown back, var. Macrocerus of Hodgson, the other much shorter and well curved, more directed upwards, Spirocus, *Hodgs.*; the horn reaches to 6½ feet in length. It lives in large herds; but in the rutting season in autumn the most lusty males lead off a few females and form small herds for the time. It gestates 10 months. The bull is of such power and vigour, as by its charge frequently to prostrate a well-sized elephant. They are uniformly in high condition, while the domestic buffalo is lean and angular.—*Jerdon, Mammals*, p. 308.

BUBBE-MARA. CAN. Calophyllum calaba.

BUBHAJIA. See Mishmi.

BUBLEE. SIND. Acacia farnesiana.

BUBO, a genus of birds of the tribe Nocturnæ, family Strigidæ, order Raptores, or birds of prey. They are arranged in the sub-fam. Buboninæ, viz. Nyctea, Bubo, Asio, Scops, Ketupa. Bubo maximus is the 'eagle owl' of Europe, Siberia, China, Asia Minor, Babylonia, Barberry, Himalaya? See Birds.

BUBUK. MALAY. Wormwood.

BUCCINIDÆ, a family of recent and fossil molluscs, comprising many genera and sub-genera.

BUCEPHALIA, a town built by Alexander, supposed to have been on the site now occupied by the town of Jhelum. It was named after his horse, which was killed in battle here. See Porus.

BUCEROTIDÆ, the hornbill family of birds, distinguished by the enormous size of their bills, and many with a casque or protuberance at the base of the bill on the culmen. The genera and species in S.E. Asia are—

Homrauis bicornis, *Linn.*, Peninsula of India.
Buceros rhinoceros, *Linn.*, Malay Peninsula.
B. lunatus, *T.*, Java.
B. Tickelli, *Blyth*, Tenasserim.
B. hydrocorax, *Linn.*, Moluccas.
B. galeatus, *Auctor.*
Hydrocissa coronata, *Bod.*, Malabar.
H. albirostris, *Shaw*, Bengal.
H. affinis, *Hutton*, Dehra.
H. connexa, *Tem.*, Malacca, Java.
H. Malayana, *Tem.*, Malacca, Java.
H. nigrostris, *Tem.*, Malacca, Java.
Meniceros bicornis, *Scop.*, all India.
Tockus Gingalensis, *Shaw*, Malabar, Ceylon.
Aceros Nipalensis, *Hodgs.*, S.E. Himalaya.
Rhyticeros ruficollis, *T.*, Burma, Malacca.
R. subruficollis, *Blyth*, Burma, Malacca.
R. plicatus, *Latham*, Burma, Malacca.
Callao cassidex, *Bon.*
C. sulcatus, *Bon.*
C. corrugatus, *Bon.*
Rhinoplax galeatus.
And others. —*Jerdon*, i. 248–50.

BUCH. BENG. Zingiber zerumbet; DUK., sweet flag, Acorus calamus.

BUCHANAKA. SANSK. Arachis hypogea.

BUCHANAN, DR. FRANCIS, a medical officer of the Bengal army, who afterwards added the surname of Hamilton. In 1800 and 1801, made a 'Journey from Madras through the countries of Mysore, Canara, and Malabar,' under the orders of the Marquis of Wellesley, investigating the state of agriculture, arts, and commerce, and his report was printed. He introduced into his Commentary upon Rheede's Hortus Malabaricus, published in the Linnæan Society's Transactions, vols. xiii., xiv., and xv., descriptions of several new peninsular species. His writings are—An Account of Nepaul, Edinburgh, 1819, 1 vol.; Travels through Mysore, Canara, and Malabar, Lond. 1807, 3 vols.; Geographical and Statistical Description of Dinapore, Calcutta, 1833, 1 vol.; Fishes of the Ganges, Edin. 1822; On a map of Burma in Jameson's Journal.

For his Mysore journey he set out on the 23d of April 1800, and completed it on the 6th July 1801. The first edition appeared in 1807. It is an almost unique encyclopædia, and how one man, however indefatigable, could have produced, in so short a space of time, such a mass of reliable information about a country in which he was a stranger, is indeed astonishing. His survey of the north-eastern districts of Bengal, 1807–1813, are still in MS. in the India Office. Mr. Montgomery Martin, in 1838, printed from them three volumes of History, Antiquities, Topography of Eastern India.—*Buist's Catal.; Imp. Gaz.*

BUCHANANIA LATIFOLIA. *Roxb.*

Chirongia sapida, *Buch.?*	Spondias elliptica, *Rotil.*
Piyala? . . . . BENG.	Char, Dhan, PANJ, MAHR.
Thit-sai? Len-lwon, BURM.	Chara, ... SANSK.
Lumbo, ... ,,	Aima, ... TAM.
Noas kool, Nuskul, CAN.	Morœda, Mowda, . ,,
Pia-Sal, ... GUJ.	Chara-chettu, . . TEL.
Pyal, Piar cheronji, HIND.	Chara pappu, . . ,,
Chironji, Charoli, . ,,	Charu-mamidi, . ,,

This is a straight-growing, handsome, large forest tree, with fragrant flowers, common for some distance west of the Jumna, in the lower hills. It grows in Ajmir, Panjab, and Garhwal. In the Bombay Presidency, is found more inland than in the coast jungles. In Canara and Sunda it is most frequent above the ghats, particularly north of Dandellee, and the wood is rather strong and tough, but seldom squaring above four inches, The tree abounds in Mysore and Cuddapah; in Cuttack is worked up generally into furniture, house doors, windows, presses, tables, etc. It requires to be polished, otherwise it stains of a burnt-sienna colour any cloth brought into contact with it. Brandis says that in Burma it is a soft, light wood, and not used. The fruit, when ripe, in May is gathered, then soaked in water to soften the outer pulp, when it is washed and rubbed off by the hands; the little nut is then dried in the sun, and afterwards broken between a common chuckee or stone hand-mill, such as is used for grinding wheat; the kernels are then shifted and winnowed, and much used in native confectionery, roasted and eaten with milk, and considered a great delicacy. They abound in a straw-coloured, sweet-tasted and limpid oil, which is seldom extracted. Its bark is used by tanners. In Hindu poetry, its handsome white flower furnishes a simile for pretty eyes, and is held to be sacred to Vishnu.—*Madras Exhibition; Eng. Cyc.; Drs. Roxb., Gibson, Voigt, Brandis, Irvine, Mason; Cal. Cat. of* 1862; *Useful Plants; Flor. Andh.; Powell*, p. 570; *Mr. Thomson; Beddome.*

BUCHANANIA VARIEGATA, the Kachnar of Chutia Nagpur, a tree with hard, whitish yellow timber.—*Cal. Cat. Ex.* 1862.

BUCHGOTI, a Rajput tribe in Jonpur and Gorakhpur, formerly notorious for turbulence; part of them became Mahomedans prior to Sikander Lodi's rule. The Bilk-huria, the Rajwar, the Rajkumar, are offshoots from the Buchgoti.—*Elliot.*

BUCKCHI. HIND. Fleabane; Conyza *sp.*

BUCKHANI. See Clothing.

BUCKINGHAM, JAMES SILK, editor of a newspaper in Calcutta. He urged freedom for the press, but was ultimately deported from India, and travelled in Western Asia. He published his travels.

BUCKLALL. HIND.? A close straight-grained wood, light, tough, and strong; grows sparse in the Santal jungles. Is suitable for timber bridges.—*Cal. Eng. Jour.* 1860.

BUCKLANDIA POPULNEA, *R. Brown*, a beautiful evergreen of the Sikkim Himalaya. One seen by Dr. Hooker had a trunk 21½ feet in girth, and was unbranched for forty feet. Ferns and the beautiful air-plant Cœlogyne Wallichii,

with other orchids, grew on its branches, while clematis and Stauntonia climbed the trunk. Its wood is brown, and not valuable as timber. It is also interesting in a physiological point of view, from the woody fibre being studded with those curious microscopic discs so characteristic of pines, and which, when occurring on fossil wood, are considered conclusive as to the natural family to which such woods belong. The whole natural order to which Bucklandia belongs, possesses this character, as also various species of Magnoliaceæ found in India, Australia, Borneo, and South America. B. populnea, *R. Brown*, is a large tree of the Khassya mountains from Cherrapunji to Sarureem. Flowers small and greenish.—*Hooker, Jour.* ii. p. 185; *Voigt*, 53.

BUCKLAT-ul-MALIK. ARAB. Fumaria officinalis, fumitory. Bucklat-ul-Mubarik, Portulaca quadrifida.

BUCKTHORN or Rhamnaceæ order of plants, comprising the genera, zizyphus, berchemia, sageretia, ventilago, rhamnus, scutia, hovenia, colubrina, vitmannia, and gouania. The dried red crushed drupes, both of rhamnus and zizyphus, are sold in the shops of China, under the name of Tsau-pi and Nan-tsau. The fruit of the Swan-tsau, a species of Chinese rhamnus, is purgative and deobstruent. The kernels of R. soporifer are sedative. The bark of a species of rhamnus is brought from Cheh-kiang, and is used to form a beautiful green dye.—*Smith.*

BUCKUM. HIND. Pterocarpus santalinus.

BUCKWHEAT, Fagopyrum, *sp.*

Phulan, . . . CHENAB.	Trao, Rjao, . . LADAKH.
Darau, ... ,,	Bapu Drawodo, . PANJ.
Kiau-meh, . . . CHIN.	Tatarca, Gryka, . POL.
Suh ,, . . . ,,	Obal, Phapara, . . RAVI.
Blé Sarrasin, Blé Noir, FR.	Katu, Katu trao, . ,,
Buchweizen, . . . GER.	Gretscha, ... RUS.
Heide Korn, . . . ,,	Trigo, Trigo Negro, SPAN.
Grano Saraceno, . IT.	Ogal, Ulgo, Phapar, SUT.
Faggina, Fraina, . ,,	Bras, Bres, Karma bres, ,,
Trumba, Kala, KASHMIR.	Tsabri, ... ,,

Fagopyrum emarginatum, *Meisn.*, and F. esculentum, *Mœnch*, both known as buckwheat, are cultivated abundantly in Central Asia and the Himalaya, at about 6000 feet on the Jhelum, 5000 to 10,000 on the Chenab, and on the Ravi 8000 to 9000. Dr. Thomson saw it at 13,000 feet in Zanskar, and Drs. Stewart and Cayley at 13,000 and 14,000 feet in Ladakh. Bears are more fond of this when growing than of any other food; the leaves are much used in Lahul as a pot-herb. In the hills, the buckwheat grain is considered inferior to millet, but much is taken to the plains, where it is used by the Hindus on their 'bart' or fast days, it being then 'phalahar,' or lawful. In the neighbourhood of Hankow in China, the crop of F. esculentum is much depended on; its small grain is very sweet and oily, and makes very nourishing food and pastry. The crop is cut before the frost. It is believed to be a native of Central Asia, and is supposed to have been first brought to Europe in the early part of the twelfth century, at the time of the crusades for the recovery of Syria from the dominion of the Saracens. In America, 30 to 60 bushels per acre are not unfrequently produced. The quantity of seed sown is 5 to 8 pecks the acre.—*Simmonds*, p. 259; *Dr. J. L. Stewart; M'Culloch; Smith*, p. 44.

BUD. PERS., HIND. Existence. Bud-o-bash, livelihood. Bud-nabood, life and death.

BUD. HIND. Malacochæte pectinata.

BUDA or Budh. In Hindu astronomy, the planet Mercury. Budada, Budwar, Wednesday.

BUDADI GUMADI. TEL. Benincasa cerifera.

BUDAGA or Badaga, a race on the Neilgherry hills, known as Budaga or Burghers; they speak an ancient dialect of the Canarese. See Badaga.

BUDAMA PANDU. TEL. Bryonia, *sp.*; Cucumis, *sp.*

BUDA-MARA. TEL. Grewia salvifolia, *Heyne.*

BUDAMI. HIND. Terminalia catappa.

BUD-ANAR, of Kangra. Marlea begonifolia.

BUDAON or Budaun, an ancient city on the bank of the river Sat, in the N.W. Provinces of India, in lat. 28° 2′ 30″ N., and long. 79° 9′ 45″ E. The Budaon district is bounded on the west by the Ganges, has an area of 2004 square miles, and a population of 934,348. Besides Hindu castes, the Ahir graziers on the Bhūr tract are 81,522; Chamar landless cultivators, 133,528; Kayasth, 9726; Kurmi, 6143. The Bantu, ostensibly beggars, are a predatory thieving tribe moving in gangs; the Haburah, also in thieving gangs. The Sansia are vagrants professing Mahomedanism; they cross over from the Doab and steal children. The district was Ahir territory; from the 11th to the 19th century it was under the Mahomedan dynasties of Dehli and Oudh, and since 1801 it passed to the British.—*Imp. Gaz.*

BUDAR. HIND. Picea Webbiana.

BUDARENI. TEL. Capparis divaricata.

BUDARI. CAN. Antilope Arabica, *Ell.*; Gazella Bennetti, *Jerdon.*

BUDDA BASARA. TEL. Physalis Peruviana, *L.*; also Cardiospermum halicacabum. Both have bladdery capsules.

BUDDAH MANJI, also Manjiharam, a village deity of the Santal; a stone buried in the centre of the village in an open shed. The shed is called Buddhathan. See Ho; Santal.

BUDDA-NEDI. TEL. Careya arborea.

BUD-DA-THA-RA-NA. BURM. Canna Indica.

BUDDA TUMMA. TEL. Acacia Roxburghii.

BUDDERI. SANSK. Zizyphus jujuba.

BUDDHA. This title is usually employed to designate the eminent religious teacher, from whose doctrines have sprung up the forms of the Buddhist religion which are found prevailing in Ceylon, Nepal, Tibet, Tartary, Mongolia, Burma, Siam, Anam, Cambodia, China, Japan, Formosa, and Corea. Its votaries, it is supposed, outnumber those of all other creeds, except the Christian. The Rev. Mr. Hardy quotes a German estimate of the Buddhists at 369 millions; Major Cunningham has 222 millions, and even 500 millions have been estimated.

Buddha in Sanskrit means wisdom, supreme intelligence, and the words of nearly similar sound are mere varieties, in different parts of the East Indies, in orthography and pronunciation. The Chinese having no B or D in their alphabet, and their language being monosyllabic, they have further softened this term into Fo, Fo-e, or Fo-Hi; they also call him Sa-ka, a variation of Sakya, his tribal name.

Taking the term in the simple sense of a religious teacher, it is generally admitted that there had been several Buddha prior to the advent of Sakya Sinha, to whom the term is now restricted by the people of Europe. Sakya Sinha declares he was the twenty-fifth Buddha, and says of another, 'Bhagava Metteyo is yet to come.'

Colonel Tod is of opinion (i. p. 90) that there had been four distinguished Buddha or wise men, teachers in India of a monotheism which they brought from Central Asia, with their science and the arrow or nail-headed written character. The first Buddha he considers was Budh, the parent of the Lunar race, B.C. 2250. The second (twenty-second of the Jains), Naimnath, B.C. 1120. The third (twenty-third of the Jains), Parswanath, B.C. 650. The fourth (twenty-fourth of the Jains), Mahavira, B.C. 533.

Sakya Sinha was born in the 5th or 6th century B.C., at Kapilavastu, in the Gorakhpur district, in the reign of Bimbasara, the fifth of the Sisunaga dynasty of Magadha or Behar. He was the only son of raja Suddhodana, the chief of a tribe called Sakya, whose country lay among the spurs of the Himalaya, along the banks of the Rohini, or modern Kohana. Suddhodana was indeed one of the last representatives of the pure Aryan or Solar dynasties who held sway in Ayodhya, the modern Oudh, and were deposed by the Lunar dynasties of the mixed Aryan and Turanian races, and reduced to mere chieftains of tribes, who still maintained a precarious independence under the protecting shadows of the Himalaya. The Rohini divided the Sakya from the Koliyan on the opposite bank, and in times of famine the river was often the object of fighting between them. But during the rule of Suddhodana there was peace between the clans on either side of the Rohini, and Suddhodana had married two of the daughters of the Koliyan chief. Both continued childless, until, in her 45th year, the elder sister presented her husband with a son, the prince Gautama Siddartha. Buddhist legends describe the great rejoicing at the unexpected event; that Buddhas from afar came to worship the new-born babe, and aver that his incarnation was voluntary, and his conception immaculate. At 19 years old he was married to his cousin Yasodhara, the daughter of the Koliyan raja; and in the Pali scriptures we hear nothing more of him, until in his 29th year it is related that, one day, driving beyond his pleasure-grounds, he met an old man, and on another a paralytic, and again one suffering from the pest, and after that a corpse. These sights stirred the prince to new thoughts. About this time Yasodhara gave birth to a son, her only child. On hearing of it, Gautama only said, 'This is another strong tie I have to break.' That evening the nautch girls came as usual to dance before him, but he paid no attention to them, and gradually fell asleep. On awaking again at midnight, and seeing them lying about in the anteroom in inelegant postures, an overpowering loathing filled his soul, and he called at once to his charioteer, Channa, to get ready for his departure. He then went to Yasodhara's room, hoping to embrace his new-born boy while she slept, but, fearing that should she awake he would be moved from his resolution, he tore himself from the threshold of her door; and on the night of the full moon of the month of July, B.C. 594, the young Rajput prince went forth into the forests of Magadha, resolved never to return to his father's house, and to his wife and child, until he could come back to them as a teacher. This, in the Buddhist scriptures, is styled 'The Great Renunciation' of Gautama Buddha. He first went to Rajagriha, the capital of Magadha, the residence of king Bimbisara, where he attached himself to a Brahman named Alara, and afterwards to another named Adraka, by whom he was initiated into all the mysteries of the Hindu religion and philosophy. But not being satisfied, he retired to the jungle of Uruvela, on the north of the Vindhya range, where for six years, attended by five faithful disciples, he gave himself up to the severest asceticism, till his fame filled the whole of Malwa, or Central India, 'like the sound of a great bell hung in the canopy of the skies.' At last one day he fainted from extreme exhaustion, when, recovering, and seeing the folly of such useless self-denial, he thenceforward began to take food regularly, on which his five disciples deserted him and went to Benares. On the very day that they left him, he wandered forth, meditating painfully on their desertion just at the time when he most needed human sympathy, until at last he came to a village on the banks of the Nairanjara, where Sujata, the daughter of one of the villagers, compassionately brought him food as he sat under the Bodhi tree, Urostigma religiosum, or sacred fig-tree. He was greatly moved by the compassion of Sujata, and sat meditating under the tree through all the day and all the following night. First he was strongly tempted to give up his missionary life, and return to wife and child, wealth and power, but as the sun set the religious side of his great nature triumphed. His mind was made up to the belief that penances, self-tortures, and sacrifices were not the way of life and peace, but a pure heart; and that the only freedom from doubt and heresy was through overcoming impurity, envy, and hatred. The first enemy that must be conquered is sensuality, and the last self-righteousness; and the crown of purity, faith, and justice, without which all these are no more than self-righteousness, is 'universal charity.' As these truths flashed on his mind, he felt that he had become the Buddha, the Enlightened One, and he arose to proclaim his new-found joy to all the world around him. He first sought out his old teachers, Alara and Adraka, but they were dead. Then he went to his former five disciples at Uruvela, who were now living in the Deer Forest at Benares. As he approached, they determined not to receive him, but Gautama was a man of commanding presence and noble countenance, and had a rich, deep, thrilling voice, and as he drew near and addressed them, all their self-righteous resolutions failed, and in the end they followed him as their true teacher and master. Another of his converts in the Deer Forest was a rich young man named Yasa, who came to him by night out of fear of his relations, and afterwards succeeded in bringing many of his friends and companions into the new religion. He then returned to Uruvela, where he converted three fire-worshippers, one of whom was called Kasyapa, and other hermits who were living there, accompanied by whom he proceeded again to the court of king Bimbisara at Magadha. There great numbers joined him, including Sariputra and Moggallana, who afterwards became famous leaders of the new religion. At last, after seven years' absence, Buddha started for Kapilavastu. He entered the city with his mendicant's bowl in his hand, begging through the streets. The old raja Suddhodana was scandalized; but Gautama replied, 'My father, the customs of the Dharma (Law, or

Kingdom, of righteousness) are good, both for this world and the world which is to come. My father, when a man has found a treasure, it is his duty to offer the most precious of the jewels to his father first. Do not delay, let me share with you the treasure I have found.' Yasodhara did not go forth to welcome him. 'I will wait and see,' she said; 'perhaps I am still of some value in his eyes; he may ask for me, and I can better welcome him here.' Gautama, who had not seen her since the night of his renunciation, noticed her absence, and observing that doubtless the princess, knowing that a recluse could not be touched by a woman, had kept away, added, 'She may embrace me; do not stop her. Unless her sorrow be allowed to take its course, her heart will break.' Then he went in to Yasodhara, who, when she saw him whom she had known as a prince standing before her as a yellow-robed hermit, and though she knew it before, for the first time then realized the impassable gulf between them, she fell upon him, and held him by the feet and wept bitterly. Buddha praised her great virtue, and, when she afterwards entered into the new religion, she became the head of the first Buddhist nunnery of female recluses. For 45 years Gautama prosecuted his mission in Hindusthan, attended by his cousin Ananda. He also converted another cousin, Devadatta, who, in envy, incited king Ajatasatru, who had succeeded king Bimbisara in Magadha, against him. But in the end Ajatasatru was also converted. The common people, whose levelling instincts rebelled against the hereditary priesthood and crushing caste system of the Brahmans, joined him in multitudes. He died at the age of 80, B.C. 543. He was journeying towards Kasinagara, 80 miles east of Kapilavastu, and had rested in a grove at Pawa, presented to the new society by a goldsmith named Chunda. Chunda here prepared for him a meal of rice and pork, of which he ate incautiously, and was soon afterwards taken ill. Finding that Chunda was likely to be reproached for his mortal fit of indigestion, he quietly remarked to Ananda, 'After I am gone, tell Chunda he will receive in a future birth a very great reward; for, having eaten of his pork, I am about to pass into Nirvana. These are the gifts which will be blest above all others, namely, Sujata's gift before I attained wisdom under the Bodhi tree, and this gift of Chunda before I enter into the rest of Nirvana.' Afterwards, observing Ananda weeping, he said, 'O Ananda, do not weep. This body of ours contains within itself the powers which renew its strength for a time, but also the causes which lead to its destruction. Is there anything put together which shall not dissolve?' Then, turning to his disciples, he said, 'When I am passed away, and am no longer with you, do not think the Buddha has left you, and is not still in your midst. You have my words, my explanations, my laws, the Buddha has not left you.' And again, 'Beloved disciples, if you love my memory, love one another.' And after another pause he said, 'Beloved, that which causes life causes also decay and death. Never forget this. I called you to tell you this.' These were the last words of Gautama Buddha, as he stretched himself out and died under the great sal tree, the Shorea robusta, at Kasinagara.

His body was burnt with great reverence by the local rajas of Malwa, and his charred bones were distributed over the whole country, and in after times gave rise to the stupas, topes, or relic mounds which have been discovered in so many parts of India, from the valley of the Kābul river to the banks of the Kistna. For gradually the new religion grew mightily. The Sisunaga dynasty, which reigned at Magadha from B.C. 691 to B.C. 325, was followed by the Maurya dynasty, which reigned to B.C. 118. It is the most brilliant and best known of all the dynasties of ancient India. In the anarchy which followed the invasion by Alexander the Great, B.C. 330 (Herat) to 326, the last of the Sisunagas was murdered in revenge by a learned Brahman named Chanakya, through whose intrigues Chandragupta, the Sandracottus of the Greeks, was raised to the throne. His grandson, Asoka, the third king of the Maurya dynasty, established Buddhism as the state religion in India, B.C. 250. He was the first to raise stone architecture in India, the art of which was probably derived through the Greek invasion. He engraved his edicts on rocks and on pillars; and the Sanchi tope, and the tope of Bharhut, are probably remains of the 84,000 topes or stupas he is said to have erected in honour of Gautama Buddha and his most distinguished first disciples. Only eight of these mounds were shrines of actual relics of Sakya Muni himself, and these are distinguished by the name of dhagobas,—being derived from dhatu, a relic, and garbha, the womb,—that is, a 'relic-shrine.'

The legends relate that on his attaining perfect knowledge while resting under the pipal tree near Gaya, he celebrated the event with the stanzas:

'Through various transmigrations
Have I passed, (without discovering)
The builder I seek of the abode (of the passions).
Painful are repeated births!
O house builder! I have seen (thee).
No house shalt thou again build me;
Thy rafters are broken,
Thy ridge-pole is shattered:
My mind is freed (from outward objects),
I have attained the extinction of desires.'

According to tradition, a likeness of this great reformer was carved in sandal-wood from the life, and this became the model for such representations as exist. He appears in them as a smiling, smooth-faced, feminine-looking person, with long hair parted like a woman's, and formed into a knot at the top of the head. In early Buddhist belief, however, statues were not erected to him. There are none belonging to the eastern caves, nor any found at Buddh Gaya, Bharhut, or Sanchi. There are none executed as early as the Christian era. His statues on the façade at Karli and in the western caves are insertions of the 4th or 5th centuries, or later.

Before the end of his career, he saw his principles zealously and successfully promulgated by his Brahman disciples, Sariputra, Mangalyana, Ananda, and Kasyapa, as well as by the Vaisya Katyayana, and the Sudra Upali. At his death in B.C. 543, his doctrines had been firmly established, and eager claims were preferred by kings and rulers for relics of their teacher. His ashes were distributed amongst eight cities, and the charcoal from the funeral pile was given to a ninth; but the spread of his influence is more clearly shown by the mention of the numerous cities where he lived and preached. Amongst these are Champa

and Rajagriha on the east, Sravasti and Kausambi on the west. In the short space of forty-five years, this wonderful man succeeded in establishing his doctrines over the fairest districts of the Ganges, from the neighbourhood of Agra and Cawnpur to the Delta. This success was perhaps as much due to the corrupt state of Brahmanism, as to the greater purity and more practical wisdom of his own system. His success was also partly due to the politic admission of women. To most of them the words of Buddha preached comfort in this life, and hope in the next. To the young widow, the neglected wife, and the cast-off mistress, the Buddhist teachers offered an honourable career as nuns. Instead of the daily indignities to which they were subjected by grasping relatives, treacherous husbands, and faithless lords, the most miserable of the sex could now share, although still in a humble way, with the general respect accorded to all who had taken the vows. The Bhikshuni were indebted to Ananda's intercession with Sakya for their admission into the ranks of the Buddha community, and (Csoma's Analysis of the Dulva, Res. As. Soc. Bengal, xx. p. 90; also Fo-kwe-ki, chap. xvi. p. 101), in token of their gratitude, the Pi-khieu-ni, or Bhikshuni, at Mathura, paid their devotions chiefly to the stupa of Anan (Ananda), because he had besought Buddha that he would grant to women the liberty of embracing ascetic life. The observances required from the nuns are given in note 23, chap. xvi. of the Fo-kwe-ki. Though thus enrolled, their position was still humble. The female ascetic, even of a hundred years of age, was bound to respect a monk even in the first year of his ordination.

Sakya has become a saint in the Roman Catholic Church, under the name of St. Josaphat.

In Burma, his statues or images appear in Buddhist temples, sometimes seated cross-legged, in the attitude of teaching, sometimes resting on his right side supporting his head on his right hand. He is represented in those of India seated on the Sinhasana, or lion's throne, at first alone, but, under the Mahayana heresy, with other beings near, often with standing figures holding fly-flaps; or seated on a throne, the corners of which are upheld by two lions, with his feet on a lotus blossom, and his hands in front of his breast, the little finger of his left hand held between the thumb and forefinger of the right. This is the attitude of teaching, and is known as Dharma Chakra Mudra. Buddha and the Jaina Tirthankaras are also represented squatting with their legs doubled under them, and the hands laid one on the other over the feet, with the palms turned upwards. This is the reflective or meditative attitude, Jnana Mudra or Dhyana Mudra. A third attitude is called Vajrasana, also Bhumisparsa Mudra, when the left hand lies on the upturned soles of the feet, and the right, resting over the knee, points to the earth. He is also figured standing with the right hand uplifted in the attitude of blessing, or with the alms-bowl of the Bhikshu or mendicant. Also resting on his right side, with his head to the north, the attitude he took at his death.

Sakya Sinha, according to Tibetan books, died near the town of Kusha in Kamrup, beneath the shade of two sal trees on the southern bank of the Brahmaputra river, then called Hiranyo. The Pali books of Burma and Ceylon say B.C. 544, General Cunningham has B.C. 478, at the age of 80. In the middle of the 19th century, Professor Kern of Leyden, in a dissertation on Buddha, gives B.C. 388 as the date of his death; and Professor Weber, in the Literisches Central Blatt of 1874, adopted the view taken by Professor Kern. Mr. Fergusson gives as under the dates of events:—

Buddha born at Kapilavasta,	B.C. 560
,, became an ascetic,	,, 531
,, assumed Buddhahood,	,, 526
,, died,	,, 481
First Buddhist council,	,, 481
Second Buddhist council, held in the 10th year of the reign of Kala Varddhana,	,, 381
Alexander's invasion of India,	,, 327
Philip made satrap,	,, 327
Alexander left Patala after the rains,	,, 326
Philip murdered by mercenaries,	,, 326
Alexander's death,	,, 323
Porus allowed to retain the Panjab,	,, 321
Seleucus obtains Babylon,	,, 321
Chandragupta founds the Maurya dynasty,	,, 319
Bindusara succeeds, and rules 28 years,	,, 295
Bindusara's death,	,, 267
Asoka's coronation,	,, 263
Asoka converted to Buddhism,	,, 259
Mahendra, son of Asoka, ordained a Buddhist priest,	,, 257
Third Buddhist council, held in his 17th year,	,, 246
Mahendra sent to Ceylon in his 18th year,	,, 245
Death of Asoka's queen, Asandhi Mitra,	,, 233
Asoka became an ascetic in the 33d year after his conversion,	,, 227
Death of Asoka in the 38th year of his reign,	,, 225
Suvasas, successor,	,, 225
Dasaratha,	,, 215
Sangatu, Bandupalita,	,, 200
Indrapalita, Salisuka,	,, 195
Somasarma,	,, 185
Sasadharma,	,, 183
Vrihadratha,	,, 180

He is known to the various races by various names and titles. He was called Sakya and Sakya Sinha from his clan; Sauddho-dani, as the son of Suddhodana; and from his mother Maya-Devi he got the name of Maya-Devi-Suta; Gautama was from his got or ancestral descent, and hence the Burmese Gaudama; Arka-Bandhu, or Kinsman of the Sun, from his descent as a Kshatriya of the Solar line; Bhagawa or Bhagavat, meaning saintly; Sakya Muni, or Sakya the hermit; Tatha-gata, he who has gone away; Sramana, the priest; Maha-Sramana, the great priest. He is the Buddas and the Sarmanes of the Greeks; the Mercurius Mayæ filius of the Roman Horace; Bud or Wud of the pagan Arabs; Toth of the Egyptians; Woden of the Scandinavians. His clan name of Sakya became the Xa-Ka of the Chinese and Japanese, and the Shakahout of Tonquin; and the Chinese, having no b or d in their monosyllabic language, style him Fo, Fo-e, Fo-Hi, and Fo-to; in Tibet he is Pot or Po-ti; also in Siam, Chom-dan-das, Sangs-gyas, and Sommo-no-Kodam.—*Ferg. and Burg. Cave Temples of India*, 24, 178.

BUDDHA-PRIYA, the compiler of the Rupa-siddhi, the oldest Pali grammar, now lost. It was compiled from the more ancient work of Kachhyayana.

BUDDHA-SARA. SANSK. The essence of the Buddha philosophy.

BUDDH GAYA or Budh Gaya, a village, lat. 24° 41′ 45″ N., long. 85° 24′ E., about 6 miles from the town of Gaya in Bengal. Sakya Muni, in the 6th century B.C., resided here for four years under a pipal tree (Urostigma religiosa), sitting

with his legs crossed in mental abstraction. That celebrated tree, the Bodhi-drum, or tree of wisdom, still exists, but in a very decayed state. The rajasthan, or palace, was the residence of the Buddhist king Asoka and his successors on the throne of Magadha. In front of the tree are the ruins of an ancient Buddhist temple, restored A.D. 1305–1306 by a Buddhist ruler, but only the mandir or shrine remains. It is largely visited by pilgrims, who deposit their offerings at the foot of the pipal tree. One inscription on a stone in Sanskrit, dated Samvat 1005 (A.D. 948), is said by Dr. Wilkins to import that the temple of Buddha at Buddha Gaya was built by Amara Deva, the author of the Amara Kosha; but it may mean restored, as it was seen before Amara Deva's time by Fa hian (v. p. 189). Another Pali inscription, of date 1305, in Burmese, says the chaitya or temple was first built by Asoka, 218 years after Buddha, or B.C. 325; often restored, and finally restored by the Burmese Envoys, A.D. 1306–1309 (v. p. 157). The vaulted cavern or Nagarjuni has other inscriptions, all short, and in every variety of the Deva Nagari.—*Beng. As. Soc. Journ.* vi. p. 671; *Tr. of a Hindu; Fergusson's Buddhist Architectural Remains; Hardy's Eastern Monachism*, p. 434; *Buddha-Gaya, the Hermitage of Sakya Muni, by Rajendralala Mitra, LL.D., C.I.E., etc.; Imp. Gaz.*

BUDDHI. SANSK. Perfect knowledge, the acquirement of which, with the Buddhists, frees from further transmigrations.

BUDDHISM is a religion which had its origin in the teaching of Sakya Sinha. In the year 1881, the population of the world was estimated at 1,500,000,000, of whom 470,000,000 were supposed to be Buddhists. Some circumstances, of which we are uninformed, must have prepared these regions for the reception of his ascetic doctrines. From its rise in the 6th century B.C., it gradually spread from the valley of the Ganges over the whole of India; it extended into Kābul, into Bamian in ancient Bactria, a district of Persia under Darius; traces of it early appear through Mongolia and Tibet; it was introduced into China by 500 Kashmirian missionaries in A.D. 65; through Hindustan it extended into the Peninsula and to Ceylon, into Nipal, Burma, Assam, Siam, Cochin China, the islands of Formosa and Japan; and, except in India, where it arose, and in Kābul, Bactria, Bamian, and Kashmir, it still flourishes in the countries named, and in Sikkim, Ladakh, Zanskar, Dras, Suru, Purik, Spiti, Nubra, Rong, Janskar, Hanle, and Rupshu. Buddhism made a great start in the time of king Asoka, and religious Buddhist counsellors assembled at Pataliputra with Asoka. After nine months' consultation, they sent out nine teachers, viz. one to Kashmir and Peshawur, a second to the country of the Narbada, a third to Mewar and Bundi, a fourth to Northern Sind, a fifth to the Mahratta country, a sixth to the Greek province of Kābal, Arachosia, a seventh to the country of the Himalaya, the eighth to Ava or Siam, that is, the 'golden land,' the aurea regio or the aurea chersonesus, and the ninth to Lanka or Ceylon.

It is known that Buddhism was introduced at the court of Ming-ti, emperor of China, in A.D. 65; into Java in A.D. 24 to 57; into Kaoli (Corea) in A.D. 372; into Pe-tsi, in Corea, in A.D. 384; into Tibet, under Hla-ta To-ri, in A.D. 407; into Sin lo or Sinra (in Corea), A.D. 528; in 552 into Japan; and in 632, under Srong dbzam gampo, Buddhism was introduced into Tibet generally.

About 450 A.D., missionaries from Ceylon permanently established their religion in Burma. The Burmese, however, allege that just after the Patna council, B.C. 207 and 244, missionaries came to Tha-ton, between the Sitoung and Salwin estuaries.

In Turkestan, Buddhism was still prevailing in A.D. 1419, in the cities of Turfan and Kamil, when Shah Rukh's ambassadors passed through; and Tagalaq Timur was the first Mahomedan sovereign of Kashgar of the lineage of Chengiz. There are now many Buddhist priests at the capital of Khotan; but Mahomedanism had been extensively prevalent in East Turkestan for centuries prior to its conquest by the Chinese in A.D. 1757, and the Buddhist priests and temples may have been since introduced.

In the first 500 years there were several assemblies of its eminent men, to discuss its condition and prospects. At the council held B.C. 543, when 500 of Buddha's disciples were assembled in a cave near Rajagriha, to gather together his sayings, they chanted the lessons of their master, in three great divisions—(1) the words of Buddha to his disciples; (2) his code of discipline; and (3) his system of doctrine. These became the three collections, Pitaka, or baskets of Buddha's teaching; and Sangiti, the word for a Buddhist council, means literally a singing together.

Even before the decease of Sakya Sinha, however, schisms had arisen amongst his followers. Ananda had been with him from the first, and to him Buddha had referred his disciples as the depositary of what he himself had said. Nevertheless, so rapidly had the views of Buddha been departed from, that Ananda was excluded from the deliberations of the first Buddhist council as an unbeliever, and only re-admitted when he had submitted to their views (Bunsen, God in Hist. i. 341). A century afterwards, B.C. 443, 381? in the reign of Kala Varddhana, a second council of 700 was held at Vaisali, to settle disputes between the more and the less strict followers of Buddhism; it condemned a system of Ten Indulgences which had grown up, but it led to the separation of the Buddhists into two hostile parties, who afterwards split into 18 sects (Imp. Gaz. p. 248). Eighteen heresies are deplored in the Mahawanso, within two centuries of Sakya's death; and four distinct sects, each rejoicing in the name of Buddhists, are still to be traced amongst the remnants of his followers. Not reckoning the doctrines cherished among the Jaina of Gujerat and Rajputana, its mysteries, as administered by the Lamas of Tibet, are distinct from the metaphysical abstractions propounded by the monks of Nepal, or the philosophies of the Burmans. Its observances in Japan have undergone a still more striking alteration from their vicinity to the Sintu sect; and in China they have been similarly modified in their contact with the rationalism of Lao-tsze, and the social demonology or spirit-worship of the Confucians (Ten. Ceyl. p. 527).

The third council, B.C. 246, was assembled by Asoka at Patna; and the fourth and last council was held under king Kanishka, and it was at this fourth council that Nagarjuna introduced the Mahayana doctrine.—*Ferg.; Imp. Gaz.* Both

these rulers made Buddhism a state religion. Asoka had inscriptions recorded on rocks and columns, enjoining its doctrines, and some of these still remain. His son Mahendra, B.C. 243, carried to Ceylon Asoka's version of the Buddhist scriptures in the Magadhi language. He took with him a band of missionaries; and soon after, his sister, the princess Sanghamitta, who had entered the order, followed with a company of nuns. In the inscriptions, Buddhism appears as a system of pure abstract morality, no trace being exhibited of the worship either of Buddha himself, or of the serpent or tree.

Kanishka ruled in Kashmir and N.W. India, about A.D. 10–40, but his sway extended to both sides of the Himalaya, from Yarkand and Khokand to Agra and Sind. The assembly convoked by him consisted of 700 members. They drew up their commentaries on the Buddhist faith, which supplied in part materials for the Tibetan or Northern Canon.

The prominent sects are known as the Hinayana and Mahayana, the Lesser Vehicle and the Greater Vehicle. The original puritans belong to the Hinayana. They practised morality, with a few simple ceremonial observances. The Mahayana school was founded by the 13th patriarch, Nagarjuna, a native of Berar, about 500 or 400 years after Buddha. It taught an abstruse mystical theology, in which Buddha was pushed into the background by female personifications of Dharma or the Prajna Paramita, and other goddesses, by Jnanat Maka Buddhas, or forms of the senses (Ferg. and Burg. Cave Temples of India, 182). The Mahayana includes many later corruptions or developments of the faith, as originally embodied by Asoka in the Lesser Vehicle or Canon of the southern Buddhists, B.C. 244. The Buddhist Canon of China is a branch of the Greater Vehicle, and was arranged between A.D. 67 and 1285. It includes 1440 distinct works, comprising 5586 books; and the Buddhism of China and Japan is a grossly idolatrous religious system.

Kanishka and his council became in some degree to the northern or Tibeto-Chinese Buddhists what Asoka and his Patna council (244 B.C.) had been to the Buddhists of Ceylon and the south. But the ultimate divergence between the canons is great, both as to the historical aspects of Buddha's life and as to his teaching.—*Imp. Gaz.*

The rails of the dhagobas at Buddha Gaya, Bharhut, with the eastern caves, give a complete history of Buddhism as it existed in India during the Mauryan dynasty (B.C. 325 to 188). At Sanchi and the western caves is given a complete representation of the character it assumed from the 1st century before the Christian era till the third or fourth of it. At Amravati and the N.W. monasteries in Peshawur, are shown the modifications introduced before and during the 4th century; and from Ajunta and later caves are to be traced its history till it became almost Jaina, and then altogether faded away.—*Fergusson*, p. 206.

The gateways of the Sanchi tope belong to the first half of the 1st century of the Christian era, and, though subsequent to the Naga revelation, the sculptures scarcely indicate its existence. Buddha does not appear on the Sanchi sculptures as an object of worship. The serpent is there, but rare. The dhagoba, or depository of the relics of saints, is there, as also are the tree, the wheel, and other emblems, and, on the whole, the sculptures on the Sanchi tope may illustrate the Hinayana school of Buddhism, at the period when other doctrines were about to be introduced.

The Amravati sculptures, again, belong to a period 300 years later than that of Sanchi, and in them the new school of Mahayana Buddhism may be studied. In these, Buddha is an object of worship, but the serpent is his co-equal. The dhagoba, tree, and wheel are reverenced, and the sculptures contain all the legends of the later books, though in a purer form. Hindus, Dasyas, and other men, women, and animals, especially monkeys, appear in the sculptures worshipping the serpent and other gods. The serpents are all divine, five and seven headed; and representations are numerous of the Naga angelic orders,—the female Naga with one serpent only springing from the back, the male Naga with three. In the Amravati sculptures are tonsured priests, and other signs of a clerical order segregated from the laity, and of an established ritual. Sanchi is illustrative of the Hinayana Buddhist philosophy, 500 years before the oldest Buddhist book; and Amravati illustrates the Mahayana philosophy 600 years after its promulgation.

The frescoes of the caves of Ajunta illustrate a period 300 years later than the Amravati tope, and belong to the time immediately preceding the decline of Buddhism in India. In No. 19 chaitya cave, Ajunta, he is the object of worship, and occupies a position in front of the dhagoba itself, surmounted by the triple umbrella. A pure theism has become changed into an overwhelming idolatry.—*Fergusson*, p. 124.

Seemingly the symbols or idols first sculptured were the chakra, or wheel of the law, the Bodhi Tree, and the dhagoba (Dhatugarbha), a cupola-shaped structure intended to contain relics, and which, in the ancient sanctuaries, occupies exactly the place of the altar in churches of the Romish and episcopal forms. About the 4th century it was replaced generally by images of Buddha, but representations of him have been found on the coins of Kanishka, and his images were worshipped in the first century.—*Barth*, p. 128.

In Tibet Buddhism, relic-worship is not expressed either in their architecture or their religious forms. But it is a nation of priests; their monasteries are innumerable, some with 2000 or 3000 lamas; and, according to M. Huc, up to 15,000 at Sera, near Lhassa, where are long streets of cells, mostly surrounding courtyards, generally with a shrine or altar in its centre. That of Bouddha La is where the Delai Lama resides, outside of Lhassa. In its centre is a four-storeyed building, with a dome covered with plates of gold.—*Fergusson*, p. 312.

Buddhism prevailed in different parts of India partially for 1800 years. During this long period, Buddhism was swept from many provinces by great revivals of the Brahmanical creeds, generally brought about by migrations of Brahmans from Northern India, under whose teachings, and often with violence, Buddhism in British India became extinct. It had, however, triumphed throughout India from the time of Asoka, B.C. 255, up till the 5th century A.D., trampling upon the whole ceremonial of Brahmanism, with all its sacrifices, penances, and castes, and asserting the

paramount necessity for purity of mind and body, and a more elevated moral rule. Sacrifices of all kinds were especially excluded from the Buddhist ritual, the offerings of flowers to Buddhas being alone permitted. In A.D. 400, when Fa Hian visited India, Buddhism was still the dominant religion, but the Vaishnava sect were already rising into consequence. In the middle of the 7th century, although the pilgrim Hiwen Thsang found numerous temples of the Saiva sect, whose doctrines had been embraced by Skanda Gupta and the later princes of Patalipura, yet Buddhism was still the prevailing religion of the people. But the faith of Sakya was evidently on the decline; and though it lingered about the holy cities of Benares and Gaya for two or three centuries later, it was no longer the honoured religion of kings and princes, protected by the strong arm of power, but the persecuted heresy of a weaker party, who were forced to hide their images under ground, and were ultimately expelled from their monasteries by fire. In 1835, Major Cunningham excavated numerous Buddhist images at Sarnath, near Benares, all of which had evidently been purposely hidden under ground. He found quantities of ashes also, and there could be no doubt that the buildings had been destroyed by fire; and Major Kittoe, who subsequently made further excavations, was of the same opinion. General Cunningham also dug up a colossal statue of Sakya in the Kosamba Kuti temple at Sravasti.

It was about the year A.D. 800 that there arose the great Brahmanical revival, which has prevailed in India up to the present day, but Buddhism left its influence: the great sacrifices of antiquity have never been revived; the Homa and Payasa, or ghi and food sacrifices, are exclusively offered by the Vaishnava sectarians, even by most of the Saivava; and the sacrificing of buffaloes, goats, and fowls is chiefly practised amongst the uneducated Sudra and non-Aryan races, to Durga, Kali, or the earth, under the form of the various local deities. The Vaishnava, who look for the coming of a tenth avatar, had been inclined to regard Sakya as the prophesied incarnation; but when Buddhism was seated on the throne of Magadha, and the old Vaishnava sect was persecuted, they fell away from Buddhism, and have ever since been apart, even more tender of animal life than any Buddhist, but in other doctrines dissimilar.

Amongst the *Singhalese* Buddhists, the term Buddha is understood to indicate beings who appear in the world at intervals, and are able to teach men the way to attain nirvana (Hardy), and they recognise Anomadassa as a Buddha prior to Gautama.—*Hardy*, p. 433.

In Ceylon, this faith has not been subjected to much persecution. In the 16th century, the Tamil invaders made every effort to destroy the Buddhist books; but the priests subsequently sent a mission to Siam, and properly ordained priests were imported from Amarapura in Burma. By the 18th century, Buddhism had regained its ascendency. In the 19th century, the priests have been actively diffusing a knowledge of their creed. They have printing presses, from which tracts, pamphlets, and serials issue in great numbers. They present some new arguments and inferences; but the defiant and blasphemous expressions which they contain against the sacred name of Jehovah, are probably the most awful ever framed in human language. In Ceylon, on Adam's Peak, is a footmark which has been the object of pilgrimage for ages, which Buddhists ascribe to Buddha, but Mahomedans to Adam. There are models of feet in different parts of the island.—*Yule*, ii. 359, 368. The tooth of Buddha, Dalada, SINGH., Dhata Dhata, HIND., is greatly reverenced. There are, in Ceylon, statues of Buddha of great height. One near Mehintala is 70 feet high, and one of Gautama Raja at Carculla is 38 feet. At Anarajpura, in Ceylon, are several Buddhist dahgopas or dhagobas, the heights of which vary. They were built at from B.C. 307 to A.D. 276.

A shoot from the pipal tree at Buddha Gaya, known as the Bo Tree, has been cherished at Anarajpura for twenty centuries; and in the courtyard of every vihara and temple of Ceylon, pipal trees are preserved as objects of veneration. A system of caste was introduced by king Vijaio amongst the Ceylon Buddhists, which still prevails there, though directly opposed to Buddhist doctrines, and not existing in any similar form in other Buddhist countries.

Buddhism has been examined by Prinsep, Hodgson, A. Cunningham, Yule, Csoma Korosi, Rajendra Lala, Sykes, and Bird in India; by Pallas, Schmidt, Burnouf, Müller, Bunsen, Barth, Fergusson, St. Hilaire, Benfey, E. Edkins, Stanisla Julien, Lassen, Abel Remusat, Tennent, Wilson, and Wassiljew of Europe; by Turnour, Gogerly; and Spence Hardy of Ceylon; by Phayre, Mason, Lowe, Bigandet, and Bastian of Burma; and by Legge of China; and there has been much discussion as to the nature of the doctrines which Sakya preached. There is no doubt that he was an ascetic, for he left his wife and family, and preached and inculcated asceticism; and however greatly his followers may now vary in their belief, it is a fundamental doctrine with all of them, that existence is an evil, for birth originates sorrow, pain, decay, and death. Whether he believed in a Supreme Being is questioned. Mr. Hodgson describes his belief as 'monastic asceticism in morals, and philosophical scepticism in religion.' Bunsen considers that Sakya, the ascetic, of all founders of religions, at once stands the nearest to, and the farthest from, Jesus of Nazareth, the Christ. The farthest, inasmuch as he renounces in despair the actual world which Jesus purposes to raise to Godlike purity; but the nearest, by virtue of the width and humanity of his conceptions of God, and the wide diffusion which they have obtained. But this view was not held by many of his own day, who styled him An-Iswara, the lordless one, meaning that he taught an absolutely atheistic nihilism; and Burnouf considered the doctrine of Buddha to be atheistic and materialistic in his teaching that existence is a burden, and that annihilation is the highest happiness which the soul can strive after. Barth says (p. 110) Buddha's doctrine is absolutely atheistic. The great truth of the Fatherhood of God is lacking in Buddha's teaching. According to Bunsen (God in Hist. p. 345), his creed introduced or revived civilisation, and softened manners amongst millions. At present the Buddhists are in two great sects, those of the Mahayana, and those of the Hinayana. The Mahayana is represented in the literature of the northern Buddhists of Tibet, Nepal, China, and Japan; and the Hinayana in that of Ceylon, Burma, Siam,

and Cambodia, and Anam? The Buddhism of Mongolia is an offshoot from Tibet, and that of Corea, Japan, and Cochin-China is from China.

In China and Mongolia, according to MM. Huc and Gabet, there are theistic Buddhists, who acknowledge an Adi-Buddha, or eternal Buddha, whom they consider to be God over all.—*Yule*, i. 242.

Sakya Muni discountenanced the philosophic views of the Brahmans, but did not deny the authority of the Vedas. But he was not followed in this by subsequent professing Buddhists.—*T.*

Three marches from Jeypore, on the road to Dehli, the town of Babra has one of the edicts of Asoka on a block of stone or rock on a hill, in old Pali, and of date B.C. 309. It is in the oldest Lat character. It differs somewhat in style and language from the pillar and rock edicts. The subject is the Buddhist commandment, forbidding the sacrifice of four-footed animals. The Vedas are alluded to, but though not named, are condemned as 'mean and false in their doctrine, and not to be obeyed.' The scriptures of the Muni (which must be the Vedas) are spoken of as directing blood-offerings and the sacrifice of animals. Priests and priestesses, religious men and religious women, amongst the Buddhists, are commanded to obey the edict, and bear it in their hearts (vol. ix. p. 617).

The sacred canon of the Buddhists now extant is called the Tripitaka, *i.e.* the three baskets. The first basket contains all that has reference to Vinaya, or morality or discipline; the second contains the Sutra, or discourses of Buddha; the third, Abhidharma, includes all works treating of dogmatic philosophy or metaphysics. The first and second each contain five separate works. The second is generally known by the name of Dharma, or law; and it has become usual to apply to the third basket, which contains seven separate works, the term Abhidharma or bye-law. The Sutra are ascribed to Sakya Muni; they consist of ethical and philosophical dialogues by Sakya; and a writer in the Calcutta Review states they make mention of the gods Narayan, Jonardhan, Shib, Brahma, Petomah, Borun (Vorun), and Songkar. Other names are Kabir, Sokr or Vasob, and Vissoo Kormo.—*Cal. Rev.*

Professor Max Müller, in 1881, translated the Dhammapada, a collection of verses; the Sutta Nipata, a collection of discourses, was translated by V. Frausböll; and Rhys Davids issued the Buddhist Sutras.

Buddhist writings have been preserved in two comparatively original redactions, but neither of them in the Magadhi dialects, the primitive language of their creed. The Buddhists of Nepal, Tibet, and China have their books in Sanskrit, or have translations immediately from the Sanskrit. The Sanskrit writings were made known about 1840, by Mr. B. H. Hodgson.

The literature of the Buddhists of Ceylon, Burma, and Siam, is in Pali; and the Dipavansa contains a history of Buddhism in that island, which breaks off with the death of Mahasena, A.D. 302. The Mahawansa was compiled by Mahawana, who lived about A.D. 500; it has been brought down to the 18th century by successive writers, and was translated by the Honourable G. Turnour of the Ceylon Civil Service.

Their relative age and authority is not yet decided, though that of the Pali has been known since the 5th century by the commentaries of Buddha ghosha.

Analyses of this literature have been made in Spence Hardy's Eastern Monachism; Childer's Pali Dictionary; Rhys David's Buddhism; B. H. Hodgson's Memoirs in Asiatic Researches and the reprint of his Collected Essays, Csoma of Koros in Bengal As. Soc. Journal and Asiatic Researches.

The Chinese collection has been described in Beal's Buddhist Tripitaka as it is known in China and Japan, and W. Wassiljew's Der Buddhismus.

Up to the present time, all that has been found of the Abhidharma is in extracts and fragments.

Some of the Sutras have been translated by E. Burnouf, Max Müller, and Cecil Bendall, and in the Journal of the R. As. Society. The Vinaya Pitakam in the Pali has been published by H. Oldenberg, the Mahavagga in 1879, and the Cullavaga in 1881.—*Barth, Rel. of India.*

Mahendra, son of Asoka, is supposed to have brought the Attha-katta, ancient commentaries in Pali, to Ceylon, and to have translated them into Singhalese, which Buddha ghosa, about A.D. 430, re-translated into Pali. According to another account, the doctrines were first reduced to writing by the Ceylon priests during the reign of king Vartagamani, 88–76 B.C., and by a synod assembled 10–40 A.D., by the Turushka king Kanishka. For the former the language used was the vernacular, from which in the 5th century it was translated into Pali; for the latter, Sanskrit.

The Buddhist religious works of Tibet brought to notice by Alexander Csoma de Koros, are the Tanjur, which consists in its different editions of 100, 102, and 108 folio volumes, and comprises 1083 distinct works. The Tanjur consists of 225 volumes folio, each weighing from 4 to 5 lbs., in the edition of Pekin; but editions have also been published at Lhassa, and other places. Of these, De Koros gave an analysis in the 20th volume of the Asiatic Researches, and died soon after.

In the Tibetan creed, the doctrine of transmigration is shown, and final absorption into Buddha, as the reward of a virtuous life. It therefore follows that Buddha, with the Tibetans, is the divine Being who created all, and to whom all return, and that for the good there is no separate existence in a future world. There has been some misapprehension regarding the Buddhas and Budhisatwas of the Tibetans, the regeneration of the Grand Lama being considered as an exceptional case of a Buddha returning amongst mankind. Mr. Hodgson (pp. 137, 138) truly calls the 'divine Lamas' of Tibet, Arhantas; but he believes 'that a very gross superstition has wrested the just notion of the character to its own use,' and so created the 'immortal mortals, or present palpable divinities of Tibet.' In the Nouv. Jour. Asiat. t. xiv. p. 408, ii., Fra Orazio says that 'Lama sempre sara coll' istessa anima del medesime Ciang-c'iub, oppure in altri corpi.' Remusat was not aware of this fact when he stated, 'Les Lamos du Tibet se considérent euxmêmes comme autant de divinités (Bouddhas) incarnées pour le salut des hommes.' But the explanation which Major Cunningham received in Ladakh, which is the same as that obtained by Fra Orazio in Lassa, is simple and convincing. The Grand Lama is only a regenerated Budhisatwa, who refrains from

accepting Buddhahood, that he may continue to be born again and again for the benefit of mankind. For a Buddha cannot possibly be regenerated, and hence the famous epithets of Sathagatha, 'thus gone,' and Sugata, 'well gone,' or 'gone for ever.' The valley of Le or Ladakh proper, Zanskar, Hembaks or Dras, Suru, Purik, Spiti, Nubra, Janskee, and Rong, are all Buddhist (*The Bilsa Topes, by Major Cunningham*, pp. 1–67).

In Tibet, the Buddhist practical creed is thus briefly stated by Csoma de Koros:—1st, To take refuge only with Budh. 2d, To form in the mind the resolution to aim at the highest degree of perfection, and so to be united with the Supreme Intelligence. 3d, To humble oneself before Budh, and to adore him. 4th, To make offerings of things pleasing to the six senses. 5th, To glorify Budh by music, and by hymns, and by praise of his person, doctrine, and love of mankind, of his perfections or attributes, and of his acts for the benefit of animated beings. 6th, To confess one's sins with a contrite heart, to ask forgiveness of them, and to repent truly, with a resolution not to commit such afterwards. 7th, To rejoice in the moral merit and perfection of animated beings, and to wish that they may obtain beatitude. 8th, To pray and exhort existing holy men to turn the wheel of religion, that the world may long benefit by their teaching (*Prinsep's Tibet, Tartary, and Mongolia*, p. 167).

One of the established points in Tibetan Buddhism is the belief in metempsychosis, or the migration of the souls of animated beings; and the Tibetans believe in six forms in which a living being may be re-born, viz. lha, TIB.; deva, SANSK., spirits or gods; mi, or men; lha mayin, or evil spirits; dudo or johsong, brute beasts; yidaga, imaginary monsters; and inmates of nyalba, or naraka, or hell.

To cease to exist is the prevailing hope with all Buddhists. The Buddhist longing for annihilation is an exaggeration of the craving for rest which has been felt by many races, and by the followers of many creeds. The universal cry of the overworked and sorrowing children of men has ever been that of the lotus-eaters:

'There is no joy but calm.'

The universal refrain of humanity is one implying trouble, anxiety, and never-ceasing toil, and its aspiration is that of repose. A holiday is a cessation of labour; and the highest hope of many Christians has ever been, to reach that bourne where the wicked cease from troubling, and the weary are at rest. Nirvana is as a blown-out candle. It is essentially in theory a non-active faith—a faith of negatives. Their ten commandments, according to Max Müller, are:—Do not kill; do not steal; do not commit adultery; do not lie; do not get intoxicated; abstain from unsuitable words; abstain from public spectacles; abstain from excess in dress; do not have a large bed; do not receive silver or gold. Ten obligations or precepts, dasa sil, are repeated when a Burmese enters a kyoung as a novice (*Fytche*, ii. 192).

In carrying out the ascetic views of Sakya Muni, pious Buddhists of all these countries, both men and women, have, from the first enunciation of his doctrines, been accustomed to withdraw from public life into monasteries and convents. We have distinct evidence of the existence of institutions of this kind established at dates long antecedent to the Christian era. They were in the form of vihara, or cells and caves, or buildings erected for the convenience of those who sought so to spiritualize themselves by separation from the world. Only the ruins of such buildings exist in peninsular India, but in Tibet and Tartary they still are like those left by the Indian Sramanas or Lamas, ten and twenty centuries anterior to the present, and varying very little from what is reported of the monasteries of the earlier Christians; there are also, according to M. Huc, both at Koon-boom and in Tibet, the types of the devotees who practised penances, and sat as pillars, like Simeon Stilites. In Burma, every Buddhist lad, for a period, must enter a monastery.

Pythagorean institutions are described as very monastic in their character, in that respect resembling closely the vihara of the Buddhists of India. The doctrines of Pythagoras were widely spread over Greece, over Italy and Asia Minor, for centuries after his decease, and under the name of Mithraic the teachings of Budh had also a wide extension (*Prinsep's Tibet*, pp. 140, 161).

To a Buddhist ascetic, continence is essential to purity, but even contact is unlawful. Nevertheless convents for women are very characteristically Buddhist institutions; they existed in the Burman empire till of late years, and are still to be met with in Nepal, Tibet, and China (*Toy Cart*, p. 142).

Burma.—Dr. Mason says the philosophy of Buddhism, in Burma, is the religion of Buddhism. To be a Buddhist is to believe in the philosophy of Being. The Buddhists propound as an axiom, that all things are unreal, and on it all their philosophy is based. Some Buddhists recognise idols, a few wholly reject the worship of idols; but these are equally Buddhists, who believe that true happiness is not found in any state of body or mind; that existence is a calamity; and that the only desirable object is the extinction of being, or nirvan, where there is deliverance from ideas and consciousness. To be a pious Buddhist is to remain unaffected by surrounding objects, to deny oneself of everything beyond the bare necessaries of life, and to cry out, day and night, all things are transitory, productive of unhappiness, and unreal. A change of heart and implicit faith are essentials of salvation. Burmese Buddhists believe in good and evil spirits, and in the scheme of transmigration, and, for the good, final absorption; and the Burmese Buddhist prays that he may, in his transmigrations, meet with a Buddha to convert him. Woman takes a humble position in Burmese Buddhism, and she longs to become a man in her next transmigration. Their views as to the desirableness for release from this life are evinced in modes painful to European feelings. The Rev. Mr. Marks, when in Moulmein, had a sick pupil whom he went to see. On entering the house, and inquiring for the lad, the mother in a glad manner repeated he was well, and jauntily led to another room, where he was pained to find the young boy lying dead, and still more pained by the mother continuing to repeat that he was well.

In Burma, in some temples, four past terrestrial Buddhas occupy the four sides of the temples (*Yule, Cathay*, i. 242).

In Burma, there is a great belief in spirits, both good and bad,—amongst others, the nat and the

bilu. An attempt to reform Buddhism was made in 1863, by some of the chief phoungyes of Kemmendine. Like the Protestants of Christianity and the Brahmoists of Hinduism, the reformers seem to go back to their oldest books, or bedagat, the three series of which minutely describe the duties of priests and laity, and define the objects of faith. They condemned the lax practices of this degenerate age, such as priests wearing sandals, carrying umbrellas, and visiting religious theatrical shows. At the bottom of their reforms, insignificant as they appear, there was doubtless much puritan earnestness. They called themselves 'Soolay Gandee,' Soolay meaning the great spirit to whom the pagoda in the centre of Rangoon is dedicated. The Buddhists of Burma are liberal almsgivers; but the act of making the offering is the final individual merit, and the utilization of the gift is not regarded.

In Burma, the Buddhist priesthood is open to every orthodox believer. All that it enjoins is a life of purity, temperance, and truth. The h'poongyee is the priest. Every Burma boy becomes a hierophant, and during the most receptive years of his life, remains under the discipline and control of the village h'poongyee, to whom the family authority is temporarily delegated. He is housed, clothed, and fed in the kyoung or monastery, and the parents are put to no trouble or expense throughout the whole period of his tuition. The h'poongyee is the master. As a rule, he is strict and peremptory, yet sufficiently attentive to the moral and physical well-being of his pupils as to earn their continuous attachment and esteem. His teaching has a strong religious tinge, but it teaches discipline, diligence, and habits of punctual attendance. The h'poongyee have ceased to be propagandists, and have undertaken the work of national instruction, and have all the elementary education in their power.

Tibet.—The Buddhist priests or Lamas of Tibet, Mongolia, and Manchuria acknowledge the Grand Lama of Tibet as their spiritual head. He is the spiritual and political ruler of Tibet, and is subordinate to the Emperor of China only. The Lama are chosen from all classes of society; and in Mongolia, when there are two or three sons in a family, one of them must be dedicated to the service of Lamaism. They reside in monasteries, and are celibates, shave their heads, and wear a yellow robe. Their religious services resemble those of the Christian cathedrals. A human thigh-bone is hollowed out, and made into a musical pipe. The Lamas in the towns of Lamamiau and Ye-hole are about 10,000 in number. Many of them are wanderers on the vast plains of Mongolia. Lama temples are very imposing (*Gray*, p. 134).

Siam.—Between the Buddhists of Siam and Ceylon there has been much intercourse, and it is probable that almost identical doctrines are held in the two countries. During the efforts made by the Buddhist monks of Ceylon in the defence of their religion, and in their attacks on Christianity and on Jehovah, the king of Siam and one of the native chiefs of Kandy contributed largely towards the publication of the numerous tracts, pamphlets, and serials that were sent forth from the Buddhist printing presses of Ceylon. When Siam was visited by Sir John Bowring, a king was reigning, who in early life, when a late king had usurped the throne, had withdrawn from political squabbles to the safety and sanctity of the religious profession, and was residing in a Buddhist temple, whence he was brought forth to occupy the throne, after the seclusion of a quarter of a century.

Cambodia.—It is stated by a writer in the Journal of the Indian Archipelago (No. xi. Nov. 1852, p. 606), that, in Cambodia, Buddha is not regarded as the first cause, the creator of all things; but there prevails amongst them a pantheism, in which all nature is deified, but above all they place Buddha, and worship him daily.

Laos.—Similarly, for instance, De Carne relates (p. 113) that Buddhists of Laos offer parts of their bodies at the image of Buddha, in the pagoda at Phnom in Upper Laos. The interpreter to the French mission made an offering of his forefinger up to the half of the upper joint. It was chopped off with a chopper by the attendants of the pagoda.

In *China*, monks try themselves with great severities. Buddhism has never taken a high place amongst the philosophies and religions of the country, though recognised as a state religion from A.D. 65, under the emperor Ming-ti. Buddhist missionaries had entered China in the third century before Christ. A missionary is mentioned in the Chinese annals, in the year 217 B.C.; and about the year 120 B.C., a Chinese general, after defeating the barbarous tribes north of the desert of Gobi, brought back as a trophy a golden statue of Buddha (*Müller's Lectures*, p. 139). There was much intercouse between the Buddhists of India and China for some centuries after the introduction of Buddhism into China; but in the 10th century, after A.D. 975, the religious visitors to China became greatly more numerous. Chinese pilgrims also had passed years in India studying their religion, and they wrote narratives of their travels. Of these, there have been published the travels of Fa Hian, A.D. 399–414; of Hiwen Thsang, A.D. 628–645; and of Hoei Singh, who set out A.D. 518. A later traveller, Khi-Nie, who journeyed A.D. 964–976, was sent by the emperor of China, at the head of 300 monks, to seek relics of Buddha, and to collect palm books. Such pilgrimages continue; and Colonel Yule met men at Hardwar who had crossed the Himalaya from Mah-Chin, to visit the holy flame at Jawalamukhi in the Panjab (*Yule*, ii. 411). The Chinese Buddhist invocation is, Oh me to Fo! Oh me to Fo! In China and Mongolia, according to MM. Huc and Gabet, theistic Buddhists acknowledge an Adi-Buddha, or eternal Buddha, whom they consider to be God over all. In Ceylon and Indo-Chinese countries there is no such belief (*Yule*, i. 242). Chinese Buddhists are in different sects or schools, on account of differences in opinion on matters of philosophy. But though the religion is one of the recognised State creeds, Buddhists are not allowed to hold office.

Amongst the *Japanese*, the religion of Buddha and the Sintu religion have equal precedence. Their Buddhist priests use the Chinese language in their worship, except in their poetry, which is in Japanese. Bishop Smith of Victoria says there were in Japan, at his visit, eight sects or orders of Buddhist priests,—Tendai, Shinngong, Dzen, Oobaku, Jiodo, Hokki, Ikko,—whose priests are allowed to marry, and Nichiren. Shiu, Shu, or Ju is placed after the proper name, designating each

sect. At Dyboots, in Japan, is a bronze figure of Buddha, 53 feet high.

The Loo-Choo islands Buddhism is less perfect than that of the Japanese.

The *Korean* Buddhists and Buddhism were made known to Mexico by Chinese priests in the 5th century A.D., and had followers in that country until the 13th century, when the conquering Aztecs put an end to it.

Perhaps no religion equals the Buddhist in its injunctions as to tenderness for animal life; yet the Chinese, amongst whom are many Buddhists, and the Burmese, all of whom are Buddhists, are, as races, amongst the least merciful of mankind; are cruel, revengeful, and remorseless shedders of the blood of their fellow-man. The Burman Buddhist will not kill a quadruped animal for food, but he eats with readiness all animals that have died of disease, or that have been killed by others; and fish and the shrimp tribe, which their rivers and seas produce, are eaten in quantities greater than by any other known race.

Much of the costume of Buddhist priests and of the ritual has a similarity to those of Christians of the Romish and Greek forms; and De Guignes, De Gama, Clavijo, Anthony Jenkinson, all notice statements regarding the Greek Church, the Chinese, and the Burmans, indicative of a belief in the identity of the form of worship. When Dr. Richardson and Captain MacLeod, in their exploration of the countries east of Burma, fell in with Chinese traders, these generally claimed them as of their own religion. In the Chinese temples are a number of images not unlike the Christian representations of Mary and of some of the saints, lamps and wax lights are on the Buddhist altar, the Buddhist priests are robed in the sacred vestments called pluvials in Christian ritual books, processions of suppliants occur as with Christians, and chanting is in a style almost exactly like the Gregorian chants of Christian churches. Early Christian missionaries to China believed these to have been introduced among them by the devil clumsily imitating holy things, and grasping at the honours due to God (*Yule*, ii. 551).

In India, Buddhist caves exist in Kattyawar, in a hill near Setana; in another near Khadia, south of Junaghar; at Hinglaj near Pattan, between the villages of Khadati Khan and Khamardand, in the Bardas; in the Salemal hill, North Bhabra; at Mewarda in the hill of Kakanda; at Diveswar in the hill of Mandava, near Chotila; at Devagarhi, near the village of Bhadali, south of Palyad; at Bhoeragarh, N.E. of Jasdan; in the Jogi near Kanamatra village; in the Palitana hill; and at Dwarka. There are Buddhist caves also in Orissa.

The caves of Junnar, Bhaja, Bedsa, Talaja hill, Sana, are remarkably devoid of figure ornament or imagery. In this respect they contrast strongly with Ajunta, Ellora, Karla, the second and last few caves at Nasik, and many in Salsette. At Ajunta and other places are images of Buddha, in the sanctuaries and on the façades. They are entirely absent at Bhaja, and in the older and middle series of about ten caves at Nasik, and at Junnar. The Tulja Lena group of caves in a hill about 1½ miles west from Junnar, are so named because one of them has been appropriated to Tuljâ Devi by the modern Brahmans.

Nidana indicates twelve conditions of existence, viz. ignorance, karmam or acts, consciousness, individuality, sensibility, objects of sense, sensation, desire or thirst, clinging to existence, birth, old age, and death.

The *Buddhist triad* or tri-ratna (three jewels) consist of Buddha, Dharma, and Sangha.

The *Buddhist wheel* is a prominent object in the Buddhist sculptures of India. It is supposed to be an emblem of the perpetual succession and eternity of matter; and it has served likewise another purpose in the corruptions of Buddhism. Prayers were pasted on it by the priests, who then put the wheel into rapid revolution. Each turn had the efficacy of an oral repetition; and the faster it revolved, the more rapidly was the devotee approaching the ultimate bliss of nirvana.

Buddha-Pasaka is a Buddhist salutation. It means worshipper of Buddha. Upasaka is another salutation.—*Professor Max Müller's Lectures*, p. 139, *and Chips from a German Workshop; Bunsen's God in History*, i. pp. 341, 211; *Wheeler's History of India*, p. 159; *Tennent's Ceylon*, i. pp. 343, 527, ii. p. 614; *Tennent's Christianity in Ceylon*, pp. 206, 207, 264; *Hardy's Eastern Monachism; Calcutta Review; Frazer's Magazine*, June 1868; *Rangoon Times; Saturday Review; Bengal As. Soc. Journ.; Journ. Ind. Archip.; Bowring's Siam*, i. p. 50; *Prinsep's Antiquities, by Thomas*, p. 150; *Prinsep's Tibet, Tartary, and Mongolia*, pp. 140, 162; *Coleman's Mythology*, p. 205; *Rev. W. Taylor's Catalogue Raisonné; Toy Cart*, p. 142; *Cunningham's History of the Sikhs*, p. 23; *Cunningham's Bhilsa Topes*, pp. 1–67; *Colonel Henry Yule's Embassy; Yule's Cathay and the Way thither; Perry's Bird's-eye View of India*, p. 53; *Huc's Recollections of a Journey*, p. 105; *The Rev. J. T. Jones in Journ. Ind. Arch.* No. 9, vii.; *Tod's Rajasthan; American Expedition; Mr. B. Hodgson; De Carne; Bishop Smith; Colonel Fytche*; *Barth's Religions of India; Bishop Bigandet; Fergusson's Rock-cut Temples of India; Fergusson and Burgess, Cave Temples of India; Hunter's Imp. Gaz.*

BUDDHIST ARCHITECTURAL REMAINS are the only vestiges of the prevalence in British India of the doctrines taught by Sakya Sinha and his disciples, but they afford valuable illustrations of the alterations introduced into that great teacher's doctrines. It is known that the final disappearance of Buddhism from continental and peninsular India was violent,—their priests were slain and their temples burned,—and there can be no doubt that the Brahmanical priesthood were the immediate actors in the scenes, but whether these were of the Vaishnava or Saiva sect there is no information. The Buddhist remains now existing may be divided into four distinct classes: *First*, cave temples, containing topes, sculptures, paintings, and numerous inscriptions. *Second*, vihara, or monasteries; *Third*, inscriptions on rocks and pillars; *Fourth*, topes, or religious edifices.

The vihara or monasteries are of two kinds: *First*, cave viharas, of which several magnificent specimens have been published by Mr. Fergusson; and *second*, structural viharas, of which some specimens still remain at Sanchi, but in a very ruinous condition.

(*a*) The cave vihara consists of (1) natural caverns slightly improved by art. These are the most ancient, and are found appropriated to religious purposes in Behar and Cuttack. The next kind have (2) a verandah opening behind

BUDDHIST ARCHITECTURAL REMAINS.

into cells for the abode of priests, as in Cuttack and in the oldest vihara at Ajunta. The third (3) has an enlarged hall supported on pillars. The most splendid of these are at Ajunta; though the Dherwara at Ellora is also fine, and there are some good specimens at Salsette and Junnar.

(*b*) Buddhist chaitya caves form the second class. These are the temples or churches of the series, and one or more of them is attached to every set of caves in Western India, though none exist on the eastern side. Unlike the vihara, all these caves have the same plan and arrangement. All consist of an external porch or music gallery, an internal gallery over the entrance, a central aisle, which may be called a nave, roofed by a plain waggon vault, and a semi-dome terminating the nave, under the centre of which always stands a dahgopa or chaitya. In the oldest temples, the dahgopa consists of a plain central drum, surmounted by a hemispherical dome crowned by a Tee, which supported the umbrella of state, of wood or stone. These two clasess comprehend all the Buddhist caves in India.

The *third* class of religious architectural remains in India consists of Brahmanical caves, properly so called. The finest specimens are at Ellora and Elephanta, though some good ones exist also on the island of Salsette and at Mahabalipur. In form many of them are copies of, and a good deal resemble, the Buddhist vihara. But they have not been appropriated from the Buddhists, as the arrangement of the pillars and position of the sanctuary are different. They are never surrounded by cells, as all viharas are, and their walls are invariably covered or meant to be covered with sculpture, while the viharas are almost as invariably decorated by paintings, except the sanctuary. The subjects of the sculpture of course always set the question at rest.

The *fourth* class consists of rock-cut models of structural Brahmanical temples. To this class belong the far-famed Kailas at Ellora; the Saivite temple at Dhumnar, and the Ruths at Mahabalipur. The last are cut out of isolated blocks of granite, but the rest stand in pits.

The Indra Subba group at Ellora should perhaps form a fifth, but whether they are Brahmanical or Jaina is undecided.

The *fifth* or true Jaina caves occur at Khandagiri in Cuttack and in the southern parts of India, but are few and insignificant. In the rock of Gwalior fort, there are cut in the rock a number of rude colossal Jaina figures some 30 to 40 feet high, of some of their thirtankara, some sitting, some standing.

The *Behar* caves are in the neighbourhood of Rajagriha. The Milkmaid's cave and Brahman Girl's cave have inscriptions in the Lath character. They date about 200 B.C., and are the most ancient caves of India. The Nagarjuni cave and Haft Khaneh or Satghar group are situated in the southern arm of the hill, at some little distance from the Brahman Girl and Milkmaid's cave. Another group is the neighbouring Karna Chapara and Lomas Rishi caves.

The caves of *Udyagiri* and *Khandagiri* hills, about 20 miles from Cuttack and five from Boban Eswara, are next in antiquity to those of Behar. They are built on the hills of Udyagiri and Khandagiri; the former are Buddhist and the older, the latter probably Jaina. Many of the inscriptions are in the Lath character, and this gives their age as anterior to the Christian era. The frieze sculpture in the Ganesgompha is superior to any in India, and resembles that of the Sanchi tope at Bhilsa. In it there are no gods, no figures of different sizes, nor any extravagance. In the Buddhist caves here, there are no figures of Buddha, nor any images. In a Jaina cave near, on Khandagiri, the 24 thirtankara with their female energies are sculptured.

The *Ajunta* are the most complete series of Buddhist caves in India, without any mixture of Brahmanism, and contain types of all the rest. They are in a ravine or narrow valley in the ghat south of the Tapti.

At *Baug*, in a ravine or small valley in the ghat on the north side of the valley of the Tapti, are three ancient Buddhist caves.

The *Karli* caves are close to the high road from Poona to Bombay, about half-way down on the right-hand side of the valley as you proceed towards the sea. They are not so extensive as those of Ajunta, but they are purely Buddhist. The largest and most splendid chaitya cave temple in India which could be selected for reproduction by art, is the principal excavation at Karli, and it is also interesting as the oldest Indian work of the kind known to exist. Karli has numerous inscriptions in the caves in the Pali language.

The *Salsette* or *Kenheri* caves, in the island of Salsette, are purely Buddhist, but inferior to those of Ajunta or Karli. They are excavated in a hill in the midst of an immense tract of forest country, and Mr. Fergusson supposes their date to be about the 9th or 10th century of the Christian era.

Dhumnar, about 40 miles S.E. from Nemuch, but close to Chundivassa, contains Buddhist caves, with a Brahmanical rock temple behind. Those of Dhumnar, like the caves of Ellora, contain a strong admixture of Brahmanism.

The *Ellora* caves are excavated in a porphyritic greenstone, and are largely Brahmanical. They are in the face of the mountain overlooking the valley of the Godavery, close to Roza, the burial-place of Dowlatabad, and where Aurangzeb, Alamgir I., is interred.

Those of *Elephanta* are entirely Brahmanical, though perhaps of the same age as those of Ellora. The caves of Elephanta overlook the harbour of Bombay. They are cut in a harder rock than those at Ellora. These caves are in the island of Gharipuri, called by Europeans Elephanta, an island in Bombay harbour. Among the hundreds of figures there sculptured, every principal deity is found. Buddha is evidently, from his size and situation, a principal personage there.

Mahabalipuram, or the Seven Pagodas, between Covelong and Sadras, south of Madras, has been described by Dr. Babbington in vol. ii. Trans. R. A. S., p. 258; and by Messrs. Chambers and Goldingham in A. R. vol. i. p. 145, and v. p. 69; and by Mr. Charles Gubbins in Bengal As. Soc. Journal. The Mahabalipur caves are entirely Brahmanical, and have been excavated after all the other series were formed (*Fergusson's Rock-cut Temples of India*).

The inscriptions of king Asoka consist of edicts and proclamations. King Asoka carved his edicts on the rocks at Dhauli in Cuttack, also at Girnar in Gujerat, at Kapurdagiri, near Pesha-

wur, and on pillars erected in different parts of the country. In the thirteenth edict of the rock-cut inscriptions, he mentions having, about B.C. 258, formed treaties of alliance with Ptolemy Philadelphos, Antiochus Theos, Antigonus Gonatus, Magas of Cyrene, and Alexander, the king of Epirus and Macedonia, mentioned by Justin, for the protection or aid of his co-religionists in their dominions. They have been deciphered successively by J. Prinsep, Norris, Dowson; and elucidated by the works of Burnouf, Lassen, Wilson, Kern, Buhler, General A. Cunningham, Corpus Inscriptionum, and E. Senart in Journal Asiatique.

BUDGEROW. ANGLO-HIND. A boat in use on the Ganges. See Boat.

BUDH, in Hindu astronomy, the planet Mercury, and Hindus deem it fortunate to be born under this planet. Budh presides over Wednesday, Budhwar, dies Mercurii. In one of the zodiacs, he is represented seated on a carpet, holding in his hands a sceptre and a lotus; in another he is shown riding on an eagle; and elsewhere he is described as sitting in a car drawn by lions; and by Ward as sitting on a lion.

BUDH, an ancestor of a branch of the great Hindu people of a time prior to authentic history. He is traced by them up to Brahma, from whom he descends through Atri, Samudra, Chandra, or Soma, and Vrihashpati. Budh is said to have married Ila, daughter of Ikshwaku; and the descendants of this union were, in succession, Pururava, Ayu or Yaou, Nohas or Nohus, and Yayat. Ayu or Yaou is claimed by the Tartar and Chinese genealogists as their great progenitor; and from Yayat sprang three great lines, the Yadu, Puru, and Oora or Oorvasa, from each of whom came many dynasties ruling on the Indus, in Hindustan, Assam, Ava, and China. The great Hya was a branch of the Yadu; and five members of it formed Panchalika or Panchaldesa, and the seed of Bajaswa occupied all the countries on the Indus. Of the three lines, the Yadu, Puru, and Oora, the Yadu became the most illustrious. The descendants of Budh and Ila were known as the Chandravansa, Somavansa, or Induvansa, all of these meaning the Lunar race; but the fame of the Yadu eclipsed the prior designations, and throughout India the Lunar race came to be styled Yaduvansa. The Yadu held territories in Hindustan about Allahabad, but seemingly in small republican states, some of which were staked and lost at play. The relatives then fought for dominion, for eighteen days, on the field of Kuru Khet. There was no battle of armies, but a series of single combats, with treacherous, cruel surprises, during which nearly all the Yadu fell, and at the close, several of those remaining emigrated, amongst whom Krishna was one. The story is told in the Mahabharata. After the combats, the Yadu seem to have left the Ganges, and to have been expelled from Dwarica, to have crossed the Indus, passed Zabulisthan, and founded Gajni and Samarcand, but to have swept back on the Indus into Gujerat and the Indian desert, from which they expelled the Langaha, Johya, Mohila, etc., and founded successfully Tannote, Derrawul, and Jeysulmir. They are now known as the Bhatti of Jeysulmir, the Jharijah of Cutch Bhooj, the tribes occupying Kerrowlee and Subbulghur on the Chambal, and the Sumaitcha on the Chambal. The great Tuar tribe are also said to have been of Yadu origin. The Hya also was a branch of the Yadu, some of whom formed Panchaldesa or Panchalika, and the seed of Bajeswa at one time occupied all the countries on the Indus. The Bhatti and Jharijah thus trace their descent from Budh and Krishna, and they may be said to occupy the Indian desert from the Sutlej to the ocean. Budh seems to have been the first emigrant from Sakadwipa or Scythia, into Hindustan, viz. about B.C. 2400. Between Budh and Krishna was a period of 1200 years. But his descendants had deified Budh; and in Hindu mythology he is described as the son of Soma or Chandra or Indu, the moon, by Rohini. The date of the apotheosis of Budh is not known. Prior to the deification of Krishna, Budh was worshipped by all the Yadu as the great ancestor (Pitriswara) of the Lunar race. The principal shrine of Budh was at Dwarica, where he still receives adoration as Budha Trivikrama. But by the deification of Krishna, whose emblem was the eagle, Krishna's mysteries superseded the simpler worship of Budh. The worship of Bal, or the sun, as Balnath, and of the moon as that of Budh, seem to have co-existed, and an amalgamation had occurred, as the serpent was made to twine round the lingam, as at the shrine of Eklinga. Colonel Tod is of opinion that the original worship of Budh was monotheistic, and that prior to the rise of Vishnuism, the three idolatrous classes of Hindustan were the adorers of Surya and the descendants of Budh, who preserved the serpent sign of their race, and Krishna's followers, who adopted the eagle. There seem to have been 56 clans of the Indu, who were distinguished by names of animals,—takshac, the serpent; aswa, the horse; sassu, the hare; lomri or nomri, the fox, etc. etc.—*Tod's Rajasthan*, i. pp. 533–536.

BUDHA-BASARA. SANSK. Budha-kakara, TEL. Cardiospermum halicacabum. Popular superstition asserts that by eating its seeds, the understanding is enlightened, and the memory rendered miraculously retentive.—*Ell. Fl. And.*

BUDHA DAS, father of Upatisso, who built hospitals for cripples, for pregnant women, for the blind and diseased.

BUDHA GANGA, also Burha Ganga, the old bed of the Ganges, from which the stream has shifted. It is traceable below Hastinapur, and also below Soron and Kumpil. The change of bed seems to have occurred since the time of Akbar.—*Elliot.*

BUDHA GHOSHA or Budha Ghosa, a Brahman, a native of Buddha Gaya, who became a convert to Buddhism. He lived in the early part of the 5th century A.D., nearly 1000 years after Sakya Muni (ob. B.C. 543). He went to Ceylon A.D. 430, and there compiled his great work, the Visuddhi Magga, or Path of Holiness, a cyclopædia of Buddhist doctrine. He was subsequently employed to re-write in Pali the commentaries, which had been handed down in Singhalese. Mahendra, son of Asoka, is supposed to have brought the Attha Katta, ancient commentaries in Pali, to Ceylon, and to have translated them into Singhalese, which Budha Ghosha, about A.D. 430, re-translated into Pali. His great eloquence obtained for him his titular name, meaning Voice of Buddha.—*Hardy's Eastern Monachism.*

BUDHA GUPTA, a king who governed the country between the Jumna and the Nerbadda, about the eighth century.

BUDH-ASHTAMI. SANSK. A Hindu holiday, from Budha, Mercury, and Ashtami, the eighth lunar day.

BUDHAYANA, a Hindu philosopher, who lived in Ilavratu, the country which surrounds Sumeru. He taught that God alone is unchangeable. He is said to have been the author of a law treatise, and to have arranged some parts of the Vedas into chapters.—*Ward*, iv. p. 30.

BUDH'S BEGGING POT, the Kasgal-i-Ali, is a circular bowl, 4 feet wide and 2 feet deep in the centre; the sides are 4 inches thick. It is of black porphyry. It is in a corner of the enclosure of the tomb of Sultan Wais, at Kandahar.

BUDHWAR, Wednesday, sacred to Budh, and named after him. Amongst Hindus it is a day propitious to any new undertaking.

BUDI. HIND. Among Hindus, the period of the month from full to new moon, called the dark half of the month.—*Elliot.*

BUDI-BUDAKI. CAN. A class of religious mendicants in Mysore.

BUDIDE. TEL. Ashes.

Budide Chatta, Heliotropium coromandelianum.

Budide Gummadi, Benincasa cerifera, *Savi*, referring to the white powder covering the fruit.

Budide Pannu, a fee for permission to bury a corpse.

BUDIL. HIND. Picea Webbiana, P. Pindrow.

BUDKHES. HIND. Cordalis Govaniana.

BUDLA, or Buddali. KARN. A leather bottle.

BUDLEYUN. GREEK. The mooql of the Arabians and Googal of India, names of bdellium, also of the Commiphora Madagascarensis tree.

BUDRANJA BOYA. HIND. A small species of Melissa, found about Ajmir, where it is considered heating, and is used to cleanse the blood; one seer sells for two rupees.—*Gen. Med. Top.*

BUDRI. BENG. Zizyphus jujuba.

BUDSHUR. HIND. Ephedra Gerardiana.

BUDU. HIND. Viscum attenuatum.

BUDUMURU. TEL. Sponia orientalis, *Planch.*

BUFF.

Peau passées en buffles, FR.	Bufalo; Cuojo di
Peau de buffle; Buffle, ,,	Bufalo, ... IT.
Buffelhaute, . . . GER.	

A kind of leather prepared from the skins of thick-hided animals, buffaloes, oxen, and the deer tribe.—*M'Culloch; Faulkner.*

BUFFALO.

Bubalus Buffelus, *Blum.*	Bos bubalus, *Briss.*
Bhains (male), . HIND.	Karbo; Karbou, MALAY.
Mhains (female), . ,,	Moonding, . . SUNDAN.

The buffalo inhabits Tibet, but is domesticated in India, the Indian Archipelago, and southern Europe. It is the only indigenous ruminant of Ceylon. They are frequently albinos, with pink eyes. The finest of the domesticated buffaloes of India are reared in the Hyderabad Dominions, west of Nirmul. Some naturalists are inclined to the opinion that there are two species. They are large, ungainly-looking animals, with great horns; but a domesticated breed, to the west of Nirmul, are of enormous size, almost like small elephants, and give a great quantity of milk. They are kept as milch kine, but are also employed as beasts of burden and draft; also to carry sacks on their backs, to plough with, to drag carts. They have little or no hair, and their hides look like polished leather. They require to be in a moist climate, or to be immersed in water daily. They love to wallow in water or slimy mud, and often roll themselves to get a coating of it. A large male buffalo is more than a match for a tiger. It has large flat horns, some curved and some long (spirocerus and macrocerus). Its ribs are large, flat, and white. It is the buffalo, buffle, and büffel of the French and Germans. In the Hambangtotte country, in Ceylon, the villagers are much annoyed by the wild ones, that mingle with the tame when sent out to the woods to pasture, and it constantly happens that a savage stranger, placing himself at the head of the tame herd, resists the attempts of the owners to drive them homewards at sunset. Being an animal to which water birds are accustomed, the Singhalese train the buffalo to sport, and, concealed behind the animal, browsing listlessly along, they guide it by ropes attached to its horns, and thus creep undiscovered within shot of the flock. In the northern parts of India, they are similarly trained to assist the sportsman in approaching deer. One of these sporting buffaloes sells for a considerable sum. Between 1851 and 1855, Liverpool imported from India, annually, about 30,000 of its hides and 600 tons of horns. The male buffalo is frequently sacrificed by non-Aryan races, sometimes in considerable numbers; and only in 1859, the Government of Madras ordered the magistrate of the Krishna Division to forbid the cruel rite of Ammavaru, wherein bullocks are impaled alive to appease the goddess Devi, and avert cholera. On that occasion, in a small village, from twelve to twenty-four bullocks were sacrificed, as also several hundred sheep, and the heads of the sacrificed buffaloes were carried in procession on the heads of men. There are two generally recognised wild species of buffaloes in Africa,—the Cape buffalo (B. caffer), and the short-horned buffalo (Bos brachyceros).—*Bikmore, Travels; Stat. of Commerce; Tennent's Ceylon.*

BUFFALO THORN, Acacia latronum.

BUFONIA, a section of the 2d sub-class of reptiles, Batrachia, and order Batrachia salienta. The section Bufonia includes the families Rhinodermatidæ and Bufonidæ. Bufo scabra, the Bengal and Java toad, abounds in the marshes in the Lachen valley, adjoining Tibet. This is a remarkable instance of wide geographical distribution for a batrachian, which is common at the level of the sea under the tropics.—*Hooker, Jour.*

BUG, an insect belonging to the family Hemiptera, several genera of which occur in India. Amongst others are Cantuo ocellatus, Leptoscelis marginalis, Callidea Stockerius, etc. etc. Of the aquatic species, the gigantic Belostoma Indicum attains a size of nearly three inches. Some of them are most attractive in colour; a green one is often seen on leaves, and is quite inoffensive if unmolested, but if irritated exhales an offensive odour.—*Tennent's Ceylon.*

BUG. Insects known as coffee bugs have, in recent years, occasioned anxiety and losses to the coffee planters. In Ceylon, the first regularly worked estate was opened in 1825, but the bug does not seem to have appeared in large quantities till 1845, when, however, it began to spread with such rapidity, that in 1847 a very general alarm was taken by the planters, about the same time

that the potato, vine, and olive diseases began to create alarm in Europe. The coffee bug seems, however, to be indigenous in Ceylon, for the white bug has been found on orange, guava, and other trees, as also on beet-root and other vegetables, and the brown bug attacks the guava, hibiscus, Ixora, Justicia, and orange trees—indeed, every plant and tree, and even the weeds, on a coffee estate, particularly such as are in gardens.

When a coffee tree is attacked by the bug, it is deprived of its sap and its nourishment, whilst the fungus, which never fails to attend on the bug, prevents restoration by closing the stomates through which the tree breathes and respires. Bug, Mr. Nietner tells us, existed on the estates to an incalculable extent; none were believed to be quite free from it. Whole estates are seen black with bugs, *i.e.* with the fungus; and he asks, 'Am I wrong in saying that if there was no bug in Ceylon, it would at a rough guess produce 50,000 cwts. of coffee more than it actually does?' The value of this quantity on the spot being about £125,000, this sum represents the aggregate of the annual loss by bug sustained by the Ceylon planters.

Mr. Nietner's observations had been more particularly confined to the group of districts around Peacock Hill, but his list of the enemies of the coffee tree holds good in general for the entire coffee region of Ceylon. He tells us, however, that the brown and white bug and the black and white grub are the only universal and important enemies of the coffee tree, and that the destruction caused by Arhines, Limacodes, Zeuzera, Phymatea, Strachia, and the coffee rat, appear to be of a more local and occasional nature, and are therefore of less importance. There are three pests which are chief,—the white bug, the brown bug, and the black bug.

The appearance and disappearance of the coffee bug, he tells us, is most capricious. It comes and goes,—now rapidly spreading over a whole estate, now confining itself to a single tree amongst thousands; here leaving an estate in the course of a twelvemonth, there remaining permanently. Sometimes spreading over a whole estate, sometimes attacking a single field, then leaving it for another and another. But the white bug prefers dry, and the brown, damp localities, the latter being found more plentiful in close ravines and amongst heavy rotting timbers than on open hillsides, and it is probably to this predilection that the shifting of the insect is attributable. The bug of course seeks out the softest and most sheltered parts of the tree, the young shoots, the under sides of the leaves, and the clusters of berries. The injury done by the white bug seems more severe than that from the brown, but, not being so plentiful as the latter, it is of less general importance. The white bug is especially fond of congregating amongst the clusters of berries, which drop off from the injury they receive, and trees often lose their entire crop in this manner. The injury produced by the brown bug is the weakening of the tree, and is thus more general, but the crop does not drop off altogether nor so suddenly. With white bugs on an estate, the crop can hardly be estimated; with brown bugs it can.

The *White* or *Mealy Bug* is the Pseudococcus adonidum. The male insect is of a dirty brownish colour, and slightly hairy. It is very minute (very much smaller than the female, only about half a line long), and resembles certain small Ephemeridæ or May-flies. The female is oval, brownish-purple, covered with a white mealy powder, which forms a stiff fringe at the margin and at the extremity of the abdomen two setæ. The larvæ and pupæ are active, and move about. The insects, in all stages of development, are found in Ceylon all the year round, chiefly in dry and hot localities, on the branches of trees, and on the roots to one foot under ground. Mr. Nietner says it is identical with the species naturalized in the conservatories of Europe. It is preyed upon by the Scymnus rotundatus, a minute beetle of the ladybird tribe, of the size of a pin's head, black and pubescent; also, the yellow-coloured and common Encyrtus Nietneri and the black-coloured scarce Chartococcus musciformis, two minute Hymenoptera (wasps), only $\frac{1}{2}'''$ long, and the minute whitish mite, Acarus translucens. Of the members of this family of insects, the Coccidæ, some, as the cochineal and lac insects, are of great economical importance, but others, as the sugar-cane blight of the Mauritius, the Aspidiotus, and the coffee bug, are excessively baneful to the gardener and agriculturist.

The male of the *Brown* or *Scaly Bug*, Lecanium coffeæ, is of a clear light pinkish-brown colour, slightly hairy, and very pretty. It is more delicate than the male Pseudococcus. The females when young are yellowish, marked with grey or light brown; and old individuals are light brown, with a dark margin. It affects cold, damp, and close localities 3000 feet in height, and the propagation, as in the white bug, is continuous. The brown bug is much infected with parasites, amongst which the most common are eight minute Hymenoptera (wasps) with brilliant colours; but a mite, the Acarus translucens, and the larva of the Chilocorus circumdatus, a kind of ladybird, also feed on the bug. In the larva state, the male and female brown bug are not distinguishable. The number of eggs produced by a female brown bug is about 700. Those of the white bug are not so numerous, but their propagation in Ceylon is continuous throughout the year, and this explains their great abundance compared with cold countries, where the produce is one generation of young annually. The brown bug, particularly the full-grown female, is dreadfully infested with parasites, which thus greatly help the planter. Indeed, it is a question whether coffee-planting could be carried on without their aid in the destruction of the bug.

The *Black Bug* is Lecanium nigrum, but the female only is known. In colour it is from yellowish-grey to deep brown, and almost black in age, and of a shield-like shape. It occurs alone, but also intermixed with the brown bug, but it is much less abundant, and therefore not demanding the planter's attention. Its occupation of a coffee or any other tree gives rise to the appearance of a glutinous saccharine substance, which has received the name of honey-dew. This is either a secretion of the bug, or the extravasated sap which flows from the wounded tree, or probably a combination of both. A fungus, or two fungi, the Syncladium Nietneri and Triposporium Gardneri, seem to depend on this for vegetation, as the honey-dew and the fungus disappear with the bug.

Another bug, the *Strachia geometrica*, of a yellowish colour, but marked with grey and orange on the upper side, was found at Badulla. It feeds upon the juice of the young berries, three per cent. or more of which were said to have suffered from it. It is allied to the green or fœtid bug; but though it may occasionally cause destruction, there is no fear of it ever becoming a serious nuisance.

One of the Aphidæ, Aphis coffeæ, the coffee louse, is found in small communities on the young shoots and on the under side of the leaves of the cocoanut tree, but the injuries it occasions are insignificant.

Several caterpillars, the Aloa lactinea, the Orgyia Ceylanica, Euproctis virgunculà, the Trichia exigua, Narosa conspersa, the Limacodes graciosa, and a species of Drepana, are found on the coffee trees, but they do not cause much injury. Another caterpillar, however, though fortunately not abundant, the Zeuzera coffeæ, destroys many trees, both young and old, by eating out the heart. It resembles the caterpillar of the goat-moth of England, and is as thick as a goose quill. It generally enters the tree 6″ or 12″ from the ground, ascending upwards. The sickly drooping of the tree marks its presence.

Black Grub.—The larva of the moth called Agrostis segetum is the very destructive black grub. This pest is about an inch long, and is most abundant from August to October. The caterpillar lives in the ground, but comes out at night to feed, and is very common and injurious. They attack not only coffee trees, but all sorts of vegetables and flowers, and are very destructive to gardens and in the field, as they eat everything that is artificially raised, despising grass and weeds. They generally appear only on certain fields, and will not go over an estate. The insect is not confined to Ceylon; its ravages are well known in India, at the Cape of Good Hope, and in Europe, where it injures the grain and beet-root crops. In Ceylon it only attacks young coffee trees, gnawing off the bark round the stem just above the ground. Where the trees are very small, they are bitten right off, and the tops sometimes partially dragged under the ground, where the grubs may easily be discovered and dislodged. The damage which they inflict on plantations may be estimated, when it is mentioned that Mr. Nietner lost through them in one season, in certain fields, as many as 25 per cent. of the young trees he had put down.

The larva of a little moth, the Galleriomorpha lichenoides, and three caterpillars of the Boarmia leucostigmaria, B. Ceylanica, and Empithecia coffearia, are found on coffee trees and other plants from September to December.

The larva of the Gracillaria coffeifoliella mines the coffee leaves; it is very common, but of no importance to the planter.

The ravages of the large, well-known, beautiful locust, the *Phymatea punctata*, with its scarlet abdomen and yellow and bronze above, are not continuous in the coffee tree, but are occasionally very annoying. A swarm settled on a field of one-year-old coffee and gnawed the bark off the stems, causing them to throw out many shoots, and permanently disfigured five per cent. of the trees. They do not touch the Illuk grass, Saccharum Konigii, *Retz*, but seem only to attack cultivated plants and trees. At Tangalle they destroyed tobacco plantations, and at Matillee in Kandy the native grain crops were injured by these locusts. The larvæ and pupæ are as destructive as the perfect insects; but this seems, fortunately, the only species of locust that does any real injury in Ceylon, and this injury is in importance not to be compared with that done by other species in other countries.

White Grub.—Under this name are included the larvæ of various Melolonthidæ, the cockchafers of Ceylon, which do much harm to coffee plantations, young and old, by eating the roots of the trees. Mr. J. L. Gordon of Rambodde considers the white grub to be by far the greatest enemy of the coffee trees which the planter has to contend with, as he never knew a single tree recover after their attack; and he adds that they had destroyed, at Rambodde, in two years, between eight and ten thousand fine old coffee trees. Mr. Gordon used to dig up the soil at the foot of the trees, and take out such grubs as he could find.

Weevils.—The family of the weevils is one of the most extensive amongst the beetles; and in Ceylon, as in Europe, many of its members do much injury to agricultural produce. Mr. Nietner had seen nearly the whole sweet potato (Batatas edulis) crop of the Negombo district destroyed by one of them, the Cylas sturcipennis. The common rice weevils Sitophilys oryzæ, is another instance; and one of the cocoanut tree destroyers of the Ceylon low country, the Sphænophorus planipennis, belongs also to this family. The Arhines? destructor, a beautiful green weevil, Mr. Nietner had not found do any injury to coffee trees; but Mr. J. Rose of Matturattee, writing to him, says, 'The mischief they do is plentiful, and if they were as plentiful as the bug, they would be the planter's worst enemies. Five or six acres were completely covered with them, and they consumed almost every leaf. Year after year they appeared upon the same place. One year they appeared upon a neighbouring estate in great force, and ran over at least forty acres. The same thing occurred on three other estates.'

The *Acarus coffeæ*, or coffee mite, is so small as to be hardly perceptible to the naked eye. It is closely allied to the red spider of the hothouses of Europe. Nearly all the year round, but chiefly from November to April, it feeds on the upper side of the coffee leaves, giving them a brownish sunburnt appearance. Individual trees suffer from its attacks, but the aggregate damage from it is not great.

The coffee rat of Ceylon, the *Golunda Elliotti*, occasionally commits much damage, seemingly to get the bark, for they do not seem to eat the berries. With their long sharp incisors they bite off with great smoothness the smaller and younger branches, generally an inch from the stem; and should the plants be quite young, just taken from the nursery, they bite them right off a few inches from the ground, and carry them to their nests in hollow trees. They appear irregularly at intervals from the jungles, and there is hardly an estate that does not now and then receive a visit from them. The natives of Ceylon say that their food in the jungles is a species of Strobilanthus, called Nilu in Singhalese, and that the rats only issue from their forest residence and attack the coffee estates when their forest food fails.

The injuries from other animals are not serious. A squirrel, the Sciurus Layardi, which eats the coffee berries, is common on estates; the pulp alone is digestible, and the coffee beans are dropped on logs of wood and on the ground. Jackals and monkeys occasionally do the same; this is called parchment coffee. A deer will now and then come from the forest and nibble the tops of the young trees.

Mantis tricolor, *Nietner*, the Mantis of the coffee tree, is green, lower wings reddish, with large blackish spot at the posterior margin. The female is 1 inch long, with 1½ inch of an expanse of wings. The male is considerably smaller. The eggs are deposited upon coffee leaves, in cocoon-like masses of ⅝ of an inch in length, but drawn out further at each end. As to the remedies to all these plagues, Mr. Nietner tells us that several means of checking the extension of the bug have been proposed and tried. Amongst these, the introduction of the red ant; but their bites are so fierce and painful, that the coolies refuse to go amongst the trees while the ants are there. Rubbing off the bug by hand has been tried, but it can only be attempted upon young trees without crop; Mr. Nietner, although allowing that an immense quantity of bug is thus destroyed, is nevertheless of opinion that the effect is but trifling. He thinks that the application of tar to the roots is a good suggestion, although he is obliged to admit that hitherto no important results have been achieved by it. He adds that high cultivation seems to have the effect of throwing it off. But as the bug seems to depend on locality, Mr. Nietner does not look for any beneficial result so long as the physical aspect is unchanged. He thinks that if the open, warm, airy pattenas were cultivated, which the experiments on a large scale, tried at Passelawa, show that they can be, the brown bug, which is the great destroyer, would not find the conditions favourable to its existence; or perhaps, if estates as a rule were made smaller than they generally are, if the reduction in acreage were counterbalanced by a higher system of cultivation, universally carried out, the bug would not be so numerous as it now is (Mr. Nietner). In the Peninsula of India, *borer* is a name given to the larva of certain coleopterous beetles, which injure coffee trees. There are two, the white and red borer, and the chief of these is the Xylotrechus quadripes of Chevrolat. The large and rapid introduction of coffee-growing into Ceylon and India has shown that the plant is liable to be attacked by many enemies, and ignorance of that has been the cause of much loss. Coffee trees in Coorg have also been injured by the rot, a disease resulting from improper pruning. The rot attacks and decays the centre of the stem. In Coorg, when the tree is attacked by the borer, the leaves become yellow and droop. The insects are generally about the diameter of a small quill, are always confined to the wood, and never enter the bark until the larva has done its work, passed through the pupa stage, and is about to escape in the form of a beetle. The eggs are deposited by the females near the root of the tree, and the pupa borers tunnel up the heart of the plant.—*Nietner; Dr. Bidie on Coffee Planting.* See Coffee.

BUG of Miana. See Argas.

BUGGLECONDA, a steep basaltic hill rising about 1200 feet above the plain near Innaconda, in the Guntur collectorate of the Madras Presidency, and remarkable for the frequent earthquakes which occur at it. No crater has been observed, but it has three peaks, the central one being the highest. The name, meaning the charcoal hill, has been given to it from the black colour of its rocks. About the year 1840 earthquakes occurred several times in one month, and large stones rolled from the hill to the plains. Heynes says (Tracts, pp. 108–117) the Chicota hill has frequent earthquakes, and that the Ongole hill seemed to affect the compass.

BU-GHYEE-PHYOO. Burm. Clerodendron viscosum, *Vent.*

BUGIO, in Japan, a civil officer who exercises controlling powers over collectors, interpreters, and other inferior officers. See Japan.

BUGIS or Bugi, a bold, self-reliant, maritime people of Celebes, of which they occupy the northern part, and are known, in consequence, as Macassar men. The Bugis, originally from the same stock as the Malay, are superior to all other natives of the Archipelago in their spirit of adventure. They are a brave, active, haughty, fierce, and vigorous race. They love justice, and are faithful to their bonds, but seldom forgive injuries. Under the name of Macassars, they form the flower of the colonial troops in the Dutch service. Macassar was the most notorious place in the Eastern Archipelago for the Bugis people to run amok. On the average, one or two occurred in the month. It was in fact the national mode of committing suicide amongst the natives of Celebes, and was therefore the fashionable mode of escaping difficulties. Ten or twenty persons were sometimes killed and wounded at one of the amok. Stabbing and killing at all he meets, the amok runner is at last overpowered, and dies in all the excitement of battle. It is a delirious intoxication, a temporary madness, absorbing every thought and action (Wallace, i. p. 174). Although they bear some personal resemblance to the Malays, arising probably from a common origin, in every quality but courage they are essentially different. Exposed to the same temptations, and most skilful and adventurous navigators, they have never adopted the occupation of piracy, but abhor and resist it, and defend themselves against the Malay prahus with the most heroic and desperate valour whenever they are attacked, proceeding, if overpowered, to blow up their vessels rather than submit. The poorest of these hardy islanders is as impatient of a blow as a European gentleman; and it is permitted to any one to avenge an affront by the death of the person who offers it. A more than Spartan training is bestowed on children. The males at the age of five or six are removed from their parents, lest they should be made effeminate by indulgence, and they are not restored to their family until they are of an age to marry. They are the Phœnicians of the Indian Archipelago; and there is not a coast, from the northern shores of the Australian continent to the Malay Peninsula, where their ships are not habitually seen. They leave their country in the beginning of the eastern monsoon on a trading voyage, and proceed westward until they reach Singapore. With vessels of peculiar build, of from forty to fifty tons burden, they conduct almost the whole carrying trade of the

Archipelago. They own at least 1000 ships, the outward cargoes consisting of cotton cloths, gold dust, edible birds' nests, tortoiseshell, trepang or sea-slugs for Chinese epicures, scented woods, coffee, and rice; and in spite of the jealous and restrictive policy of the Dutch, they have greatly contributed to diffuse British manufactures throughout the islands of the eastern seas.

In the beginning of the western monsoon, they go in great numbers to the Aru islands, which is the principal rendezvous for the people of Ceram, Goram, the Ki islands, Tenimber, Baba, and the adjacent coast of New Guinea, a distance from Macassar of upwards of 1000 miles. They carry English calicoes, cotton goods of their own manufacture, Chinese gongs, and arrack; and the return cargoes are tortoiseshell, mother-of-pearl shell, pearls, birds of paradise, and trepang, the Malay term for all the kinds of holothuriæ or sea-cucumbers. Of trepang alone about 14,000 pikuls are yearly shipped from Macassar, of a value of 600,000 dollars, or £150,000. It is estimated that the annual value of goods carried by the Bugis to the Aru islands from Macassar alone is 80,000 dollars, or 200,000 guilders; and of those taken to the Aru group from other places, 20,000 dollars, or 50,000 guilders. Bugis are subdivided into many nations, — united, however, by the common ties of similar language and similar institutions. There is but one of their tribes distinguished for maritime enterprise and commercial spirit, the Wajo or Tu-wajo people. Their original site is in the interior of Celebes, on the northern banks of an extensive fresh-water lake, 24 miles in breadth, from which a river issues, to fall into the Gulf of Boni. Their voyages extend from Siam to N. Guinea, and from Manilla to Acheen. They are the great carriers of the Archipelago. In the year 1825 they had 786 trading prahus. Amongst the Bugis traders to the east, Kilwara is their metropolis. It is a mere sandbank, lying between Ceram Laut and Kissa, and offers good anchorage in both monsoons. Horses are bought at Gorontoto in Celebes.— *Quarterly Review*, No. 222, p. 502; *Bikmore*, 101; *Oriental Herald*, vii. p. 140.

BUGLAR, a tree of Chutia Nagpur; its bark, powdered, is used as a substitute for glue.

BUGLI. HIND. Spiræa Lindleyana.

BUGO, of the Philippines, Chavica seriboo, *Miq.*

BUGRA. HIND. Gynandropsis pentaphylla.

BUGRI. HIND. Cleome ruta.

BUGTI, a wild Baluch tribe on the western bank of the Indus, near Shikarpur, in the hills east of Lehrat. They are one of the great Rhind tribes. Some of them are serving in the Panjab cavalry, and many were in the Sind service. They are subjects of the khan of Kalat. The Bugti and Murree occupy the mountain district which extends eastward to the south of Sind and Kutchi.

BUG-TRORA. MAHR. Tecoma undulata.

BUHIRA. BENG. Terminalia rubrica.

BUHOOARI. BENG. Cordia myxa, C. latifolia, Terminalia bellerica, T. Moluccana.

BUHOW, a tribe lying south of Kashmir, little reclaimed from barbarism.

BUI, HIND., seemingly from Bhoom, land, uncultivated land. The name of several plants,— the Crotalaria burhia; Agathotes, *sp.*; Francœuria crispa; Ballota limbata; Plectranthus rugosus; Ærua bovii; Panderia pilosa.

Bui Champa, Kæmpferia rotunda.

Bui-Choti, Anabasis multiflora.

Bui Madaran, Achillea millifolium, Artemisia Indica, Artem. vestita, *Wall.*

Bui-Mung, and Bui-Singh, Arachis hypogæa.

Buin Aonlah, Phyllanthus niruri.

Buin Kaviti, Feronia elephantum.

BUILDING MATERIALS. In the Peninsula of India, all the most ancient buildings are of stone, while the edifices of the past five hundred years, comprising some of the most stupendous piles, are of brick. The great religious institutions of Sri Sailam in Cuddapah, at Conjeveram, Chellambram, Srirangam, the temples at Tanjore, Gangondaram, and Tribhuwanam, the ruins at Bijanagar, Bijapur, Gogi, and Kulburga, the pagoda at Leepichi in the Bellary, and that at Tarpatri in the Cuddapah district, monuments of ancient Hindu and Mahomedan art, are of stone. Those connected with architecture, sculpture, and painting, called into being by the exigencies of religion, always the best stimulus to works of design, have suffered more from sectarian zeal than the ravages of time, and they are widely scattered over the length and breadth of the land. Sculptured stones, fortifications, temples, and works of irrigation are found in every direction, and not only impart a knowledge of the state of science and civilisation at various periods, but throw a valuable light on other subjects of inquiry. The recent advent of the British nation into India, the efforts needed to obtain a standing-place, and the duty devolving on them of introducing useful public works, have all hitherto prevented them from engaging in ornamental architecture. The cupola of the Presbyterian church at Madras, built by Colonel de Haviland, is good, and there are a few ornamental buildings in Calcutta and Bombay. But works such as the Ganges Canal, the Southern Coast Canals, already extending almost from the Brahmaputra and the Ganges to the western coast, the great dams across the Godavery and the Kistna, the tunnelling of the Ganges and Indus, the roads everywhere, from Cape Comorin to Tibet, the railroads with their stupendous bridges, and the irrigation canals, already in vastness and in public usefulness, surpass all that Aryan, Hindu, Buddhist, Pathan, Moghul, or Arab rulers had done during their previous 3000 years of occupation. The Moghul dynasties of India, besides palaces and tombs, porticos and mosques, left a few useful sarai and bridges, but many of these were erected by private persons.

In the northern part of the Peninsula, from the Central Provinces to the Godavery, is a great greenstone area, the trap flowing over and covering sedimentary rocks; and in the east, in the province of Hyderabad, is a vast Plutonic outburst of granite. On the south of this granitic and volcanic rock there had been an estuary, extending from north of Madras to the Kistna, and from the Bay of Bengal up the Kistna and Pennar to the sources of the Gutpurba and Malpurba, and it is now filled with distorted, broken, upraised limestone, blue slate, and sandstones, from near Curcumbarry, through Tarpatri, Cuddapah, Kurnool, to Kaladgi and Belgaum. To the south of that narrow gulf is the great granitic tract of Bellary and Mysore, succeeded further south, about Trichinopoly and Madura, with other

limestone beds, both fossiliferous and non-fossiliferous; and from these volcanic, metamorphic, and aqueous-formed rocks, building stones are drawn.

Laterite rock is a clay iron ore peculiar to India; it is widely diffused, and has been largely used in India. The Arcade Inquisition at Goa is built of it; also St. Mary's Church, Madras, and the old fortress at Malacca.

Trap-Tuffa, sometimes white, sometimes greenish or purple, resembles laterite in the quality of being easily cut when raised, afterwards hardening on exposure to the air. It is used as a building stone, and suits well for basins, troughs, and aqueducts; it is not very extensively employed.

Littoral Concrete is invariably found close by the sea-shore, and is so named from its resemblance to the artificial stone formed by the cementation of sand, gravel, or other coarse material, by lime or mortar. It is composed of the material prevailing on the shores,—of shells, sand, gravel, and pebbles,—and varies in its character with the rocks in the neighbourhood, being micaceous towards Cochin and Tellicherry, from the quantity of sand and other nodules from the granite and gneiss; gravelly to the north of Bombay; and around it, composed almost entirely of fragments of shells. Along the shores of Sind, Arabia, and the Red Sea, though the material composing it is abundant in a position similar to that in which it exists on the Malabar coast, but it is nowhere cemented into stone. Even in Bombay the cementation is far from invariable. The principal quarries are at Versova, about twenty miles to the north of Bombay, where the shore is sheltered by a vast dyke of basalt, formerly submerged.

The sand is first removed, and the rock is smoothed on the surface. A space about twelve feet each way is next divided into slabs one foot square, the grooves between them being cut with a light, flat-pointed, single-bladed pick. These are raised successively by a tool something between an adze and a mattock, a single stroke of which is in general sufficient for the detachment of each from its bed. The blocks thus cut out and raised being laid aside, the bed is once more smoothed, and the operation resumed, till the pit reaches the depth of six or eight feet. This variety of building material is brought in vast quantities to Bombay, where a large portion of the native houses are built of it. It is not very strong, but, with the admirable cement employed, it makes a good and economical wall.

Trap.—In the Dekhan, the most massive structures are raised and carved on trap with delicacy and correctness. The favourite material for the over-ground Mahomedan tombstone is basalt, and, after many hundred years, the Arabic letters, carved in relief, are as sharp as on the day they were first cut. The vaults and domes of tombs and temples are commonly bolted with iron from top to bottom; and in many cases, instead of scaffolding, the structure is surrounded with a rough wall, ten or twenty feet off, the interval between being filled up with earth; a long inclined plane serves for raising the stones. A magnificent structure of this sort, the tomb of one of the Gwalior princes, has stood half-finished near Poona since the early part of the 19th century, and here native architecture may be seen in perfection in all stages of advancement.

BUILDING MATERIALS.

The only other building material at the Bombay Presidency consists of a fine-grained variety of nummulite, like Bath oolite, called, from the name of the place whence it comes, Porebunder stone.

All over India, bricks, laterite, and clay are largely used; in the Mauritius, stone and slabs of coral rock. In many parts of Bengal, wattle-work is in use for houses.

Since Indian railroads were commenced, with their great spanning bridges, the rocks of all their neighbourhoods have been largely utilized; and buildings formed of the greenstones, granites, limestones, clayslate, and sandstones are everywhere to be seen. Throughout the great volcanic district of the Dekhan, the various kinds of greenstone are largely used. On the blue slate formation, along the valleys of the Kistna and Tumbudra, and on the compact limestone formation on each side of these rivers, houses have ever been formed from these materials; but the favourite rock for ornamental purposes in the Buddhist and Hindu temples of peninsular India, is the dark basaltic greenstone, often, from its high polish, called black marble. In an ancient underground temple at Bijapur this basalt is alone employed. The Brahmanical and Buddhist caves of Ellora and Ajunta, and the smaller caves at Mominabad, are excavated out of the greenstone and greenstone amygdaloid. At Ellora they are about twenty in number, in the face of the mountain, almost scarped as it falls into the valley of the Godavery; a similar number are at Ajunta, in a ravine near the scarped ghats overlooking Kandesh. Those on the right bank of the Irawadi, near Prome, look on the river. In Madras and Calcutta, and in Indian towns generally, brick is the ordinary building material. In the whole of Burma and the Tenasserim Provinces, the houses are on posts, and built of wooden planks with shingled roofs.

Of the rocks of aqueous origin, the sandstones, slates, and limestones, the whole of the valley of the Kistna, and great parts of the valleys of its affluents, the Gutpurba, Malpurba, Bhima, Tunga, Bhudra, and Tumbudra, and much of the valley of the Godavery and of the valleys of its northern affluents, have limestone, clayslate, and sandstone rocks, and the houses and more extensive buildings are all built of these. The compact limestone of Kurnool, westward to the Bhima, is an excellent building material.

The whole of the Kymore range in Shahabad is described as of mountain limestone, which also shows itself in the valley of the river Sone as far at least as Mungeysur peak in Mirzapur; and it crops up at Rhotas, forming a sloping base to the precipitous sandstone rock. Below the mountain limestone is one of a plush grey colour, mixed with occasional crystals of calc spar; this, like the Kurnool stone, is admirably suited for lithography. Below the latter, in Kymore, is a limestone of a hard, tenacious, almost indestructible composition, admirably suited for building.

The sandstones of the Kymore range have a high commercial value at Chunar and Mirzapur, being used as flagstones and for ornamental purposes, the proximity of the Ganges affording an easy river carriage; otherwise they are the worst and most destructible description of stone in the range. The millstones of Chynepore, Sasseram, and Tilowthoo (perhaps also Akbarpur), are famous, but must always be dear in a distant

market, for want of river carriage. The Sone causeway and the Koylwan railway bridge are built of the dense sandstone of Sasseram; little quantities are found in the higher portions of the range towards Rhotas. The best stone, while easily workable, is almost as hard as granite, and may be had of any colour, white, crystalline, blue, grey, and all shades to a dark red.

Flexible sandstone is found at Ulwar, Jhend, and Jubbulpur.

At the Panjab Exhibition held at Lahore, there was a good collection of building materials from Sahi Balabgarh in the Dehli district, including the red, the spotted, and the light-coloured sandstone so much used in the large buildings of Upper Hindustan; and from the same place were polished blocks of white marble, and a pretty dappled grey marble, called Narnaul marble, from the Hissar district. From the Kangra district there was sent grey limestone, sandstone of two sorts, both good for building, and granite. Some nice workable sandstone sent from Madhopore must come from the hills above that place. From Kashmir there was some black marble, and some polished slabs of serpentine, which is found at Tashgaon in Little Tibet. The Salt Range, Jhelum, and Shahpur districts possess good building stones, sandstone, and calcareous sandstone; from Jhelum were specimens of marble which might become useful for building, with gypsum or alabaster of the same hills. See Architecture.

BUIST, DR. GEORGE, LL.D., a voluminous writer on general and scientific subjects relating to India, viz.: Manual of Physical Research, Report of Meteorological Observations at Bombay in 1842 and 1844; On the Saltness of the Red Sea, Bom. Geo. Trans. ix. p. 39; Catalogue of Remarkable Hailstorms in India, ibid. p. 184, Rep. Brit. Ass., 1850; Notice of Remarkable Meteors in India, Bom. Geo. Trans. ix. p. 197, Rep. Brit. Ass., 1849 and 1852; Outline of the Operations of the British Troops in Sind and Afghanistan, Bombay 1843; Annals of India for 1848–49; On Woods in India in 1849, Edin. Phil. Jl. (Jameson's), 1851, ii. p. 52; On the Evidence of the General Upheaval and Depression around the Sea-shores of India and Northern Europe, ibid. 1851, Edin. Ph. Jl. 1851, Bom. Geo. Trans. Reports, 1850–51, Rep. Brit. Ass., 1851; On the Visible Appearance of the Seasons in Western India, without reference to Instrumental Observation, Rep. Brit. Ass., 1851; Desultory Remarks on the Oriental Sculptures or the Runic Stones of Scotland, Bom. Ass. Trans. ii. p. 43, Bl. Ass. Trans. 1851; On a Cheap Form of a Thrashing Mill employed in England, and well suited for India, Bom. Agri. Trans., 1842; On the Various Forms of Windmills in use in Europe and Egypt, with Water-raising Machines made use of in the East, with numerous illustrations, Bombay 1848, folio; On the Connection betwixt Oriental and Scandinavian Antiquities, Bl. Ass. Trans., 1852; On the Volcanoes, Volcanic Phenomena, Hot Springs, etc., betwixt the line and 32° N., Bom. Geo. Trans., 1852, x.; On the Geology of Bombay and the Adjoining Islands, ibid.

He accepted employ under the Government of India at Allahabad, but became ill, and returned to Calcutta, where he died. He was one of the most distinguished students of physical science in India, and one of the veterans of the Indian press.—*Dr. Buist's Catalogue.*

BUJI BABBAR. HIND. Eriophorum comosum.

BUJLO. HIND. Oreoseris lanuginosa.

BUJOOR. BENG. Corypha elata.

BUJRA. HIND. Cleome ruta.

BUJRA, a large, commodious, but generally cumbrous and sluggish boat, having more pretensions to comfort than speed, used for journeys up the Ganges. See Boat.

BUK or Buka. BENG. Agati grandiflora.

BUK. HIND. Land recovered by the recession of a river. Bukara, land left by a river, but rendered useless by a covering of sand.

BU'KALAMUN. ARAB. Chameleon.

BUKAN. HIND. Eclipta erecta, Lippia nodiflora.

BUKAYUN. PERS. Melia sempervirens.

BUKBUR. ARAB. Fruit of Cassia fistula.

BUKCHI. HIND. Conyza anthelmintica.

BUKEPHALA, a city built on the scene of Alexander's battle with Porus. Strabo says it was on the left bank, where Alexander had crossed; Plutarch says it was near the Hydaspes, where Bucephalus, Alexander's horse, which was killed here, was buried; Arrian, Diodorus, Curtius, and Justin say it was opposite to Nikæa. According as we follow Strabo or Arrian, it was at Dilawar or at Jalalpur, each of them 6 miles from Mong, the battlefield of Nikæa.—*Cunningham*, p. 177.

BUKHARA, the capital of a khanate in Central Asia, the chief point of Central Asiatic trade. Its name has been supposed to be derived from Vihara, a Buddhist monastery, but Mahomedan authors say that Bukhar meant Majma-i-ilm, *i.e.* a place for the collection of knowledge, that is, a college or school. Turks pronounce the word Bukhara, while the Persians say Bokhara.—*Vambery, Bokhara*, p. 14.

BUKHARIA, also called Little Bukharia, also Eastern Turkestan, bounded on the north by Mongolia, on the east by the Shami or Kobi desert, on the west by Kokhand and Badakhshan, and on the south by the Tsung Lung or Korakoram range of hills, which separates Little Bukharia from Little Tibet. The inhabitants of Little Bukharia speak Turki, and profess the Mahomedan religion. The Uigour Hoei-hou, called simply Hoei-hoei, under the Mongol dynasty of Yuan, were Mahomedans, and this name is applied by the Chinese to all those of the same religion. The inhabitants of the towns of Little Bukharia are in part descendants of the ancient Uigour or Hoei-hou, and consequently Turk; in part Sarti or Bukharians, who are scattered as merchants all over Central Asia, and who are Iranians. There are many of them at Pekin, Hang-chu-fu, Canton, and other commercial cities of China. Their mother tongue is Persian; but they also speak the oriental Turki, which is the general language of Turkestan, and the most diffused in Little Bukharia. The Uigour writing character was the original source of those still used by the Mongol and Manchu, and was itself almost certainly derived from the old Syriac character through the Nestorians. The modern Tartar characters are written (and, it is presumed, read) in vertical lines from top to bottom of the page, the lines succeeding each other from left to right. What Uigour meant with Mongol authors is doubt-

ful, but the people and language so called by the western Asiatics were Turk. Captain Valikhanoff speaks of the language now in use at Kashgar as being Uigour, but it is not clear whether he means that this term is known to the natives.—*Russians in Central Asia*, p. 67; *Yule, Cathay*, i. p. 206; *Timkowski's Journey to Pekin*, i. pp. 6,378–79.

BUKHO, the Karen priest and physician.

BUKHUR. ARAB. Incense or fumigation.

BUKI. HIND. Equisetum debile.

BUKIT. MALAY. A hill. Bukit gadong, a locality in the Malacca district occupied by the Jakun race.

BUKIYANI, an industrious cultivating tribe of Mahomedans in the Multan division of the Panjab. They were Chauhan Rajputs, and about the 16th century became converts to Islam.

BUKKAPU. TEL. Cæsalpinia sappan.

BUKKAR-ul-WASH. ARAB. The wild cow.

BUKKUR, a fortified island in the Indus river. It is in the centre of the stream, nearly opposite the town of Rori; and on the western bank is Sikkur, now called Victoria on the Indus. Bukkur is in lat. 27° 42′ 45″ N., and long. 68° 56′ 30″ E. It is a limestone rock 2400 feet long, 900 broad, and 25 in height. On its north is the holy islet of Khaja Khizr or Jind Pir, and on its south is that of Sadh Bela. It has been held successively since the 14th century by the Summa Rajputs, the Dehli, Kalhora, Afghan, and Talpur rulers, and was ceded to the British in 1839.—*Burton; Postans; Imp. Gaz.* See Bakkar.

BUL. SANSK. Force, strength; pronounced Bal, also Bil.—*Ell.*

Bul-Arati, a name of Indra as the destroyer of the giants.

Bul-Bhog. HIND. Taking forcible possession of property; from Bul, force, and Bhog, wealth.

Bul-Kut, rent taken in advance.—*Elliot, Glossary.* See Bal.

BULA. BENG. Paritium tortuosum.

BULAHUR, HIND., also Buladhur, from bullana, to call; a village servant in Allahabad district serving as a guide or messenger.—*Ell.*

BULAK, said by Niebuhr (i. p. 63) to be the Latopolis of the ancient Greeks. Bulak has been for centuries the river port of Cairo, although originally a mile distant from it, and it has now become incorporated with that city. The Museum of Egyptian Antiquities, a magnificent collection, entirely unrivalled of its kind, was established at Boulac by Ismail, Khedive of Egypt.

BULANDSHAHR, a town often called Baran, in the N.W. Provinces, on the west side of the Kali Nadi. It gives its name to a district in the Doab between the Ganges and the Jumna, between lat. 28° 3′ 30″ and 28° 42′ 45″ N., and long. 77° 20′ and 78° 31′ 45″ E.; area, 1910 square miles, and population, 936,667. It is said to have formed part of the great Pandava kingdom ruled over from Hastinapur, a city which was cut away by the Ganges. Bulandshahr was approached by Mahmud A.D. 1018, and its people embraced Mahomedanism. A.D. 1193, Kutub ud Din captured it from the Dor raja by the treachery of his cousin Ajaypal, who accepted Mahomedanism, and whose descendants still hold lands there. Rajputs since, for a time, occupied the district, expelling the Meo. It has been under the Dehli and Mahratta rule, and in 1803 became British territory. During the mutiny the Gujar and others held the district from the 21st May to the 4th October. The people are Hindus, Rajputs, Mahomedans, with Chamar, 146,149; Jat, 56,453; Lodha, 51,513; Gujar, 48,786; Khakrob, 29,501. Coins of Alexander the Great and of the Indo-Bactrian kings are being found at Baran to the present day.

BULAQ. HIND. A jewel worn in the septum cartilage of the nose.

BULAT. BENG. Phaseolus mungo, *Linn.*

BULAT-WÆLA. SINGH. Chavica seriboo.

BULBASSI, a Kurd race, composed of—1. Kabaiz, the reigning family; 2. Manzoor; 3. Mamash; 4. Piran; 5. Rummook; 6. Sinn and Taafah, who together make one tribe. They are all predatory. The chiefs of tribes are called Muzzin. The price of blood among the Bulbassi is 22 oxen; but it may be made up in other effects, to which often a nominal value is attached, more than twice the real amount, when the affair is to be compounded amicably. The crimes punished with death are adultery, seduction, and such like. The Bulbassi are endogamic. They have courtship among them, and carrying off a girl by the lover is common. When a chief dies, if his eldest son is incapable, the best of the brothers succeeds. In their own country the Bulbassi do not willingly acknowledge any superior, either Turkish or Persian, but when they descend into the regions of Karatchook they pay a tribute of sheep to the Bey. Most of the principal people among them possess a complete suit of mail. For curing wounds they sew the wounded man in the skin of a bullock fresh stripped off the animal, leaving only his head out.—*Rich, Kurdistan*, i. p. 133.

BULBUL. PERS. A term employed among the various Mahomedan nations of Southern Asia, to designate birds belonging to several generic divisions of a natural family. The Persian bulbul is a species of true nightingale; it is the Luscinia major (or Sylvia philomela of Temminck), and is known as the Bulbul-i-bostan in India, where it is frequently imported as a cage-bird. In Persia it is often called the Bulbul-i-hazar dastan, the bulbul of a thousand notes; and its genus, Luscinia, is very closely allied to the small thrushes of America. The Persians delight to speak of this favourite song-bird, which Moore has made widely known:

'There's a bower of roses by Bendemeer's stream,
And the nightingale sings round it all the day long:
In the time of my childhood 'twas like a sweet dream
To sit in the roses and hear the birds' song.
That bower and its music I never forget;
But oft, when alone in the bloom of the year,
I think, Is the nightingale singing there yet?
Are the roses still bright by the calm Bendemeer?'

It is migratory there, making its appearance with the roses in April, and disappearing with the rose at the end of summer. According to Zakary bin Mahomed-al-Kaswini, the Persians say the bulbul has a passion for the rose, and laments and cries when he sees it pulled. The English nightingale, Luscinia philomela (Philomela luscinia), is migratory through Europe, N. Africa, and Asia Minor, but is not known in India or Persia. Indeed, there is no true nightingale, wild, in British India; but the shama, Cercotrichas macrourus, undoubtedly the finest song-bird of British India, is not unfrequently designated the

Indian nightingale. It is common to India and the Malay countries; and there is a second species (C. luzoniensis) in the Philippines, and a third (C. erythropterus) in Africa. The esteemed Indian songster is le merle tricolor de longue queue of Levaillant (Oiseaux d'Afrique, pl. 114). We may remark that the Orocetes cinclorhyncha is also termed shama in the Madras Presidency. The bulbul of Southern India is not even a song-bird, the term being applied to the Bulbul-i-gul-dum, Hæmatornis cafer, which is a common cage-bird, and, like quails and cocks, trained to fight; and when pitted against an antagonist, it will sink from exhaustion rather than release its hold. The Husaini bulbul, also called the Shah bulbul, is of another sub-family, the Myagrinæ, and is known also as the Paradise fly-catcher. It is of a chestnut colour for many months, but becomes white in the breeding season. It is a very graceful bird, with very long tail feathers, and it is a pretty sight to see it flitting from tree to tree. How the birds prevent the long tail feathers from becoming entangled in the thorny trees, is very curious. In Ceylon, the chestnut bird is called the fire thief, and the white bird the cotton thief. Its colouring is chaste, and its movements in flight graceful. Mr. Layard has often watched them, when seeking their insect prey, turn suddenly on their perch and whisk their long tails with a jerk over the bough, as if to protect the feathers from injury.

In the Madras Presidency, the three-coloured thrush, Geocichla cyanotus, is sometimes called a bulbul; and the hill bulbul of Matheran is the Otocompsa jocosa. It has crimson ear-tufts.

Dr. Jerdon arranges the Brachypodidæ into four sub-families, — the Pycnonotinæ or true bulbuls, the Phyllornithinæ or green bulbuls, the Ireninæ or blue-birds, and the Oriolinæ or orioles. He names—

Hypsipetes psaroides, *Vig.* Himalayan black bulbul.
H. Neilgherriensis, *Jerdon.* Neilgherry black bulbul.
H. Ganeesa, *Sykes.* Ghat black bulbul.
H. M'Clellandi, *Horsf.* Rufous-bellied bulbul.
Hemixos flavala, *Hodgson.* Brown-eared bulbul.
Alcurus striatus, *Blyth.* Striated green bulbul.
Criniger ictericus, *Strickland.* Yellow-browed bulbul.
C. flaveolus, *Gould.* White-throated bulbul.
Ixos luteolus, *Less.* White-browed bush bulbul.
I. xantholæmus, *Jerdon.* Yellow-throated bush do.
Kelaartia penicillata, *Blyth.* Yellow-eared bulbul.
Rubigula gularis, *Gould.* Ruby-throated bulbul.
R. flaviventris, *Tickell.* Black-crested yellow bulbul.
Brachypodius poiocephalus, *Jerdon.* Grey-headed do.
Otocompsa leucogenys, *Gray.* White-cheeked crested bulbul.
O. leucotis, *Gould.* White-cheeked eared bulbul.
O. jocosa, *Linn.* Red-whiskered bulbul.
Pycnonotus pygœus, *Hodgson.* Common Bengal do.
P. pygœus hæmorhous, *Gmelin.* Common Madras do.
Phyllornis Jerdoni, *Blyth.* Common green bulbul.
P. Malabaricus, *Lthm.* Malabar green bulbul.
P. aurifrons, *Temm.* Gold-fronted bulbul.
P. Hardwickii, *Jard.* and *Selb.* Blue-winged bulbul.
Iora Zeylonica, *Gmelin.* Black-headed bulbul.
I. typhia, *Linn.* White-winged green bulbul.
I. scapularis of the Archipelago.
I. Lafresnayii of Arakan.

—*Jerdon, Birds of India; Layard's Nat. Hist. of Ceylon; Cal. Rev.* See Birds.

BULBUL CHASM. Pers. Literally, bulbul eye. A pattern produced in weaving.

BULCHA, a pass in Kamaon, in lat. 30° 28′ N. and long. 88° 14′ E., over a high ridge, extending E. and W.

BULD. Hind. Horned cattle. Buldea, a cowherd.—*Ell.*

BUL-DAN. Amongst the ancient Hindus, the sacrifice of a bull to Balnath, the lord Bal, the sun. Balnath was the deity worshipped by the Saura races in Gujerat, and was identical with the Syrian Bal. That ancient sacrifice has long ceased. Four altars were erected for offering the flesh to the four gods, Lakshmi-Narayana, Umia-Maheswar, Brimha, and Ananta. The nine planets, and Prithu, or the earth, with her ten guardian deities, were worshipped. Five Vilwa, five Khudiru, five Pulashu, and five Udumburu posts had to be erected, and a bull was tied to each post. Clarified butter was burnt on the altar, and pieces of the flesh of the slaughtered animals placed thereon. Another description says that a covered altar had to be prepared. Sixteen posts had then to be erected of various woods; a golden image of a man, and an iron one of a goat, with golden images of Vishnu and Lakshmi, a silver one of Siva, with a golden bull, and a silver one of Garuda, the eagle, were placed upon the altar. Animals, as goats, sheep, etc., were tied to the posts; and to one post, made of the wood of the mimosa, was to be tied the human victim. Fire was to be kindled by means of a burning-glass. The sacrificing priest, hota, strewed the grass called d'hub, or immortal, round the sacred fire. Then followed the burnt sacrifice to the ten guardian deities of the earth,—to the nine planets and the Hindu triad, to each of whom clarified butter was poured on the sacred fire one thousand times. Another burnt-sacrifice, to the 64 inferior gods, followed, which was succeeded by the sacrifice and offering of all the other animals tied to the posts. The human sacrifice concluded, and the sacrificing priest offered pieces of the flesh of the victim to each god as he circumambulated the altar.

At the present day the bull is often devoted by Hindus to the gods, on the 11th day of mourning for a near relative. In this a marriage ceremony is performed, called brikhotsarg, or abandoning of a bull. Brik means a bull, and also the zodiacal sign Taurus. The brikhotsarg marriage ceremony is performed in the name of the bull, after which the animal is set free to roam; and in some Hindu towns of India these devoted cattle infest the streets and roads, and are very numerous and very troublesome. In several Mahratta towns they were often let loose. In Benares they are still in numbers; and whatever they may do or wherever they may lie down, they may be patted, spoken to, or even shouted at, but never struck. They are called Bijar, Saur, Brahmany bull. A similar marriage ceremony is performed with a well and orchard.—*Ward on the Religion of the Hindoos*, ii. p. 263; *Elliot*, 260. See Banotsarg; Bull; Jalotsarg.

BULDANA, a small walled town on a plateau in the Berar Assigned Territories. It is the chief town of a district of 2807 square miles, and a population of 404,042 souls, three-fourths Hindus, composed of several plateaux, with small fertile valleys intervening. Since 1318 it has been under Mahomedan rulers; but prior to that a Jaina dynasty seems to have held sway, and remains of their temples are to be seen at Deolghat, on the Penganga, at Mehkar, at Sindhked, Pimpelgaon, and at Lona. Besides the Mahomedans, in 1867—

Brahmans,	10,500	Dher,	38,928
Kunbis,	158,289	And,	7,444
Brinjara,	11,590	Gond,	309
Mali,	11,424	Koli,	2,607
Marwari,	2,819	Bhil,	416
Bania,	4,745	Lar,	1,777
Rajput,	3,468		

BULDEO, in Vrij, is a shrine of Buldeo, who is supposed to be the Hercules of the east and west, his club a ploughshare, and his covering a lion's skin. The complexion of Buldeo is depicted white, and that of Krishna black or azure. See Baldeva.

BUL-DHOON, the valley of Sookeytmundi in the Kohistan of Jullundhur, but also called Kangra Bhawan, also Pallam Pattiar. Natives of the Bul-dhoon and Kulu have sallow complexions, and seem of the same race as the natives of Bushair. The men are tall and strong, but few of them are handsome. Many of the young women are pretty, but at the age of 20 or 25 they become coarse and stout. It was the practice for the women, gaily dressed, to assemble and greet a stranger with songs as he entered each village, for which honour he was expected to give a rupee to each knot. The men and women dress almost similarly.—*Masson's Journeys.*

BULESUR, a subdivision of the Gujar race.

BULGAR. HIND. Boletus igniarius.

BULGARIAN. The wild people who dwelt or wandered in the plains of Russia, Lithuania, and Poland, in the age of Justinian might be reduced under the two great families of the Bulgarian and Sclavonian. Those of the former nation, who touched the Euxine Sea and the Mæotis, derived from the Huns their name or descent. The evidence of language attests the descent of the Bulgarian from the original stock of the Sclavonian, or more properly Slavonian race; and the kindred bands of Servian, Bosnian, Rascian, Croatian, Wallachian, etc., followed the standard or example of the leading tribe. The first king of Bulgaria, in its present extent, was in A.D. 640, and their empire continued until 1017, when they were ruled by a lieutenant of the Greek empire.—*Chatfield's Hindustan*, p. 289.

BULGHAR, a town in Russia, where Russia leather is made; also Russia leather, corrupted into Bulkhal or Bhulkhal. In Persia, a kind of bottle, to hold nearly three quarts, is made of bulghar, to be used by horsemen travelling. It has a wooden stopper, and hangs from the saddle or girth, and swings under the horse. It is called matahrah or matarah.—*Ouseley's Travels*, i. p. 247; *Fraser's Khorasan*, p. 69.

BULI. BENG., HIND. Sterculia urens, *Roxb.*

BULJA-WANLU. TEL. A Sudra race of Telingana. See Balja.

BULKOKRA. BENG. Adelia castanicarpa.

BULL.

Al-Taur; Saur,	ARAB.	Taurus,	LAT.
Taureau; Bulle,	FR.	Nandi; Bail,	HIND.
Stier,	GER.	Nar-gao,	PERS.
Shur,	HEB.	Mar,	TAM.
Foro,	IT., SP.	Eddu; Basava,	TEL.

The bull has always held a prominent place in the religious systems of Asia. The sacred bull of the Assyrians, the Apis of the Egyptians, and the bull Nandi of the Hindus, are evidently identical types. The golden calf of the Israelites will not be forgotten. And for the use of the figure of the bull as a sacred ornament by the Jews, the brazen sea in the temple of Solomon may be cited (1 Kings vii. 25; 2 Chron. iv. 4, 5; and Jeremiah lii. 20). In Assyria, Baal, or the supreme deity, was worshipped under the form of a bull or heifer, as may be inferred from Tobit i. 5: 'Now all the tribes which together revolted, and the house of my father Nephthali, sacrificed unto the heifer Baal;' but the reading is doubtful.

In the English Scriptures, the word 'bull' is the translation of several Hebrew words; shor, a cow, theo, a wild bull; abbire, tor. A calf was in Hebrew ogel, in Arabic, ajel. Jeremiah xxxiv. 18 and 19 tells of a sacrificial rite of splitting a calf in two, and men passing between the parts; and bull-worship is noted in 1 Kings xii. 28, 29, 30, the images being of gold. In ancient Western Asia, Bal and the brazen calf were specially worshipped on the fifteenth of the month (see 1 Kings xii. 32); and at present, in India, the sacred day of Bal-Eswar, with his Vahan bull Nandi, is the amavasa, the moonless fifteenth day of the month. The bull was offered to Mithras by the Persians; and, opposed as it now appears to Hindu faith, he formerly bled on the altars of the sun-god, on which not only the Buldan offering of the bull was made, but human sacrifices.—*Layard, Nineveh*, ii. pp. 474-5. See Bul-dan.

Apis, the sacred bull of Egypt, was chosen by the priests of Memphis for its black and white spots; and Mnevis, the sacred bull of Heliopolis, had nearly the same marks; but the Hebrews, in preparing their water of purification, were ordered (in Numbers xix. 2) to kill a red heifer without a spot. Amongst the Egyptians, the solemnities at the burial of Apis were entirely Bacchic. The priests did not wear the nebris or deer skin, but they wore the panther skin, and carried thyrsus staves. The brazen calf mentioned in Scripture as an object of worship by the Hebrews, is still worshipped by Hindus in India, frequently of brass, but oftener of stone. Some of the Hindu images of the bull are of colossal size. One, supposed to be the largest in the south of India, is to be seen at the Charmandi hill in Mysore. It is carved out of a solid rock at the side of the hill, and is approached by ascending 660 stone steps. There is also a magnificent temple of Siva at Tanjore, with a great bull in front. Siva, under the name of Mahadeva or Eswara, is the tutelary divinity of the Rajputs in Mewar; and, from the early annals of the dynasty, he appears to have been, with his consort Isani, the sole object of the Gehlot Rajput's adoration. Eswara is there adored under the epithet of Eklinga, and is either worshipped in his monolithic symbol, or as Eswara Chao-mûkhi, the quadriform divinity, represented by a bust with four faces. The sacred bull Nandi has his altar attached to all the shrines of Eswara in India, as was that of Mneves or Apis to those of the Egyptian Osiris. Nandi has occasionally his separate shrines, and there is one in the valley of Udaipur which has the reputation of being oracular as regards the seasons. The bull was the steed of Eswara, and carried him in battle; he is often represented upon it, with his consort Isa, at full speed. In Ceylon, to every herd of cattle there is a sacred bull, who is supposed to exert an influence over the prosperity of the flocks; his horns are ornamented with tufts of feathers, and

frequently with small bells, and he invariably leads the great herd to pasture. On starting in the early morning from the cattle kraal, the natives address the bull, telling him 'to watch over the herd; to keep the cows from straying, and to lead them to the sweetest pastures, so that they shall give abundance of milk,' etc.—*Bunsen*, i. p. 432; *Tod's Rajasthan*, i. pp. 222, 514; *Tennent's Ceylon; Vossius de Idololatria; Bryant, Analysis; Hancarvelle, Recherches sur les Arts de la Grèce; Ouseley's Travels*, i. 280; *Ward's View*, ii. 143. See Bul-dan.

BULLA. DUK. Terminalia bellerica. SANSK., Pavonia odorata.

BULLA, the polo game of the Dard.

BULLAIN-LENA. HIND. A ceremony amongst Mahomedan and Hindu women in India, in which the woman sweeps her hands down from the head to the feet, and then raises them to her own head, supposed to take the other's evils on herself.

BULLAR, HIND., Lablab vulgare, L. cultratum.

BULL-FROG of Malabar, Rana Malabarica.

BULLY TREE. Achras sapota.

BULOOSITOON ROOMANI, Buloositoon Yunani; Punica granatum.

BULPAM. TAM. Bulpamu, TEL. Soapstone.

BULRUSHES, Typhaceæ.

Jonc, ...	FR.	Pun, ...	SIND.
Goma, ...	HEB.	Booree; Putera, riri, ,,	
Giunco, ...	IT.	Junco, ...	SP.

Bulrushes, so conspicuous in the marshes of Europe, extend to similar situations in most parts of India. The leaves are in some parts of Europe employed in making mats and winter coverings for plants, as well as for stuffing chairs, putting between the staves of barrels. The leaves of putera and riri (Typha elephantina and T. angustifolia) are employed in making mats in North-West India. In Sind the former is called pun, and its leaves employed for making mats and baskets. The pollen, like that of Lycopodium, is inflammable, and used as a substitute for it as in Europe. It is also collected in Sind, and there called booree. Elephants are fond of T. elephantina. It is a valuable sand-binding plant, and it is tied into bundles as a swimming float.—*Royle, Fib. Pl.* p. 35.

BULSUN. A Native State, originally a feudatory of Sirmoor, but a separate sunnud was granted to it in September 1815. Its tribute payment is Rs. 1080. Its chief is of Rajput origin. Thakur Jograj was created a rana in 1858, for services rendered during the mutiny. The revenue of the state is Rs. 6000, and the population 4892.

BULTI extends from the confines of Ladakh westward to the great bend of the Indus. It has Dras and Hasora on its south, and the Kouen Lun or Mustagh on the north. The bed of the Indus at Tolti is 7500 feet; at Iskardo, the capital, 7000; at Rondu, 6200; and at the great bend, about 5000.—*H. f. et T.* 224, 225.

BUL TUL, or Shur-ji-la, a pass leading to Kashmir, in lat. 34° 10′ N., long. 70° 15′ E. The crest is 10,500 feet.

BULUH. MALAY. A bamboo. Buluh perindu, the plaintive bamboo, also called Buluh-ribat, the storm-bamboo. In the forests of the Malay Peninsula, Sumatra, and Java, the natives make holes in the forest bamboos, and plaintive sounds issue when the wind blows. It is a sort of Æolian pipe. See Bamboo.

BULUN. SINDI. The water hog, a porpoise? in the rivers Indus, Ganges, Irawadi.

BULUNG. JAV. Plocaria candida, *Nees*; Eucheuma spinosa; Agar-agar; Gracillaria tenax.

BULUT TAGH is that part of the Kouen Lun chain which is east of Samarcand and south of Khokand. Bulut Tagh means the cloud mountain; but the Kouen Lun chain is also called the Belur Tagh, which, according to Cunningham, is synonymous with the Balti mountain. Other names for the chain are Mustagh, Karakoram, Hindu Kush, and Tsung lung or Onion mountains, from the prevalence on it of a species of Allium. Its continuation forms the Pamir range west of Yarkand. The Kouen Lun chain is not less elevated than the Himalaya, and is covered throughout a great part of its length with perpetual snow. Its axis has not been crossed by any traveller, but has been reached by Dr. Thomson, who visited the Karakoram pass, elevated 18,300 feet. In Western Tibet, the axis of the chain is in general distant about 150 miles from the Himalaya, and the country between the two consists of a complication of ranges of lofty and rugged mountains, separated from one another by stony valleys, which at the higher parts of the courses of the rivers expand at intervals into alluvial plains.—*H. f. et Th.*

BUMAY-ZA. BURM. Albizzia stipulata.

BUMBA, a race inhabiting the hills westward from Kashmir to the Indus.

BUM BUKLESIR. See Hot Springs.

BUMBUL. HIND. Rubus biflorus.

BUMEE. SINGH. Tetranthera Roxburghii.

BUMMALO, a small fish, salted and dried; also called Bombay duck, but found on all the coasts of Southern Asia. See Bombay Duck.

BUMTELE, name of a Rajput tribe on the eastern parts of the Central Doab.—*Ell.*

BUN or Boon. ARAB. Coffee, coffee berries.

BUNA of Kaghan. Albizzia odoratissima.

BUNA. HIND. Edwardsia mollis, Platanus orientalis.

BUNAFUR, a tribe of Yadubansi Rajputs in Oudh, Allahabad, Benares, Gurra Mundla, and Bundelkhand.—*Ell.*

BUNBHOOAY. BURM. Careya arborea.

BUNCHONG BULU, a red dye-wood of the Celebes.

BUNCOGA. SINGH. Urostigma Mysorense, *Miq.*

BUND. HIND., PERS. (Bănd.) A slip of an account. Band-behri, also Band-phantah, a statement of a village account; an embankment, a dam.—*Ell.*

BUND, Boond. HIND. A dark blue silk with many spots, largely made at Benares. Bund mumi, a kind of stiff waxed spotted silk.

BUNDA. HIND. A sort of earring (pundela); a ring used by ear-borers.

BUNDAHISH, or Original Creation, a sacred book of the Parsees; it is in the Pehlavi. It gives the Parsee cosmogony; and one version was written about A.D. 880.

BUNDALA, or Boondala, an agricultural race in the Maiker district.

BUNDARE, a Kandh village in the Madras district of Vizagapatam. Until 1849, three human beings were here annually sacrificed, two to the

sun in the east and west of the village, and one in the centre. The head was left attached to the sacrificial post till devoured by birds.—*Imp. Gaz.*

BUNDELA, a tribe who claim to be Rajputs. They give a name to the province of Bundelkhand (corruptly Bundelcund). They are descended from the Garhwars of Kantit and Khairagarh, and first settled in Bundelkhand in the 13th or 14th century. There are few genuine Bundelas in the British portion of the province, except in the pargana of Panwari. The province of Bundelkhand is a mountainous hilly tract of country lying between lat. 23° 52′ to 26° 26′ N., and long. 77° 53′ to 81° 39′ E., between the rivers Jumna and the Chambal on the N. and N.W., the Jubbulpur and Saugor divisions on the south, and Rewa and Baghelcund and the Mirzapur hills on the S. and E. Within these bounds are five British districts; it encloses the three Treaty States of Orcha or Tehri, Datia, and Samthar, and the states of 26 chiefs who have sunnud or Ikrarnamah from the British Government. Iron and copper are obtained, and diamonds from Panna. It seems to have been occupied successively by Gonds and Rajputs; and to the latter are due the forts of Ajyegarh and Kalinjar, the temples at Khajuraka and Mahoba, and the Hamirpur irrigation works. A vast portion of Bundelkhand is hilly and unproductive, forming the northern slope of the table-land of the Vindhya. Bundelkhand has, in the past three centuries, been fifteen times desolated by famine. The Bundela became dominant in the 14th century. Towards the middle of the 18th century, the aid of the Mahrattas was called in against the Dehli forces. On the fall of the Peshwa in 1818, all his sovereign rights were ceded to the British. Under the Bundelkhand Agency are Sohawal, Jignee, Ajyegarh, Baonee, Beronda, Bijawar, Chirkary, Chutterpore, Duttia, Kotee, Myhere, Nagode, Orcha, Punna, Rewa, and Sumpthur. Of the principal states, Gwalior, Indore, Bhopal, Dhar, Dewas, Bhopal, and Jowra are under Mahomedan rulers, and the rest Mahratta. The petty states hold under the immediate guarantee of the British Government, but have feudal relations with one or other of the larger states, and occasionally with more than one.—*Imp. Gaz.; Treaties, etc.*, iv. p. 195.

BUNDER or Bandar. PERS. A seaport, a harbour; prefixed to many seaports along the coasts of the Arabian Sea. Shah-Bunder is a harbourmaster, a governor; the British sailors' market boat is the Bunder boat.

BUNDER ABBAS, formerly called Gambroon, in lat. 27° 10′ N., at the entrance of the Persian Gulf, is 5 miles north of Kishm island. It is in the south of the province of Kirman, and is about eighteen days' march from the town of Kirman.—*Horsburgh.*

BUNDESH, a religious book of the Parsee Zoroastrians. See Bandahish.

BUNDI, a tributary state in Rajputana, lying between lat. 24° 58′ and 25° 55′ N., and long. 75° 23′ and 76° 30′ E. Population in 1875 was 224,000, paying a tribute of one lakh of rupees. The ruling family belong to the Hara tribe of Rajputs. Omeda Raja gave most efficient assistance to Colonel Monson's army in its retreat before Holkar; he died in 1804, after a rule of upwards of fifty years, and was succeeded by his infant son, Bishen Singh. During the Mahratta supremacy, this state suffered much at the hands of Sindia and Holkar, who virtually assumed the management of the revenues. The territory of Bundi was so situated as to be of great importance during the war in 1817 in cutting off the flight of the Pindari. Maha Rao Bishen Singh early accepted the British alliance, and a treaty was concluded with him on 10th February 1818. By this, the tribute paid to Holkar and the lands in Bundi held by Holkar were relinquished to the raja, who engaged to pay to the British Government the share of tribute he had hitherto paid to Sindia. In its earlier fortunes, this state became so connected with the imperial court of Dehli, that, like Jeypore, the princes adopted several court customs. The Purthan, or premier, was entitled Diwan and Moosahib; and he had the entire management of the territory and finances. The Foujdar or Killadar is the governor of the castle, the Maire de Palais, who at Bundi is never a Rajput, but some Dha-bhae or foster-brother identified with the family, who likewise heads the feudal quotas or the mercenaries, and has lands assigned for their support. The Bakhshi controls generally all accounts; the Rassala those of the household expenditure. Bundi has a beautiful palace. During the mutiny and rebellion of 1857, the raja was less forward. Its military force is 700 horse, 1575 infantry, and 88 guns.—*Tod's Rajasthan*, ii. p. 504; *Treaties, Engagements, and Sunnuds*, iv. p. 63.

BUNDI. HIND. A kind of sweetmeat, in grains or drops. Būnd, a drop.

BUND-i-Kaisar, a dyke or bund near the town of Shuster in Southern Persia, thrown across the river Karen. Sir Henry Rawlinson says that it was constructed by Ardeshir Babekan or his son Shahpur; and the canal constructed is called Nahr-i-Dariyan, which waters the fields to the south in the Miandab.—*De Bode.*

BUNDU MALLI. TEL. Jasminum sambac, *Ait.*

BUNER, a democratic State between Afghanistan and India, N.W. from Peshawur, beyond the Judoon country on the north-west. It is a rugged country, extending from the lower range of the Hindu Kush downwards to hills which command the Chumla valley and the central plain of Yusufzai. On its western frontier, again, lies the Swat territory. The Buner people could muster a force of some thousands. They have generally abstained from molesting British subjects. Near them are the Swat, Ranizai, and Lower Osman Khel tribes, the two latter being subordinate to the former.

BUNGA. PUKHTO. Ransom.

BUNGA, a temple of the Akali sect of the Sikhs.

BUNGA-BUA-PALA. MALAY. Also Bunga pala, mace. Bunga Chanki, also Bunga-lawang, cloves; Caryophillus aromaticus. Bunga pukul ampat, Mirabilis jalapa. Bunga chappa, Blumea balsamifera.

BUNGARI. HIND. Vangueria spinosa.

BUNGAROO. TEL. Gold.

BUNGARUS CÆRULEUS, B. tropidonotus, B. Ceylonicus, are three poisonous serpents of Burma and Ceylon, of the family Elapidæ. B. cæruleus occurs in most parts of India and in Burma; B. fasciatus, common in Burma, is rare on the eastern coast of the Peninsula; B. semifasciata occurs in China. These snakes are from 4 to 6 feet long.

BUNGA SURSON. HIND. Sinapis juncea.

BUN-GHI. HIND. Corchorus olitorius.

BUNGKA, HIND., also called Kutooa, an aquatic beetle which cuts rice plants. It is said to make a leaf boat, which it paddles from plant to plant.—*Ell.*

BUNGLA. HIND. Bungalow, a one-storeyed house.

BUNG-MAI-ZA. BURM. Inga bijemina, *Willde.*

BUNGOMA, ? Emyda granosa.

BUNGRAH. HIND. Acorus calamus aromaticus.

BUNGREE. HIND. Glass bracelets.

BUNG-TA-LAI. CHIN.

Tung-ta-hai, . .	CHIN.	Yang-kwo, . . .	CHIN.
Ta-hai-tsz, . . .	,,	Boa-tam pai jam, .	,,
Pung-ta-rai, . .	,,		

A tree of Siam; its fruit makes good jelly.—*Smith*, p. 44.

BUNGUSH, a Pathan tribe who inhabit the enclosed plain of Meranzai, and also the Kuram valley within the Afghan limits. In the Kohat district, the principal tribe are the Bungush. They can muster 15,000 fighting men, and are fairly good soldiers. In 1851 they petitioned the British to include them in Kohat. This request was acceded to. They offered to guard the Kothul; and while arrangements were progressing, the Gullee Afridi suddenly attacked the Bungush people on the Kothul, and seized that post. Several Bungush chiefs were killed in the encounter, and Major Coke, who was present, was slightly wounded. Upon this check, the Bungush people obtained the alliance of two small though warlike tribes, named Buzoti and Sipah. These were independent, and dwelt in the hills near the pass.

BUNI. HIND. A muslin made at Dacca.

BUNIJ, the Thug designation of a victim.

BUNJ. ARAB. Hyosciamus sniger.

BUNJAR or Banjar. HIND. Waste land, land lying fallow; also indifferent soil.

BUNJIN. HIND. A weed which grows in the kharif crops; much sought after by fakirs who practise alchemy.—*Elliot.* Qu. ban jan, Wild Man.

BUNKITA BARRING, obtained from an undescribed plant in Borneo, produces a dark purple or black dye.

BUNNAS, a river which rises in a cluster of summits in the Aravalli range, lat. 24° 47′ N., long. 73° 28′ E., south-west into Runn of Cutch by several small channels. Length, 180 miles. About 17,000 square miles drained.

BUNNI. HIND. Payment in kind; hence Bunnihar, a ploughman paid in kind.

BUNNI, a timber of Jullundur; resembles the 'Ban,' except that it is smaller, and the wood is of a white colour, but it is applied to the same purposes as the 'Ban.'—*Comr. Jullr.*

BUNNU, a district in the Derajat division of the Panjab, situated S.W. of the Kala or Salt Range, with its centre in lat. 22° 40′ N., and long. 70° 30′ E. Its population, 288,000. The Bunnu valley is south of and is accessible by the Sūrduk and the Koonh-i-gao passes. The lands are chiefly rich and fertile, intersected by the Kuram, and irrigated by water-cuts. The only uncultivated portion is the 'thul,' or pasturage ground at the base of the hills. During the winter months the Waziri pasture their flocks and herds, and erect patriarchal huts of skins with wooden framework. In the summer months they retire to the cool mountain heights, taking their cattle and dwellings with them. The Bunnuchi are mixed races, who dwell in walled villages. They are undersized and sallow-skinned. They are quiet, orderly, and regular in revenue matters, but immoral, capable of reckless perjury and deliberate assassination. They cultivate with some industry. Iron is imported in quantities from the Waziri hills, and is worked up at Kalabagh into agricultural implements, caldrons, cooking utensils, grates and fire-irons, ladles, pegs, locks, horse-shoes and chains. The Waziri bring it down on bullocks and mules chiefly through the Kurum pass to the Bunnu fair, where it is bought up by carriers from Kalabagh. The spade in use in Bunnu, called in Pushtu 'erm,' is very peculiar. Tobacco is imported in large quantities from the Waziri hills. Much cattle is brought to the Bunnu fair from Dour and the Waziri hills; also numbers of goats and sheep. The Doomba is much prized, and is reared in the district as well as beyond the border.—*Records of the Govt. of India*, No. 11.

BUNNUR, an Afghan tribe adjoining the Peshawur district.

BUN-OTSURG. HIND. Also written Ban-otsarg, from Ban, a forest, Ootsarg, abandoning. A Hindu marriage ceremony performed in honour of a newly planted orchard, without which it is not proper to partake of its fruit. A man holding a Saligramma personates the bridegroom. Another, holding the sacred tulsi, personates the bride. After a homa or fire sacrifice, the officiating Brahman puts the usual questions to the couple. The bride then makes three circuits of a spot in the orchard, moving from the south to the west, followed by the bridegroom holding an end of the personating bride's garment. The bridegroom then takes precedence, and circumambulates similarly.—*Elliot.*

BUNSEN, KARL CHRISTIAN, born 1791, at Corbach in Waldeck. He was the son of a soldier; was long employed in Italy and England as ambassador; and was the author of Egypt's Place in Universal History; Description of Rome; Hippolytus and his Times; Signs of the Times; Church of the Future; God in History.—*Fraser's Magazine*, June 1868.

BUNT are the chief people in Canara.—*C.* 134.

BUNT. HIND. Smut balls, or pepper brand. The fungus which occasions this disease, Uredo caries, *Dec.*, U. fœtida, *Bauer*, has hitherto been met with only in the grains of wheat, when its presence is readily recognised by the peculiarly disgusting odour of the infected ear. When this disease prevails, it greatly deteriorates the value of the sample; and, from imparting its disgusting odour to the flour, makes it less fit for bread.—*Russell.*

BUNT. HIND. Unripe pulse of Cicer arietinum.

BUNTA-JAMUDU. TEL. The Euphorbia antiquorum.

BUNTAKI. HIND. Solanum melongena.

BUNTING. Several species of these birds occur in India. The grey-capped bunting is Emberiza caniceps. The black-throated bunting is E. cioides. The grey-capped bunting is E. Stewarti.

BUNTURIA, a class of wood-rangers in the northern parts of Gorakhpur. They are now cultivators.—*Ell.*

BUNUCH. BENG. Morinda exserta, *Roxb.*

BUNUGA-GASS. SINGH. Urostigma mysorense, *Mig.*

BUNUN. HIND. Fragaria vesca.

BUNYA-BUNYA, a tree, Araucaria Bidwelli, of Australia, with cones as large as a child's head. It grows from 100 to 150 feet high, with a remarkably stout trunk, which scarcely tapers for one-half of its height from the base. The unripe seed is greedily eaten raw by the natives at all times, and when ripe, roasted and pounded into cakes. Each tribe of aborigines has its own group of trees; and of these each family has a certain number allotted, which pass from generation to generation, and is the only hereditary property which any of the aborigines are known to possess.—*Mr. Bidwell; Dr. Bennett, Australasia.*

BUN-ZU. See Bom-zu.

BUPLEURUM MARGINATUM. *Wall.*

Kali Zewari, . . HIND. | Zira, Sipal, . . HIND.

This and allied species are abundant in many parts of the Panjab Himalaya from 2500 to 11,500 feet. In Kanawar the root is stated to be eaten raw, and the seeds to be exported as Zira.—*J. L. Stewart, M.D.* See Carum.

BUPLEURUM OCTORADIATUM. *Smith.*

Tsz-hu, ... CHIN. | Ts-ai-hu, ... CHIN.

This plant is said to grow in Yen-ngan-fu and in Shen-si, its root is employed in thoracic and abdominal inflammations.—*Smith*, p. 45.

BUPRESTIS, a genus of beetles with bright wing-covers, largely used in the arts. See Beetles; Coleoptera; Insects.

BUQ. PERS. A goat's horn. Buq-i-Hamam, the horn summoning to the bath.

BUQR-EED, or Eed oos Zoha, held on the 9th day of the twelfth month Baq-reed. On this occasion, Mahomedans of India proceed to the Eed-gah in great state, when the khootbah is read in the name of the ruling sovereign.

BUR, also Buri or Boratu. SIND. The pollen of the Typha elephantina, *Roxb.*, made up with water into cakes, and much eaten. It is inflammable like that of Lycopodium, and is used as a substitute for it in Sind.—*Royle*, p. 35.

BUR, a wandering tribe in the N.W. Provinces.

BUR. HIND. Tamarix orientalis, Oreosersis lanuginosa, Cymbopogon iwarancusa.

BURA, Buri, Burha, Budha. HIND. Old. Many towns, rivers, etc., are so designated.

BURA. HIND. Chopped straw.

BURA-AL. HIND. Morinda citrifolia.

BURA-BUHOOARI. BENG. Cordia latifolia.

BURABUR hills are isolated rocks of sienitic granite rising abruptly from the plain about 15 miles north of the city of Gaya, by the left bank of the Phulgo or Mahanadi. The highest is called Burabur, also Sidheswar, from a temple to Mahadeva that once crowned its heights. The next in height is the Kowa Dol, which is near a mile to the south-west. A third is called Nagarjuni, and is the easternmost of the great cluster. A fourth, and the smallest, called Durhawut, is at the northern extremity; others also have names, but the above alone contain objects of notice. The Kowa Dol is an almost entirely bare rock, having nearly a perpendicular scarp on its northern face, and sloping at an angle of 45° more or less on the opposite or southern side; east and west, it is disjointed and inaccessible; huge stratified masses are piled one over the other, decreasing in length at each end. The whole is surmounted by single blocks like pillars, the centre one of which towers above the rest, and is conical. It is said that formerly there was a huge block balanced on the top of this cone, which, from its being moved by birds alighting on it, obtained the name of Kowa Dol, or crow-moved, or the crow swing; about the eighteenth century, this rocking stone fell down to where it may still be seen. The caves of Burabur are seven in number,—four in one hill, three in another; but the name Satgarba, commonly understood to mean seven chambers, is applied to two only.

In the hollow or recess on the east side are the remains of a once splendid Buddhist temple, of which many pillars are still standing; also a gigantic figure of Buddha seated. The Sinhasun or throne is very handsome: there are the usual supporters, the Sinha or lions rampant, trampling on elephants couchant, and ridden by amazons armed with shields and swords. 60 or 80 figures are rudely cut in the huge detached masses of rock at the foot of the hill. There is one block hewn into the shape of a small temple, with niches and images on the four sides. First niche, from proper right, male figure erect with a spear; 2d, female figure, Pudmavati or Maya devi; 3d, Buddha seated; 4th, Mahadeva and Parvati, commonly called Gouri Sunkur, Parvati seated on Mahadeva's knee, with the bull Nandi at his feet, and the Sinha or lion at hers; 5th, male figure erect with four arms; 6th, male figure carried on the shoulders of another; 7th, the Lingam and Yoni; 8th, male half figure, Aruna? 9th, Mahadeva and Parvati repeated; 10th, male figure erect holding a lotus in each hand, probably Surya; 11th, Ganesha; 12th, female figure with four arms, attended by Nandi and Sinha; 13th, male figure standing on a prostrate figure. After these, nine niches have what appears to be Durga slaying Mahesh-Asur with her trident; she has one foot on the buffalo's neck, and holds it by the hind leg. This subject is repeated on many detached rocks. The Linga is of as frequent occurrence. There is one very large four-faced Linga, called the Choumūrti Mahadeva, such as may be seen in the caves of Ellora; it is of common occurrence in this district. The inscriptions are in Pali, in the old Pali character.—*Capt. Kittoe, Beng. As. Soc. Jo.*, clxxviii., 1847.

BURA-CHOOLI. HIND. Villarsia Indica.

BURAD. HIND. Filings, raspings, chips.

BURAGA. TEL. The gum and wood obtained from Bombax Malabaricum.

BURA-JANWAR. HIND. The hog; literally, bad beast.

BURAK and Sarmu rivers run in valleys of the Assam chain. The Naga, Mikir, Cachari, Garo, and Kassya are the five races in whose possession chiefly are the broad highlands of that chain, extending from the N.E. near the head of the Kynduayn and Namrup, on one side along the valley of the Brahmaputra to its southern bend round the western extremity of the chain, and on the other side south-westerly along the valley of the Burak and Surmu.

BURAQ, steed on which Mahomed rode to the seven heavens. The angel Gabriel seated him on it.

BURAT. HIND. Assignment. ARAB., the night of record, a Mahomedan ritual.

BURATY or Pulati, a Mongol nomade tribe near the Baikal lake.

BURAYA. HIND. Rucervus duvaucelli.

BURBUTI. BENG. Dolichos Sinensis.

BURCKHARDT, JOHAN LUDWIG, a native of Denmark, who travelled in Egypt and Arabia, author of Notes on the Bedouins, 1831, and Wahabis; also of Travels in Arabia, 1829, and Travels in Syria, 1822. He visited Mecca A.D. 1814, under the name Shaikh Ibrahim. He is buried near Cairo, in the large cemetery outside the Bab-un-Nasr.—*Playfair; Burton's Pilgrimage to Mecca*, i. p. 168.

BURDA is one of the five northern districts of Kattyawar. Burda hills end in the south in the Alich range and in the Oshum.

BURDEH. ARAB. A thick striped woollen stuff, in use by the Arabs as a cloak or blanket. Akhda-burdeh is a grey or brown, and Ahmar-burdeh a red one. That of Mahomed was 7½ feet long and 4½ feet broad.

BUR DEWALI, a lofty tower in Jaganath, about 180 feet in height and about 28 feet square inside, in which the idol and his brother and sister Subahdra are lodged. See Jaganath.

BURDI, a wild Baluch tribe on the western banks of the Indus, near Shikarpur.

BURDU GUMADU. TEL. Cucurbita hispida.

BURDUR. —? a tree of Cuttack, an excellent wood for carriage poles, shafts, and wheels, and in all coachbuilders' work; sp. gr. 1·00.—*Cal. Cat. Ex.* 1862.

BURENDA, also written Borenda, properly Bruang, a pass in the Himalaya, in lat. 31° 23′ N., long. 79° 12′ E.; the length of the crest is 50 paces, and the crest is 15,171 feet above the level of the sea. The most elevated part is a narrow glen, very steep. The pass leads from Kunawar through the outer Himalaya, and is the easiest and most frequented in the neighbourhood. It is open for seven or eight months; during the rainy season almost all the snow dissolves.

BURGEE, a Hindu race in Woon.

BURGH. HIND. Phytolacca decandra.

BURGHER, in Ceylon, is applicable only to white persons of pure Dutch descent, of whom there are now but very few in Ceylon; but the name has, by courtesy, been given to all those who in India are styled Indo-Britons, Eurasians, East Indians, Anglo-Indians, or more commonly 'half castes,' namely, the descendants of Europeans by native women. In the Moluccas, also, the term is applied to the Christian descendants of the Dutch. The Amboyna burghers, who usually crowd the jetty spending their time in angling for small fish, will refuse to carry even a light burden; but this kind of manual labour is the peculiar province of slaves, and the Vrij Burghers, poor enough as they usually are, but priding themselves in professing the same religion with the Europeans, will not lower themselves by performing a description of labour which even Chinese and free Mahomedans would disdain.

BURGHER, a name given by Europeans to the Badaga or Marves race on the Neilgherry Hills.

BURGUNDY PITCH is a product probably of the Abies excelsa; it is of light yellow colour, often adulterated with dammer or ganda baroza.

BURHA or Budha. HIND. Lit. an old man; in the Kamaon Himalaya, the superintendent or headman of a village, or of a set of villages. The term is equivalent to Kumin, Syana, and Thokdar, and is chiefly used in the eastern parganas of Kamaon. The tenure connected with it is called Burha Chari and Kumin Chari.

BURHA GANGA, an old bed of the Ganges, traceable below Hastinapur, and Soron and Kampil.

BURHAL. HIND. A light yellowish-coloured wood, not strong; plentiful in the Santal jungles. Used for doors, venetians, furniture, etc., by the natives.—*Cal. Engineer's Journal*, 1860.

BURHANPUR, town in lat. 21° 18′ N., and long. 76° 16′ 26″ E., is on the N. bank of the river Tapti, and distant 41 miles S. by W. from Khandwa, the headquarters of Nimar. Population in 1877 was 29,303. It was founded about A.D. 1400 by Nasir Khan, the first independent prince of the Faruki dynasty of Kandesh, and called by him after the famous Shaikh, Burhan-ud-Din of Dowlatabad. It was held by eleven princes of this dynasty for two hundred years, till A.D. 1600, when the kingdom of the Faruki was annexed by the emperor Akbar. In 1614, Sir Thomas Roe, ambassador from James I. of England to the Great Moghul, describes his visit here to Prince Parviz, son of Jahangir. Tavernier passed through Burhanpur (or, as he wrote it, Brampour) in 1641, and again in 1658. It was plundered in A.D. 1685, by the Marhattas. It was taken by General Wellesley on the 13th October 1803.

BURHAPATRA, a pargana in the Gonda district in Oudh, area 77¾ square miles or 49,688 acres, and population in 1865 was 20,451. The Ahir and Chamar are the most numerous castes. The aboriginal Bhar here are following a kind of Kumari cultivation, wandering from jungle to jungle.

BURHA PENN, a deity of the Kandh race.

BURHEL, Ovis nahura. See Bovidæ.

BURHOLIA, HIND., a branch of the Bhrigubansi Rajputs settled at Burhoul, near Benares.—*Ell.*

BURI or Buli, a Philippine palm; probably Corypha gebanga, the gabang of the Malays and Javanese. The Philippine islanders from the leaves make mats, from the sap both sugar and a distilled spirit, from the pith a sago, from the seeds rosaries, and the spines, boiled in water, yield a thread from which a coarse cloth is woven, called sagoron.—*Crawfurd, Dic.* p. 77.

BURI. HIND. Vitis Indica; Symplocos spicata.

BURIAL CUSTOMS. In the south and east of Asia, the modes of disposing of their dead are almost as varied as are the races themselves. It has been remarked that the mode of disposing of the dead has from the earliest times been symbolomatic of the opinions as to the worth of the deceased while he was amongst them, or indicative of their views as to the future condition of the departed. In general there has been little display over the remains of women; but whether with men or women, the prevailing habit has been to convey the remains to some quiet resting-place with a decorous solemnity, and there erect some lasting memorial over them. With some races, however, even to the present day, the departure of a friend or relative is regarded joyfully, and the procession to the place of final disposal is mirthful; while other races even cast out their dead, and allow the remains to be treated with indignity. But the anxiety of the generality of nations has been to perpetuate the memory of the departed; and everywhere are to be seen sepulchral monuments raised with that object. Many of these exist from prehistoric times, and often form the sole remaining history of the races who erected them. At the present day, monuments erected

with brick or stone, and in the form of pillars or upright or horizontal slabs of stone, or cupolas, or domes, or sarcophagi, beneath which the remains are laid, are usual modes of marking the deceased's resting-place. But in more primitive times, the cairn or heap of stones, the monolith, the cromlech, the circle, the heaped-up barrow of the Celtic tribes, the tumulus, as the Romans called it, were usually resorted to, and many of these are to be seen in the south and east of Asia.

The *cairn* was formed of stones gathered from the vicinity, and set round about the resting-place of the dead and piled over them; and this is all that is given to the Mahomedan pilgrim who falls in the desert. The *monolith* or single stone was usually placed perpendicularly near the spot. The *cromlech*, consisting of two, three, or more upright stones, with a flat stone placed over them, formed a sepulchral chamber, and was the earliest approach to the cupola or dome. The *circle*, or enclosure of upright stones set singly at varying spaces apart, are found surrounding the cromlech or cairn. The *barrow*, or tumulus, often raised to a considerable height, and covering a large area, is the most noble, and has been the most enduring; and with these the bodies of the departed were not interred in graves sunk below the surface, but were placed on the surface of the ground, and then the earth was heaped up. The barrows, many of which have been opened, are found sometimes to contain skeletons, in other cases urns only, while occasionally both urns and skeletons, or urns and ashes, appear together. The urns are often found to contain burnt bones and relics; but in the earliest barrows are war weapons, such as stone hatchets and hammers, celts of the same material, both arrow-heads and spear-heads of flint, with beads of various substances, and torques or collars and armlets of gold or bronze. Somewhat later, the celts and weapons are of bronze, and the sword is found to have been broken, indicative that the warrior's race had been run. The ornaments remain the same, and coins are found.

The methods adopted for the disposal of the dead from the most ancient times have been interment, burning, embalming, launching into rivers, and exposure. Of all these the first seems to have been the most general and primitive. Cremation is undoubtedly very ancient, for king Saul was burnt, and his bones afterwards buried; and Asa was burnt in the bed which he made for himself, filled with sweet odours and various kinds of spices. In Egypt the practice of embalming obtained from their earliest history, but the practice was confined to that country, and arose from its people holding it unlawful to expose the remains to fire or animals, or to permit them to become a prey to worms. The vast catacombs still remaining on the banks of the Nile were the common receptacle for the general population who could not afford a separate tomb.

Over the ruins at Nimrud, Mr. Layard discovered ancient tombs, of a race unknown, and of which he could not assign any date. Many of the vases, necklaces, and ornaments obtained there have a resemblance to those of the Egyptian tombs. Two or three purely Assyrian cylinders were also discovered in the tombs. Mr. Layard considers that the mode of burial which is there evidenced, more nearly resembles that adopted by the early Persians. Cyrus and Darius were buried in sarcophagi in troughs. The Egyptian alabaster πιελος, or tub, in which Darius was buried, is mentioned by Theophrastus. The Assyrians, like the early Persians, may have buried their dead entire, and preserved the bodies in honey or wax (Herod. lib. i. c. 140, Arian de Bello, Alex. Theoph. de Lapid. c. xv.). According to Ælian, when Xerxes opened the tomb of Belus, he found the body in a coffin filled nearly to the brim with oil. Mr. Layard infers that these tombs belonged to an intermediate people or race who occupied Assyria after the building of the most ancient palaces, and before the foundation of the most recent.

In British India, and in all the south and east of Asia, interment, cremation, and exposure are all practised by one or other of the races occupying it. Java, in the Archipelago, seems to have been peopled from the continent of Asia, and its people have three modes of disposing of the body of a deceased person. By fire, termed obong; by water, termed larung; or by exposing it upright against a tree in a forest, where it is left to decay, termed setra. When the body of a chief or person of consequence is burnt, it is usual to preserve the ashes, and to deposit them in a chandi or tomb.

The Ninevites, in all their various monuments, have left us no trace of their ideas concerning the dead, while the sepulchral urns obtained in Babylonia contain the remains of the dead, with jars and utensils for food and water made of baked clay, and with remains of date stones, the head of the dead reverently laid on a sun-dried brick as a pillow. Amongst the urns found on the plain of Bushire each had a pointed end, and at its mouth a bowl or basin without bottom; not united to the main part by means of agglutination, but very closely fitted, and supported in its place by the general bed of earth. These urns lay horizontally, not parallel with each other, but on a straight line, and in the direction of east and west. In one urn was a quantity of sand, with the bones of a full-grown person, completely filled, and very heavy. The skull was placed about the middle or widest part, not in the basin, which contained only sand. Of this urn the greatest circumference was 2 feet 9 inches, its length 3 feet 4 inches, including the bowl or basin, which separately was near 8 inches. The urns, made of clay, are about 1-3d of an inch thick, and solid at the pointed end, but the bowls without bottoms. The insides had evidently been coated with some bituminous substance; but the urns nowhere exhibited inscriptions nor any other mark by which their degrees of antiquity might be ascertained.

The ancient coffins of the Chaldæans were of clay, some of them shaped like a dish cover, the head being placed on a pillow of sun-dried brick, and jars and utensils for food and water. There were also jar coffins, and they seem to have been interred in artificial mounds.

Their ancient tombs, rare in Assyria and Upper Babylonia, are chiefly in Chaldæa proper; and the Rev. G. Rawlinson (i. 107) suggests that the dead may have been conveyed to the sacred land of Chaldæa, similarly as the Persians even now send their dead to Karbila and Meshid Ali, and as the Hindus from remote India send the bones, or the entire bodies, to the Ganges at

Benares. There, Chagda or Chackrada, near Sooksagur, is an abyss said to have been made by the chariot wheel of Bhagirath. The place is a great Golgotha, where the dead and dying are brought from a great way off to be burnt and consigned to the Ganges. The deceased is seldom conveyed by any of his relations, unless from a short distance. Poor people generally send forward their dead for incremation in charge of bearers, who never betray the trust reposed in them.

The Romans generally burned, but they sometimes buried their dead; and children who died in infancy were interred in the immediate neighbourhood of their former homes. Their sepulchral urns, with the ashes of the dead, were commonly buried about two feet below the surface, and their memorial stones were often inscribed. They used the sarcophagus, or massive stone-coffin, and also the tumulus or barrow. They bore their dead with much lamentation to the funeral pile, on which, after being lighted, they cast the robes and arms of the deceased, as well as the slaughtered bodies of his favourite animals.

The ancient Greeks, in laying out their dead, always placed an obulus or Greek coin in the mouth, to pay Charon's fare across the rivers Styx and Acheron, and a cake made of flour and honey to appease Cerberus. Amongst them men cut off their hair when they attained the age of puberty, and dedicated it to some deity. Theseus is said to have repaired to Delphi to perform this ceremony, and to have consecrated his shorn locks to Apollo. After this it was again allowed to grow long, and only cut off as a sign of mourning. Thus at the funeral of Patroclus (Iliad, xxiii.) the friends of Achilles cut off their hair, and

'On the corse their scattered locks they throw.'

In some parts of Greece, however, it was customary to wear the hair short, and to allow it (Cassandr. 973) to grow long when in mourning.

'Neglected hair shall now luxurious grow,
And by its length their bitter passion show.'

In Luristan, the female relatives, on the death of their male relatives, cut off their hair, and hang the locks around the tomb. The young women and young men of the island of Delos cut off a lock of hair before marriage, and place it near the tomb of the virgins from the Hyperboreans.

Barrows or mounds of earth have been largely used by the nations of Central Asia, from the Mediterranean to the Pacific Ocean, both in ancient times and now. The king of Ai, slain by Joshua (Josh. vii. 26, viii. 29), was placed at the entrance of the city, and over his body was raised a great heap of stones. Herodotus mentions that the barrow of Alyattes, king of Lydia, was 1300 feet broad, and nearly a mile in circumference, and it has been identified by modern travellers. Barrows were the favourite memorial of the Teutonic race, some of them very large; but the Saxons used also cists or stone coffins. The custom of raising tumuli over the remains of the mighty dead, seems to have been prevalent in the Central Asiatic region from the most ancient times and been taken into Scandinavia. Ezekiel, xxxii. 27, describes the practice of slaying persons and interring them with their dead chief. Herodotus also describes the barrow burial of the Scythians; and to the present day, in the region of the Kar Karella, and in many other parts of the steppe occupied by the Kirghiz, are to be seen numerous tumuli of great size. Herodotus tells us that when a king died, his corpse, embalmed and covered with wax, was conveyed in a chariot in solemn state to the place of sepulture; a large quadrangular pit was dug; in this they placed the royal corpse on a mattress of straw; on each side of this they planted spears, and covered it with wood, and roofed it over with hurdles of willow. In the remaining part of the pit they interred one of the late king's women, strangled for the purpose, together with his cupbearer, his cook, his groom, his minister, his courier, his horses, as well as some articles of every kind, including several goblets of gold, that he might be supposed to need in his journey to the other world. This done, the people eagerly contended with each other in the work of heaping over the whole a mound of earth as vast as possible. The proceedings did not here terminate; for the year following, fifty of the late king's confidential attendants, and fifty of his horses, were slain, and placed, the men on the horses, around his sepulchre.—*Melp.* 71, 72. When Chengiz Khan died, his remains were covered with a lofty mound, and extensive forests were planted to exclude the footsteps of man. Colonel Tod tells us that the tumulus, the cairn, or the pillar, are still raised over the Rajput who falls in battle; and throughout Rajwara sacrificial monuments are found, on which are seen, carved in relief, the warrior on his steed, armed at all points; his faithful wife (sati) beside him, denoting a sacrifice; and the sun and moon on either side, emblematic of never-dying fame.—*Tod's Rajasthan*, i. p. 74. In Saurashtra, also amidst the Cathi, Comani, Balla, and others of Scythic descent, numbers of palia or joojar (sacrificial pillars) are conspicuous under the walls of every town, in lines, irregular groups, and circles. On each is displayed in rude relief the warrior, with the manner of his death, lance in hand, generally on horseback, though sometimes in his car; and on the coast the pirates of Budha are depicted boarding from the shrouds.

In the Panjab, near Bamian, in Afghanistan, and near Kābul, the sepulchral monuments remaining of ancient times are topes. They consist of a mound, on which is erected a cupola, supported by walls of masonry, more or less in a Grecian style of architecture. One near Manikyala is 80 feet high and 320 feet in circumference. In its centre were found vessels of gold, silver, and copper, with coins of Rome and the Bactrian Greeks. In a chamber 60 feet deep was a copper box containing animal remains. It is one of many topes or stupas.

Many cairns are found in different parts of Southern India, and, prior to the stupas or topes, this seems to have been a common mode of covering the dead. Indeed, as Colonel Cunningham remarks, the tope is only a cairn regularly built. On the Neilgherry hills are found remains of cairns, cromlechs, kistvaens, and circles of upright loose stones, which are nearly identical with those found in Europe in the ancient seats of the Celts. In these cairns are found vases, cinerary urns, and other vessels of glazed pottery, which sometimes contain human bones, more or less charred, and mixed with ashes; sometimes a little

animal charcoal alone. They are met with in various districts in the Presidency of Bombay, in almost every part of the Dekhan and peninsular India, from Nagpur to Madura, in immense numbers on the Animally hills, a range on the south side of the great Coimbatore gap, which forms the commencement and northern face of the Southern Ghats, those on the Animally being of a more advanced order and a better condition than the Neilgherry tombs. Similar remains are found in Circassia and Russia, and circles of stones surrounding ancient graves are found on the south Arabian coast and in the Somali country in Africa. Major Congreve directed much attention to those on the Neilgherry Hills; and Captain Meadows Taylor discovered and examined a large number of these remains at Rajan Kooloor, in Sorapur, and also at Siwarji, near Firozabad, on the Bhima, and devoted much attention to the comparison of them with similar remains found in England. He calls them Scytho-Celtic or Scytho-Druidical. Neither the hill people, the Toda and Kurubar, nor any Hindu, knows anything about the race to which these sepulchral remains belonged; and neither in Sanskrit literature nor in that of the Dravidian languages is there any tradition on the subject. The Tamil people generally call these cairns Pandu-kuri. Kuri means a pit or grave, and Pandu may refer to the Pandu or Pandava brothers, to whom so much of Hindu mythology relates. The race who raised these cairns were probably dwellers in the country prior to the advent of the present Dravidian occupants, and were expelled by or ultimately became absorbed in the latter; or they may have been a nomade shepherd race, who had wandered into India after it was peopled and settled, and then wandered out again, or became absorbed amongst the people of the country. But the remarkable fact connected with the people whose religious rites and usages of sepulture gave rise to these cairns, is that they have everywhere disappeared from Southern India, and not even a tradition of their existence survives.

In the centre of peninsular India, around Hyderabad, in the Dekhan, and at Bolarum, and at Secunderabad, there are many burial-places of that race, of whose existence nothing is known; and about 20 miles S.E. of Secunderabad is one great resting-place of the dead, a vast burial-ground extending over miles, which must have been the place of interment of a huge number of people, or used through many centuries. The mode of interment in all these has been to select a large stone, beneath which a winding tunnel or way had been excavated; and the remains of bones and urns, with weapons, are found deposited in a central cavity, a circle of large loose stones being drawn around, the circumference of some of these circles being between one and two hundred yards. The people whose tombs are thus represented were undoubtedly nomades dwelling in tents, for not far off are the remains of a great nomade city, consisting solely of walls, within which the tents must have been erected, for no stone nor earth heap nor mound remains within the same enclosure to indicate the former existence within of any building. The remains found within these cairns also leave the impression that, as with the barrow burials, the wives and servants were slain and interred along with the chief person; and the Hindu and Rajput practice of suttee (sati) would therefore seem to be merely a continuation of the ancient Scythic sepulchral rite of immolating the favourite wife, the servant, and the horse to accompany their master and serve him in the next world.

The Christian treatment of the dead is various; and in Europe, to this day, the indifference, not to say levity, of the Italians, in all relating to their dead, contrasts strangely with the tenderness and sentiment of the Germans, both Romanist and Protestant, as displayed in their cemeteries. In Naples, where are two cemeteries, with a pit for each day of the year, the humbler dead are stripped, and after a priest has read prayers over the bodies, they are all thrown into a hole by the cemetery assistants, amidst oaths and jocularity and laughter. The richer dead are stripped, placed in dry sand to be shrivelled up, and when dry they are dressed in their usual clothes, ticketed, and placed in a glass case. The German race, on the other hand, reverently dispose of their dead, and preserve in neatness the grounds and tombs of their cemetery, which they call Gott's Aker, God's field, but after a few years the ground is re-ploughed to be refilled.

In Ceylon, formerly, after burning the bodies of the deceased kings of Kandy, their ashes were carried by a man in a black mask to the Mahawelli Ganga, where he embarked in a canoe. At the deepest part of the river he clove the vase with a sword, scattered the ashes on the stream, and, plunging headlong after them, dived, arose near the opposite bank, whence he fled to the forest, and was presumed to be never more seen. The canoe was allowed to drift away, the horse and elephants that accompanied the procession were set at liberty in the woods, and the women who had strewed rice over the remains were transported across the river and forbidden to return.

Several of the Hindu customs resemble practices mentioned in the Old Testament, as in Jeremiah xvi. 6: 'Neither shall men lament for them, nor cut themselves.' For the Hindus, on the death of a relation, express their grief by loud lamentations, and not unfrequently, in an agony of grief, bruise themselves with whatever they can lay hold of. Ezekiel xliv. 25: 'They shall come at no dead person to defile themselves;' and touching the dead defiles a Hindu, who must bathe to become clean again. Job xxvii. 19: 'The rich man shall lie down, but shall not be gathered,' *i.e.*, his soul shall be left in a wandering state; and Hindus believe that persons for whom funeral rites have not been performed, wander as ghosts and find no rest. Jeremiah xxxiv. 5: 'So shall they burn odours for thee.' Scented wood and other odoriferous substances are placed upon the funeral pile of a rich Hindu, and burnt with the body. Matthew ii. 18: 'Rachel weeping for her children, and would not be comforted, because they are not.' The lamentations of a Hindu mother for her child are very loud and piercing; it is, indeed, almost impossible to conceive of a scene more truly heartrending than that of a whole town of such mothers wailing over their massacred children. 'In Rama was there a voice heard, lamentation, and weeping, and great mourning.'

Rajendra Lal Mitra, writing on the funeral ceremonies of the ancient Hindus, says the first ceremony was the removal of the dead from the

house to the burning ground, and this was done on a cart, drawn by two bullocks, or by aged slaves. The procession was headed by the eldest of the party, and included an old black cow. The animal was sacrificed at the burning ground, and its fat, flesh, and organs were placed on the corpse, which was subsequently enveloped in the raw hide of the animal. The wife of the dead was made to lie by the corpse, and was thence removed by a younger brother, a fellow-disciple, or a servant of the dead, who offered to marry her. The ceremony of burying the bones was performed on the 3d, 5th, or 7th day; and on the 10th day the mourners assembled together, and, after certain oblations, offerings, and prayers, raised a circle of stones, and then retired to the house of the chief mourner to feast on kid's flesh and barley.

As a rule now, the dead of Vaishnava Hindus are burned. As death draws near, a lamp is lit at the bed-head, and a 'homa' sacrifice performed with camphor and cocoanut; and as life dies out, the five elements of the cow are dropped into the mouth of the moribund from a tulsi leaf. Within two or three hours the body is lifted, and this is done early, as none of the household nor any of the neighbours can partake of food until the remains be disposed of. The pile of wood or cow-dung cakes used is about two feet high, and on it are placed some tulsi leaves, a little sandal-wood, and the deceased is laid with his feet to the north. When laid on the pile, a cloth is placed over the face, and raw rice is placed on it over the mouth. The heir of the deceased places a charred bit of sandal-wood or a tulsi branch at each corner of the pile, and a Vityan sets fire to the mat, using fire taken from the sacred fire lit at the bedside of the dying man. On the following day the heir and friends visit the pile, remove the skull and the bones, on which he and all with him pour water and wash them,—wash them with the sikai, anoint them with oil and honey, and clean them with milk, and place them all on plantain leaves anointed with butter. A young cocoanut shoot is then placed on the skull, and the whole put into an unburned earthen pot, and taken or sent to a river or to the sea; the person who conveyed it returning to the temple, where he pronounces aloud the deceased's name, and adds, 'Pray for him.' Often they are sent to a holy river, even to the Ganges at Benares. The men relatives shave. The hair of the Brahman widow's head is shaved. The body is not always carried through the doorway of the house. If it be an inauspicious day, or if the house door be so placed that the courtyard has to be crossed, then the remains are carried through an opening broken in the wall. Captain Butler, writing of the Hindus of Assam (Travels, p. 228), says if a man die inside a house, no Hindu can eat in it afterwards, or reside in it, as it has become impure; it is generally pulled down and burned, and a new house erected on the same spot. All Assamese, when dying, are therefore invariably brought out to die in the open air on the bare ground, that the building may be preserved, and also to ensure the happier liberation of the spirit from the body. The remains of Hindus are unclothed for the last rites.

Children under eight years of age and unmarried girls are buried, as also are all who die of smallpox, as the belief is that this ailment is a manifestation of the presence of the goddess Ammun, Mariatha, Mariamma, or Kali, and the anger of the goddess would revert on the family if burned. The dead from cholera are similarly buried.

In the mode of disposing of the dead, the wish expressed by the deceased is attended to. Vedantists all bury; also all the Gosai, all the Lingaet or Vira Saiva, the five artisan castes, the Kansala, goldsmith, carpenter, ironsmith, brazier, and stone-cutter, all the Byragi and Sanyasi, and the gurus of the sects, the Pandarums, the Kashai, likewise all the non-Aryan races and tribes not admitted into Hinduism. The dead of the Vedantist sect, and those of the Lingaet and artisans, are placed seated, the last in a grave five feet square, with a ledge on the south.

As the artisan's life becomes extinct, the body is made to assume the attitude to be preserved in the procession and in the grave. It is placed against a wall, the legs are crossed underneath in the usual sitting attitude, and the head is fastened to a nail driven into the wall, and so retained till rigidity ensue. They are borne to the grave in a car, on the shoulders of relatives or friends. On reaching the burial-place, the Oodwan reads prayers, and the body is seated on the side ledge with its face looking northwards; salt and ashes of cow-dung are placed on the head.

Amongst the Aryan Hindu, the great bulk believe in spirits and worship them; their worship of ancestors, 'pitri,' is continuous; they also believe in demons and evil spirits; transmigration through clean and unclean animals is a point of faith, and a great majority regard the soul as an emanation from the Deity, and look to re-absorption and annihilation as the point of attainment for the good. Many of these are Buddhist views.

Hindus of Sind are not allowed to die in bed, otherwise one of the males of the family who has attended upon the deceased becomes in a state of impurity, and must visit some well-known place of pilgrimage, as the Dhara Tirth, the Narayan-Sar in Kutch, etc. When near death, the sick person is placed on a spot smeared with cow-dung (Chanko, Lepan, or Poto), and when in the last agony, the five sacred elements are poured into the dying person's mouth.

The Mahomedan, when about to die, has his spirit calmed by the 'Yasin' chapter of the Koran being read to him, and is either washed (Ghassal) at his own house, or taken, within a few hours, to a Ghassalkhana, specially built for the purpose, near the cemetery, and where men or women washers perform the duty, and then put on burial clothes and apply camphor and antimony. The body is conveyed in a box with much solemnity, with wreaths of flowers and perfumes laid over the covering; the coffin is carried on men's shoulders, and from time to time is heard the Ty-eb part of the Mahomedan creed: 'There is no deity but God, and Mahomed is the prophet of God;' and on reaching the grave, funeral service is read, consisting of the four portions of their creed (takbir), and a blessing (dua) is asked, which all present repeat. After the Fatiha, the body is lifted from the coffin and gently lowered into the grave, laid with the head to the north and feet to the south, and turned on its side with the face towards Mecca. Each person then takes a little earth, and, repeating the words in chap. 112 of the Koran, 'We created you of earth and

we return you to earth, and we shall raise you out of the earth on the day of resurrection,' he puts the earth gently into the grave. The body is then protected with wood and covered in. The Fatiha is again repeated, and again at the door of the cemetery, and at this juncture two angels, Moonkir and Nikir, approach the dead, make him sit up, and inquire who his God and prophet are, and what his religion is. If he has been a good man, his answers are satisfactory, and odours from paradise are diffused around the departed; but if bad, he is bewildered, and these angels torture him. They believe that the dead continue in a conscious state, and dogs and horses or other polluting animals are not allowed within the cemetery; women, also, do not enter, lest the repose of the dead be disturbed. Mahomedans do not speak of a person as dead,—they say he has passed away, has taken his departure; and the living all believe in, and hope for, resurrection in a future state: 'They who believe and do that which is right, shall enjoy blessedness, and partake of a happy resurrection. . . . Paradise . . . . is watered by rivers; its food is perpetual, and its shade also; this shall be the reward of those who fear God' (Koran, ch. xiii.). 'Therein are rivers of uncorruptible water; the rivers of milk, the taste whereof changeth not; and rivers of wine pleasant unto those who drink; and rivers of clarified honey; and therein shall they have plenty of all kinds of fruits; and pardon from their Lord' (ch. xlvii.). 'There shall be gardens with shady trees; with fountains flowing, couches of silk interwoven with gold; beauteous damsels with black eyes lying on green cushions, and beautiful carpets, fruits, palm trees and pomegranates' (ch. lv.).

The monuments over Mahomedan tombs have usually been of earth, or of unbaked brick; but every material, and of the most enduring kind, is employed, and the names are sometimes engraved on the tombstones. The tombstone of a man is distinguished by a raised part in the centre, and that of a woman by a depression. In Turkey, a pillar with the carved figure of a turban distinguishes the grave of a man. The prevalent form in India of Mahomedan tombstones of the rich is a dark or black tombstone, with verses of the Koran engraved on it, and covered by a cupola. Some of these domes are very magnificent. Those of the Adal Shahi dynasty at Bijapur and Gogi have attracted much attention, as also have those of the Bahmani dynasty at Kulburga and Kutub Shahi dynasty at Golconda. The cupolas at Roza where Aurangzeb is buried have not any display, and that of Aurangzeb is the least ostentatious. His daughter's tomb at Aurangabad is large, and many of the tombs at Dehli and Agra are great structures. That of Mumtaz Begum, known as the Taj Mahal, is particularly remarkable. Reformers amongst the Mahomedans consider that unbaked brick or earth should alone be used.

The Christian doctrine that man, in all that he can do of good, is still without merit, is not shared in by any of the Mahomedan, Buddhist, or Hindu sects, who all consider that a personal merit is gained by their good doing; and a Mahomedan passing a funeral of a Mahomedan, turns with it a short way, and lends his shoulder to convey the body to the grave, to bring a merit on himself.

The Parsee or Zoroastrian race are to be found scattered from Hong-Kong in the east to Great Britain in the west, a small but intellectual remnant of the once great Median nation. A considerable body of them dwell in Bombay, in Gujerat, and the western towns of India. Their sick are never allowed to expire on a bed. When the moment of passing away is near, the sick person is removed to the ground, and bathed and washed. The reasons alleged for this removal are various; but the one ordinarily accepted amongst them is that a dead body is an unclean thing, necessitating that all who touch it shall destroy their clothes, and whatever is touched by it must be destroyed. For these reasons, the dead, in Bombay, are carried by a class of Parsees called 'Nessus salar,'—Nessus meaning unclean (Najis, PERS.). These men, clothed in white, carry the remains to the Dokhma, or tower of silence, and lay the body on its raised upper floor. The Dokhma is without any roof covering; is open to the sky, so that birds of prey, vultures, kites, have the freest approach. The raised floor has a deep well, surrounded by a raised platform, with channels converging to a well. The corpse is laid on a partition of the platform, and the decomposing matters flow along the channels into the well. When the well is full, the bones are removed and buried outside the Dokhma. The fire-priests are paid to pray for the dead, monthly, for a year, and thereafter on every anniversary of the demise. After the demise, and before the removal of the body, a dog is brought near to gaze on the departed. This is the 'Sag-did' or dog-gaze, and, by one account, is said to be had recourse to with the object of ascertaining, from the dog's movements, the state of the soul of the departed; by another account, it is practised from the belief that the dog is a naturally chaste animal, and the view of the chaste dog falling on the dead will expedite the translation of the soul to heaven across the Chigvan bridge. See Bridge.

The *non-Aryan* and non-Hindu races of British India are estimated at about 20 million souls, but, except the great Gond nation, and the Kol, the Bhil, and the southern Shanars, most of them are in small tribes, and many are occupying forests and mountain fastnesses, or are dwelling on the outskirts of towns. They in general bury their dead.

The *Sowrah* of the hill ranges of the Circars, mostly those hills near Chicacole, near Kalahanda, and southwards as far as Bradachellum, bury their dead with their weapons.

The *Chenchwar* race, farther south, in the forests of the Nalla-Mallai, bury their dead and sometimes burn, and, like the Tartar races, they carry the deceased's weapons to the grave.

The *Kuki* race of Assam, up to the middle of the 19th century, continued to make inroads on the plains, not for plunder, but to secure heads, and they have been known to carry off fifty heads in a night. On the death of a chief, the body is smoke-dried, and kept for two months with the family. If a raja fall in battle, they immediately proceed on a head-hunting expedition, and bring in the heads of those they kill, hold feastings and dancings, and, after cutting the heads into pieces, send a portion to each village. This is considered in the light of a sacrifice to the manes of the deceased.

The *Khassya* hill race, 4000 to 6000 feet above

the level of the sea, inter their dead on the undulatory eminences of the country. These are dotted with groups of huge unpolished squared pillars and tabular slabs, supported on three or four rude piers. Menhir are there; one of them seen was 30 feet out of the ground, 6 feet broad, and 2½ feet thick, and in front of each is a dolmen or cromlech of proportionately gigantic pieces of rock.

In *Tibet* there are four modes of disposing of the dead, viz. incremation, throwing into the rivers and lakes, exposure on the summits of mountains, and cutting the dead bodies and giving them to the dogs to eat, which is the most flattering of all. The dogs of the environs devour the poor, but for the rich there are establishments with dogs for this purpose.—*R. A. S. J.*, vi., 1872–3.

In Tibet, the sovereign Lamas are deposited entire in shrines prepared for their remains, which are ever afterwards regarded as sacred, and visited with religious awe. The bodies of the inferior Lamas are usually burnt, and their ashes preserved in little metallic idols, to which places are assigned in their sacred cabinets. Ordinary persons are treated with less ceremony. Some are carried to lofty eminences, where they are left to be devoured by ravens, kites, and other carnivorous animals. But they also have places surrounded by walls where the dead are placed.

Mongols sometimes bury their dead; often they leave them exposed in their coffins, or cover them with stones, paying regard to the sign under which the deceased was born, his age, the day and hour of his death, which determine the mode in which he is to be interred. For this purpose they consult some books, which are explained to them by the Lamas. Sometimes they burn the corpse, or leave it exposed to the birds and wild beasts. Children who die suddenly are left by their parents on the road.—*Timkowski's Pekin*, ii. p. 312.

In *Spiti*, in the N.W. Himalaya, when a person dies, the body is sometimes buried, or burnt, or thrown into the river, or cut into small pieces and burnt. Admonitions are made over the body to the departed spirit, such as, 'Do not trouble yourself, you cannot enter it (meaning the dead body); in summer it quickly becomes corrupt, in winter it freezes and is too cold for you.'

Amongst the Buddhist Burmese, whose religion teaches them to look on death as a release from the cares and troubles of the world, as a possible cessation of transmigrations and the longed-for arrival of annihilation, the cremation of the remains of friends, relatives, and teachers, are not seasons of grief; the spectators are often able to look on them with joy. The Rev. Mr. Marks went to see a sick pupil, whose mother met him at the door. To Mr. Marks' inquiry as to her child's state, she replied, 'He is well, he is well,' and skipping, half joyfully, half hysterically, before him, led him to an inner room, where the pupil lay dead, but the bereaved mother, full of faith, was still able to say, 'He is well.' The remains of holy men, the phoungye, are not soon removed. Their bodies are placed in honey, sometimes for a year or more. One at a phoungye house in Kemmendine, adjoining the editor's dwelling-house, was kept in honey for a year, and then removed. In the process of embalming, the body is placed in honey for a few weeks, the intestines are then removed, and replaced by spices, and the body is encased in a sheathing of wax, which is coated with lac, and this gilded with gold-leaf. The body is then left to dry on a staging, under a white umbrella, and finally the coffin is placed on a model of a kneeling elephant, made of wood and paper. On the day appointed for the funeral of the priest, a great crowd assembled, and, with two ropes attached to the car, one part of the multitude pulled it towards the place of cremation, another pulled against them, and, with shouting and laughter, drumming and uproar, the remains at length reached the burning place and were burned. Looking quietly at the opposing multitudes, their antagonism seemed a representation of some ancient idea of good and bad spirits battling for the dead. But the object of this struggling to draw the car onwards and to retard it is unknown.

In September 1870, the remains of the queen-mother of Burma were burned between the inner and outer walls of the palace, to the north of the main entrance. A large space was enclosed by a fence or yazamat, in the centre of which the burning took place. Inside and outside of this, numerous temporary sheds were run up for the princes, queens, ministers, etc. Above, where the fire was to be placed, a lofty structure of bamboos was erected; this was covered with white cloth. The body of the late queen-mother was laid out in state in one of the pavilions to the south side of the palace, the gardens being for the time open to all. The troops were under arms in the great square and other parts of the palace open to the public, a large space in front of the enclosure being kept clear for the king and his retinue. About 10 A.M., the first of the procession accompanying the coffin appeared at the inner gate of the palace, and slowly marched towards the pyre, all taking up their respective positions with order and regularity. Save the troops, all taking part were in white; but the numerous gilded palanquins, gold umbrellas, together with the splendid bier, with the white umbrellas joined to the green coats, red and gilt headpieces of the troops, with the numerous elephants, gaudily trapped, placed here and there, made the scene barbarously splendid. Following or preceding the bier were the princes and princesses, the queens with the Pakan Meng, the late king. He and the first queen, whose mother the deceased was, walked in front of the bier. About a quarter to eleven the great inner gates were again thrown open for the exit of the king and retinue. The king was seated in a large gilded palanquin, borne on the shoulders of some 40 or 50 men, and was accompanied by four of his daughters and one son, all young. He, like all the others, was dressed entirely in white. Advancing up to about ten yards from the front of the enclosure, the palanquin was halted, the retinue and guards filing off right and left, and forming a large hollow square. Prayers were said by several phoungye, the king gave directions as to the exact minute at which the cremation was to commence, the bearers turned round, the procession was re-formed, and moved inside the great gates, which were again partially closed, while drums, tom-toms, and cymbals were beaten, and trumpets (?) sounded, amidst a tumultuous noise. The queen, princes, Pakan Meng, etc. etc., returned to the palace, shortly after the cremation was completed, in the same order as they came out. The coffin was

overlaid with gold to the extent of 7½ viss, which was afterwards distributed among the phoungye, or to be applied to the building of a pagoda. Charcoal was employed at the burning of the body, and was kept at a red heat by numerous bellows placed all round. The whole of the body with the exception of a small part of the back of the skull was reduced to ashes, or at least consumed on the fire. This small piece, little bigger than a rupee, was placed in a gold cup closed by a lid studded with rubies, while the remains of the charcoal and ashes were placed in earthenware vessels to be carried to the river. The gold cup was confided to an official, who took his place in the hearse. Having arrived at the river bank, those deputed for the purpose entered two gilded boats lashed together, but a little apart, which were rowed out into the centre of the stream. Here a halt was made. The bearer of the gold cup, with it rolled up in his putzoe, jumped into the water, and while he was underneath let it go. At the same time the jars of ashes had their contents poured into the stream, the man was picked up, and there was an end of the ceremony.

On the death of a Burmese, the body is washed, the two thumbs are tied together, a piece of gold or silver money is put in the mouth, as Kadoakah or ferry toll, and after a day or two placed in a coffin on a bier, which the young men carry to the burying-ground, halting from time to time to sing and dance, keeping time to the song. The tsandala or gravediggers place the coffin on the funeral pile. Persons dying of cholera, smallpox, and the young under 15 years of age are buried; 7 days after the funeral, the leip-bya or soul of the deceased is released from the house by the house Nat.

Karen relatives, after burning the body, collect the bones, and, at an annual festival, the bones of all who have died are carried and interred in a consecrated Ago toung or hill of bones.

In *Siam*, the poor are buried or exposed to beasts of prey; if above the lowest class, the deceased, after the bowels have been extracted, is laid in a wooden coffin, externally lacquered and gilt, and this is placed for some days on a high table. In the meantime the priests light up tapers, burn perfumes under the coffin, and chant funeral hymns at night. A procession of relatives and friends dressed in white and covered with white veils follow the corpse. Beside it are borne figures of various animals or singularly-shaped monsters carved out of bamboo, and the accompanying talapoins exclaim, 'We must all die, we are all mortal.' The mourners attest their sorrow by their tears, and often hire women for the express purpose. The body is then taken from the coffin and placed naked on the pile, which is set fire to, and the remains are scorched. The body is then replaced in the coffin and deposited under one of the pyramids erected about the temple. Graves are held sacred among the Siamese, and their violation is considered as a heinous offence. They refuse the honour of burning to persons killed by accident, by lightning, to the still-born, to those who die in child-birth or from smallpox, and to suicides. The remains of such are either thrown into the water, or exposed to beasts of prey.

With the *Chinese*, when life has departed, the dead body is arrayed in robes of state, or in most costly apparel; ablutions are not performed, nor any unnecessary handling of the body suffered. White is the sign of mourning. The Chinese worship the spirits of the dead, and, amongst that nation, the desire to have a good coffin is universal. Many purchase for themselves that last tenement, and keep it by them, and it is usually substantial, of metal or wood. In Burma, where many Chinese are settled, the best block of teak is selected, and the upper portion being sawn off to form a lid, the block is hollowed and ornamented. These may be seen in Moulmein in every carpenter's shop. In China, the coffin-makers' shops have a very gay instead of a lugubrious appearance, as the coffins are usually painted red, or some equally bright colour, and the more expensive ones are decorated profusely with gilding; these coffins are placed on shelves one above the other, and the prices vary from one dollar up to four or five hundred. The funeral customs of China vary in the different districts. In Fo-Kien, the body is placed in a coffin soon after death, a fan is placed in the hand, a piece of silver in the mouth, and an opening is sometimes made in the roof for the spirit to effect its exit. The tombs are on the hillsides, where lucky spots are chosen by geomancers. Paper images of clothes, horses, and other luxuries are cast into the grave, and a sacrifice of cooked provisions is offered on the day of the funeral. Every year, in the month of April, the whole population visit the tombs and worship the manes of ancestors, sacrifice at the tombs of their relatives, weeping near the graves, and burning fictitious paper money, making offerings of meat, fruit, cakes. Sackcloth is the material for mourning.

Most of the Chinese cemeteries have a sacrificial temple, to which are attached extensive suites of rooms for the reception of the coffins of the richer members, pending transmission to their native districts, for Chinamen prize the privilege of being interred near their forefathers. The Chinese coffin is of good wood, and ponderous. The lid is morticed on, and carefully closed, all joints cemented so as to prevent all entrance or exit of air. Only a small aperture is drilled through the lid over the face, so as to allow the entrance or exit of the spirit at its option. Sometimes a humble family will keep the coffin for many months in their house till able to purchase a tomb, but the very poor are buried *en masse* within enclosed buildings. The rite of respectful burial is however so revered, that burial clubs exist in all the large cities. The monumental tombs are small raised truncated cylinders. The tombs of opulent Chinese are decorated with statues of men and horses. They run into excess in mourning for the death of near relations. Every part of the ceremonial is exactly regulated; even the period, manner, and degree of the mourner's grief being duly prescribed. The corpse being dressed in warm clothes, and deposited in a substantial coffin, is kept for several days above ground, whilst the survivors express their measured grief by gesture, dishevelled hair, sackcloth, and mournful silence. When a lucky spot has been selected for the grave, the corpse is consigned to the earth. Building a tomb in the form of a horse-shoe, they inscribe thereon the name of the deceased, erect a tablet to his memory in the hall of his ancestors, and repair annually to the grave, in order to prostrate themselves before the manes,

and to offer victuals to the spirits. In the temples, divine honours are paid to their memory. To supply their full wants in the other world, they burn gilt paper, paper chariots and houses, with every necessary article of furniture, which are supposed to be changed in the other world into real utensils, whilst the gilt paper, when burnt to ashes, becomes so much ready money. The greater the personage, the more protracted is the mourning. The emperor mourns three years for his parent, and every good subject follows his august example. Mandarins resign their offices during this period of affliction, literati avoid entering for the examinations, and working people abstain for some time from their labour. Chinese sutti prevailed to a considerable extent up to the middle of the 18th century. It does not appear, however, to have been regarded as a compulsory rite, but was generally the widow's own choice, to show her extreme fidelity, or to escape the hardships of widowhood, or, in the case of dutiful sons, to save the life of a parent. Fire was never used, but opium, poison, or starvation were the means of suicide employed. Yiun Chang was the first emperor who discountenanced those practices, which his immediate predecessors had encouraged; and he forbade honorary tablets to be erected to self-immolating victims. In 1792 a memorial was presented to the emperor, praying for the dedication of a tablet to a most dutiful son, who had cut out his liver in order to cure his mother's sickness. The Imperial Board of Rites, after mature deliberation, respectfully observed that the practice of cutting out the liver is that of the ignorant, showing a contempt for their lives, and after all but foolish devotion, and a decree was issued discountenancing the custom. The Chinese, like Christians and Mahomedans, plant trees in their cemeteries and around the tombs. The cypress is a favourite with all these religionists, and in northern Europe the yew is much planted.

The *Japanese* have a great respect for the dead. They place the remains inside a kind of square tube, and in a sitting posture. To obtain this position, they are said to use the Dosio powder, which, placed within the mouth of the corpse, is said to have the effect of relaxing all the muscles. The hollow square is carried in a chair or norimon by four men into the yard of the Tera, escorted by a few women dressed up in bright colours, wearing a veil of white crape on the head. They are here met by the Ochaushan and a number of minor canons, who chant to the sounds of the tom-tom, the whole company awhile moving with the body around the temple, into which they at length rush with a great noise. Prayers are then read over the body, and it is removed to be burned. If the deceased has been a person of rank, the ashes are deposited in an urn, and buried within the sacred precincts of the Tera. In the procession there is very little affectation of sorrow; they seem to regard it as a joyful occasion, and the whole ends with a feast at the house of the deceased.—*Boutell's Manual of British Archæology*, London 1868, p. 100; *Raffles' Hist. of Java*, i. p. 327; *Travels of a Hindu*, i. p. 18; *Edinburgh Phil. Journ.*, July 1867; *Madden's Sepulchres*, i. pp. 368–457: *Picard; The Bible; Homer's Iliad; Baron De Bode's Travels in Luristan*, ii. pp. 218, 219; *Englishwoman's Domestic Magazine*, No. 49; *Tod's Rajasthan*, i. p. 47; *Dr. Caldwell's Comparative Grammar; The Koran; Madras Journal of Literature and Science; Timkowski's Journey to Pekin*, ii. p. 212; *Burton's Scinde; Butler's Travels; Forbes*, 277; *Rawlinson.*

BURIGOPAN. BENG. Dipteracanthus dejectus.

BURI MAE. HIND. Tamarix Indica.

BURJ. PERS. A bastion, a fort. Buruj, the plural, is applied to the signs of the zodiac, in order, as Masudi says, to mark the position of the stars with reference to these fixed objects. The word burj is widely diffused. In Gothic Bairgan, and Saxon Beorgan, to fortify; Thracian Bria, a city (Strabo, vii.); German Burg, a city; and English Borough, Burgh, and Bury, so frequently the affix of the names of towns. All places in Britain that in the old time had the name of Bourroughs, were places one way or other fenced or fortified. The Greek Purg-os is evidently the same word, signifying a tower, and hence applied also to a dice-box,—Mitteret in pyrgum talos (Hor. Sat. ii. 7, 17). It enters commonly into the name of fortified towns,—one in Mysia (Anabasis, vii. 8, 8); in Thrace (Herod. vii. 112).—*Elliot, Supplemental Glossary; Restitution of Decayed Intelligence*, ch. vii.

BURJ. HIND. Betula bhojputra, B. Jacquemontii, *Spach.*

BURJA. TEL. Hymenodyction excelsum.

BURKA. ARAB. A veil, a woman's face veil; also a door curtain, and the curtain which is suspended over the entrance of the Kaba.

BURKUK, Khubani, Mishmish, Bakur-Khanee, HIND., vars. of Armeniaca vulgaris; the apricot.

BURMA, as now known to Europe, was formerly the site of four kingdoms, viz. Arakan, Tha-htun, Martaban, and Pegu. It is still subject to two dominions, being partly a British province and partly under a Burmese ruler, the two portions being designated respectively British Burma and Independent Burma.

British Burma comprises territories conquered in the two wars of 1824–26 and 1852–53. The features of the country are of a varied character. The Yoma mountains and the Tenasserim range stand prominently to the view. On the Arakan coast is the Naf estuary; and there also are the Mru and Koladyn or Arakan rivers. In the Pegu district are the Irawadi, the Hlaing or Rangoon rivers, the Pegu, Sitang, and Bhileng; in Tenasserim the Salwin and the river of Tavoy.

The British portion consists of the long strip of land lying between lat. 9° 55′ and 20° 50′ N., and long. 92° and 99° E., an area of 88,556 square miles, with a population in 1881 of 3,707,646. *Arakan.*—Males, 384,045; females, 257,963; total, 562,008, against a total of 484,363 in 1872, thus showing an increase of 77,645, or 16 per cent. *Pegu.*—Males, 1,249,346; females, 1,081,061; total, 2,330,407, as against 1,662,658 in 1872, or an increase of 668,349, or 40·2 per cent. *Tenasserim.*—Males, 431,270; females, 380,548; total, 811,818, as against 600,727 in 1872, or an increase of 211,091, or 34 per cent. The totals for the entire province are—males, 1,984,661; females, 1,719,572; total, 3,707,606, as against 2,747,148 in 1872, showing an increase of 957,085, or 34·8 per cent. Rangoon in 1872 contained a population of 98,745; it now contains 132,004, showing an increase of 33,259, or 36·6 per cent. In 1872 the population of Moulmein was returned at 46,472.

In 1881 it was returned at 53,080, or an increase of 14 per cent.

A treaty is said to have been entered into in 1757 between the Indian and Burmese Governments, and in 1795 Captain Michael Symes was sent as envoy to Ava; but from 1797 disputes regarding Arakan began, and fugitives into Chittagong were in 1798 demanded from the British. On this Colonel Symes returned to Rangoon, where he was not treated with ordinary civility by the governor, and he left for Bengal in January 1803. After this, Captain Canning was sent on two occasions, the latter in 1809. On the first he was treated discourteously, but on the second with civility. In 1811 the Arakanese rebelled, and invaded Burmese territory; and in 1811 Captain Canning was again sent to mediate. Subsequently to that year the Burmese officers in Arakan more than once made demands for the surrender of Arakanese refugees, and even made pretensions to the sovereignty of Bengal as far as the city of Murshidabad, as territory pertaining to the kingdom of Arakan. In 1819 they interfered in Assam, and in 1824 they invaded Cachar. War was declared against Burma on the 5th March 1824, and, after two campaigns under Sir A. Campbell, a treaty of peace was signed at Yandaboo on the 24th February 1826, on which occasion parts of Assam, Arakan, and Tenasserim were ceded to the British. Subsequently, in 1851, in consequence of the Burmese refusing redress to a British shipowner whom they had injured at Rangoon, war was again declared, and was conducted successfully by General Godwin. Rangoon fell to a combined naval and military force on the 14th April 1852, and when peace was declared, all Pegu and Arakan were retained by the British.

British Burma may be geographically divided into five portions, viz., (1) *Arakan*, stretching from the Naf estuary, which separates the province from Chittagong, to Cape Negrais, and consisting of a comparatively narrow strip of country between the sea and a high mountain chain; (2) *Pegu*, the valley of the Irawadi, which, divided from the Sitang valley by the Pegu Yoma range, unites with it in its southern portion; to the eastward is the chain of hills which forms the watershed between the Sitang and the Salwin rivers, and on the west the Anouk-pek-toung-myeng, literally, the high western range of mountains, sometimes called the Arakan Yoma range; (3) the *valley of the Salwin;* and (4) *Tenasserim*, a narrow strip, like Arakan, reaching down to the Pakchan stream in 9° 2′ N. lat., and separated from Siam by a lofty chain of hills running from north to south nearly parallel to the coast, at a distance of from 30 to 40 miles inland, but approaching nearer to the sea at its southern extremity; (5) The numerous islands off the Tenasserim coast, known as the Mergui Archipelago.

For administrative functions it is arranged as the Commissionerships of Arakan, Pegu, and Tenasserim, all under a Chief Commissioner since the 31st January 1862. The principal towns are, —Rangoon, Moulmein, Prome, Bassein, Akyab, Henzada, and Tavoy, with the military cantonments of Thayat-myo and Tounghoo. Some of the districts have a very scanty population; in 1872 only 6 to the square mile in the Mergui and Salwin districts, 7 in that of Ramree, 10, 14, 15, and 16 in those of Tavoy, Tounghoo, Sandoway, and Amherst respectively, and in Myan Oung, the most populous, 115. Of the entire population, 2,447,831 were of the Buddhist religion, 99,846 Mahomedans, 52,299 Christians, and 36,658 Hindus.

The country has long been known to the people of India as one of the Savarna Bhumi, which Europeans render the Golden Chersonese, and applied to the delta of the Irawadi. The *Irawadi* and Sitang valleys unite towards their mouth to form an extensive plain, stretching from Cape Negrais to Martaban. It is annually inundated, but is the most productive part of the whole province, and a canal connects the Pegu and Sitang rivers. The Irawadi is navigable for river steamers as far as Bhamo, 600 miles from the coast. The *Hlaing* or *Rangoon* river rises close to Prome, and, when passing Rangoon, it is joined by the Pegu and the Pu-zwon-doung rivers coming from the N.E. and the E. The two latter rivers rise close together in the Yoma range, about 58 miles above the town of Pegu, and they communicate by several channels with the principal delta branch of the Irawadi. The *Salwin* is a great river, but, owing to numerous rapids and rocks, it is only navigable by boats for 100 miles from its two mouths. Between Talifu and Momien, 600 miles due north of its mouth, it flows a rolling current in a shingle bed 140 yards wide. The *Sitang* river rises far north of British territory, and in the dry season is with difficulty navigated by any boats. Below Shwe-gyeng it receives the river of that name, and finally disembogues into the Gulf of Martaban.

The more prominent and dominant races have been the *Myama* or *Burmese*, the *Ra-kheng* or Arakanese, and the *Mon*, Mun, or Taleng. The native name, Ma-ran-ma, M'ran-ma, whence the softened modern M'yan-ma, M'ya-ma, is the source of the European corruption Burma. The Arakan people are of the same race as the Burmese, and the territory was long under the Burmese rule. In the 16th century, Arakanese dominion extended to Chittagong and the Megna river, and the 17th century saw there several adventurers from Europe. Sebastian Gonzales established himself at Sandiva (Sandwip), and was for years a terror to the country, till crushed with the help of the Dutch. The Ramana or Ramaniya territory was held by the Mon, Mun, or Taleng, whose districts were Tha-htun, Pegu, and Martaban. It was founded several hundred years B.C. by emigrants from Coromandel. Tha-htun is now ten miles from the sea-shore. It was the Sobana Emporium of Ptolemy. Pegu city was founded by emigrants from Tha-htun, A.D. 573, and Martaban three years later.

In Arakan and in the basin of the Irawadi are other tribes of the same stock with the Burman, and their languages are in their present form so much akin to it, that they may be almost considered as forming, with Burman, dialects of one tongue. The Burmese is monosyllabic, and has no letter corresponding to f or v, and no hissing sibilant s. The Burmese language is spoken in Arakan, in the valleys of the Irawadi and Sitang, and in Tenasserim to the south of Tavoy.

The Burman people occupy the lower part of the basin of the Irawadi above Pegu, with the southern parts of the upper basin and the valley

BURMA.

of the river beyond, as far as Ba-mo. They are also found in the delta, but their progress there has been comparatively recent, and the prior inhabitants still form the greater majority.

Burma has the Tai or Shan on the east, the Malay on the south, Hindu and Mahomedan races on the west, and the Tartar and Chinese on the north. Within these boundaries are many tribes, with several synonyms, but nearly all may be referred to four great families,—the Mon or Talaing, the Burman, the Karen, and the Shan.

A. *Mon.*
B. *Burman,* viz. Burman, Rakhui, Mug, Kanyan, Tounghuer, Tavoyer, Yau or Yo, Yebain, Pyu, Kado, Danu.
C. *Karen*—
  a. Sgau tribes, viz. Sgau, Mau-ne-pgha, Paku, We-wa.
  b. Bghai tribes, viz. Tunin, Bghai, Pant Bghai, Lay-May, Manu or Manau, Karen-ni or Red Karen.
  c. Pwo tribes, viz. Pwo, Shoung, Ka or Kay, Ta-ru or Ku-ta, Mo-pgha, Ha-shwie, Toungthu, Khyin.
  d. Shan Karen, viz. Yen or Yein, Yen-seik, Ying-baw, Pandung, Toung-yo, Black Karen.
  e. Miscellaneous tribes, viz. Ka-khyen or Ka-ku, Ka-mi or Ku-mi, Kyau, Kun, Sak, Mru, Shendu, Selung.
D. *Shan Tribes,* viz. Shan or Tai, Lao or Lau, or Lawa or Wa, Paloung or Paloa, and Phwon or Mwoon.

There are numerous Shan states far to the north-east, but they generally owe fealty to the Burmese monarch.

Burmans march on the north with rude tribes of their own family, collectively termed *Singpho,* who occupy the Upper Irawadi. On the extreme north, the linguistic boundaries of the Singpho are unknown.

Lau, a wild tribe only known under the generic *Lau,* termed Kha-nung, occupy the mountains to the north-east of the Kham-ti, apparently in the upper part of the Mi-li or Nam-Kiu. They are interspersed between the Kham-ti and the Mung-fan. the latter appearing to belong to the Tibetan family (Si-fan or Kham-pa). The Kha-nung may form a link between the Kham-pa and the Singpho or Burman families.

Shendu, Shindu or Shandu, occupy all the country watered by the Koladyn and Mee, as far down as the Sulla Kheoung, but north of the Sulla Kheoung they are not tributary to the British.

Khon villages are spread from below the Sulla Kheoung to Teinway; their villages are few, and they also pay no tribute to the British.

Kumi or Khwa-mi occupy all the country watered by the Koladyn as far down as the Koladyn Thannah, also both banks of the Mee and Samee Kheoung, and both banks of the Pee and the Yeo as far as Khoong-choo, east and north-east of Koladyn, and the country watered by the Pee and Yeo west of the Koladyn.

Mru occupy from Koladyn Thannah as far as Ralla, and eastward to Mahamonie and Old Arakan south-east, and both banks of Myoo from Rasudong northwards. They do not exclusively occupy the whole of that tract of country, their villages being interspersed with those of the Arakanese; they are, correctly speaking, wild people rather than hill-people. Some families live with the Kumi on the lower part of the Mee and Pee streams, and also on the Yeo. They also inhabit the hills on both banks of the Myoo river in the western part of the district from Rasudong northwards to Sugarloaf hill. In this extreme north-west part of the district, there are some wild people called *Mroong,* living among the Mru, but there is no appreciable difference in their manners, customs, and appearance, from those of the Mru.

The *Mroong* in the upper basin of the Mayu, and towards the hill frontier of Chittagong, are a colony imported from the Bodo country by the kings of Arakan, at the period when their conquests extended far up Eastern Bengal.

Kyen occupy the whole of the large hilly tract of country east of the river Semru, in fact, all the hills east of the district, and dividing it from Independent Burma and Khyouk Phyo. They are the most numerous of the hill tribes. Some of their nearer villages pay tribute, but those more remote are independent. All the Kyen women tattoo their faces.

Anoo is a small hill tribe of four villages, living on the Paroon Kheoung, a little above Tulukmee. They differ little from the Kumi. All the tribes have separate clans, at constant warfare with each other.

Burma, Siam, and Tonkin received their first culture from India, along with Buddhism; and their ancient buildings all bear the stamp of Indian origin and Indian taste of a post-Christian age. Siam has in recent times added Chinese methods of improvement to the Indian ones, and Tonkin owes mainly from China.

About five-sixths of the population are Buddhists, the remainder Christians, Mahomedans, Hindus. Every Buddhist Burmese must once in his life enter a kyoung or monastery, even if only for a few days, as a monk. The procession to the monastery is gay, and he there undertakes the ten negation commandments, not to kill or steal or indulge in unlawful passion, nor speak falsely, nor drink intoxicating liquors, nor eat after mid-day, dance, sing, or play instrument, paint the face, stand in high places, or touch gold or silver.

The Burmese are of the Himayana sect of the followers of Buddha, whom they call Godama, and they have great figures of Godama in every pagoda. They believe in the presence of a spirit 'La' in every animal, plant, or thing, and they adhere to a Lent, Wa, from the full moon (wa-tso) of July to that of (tha-ding-ynot) October, and they have a rosary of 108 beads. The Leip-bya, literally 'butterfly,' is the soul, the psyche of the Greeks, the life, the perceptive principle. They have spirits of kinds called Nat, and demons called Beloo; have witch-finders; and believe in astrology, the evil eye, and philtres. Every *Mon* village has a Nat; and a Burmese king dying is said to ascend to the Nat village (Nat yua-tsan-thee). With all the dead, a piece of gold is put into the mouth as ferry toll, ka-dō-akāh. The great Shwe-Dagong Po-yah pagoda was erected B.C. 585. Its height is 372 feet.

Besides the Wa or Lent, their religious annual festivals are the Ko-daw-ba, or Beg-pardon day; the Ta-wa-dein-tha, relating to the life of Buddha; and the Water Festival, Shin-oo-pa-ga, when little saucer-shaped lamps are consigned to the river at night. Their favourite religious story is the Way-than-da-ra, on the former existence of Buddha. Their everyday amusements are the pooey drama, the puppet or marionettes, 2 to 3 feet high, music,

boat and horse racing, football, boxing, wrestling, gambling, cock-fighting. The country is wealthy, and their aversion to regular labour is extreme. Notwithstanding this, the total trade in 1870 amounted to £10,263,000, increased in 1880 to £22,222,000. The incidence of taxation on the population of 3,736,771 is Rs. 6·3 per head. So little is this felt, that every family in Burma on the average spends £12 yearly on jewellery and imported luxuries. Bullion to the extent of a million and a half annually is absorbed in the province, in addition to the great amount spent in charity and amusements.

Their courting time is after 9 P.M., and is called Loo-byo-tay, thee-achyrin, the time for young men to go about. Polygamy is legal, but is only practised by the wealthy. Living as man and wife, or eating out of the same dish, is a legal marriage. The bridegroom provides a dower. The king has four legitimate wives. Few women have had education. They can hold property, and can divorce themselves from their husbands. The Burman woman's lower garment, Ta-mein, is a narrow cloth of various colours of a pleasing contrast, which descends generally from the waist or from below the arm to the feet. It is made to overlap, and in front is tucked in, but it is so narrow that as the wearer walks the thigh is more or less shown at each step. Women transact the most important business. The filagree work necklace 'Bayet' is a great ornament with the Burmese women. As in Buddhist countries, Burmese women are more nearly the companions and not the slaves of the men. But the Tibeto-Burmans and the cognate Indonesian tribes permit great licence to both sexes prior to marriage, when chastity is not required.

The Burmese tattoo themselves, and, after certain Turks, are perhaps the most civilised men and women who do so. They tattoo their bodies with figures of lions, tigers, beloo or demons, and dragons, also red squares, cabalistic signs or words on their breasts, arms, or backs. The Burmese, Mon, or Ta-laing also tattoo from below the navel to below the knee; the Shan from the navel to the ankle. The Karen-ni have a rising sun on their back as a clan badge, as a mark of manhood. The Kyen tattoo the whole of the face of their women. The inflammation is severe, and death occasionally follows the operations.

The Burmese have no surname. Their single name is prefixed with Moung, meaning brother, or Nga, Koh, and Poh. They and the Karen have the custom of brother-making, called by them Doh, also Thway-thouk. In salutation, the Burmese bend the head three times to the ground, but the Karen, the Shan, and wild tribes of Arakan sniff their relatives. Burmese are skilled workers in metals. A bell at Mengoon is 12 feet high. At Amarapura is a sitting figure of Gaudama, 12 feet high. It was formerly the tutelary saint of Arakan, and was carried off A.D. 1784 by the king of Burma. Amongst the Karen, the Kyee-zee, a large one-headed metal drum, is the standard of wealth. They use as bellows the double-formed forcing air-pump of the Malays. Hla-pet, or pickled tea, prepared from the leaves of the Elæodendron Persicum, forms a part of every Burman ceremony. They brew a rice beer called 'koung.'

The Karen races continue the destructive form of temporary clearings for cultivation, called Toung-ya, meaning hill clearing or hill garden. Rats, at long intervals of 40 or 50 years, invade the Karen lands in myriads, crossing streams, so that the water is black with them, and devouring every edible thing. From 1870 to 1874 the hill country east of the Sitang was devastated by them, and Government expended £10,000 in relieving the Karens.

The adult dead are burned; those under 15, also such as have died of cholera or smallpox, are buried. Leip-bya, or spirit or soul of the deceased, is believed to dwell in the house until released on the seventh day from the house by the house Nat. The Karen, after cremation, and at an annual festival, collect the unburnt bones, and carry them to the consecrated Ayo-toung, or hill of bones. This is a practice of other tribes.

Independent Burma has the British districts of Assam, Arakan, and Pegu, with the Tipera and Manipur states on the N. and W. and S., with Chinese territory and the Shan states on the E. It extends from lat. 19° 30′ to 28° 15′ N., and from long. 93° 2′ to 100° 40′ E., and its area has been estimated at 192,000 square miles; this includes the tributary Shan states. Its rivers are the Irawadi, Kyeng-dweng, which unite in lat. 21° 50′ N., the Sitang or Paung-laung (Poungloung), the Salwin, and the Myit-nge. Crawfurd estimated its population at 22 to the square mile, which would give about 3,090,000; Colonel Yule's estimate in 1855 was 1,200,000; Count Bethlenen in 1874, excluding the Shan tribes, reduced it to 700,000; Dr. Hunter in the Imperial Gazetteer, including the Shan, supposed the number to be 4,000,000.

The Burmese seem to have been an intruding race, conquering from north to south, and the boundaries of their kingdom have greatly varied. On their first advance from Arakan, they appear to have conquered the northern part of the ancient kingdom of the Mon, for their capital was for 395 years at Prome. In the era of their greatest stability and prosperity, their capital was at Pagan (probably the place of that name above Ava), from the second to the middle of the 14th century A.D. It was not till the middle of the 16th century A.D. that they succeeded in annexing Pegu. But in the middle of the 18th the Mon threw off the yoke, and in their turn subjugated all Burma for a short period. The Burma capital had moved up the river from Prome to Pagan, from Pagan to Panya, from Panya to Ava, from Ava to Amarapura, and thence, in 1822, to Mandalay, where it now is.

In the Burmese chronological table translated in Crawfurd's Embassy, are the following events:—

B.C.		
691		Sacred Epoch.—The grand epoch established by An-ja-na, the grandfather of Gautama.
628		Gautama born; 608 began to reign.
589		Gautama became a Buddha.
544		Gautama died, and obtained Nib'han (annihilation).
543	1	The sacred epoch established by king Ajatasat.
94	450	The communications of Gautama reduced to writing in Ceylon.
A.D.		
76	1	The Prome epoch established by king Sumundri.
639	1	The Vulgar epoch established by Puppa-Chan-ra-han.
1364	726	Uch-cha-na-praung, in Chitkaing. But this year Sa-to-mang-bya founded

B.C.		
		Angwa (Ava), and began to reign; and Chitkaing and Panya were destroyed.
1752	1114	Alaung b'hura (Alompra) began to reign at Mut-cho-bo (Monchabo).
1781	1143	His cousin Paing-ka-cha, commonly called Maung-mang, son of U-pa-ra-ja at Ava, succeeded the same year by his uncle Pa-dem-mang, or Man-ta-ri-kri, son of Alaung-b'hura, and founder of Ama-ra-pura.
1822	1184	Ava re-built and made the capital.

Independent Burma is ruled by a king, with a chief council, the Hlut-dan, composed of four Meng-gyi, four At-ween-wun, and four Wan-da-lay. Burmans differ from the Anamese in being stouter and darker, and in the head being Daya-Polynesian or Turanian oval, and not obtusely ovoid. The head varies greatly, and the coarser forms show a tendency to the Binua contraction of the forehead, rendering the lateral expansion of the forehead very marked. The normal or non-Indianized Burman head appears in many respects to resemble the coarse Sumatran, Javan, Borneon, and Polynesian. This softened Turanian type is decidedly allied to the oblong square and oval Chinese type, and not to the ovoid and orbicular type of the Tibetan, some of the Himalaya-Gangetic, the Anam, and the Celebesian tribes. The Burmans on the west more often resemble the handsome Asianesian tribes found in Borneo, some parts of East Indonesia, and Polynesia. Burmans and Malays are somewhat stouter than the Siamese, the average height being probably about 5 feet 2 inches.

The royal family have customs partly Scythic, partly Aryan. They claim descent from the Solar king of Kapilawasta (which was the capital of Suddhodana), and one of the royal titles is 'Ne dwet bhu-yeng,' sun-descended monarch. A peacock is borne on the royal standard, and the figures of a peacock and a hare are painted on the king's throne. The Abeit theik or Water Libation is offered on the accession of a new sovereign. In the royal family, the custom is continued of marriage between half brothers and sisters, and the king's eldest daughter remains unmarried.

Burma has a rich soil, producing in abundance all the cereals, millets, pulses, and oil-seeds, valuable timbers, fibres, cotton, indigo, catechu, lac, caoutchouc, tea, coffee, tobacco, mustard, sugars from the cane, palmyra, betel, yam, sweet potato, and the potato. A tea plant also, supposed to be the Elæodendron Persicum, which furnishes the chief ingredient in the Hla-pet or pickled tea. Amongst its mineral products may be named gold, silver, iron, tin, lead, antimony, copper, bismuth. Quarries of marble are worked near Amarapura. Coal has been discovered on the Irawadi. Ruby mines are very productive; sapphires occur, and garnets; earth-oil is largely obtained from wells. A binoxide of tin occurs in abundance in the streams of the Tavoy and Mergui districts. Lodes have been struck, but they have been found to fine away. Once-washed stream tin yields 70 per cent., and twice-washed 75 per cent., of pure metal. The mercantile products are rice, timber, silk, lacquer ware; and the people are famed for their gold and silver work, and for their wood-carving; rice, of which the yearly product is a million tons, employs, with other articles of produce, 1,200,000 tons of shipping, of which 1,000,000 tons are British. Of teak wood, 150,000 tons are exported in the year,—86,000 tons to India, and 64,000 tons to Europe, chiefly to Britain. The approximate value of the whole is £1,000,000 sterling. Rice cultivation is chiefly in the valleys and the delta. The amount of the rainfall varies greatly,—in Prome about 43 inches, and at Sandoway 230 inches.

Caoutchouc trees are abundant in the Bhamo and Mogoung districts, estimated at nearly half a million. The galena of Bandwen and Tounghoo mountains is highly argentiferous; precious serpentine also occurs, and the gems of Capelan (Kyat Pen) are famed. The larger wild animals are, elephants, rhinoceros, unicorn and bicornis, hog, tiger, leopard, bear, deer, bovidæ, porpoises.—*Forbes' Burmah; Mason's Burmah; Crawfurd; Yule's Embassy; Oldham* in do., p. 335; *Prinsep's Antiquities; Peschel; Aitcheson's Treaties; Bishop Bigandet; Imp. Gaz.*

BURMALA. HIND. A marriage garland.

BURMANN, author of the Thesaurus Zeylanicus, published in Holland, which he wrote from the collections made in Ceylon by Dr. Paul Hermann, a medical man in Ceylon. The same collection served Linnæus to write his Flora Zeylanica, and it is now in the British Museum. Subsequent to this, in the year 1768, Professor Nicholas Laur. Burmann of Amsterdam, son of the author of the Flora Zeylanica, published his Flora Indica, with 67 plates, containing figures of 178 plants tolerably executed, but much inferior to those in the Flora Zeylanica.—*Wight's Prod. Fl. I.* p. 10, quoted in *Hook. et Th.*

BURMAR. HIND. Artemisia parviflora.

BURN, MAJOR-GENERAL, an officer of the Bengal army; while of the rank of major, when Dehli was besieged by the Mahratta army 20,000 strong, under Holkar, with a full train of artillery of 130 guns, kept in constant activity, though the walls were 10 miles in circumference, and much decayed, with a small force he defended it successfully, until the siege was raised by the approach of the grand army. Sir D. Ouchterlony, then Resident, remarked that it cannot but reflect the greatest honour on the discipline, courage, and fortitude of British troops in the eyes of all Hindustan, to observe that with a small force they sustained a siege of nine days, repelled an assault, and defended a city 10 miles in circumference, which had ever before been given up at the first appearance of an enemy at its gates. It is commemorated by one of the bastions being named Burn's bastion.—*Oriental Herald*, vol. v.

BURNELL, A. C., of the Madras civil service, who devoted much labour to the elucidation of the history of ancient India; an eminent Sanskrit scholar, a voluminous writer on Hindu law and Sanskrit literature. The Strasburg University honoured him with the title of Doctor.

BURNES. Three brothers of this name served together in India. Sir Alexander Burnes wrote Travels in Bokhara and History of Cabul, at which place, along with their youngest brother Charles, he fell on the 2d November 1841. They were natives of Montrose in Scotland, sons of James Burnes, provost of the town, and relatives of the poet Burns.

Sir Alexander entered the Bombay army in 1822; travelled from Bombay through Sind, the

Panjab, and Bokhara to the Caspian Sea, returning by the Persian Gulf, betwixt 1831 and 1833; was despatched on a mission to Kābul in 1837; Assistant to the Envoy from 1838 to1842; Author of Notice of Hospital for Animals at Surat, Jl. i. p. 96; On the Colossal Images in Bamian, Bl. As. Trans. 1833, ii. p. 563; Travels into Bokhara, Lond. 1834, 3 vols.; On Female Infanticide in Cutch, Lond. A. S. Trans. 1834, i. p. 193; Cabool, 1837 and 1838, Lond. 1842, 1 vol.; Notice of Sind, Lond. G. S. Trans. 1837, viii. p. 2; Observations on the Maritime Communications of India, as carried on by the Natives, ibid. 1836, vi. p. 2; On the Ruins of Puttun Somnath, Lon. A. S. Trans. v. p. 104; Account of the Reg Rawan; On the Descendants of Alexander in the Valley of the Oxus; On a Fair for the Indus Trade; On Herat and the Surrounding Countries; Coal Localities near the Indus; Navigation of the Indus; On the State of Turkestan. He also wrote articles on Commerce in Sind and Afghanistan; On the Persian Faction in Kabul; On the Political Power of the Sikhs; On the Political State of Kabul in 1837; On Russia in Central Asia; On the Siah Posh; On the Wool of Kabul and Bokhara. A memoir of his life appeared in the Bombay Times, December 1841, As. Jl. 1842.

James Burnes, K.H., the elder brother, a medical officer of the Bombay army, author of A Visit to the Court of Sind.—*Dr. Buist's Narrative of Afghanistan*, Bombay, 1843.

BURNOUF, EUGENE, a learned native of France, who devoted much of his life to oriental investigations. As a Sanskrit scholar, in 1840–47 he edited and translated part of the Bhagavata Purana. He published in 1844 his Introduction à l'Histoire du Buddhisme. He died in 1851. He was Professor of Sanskrit in the College de France in 1826, in conjunction with Lassen. He wrote the Essai sur le Pali. He did for Zend and Achæmenian Persian what Jacob Grimm had done for the Teutonic languages. His labours have been continued by Lassen, Haug, Spiegel, Justi, and others. He published a memoir on the cuneiform inscriptions of Hamadan.— *Oriental Linguistic Studies*, p. 176; *Sayce*, i. p. 52.

BURNUS, Ar., also written Būrnoos, a hooded cloak, generally made of white woollen stuff, and mostly worn by the people of northern Africa.

BURO. Beng. In Hindi, Bara, large.

Buro-bel, Jasminum plenum.
Buro-bet, Calamus fasciculatus.
Buro-buhooari, Cordia latifolia.
Buro-chali, Guatteria suberosa.
Buro-chhooncha, Cyperus Iria.
Buro-chuna, Vicia sativa.
Buro-elachi, Amomum grana paradisi.
Buro-gachh, Ficus religiosa.
Buro-gothoobi, Mariscus cyperinus.
Buro-hulkusa, Leucas cephalotes.
Buro-jalgantee, Panicum setigerum.
Buro-jhauji, Utricularia stellaris.
Buro-joan, Ptychotis ajowan.
Buro-jubanee, Trichelostylis miliacea.
Buro-kanoor, Crinum toxicarium.
Buro-kerui, Euphorbia hirta.
Buro-keshuriya, Hymenochæte grossa.
Buro-keshuti, Adenostemma biocarpum.
Buro-kokshim, Blumea lacera.
Buro-koondo, Jasminum arborescens.
Buro-kookoor-chita, Tetranthera monopetala.
Buro-kulpa, Trichodesma Zeylanicum.
Buro-kungi, Abutilon graveolens.
Buro-kut, Sagittaria obtusifolia.
Buro-looniya, Portulaca oleracea.
Buro-makal, Trichosanthes bracteata.
Buro-methi, Trigonella fœnum-Græcum.
Buro-munda, Loranthus longiflorus.
Buro-musoor, Ervum lens.
Buro-neelpudmo, Nymphæa major.
Buro-panchoo-lee, Villarsia Indica.
Buro-panee-murich, Polygonum pilosum.
Buro-pani-nuti, Poa Chinensis.
Buro-phootika, Melastoma Malabathricum.
Buro-rai, Sinapis ramosa.
Buro-ritha, Sapindus emarginatus.
Buro-ruktu-kumbul, Nymphæa rubra.
Buro-sada-ma-khumshim, Canavalia leucosperma.
Buro-shalook, Nymphæa pubescens.
Buro-shalpanee, Flemingia congesta.
Buro-shama, Panicum hispidulum.
Buro-shialkanta, Argemone Mexicana.
Buro-shoonthee, Rottbolla exaltata.
Buro-shoung, Bergera Königii.
Buro-tugur, Tabernæmontana plena.

BURO-BHOOA and Bhooa. Hind. Species of Bombyx which feed on the castor-oil plant and Cocculus acuminatus. They are shaggy-haired, imitating each other. The former is innocuous, but the hairs of the Bhooa are brittle, and cause intolerable itching, provoking dangerous and even fatal results. If swallowed by goats or buffaloes, it is followed by swelling and inflammation of the bowels. The bhooa is shunned by mynas and other insect-eating birds.

BUROOD, a race in Berar. In 1865 there were 955 of this people in the Oomraoti district.

BUROONDI. Sansk. Celosia argentea.

BURR or BARR. Wherever Arabs are met with in tents, they denominate their place of encampment 'Burr,' or wilderness,—the term Sahara, or desert, being more particularly applied to the wilderness of Africa.

BURR. Arab. Triticum æstivum, wheat.

BURRAR, Hind., in Rajputana is an indefinite term for taxation, and is connected with the thing taxed, as ghaneem burrar, war tax; garh ginti-burrar, house tax; hal-burrar, plough tax; neauta-burrar, marriage tax, and others, both of old and new standing. The burrar is well understood in Mewar, and is levied on many occasions for the necessities of the prince or the head of a clan.—*Rajasthan*, i. pp. 143, 160.

BURRI. Hind. Wedding gifts; also hand-sowing of seed, also dibbling grain. Gurri, Gulli, and Si are all similarly applied.—*W.*

BURRICK, a fabric manufactured by the Jaguri Hazara from the wool of the Dumba sheep. Qu. Bārik, Pers., fine.

BURRO. Hind. Reed pens.

BURSENAPATI, the title of the chief of the Muttuk branch of the Singpho group, and the people are called Muttuk, Moamerria or Mowameria. Their country is a short distance from where the Brahmaputra river enters the Assam valley, and they dwell close to the banks, and principally on the southern side.

BURSERACEÆ, a natural order of plants, nearly all natives of tropical climates. About 24 species have been found in S.E. Asia, of the genera Balsamodendron, Boswellia, Canarium, Garuga, Icica, and Protium. They all have an abundance of fragrant resinous juice. Boswellia serrata yields olibanum. Canarium Bengalense, of this tribe, according to Dr. Roxburgh, exudes an excellent clear amber-coloured resin, not unlike copal. In America, several valuable resins, as elemi, carana, chibow, and two or three kinds

of tacamahaca, are afforded by plants of this tribe. —*Royle's Ill. Him. Bot.* p. 177; *Voigt*, p. 149.

BURSINOPETALUM ARBOREUM, *Wight*, var. macrophyllum. A large tree of the forests of the Central Provinces of Ceylon, growing at an elevation of 4000 to 7000 feet. B. tetrandrum, *Wight*, is another large tree of Ceylon.—*Thw. Zeyl.* i. p. 42.

BURSUNGA. HIND. The leaves of Bergera Konigii, used medicinally.

BURTON, R. F., an officer of the Bombay army, in which he rose to the rank of captain, one of the most varied linguists of his day. In 1853, under the name of Haji Abdullah, he visited Medina and Mecca. He led an expedition into Central Africa, and discovered Lake Tanganyika. He visited the Mormons at the Salt Lake. He entered the civil service of Great Britain, and was successively consul of Damascus, at British Guiana, at Cape Coast, and at Trieste. He went on a mission to the king of Dahomey. He made an examination of the land of Midian. He wrote—Goa and the Blue Mountains; Description of Sind, or the Unhappy Valley; Sind and the Races that inhabit the Valley of the Indus; Journey to Mecca; Travels in the Somali Country; The City of the Saints; The Nile Basin; Abeokuta, Zanzibar; Unexplored Syria; The Highlands of Brazil; Battlefields of Paraguay; Ultima Thule; Two Trips to Gorilla Land; Mission to Dahomey.

BURU, a large island in the Eastern Archipelago, being about 200 miles in circumference. The bulk of the inhabitants are a comparatively fair people, very closely resembling the natives of Amboyna; and the only tribe that is likely to be Papuan, is a small community which resides in the neighbourhood of a mountain lake near the centre of the island. This lake was visited by parties from the garrison in 1668, and again in 1710, and their observations are recorded at some length by Valentyn, in his Beschryvinge Van Oost India.—*Earl's Papuans*, p. 185.

BURUCH. SINGH. Chloroxylon Swietenia, *R.*

BURUD. MAHR. A caste whose occupation is mat-making, sometimes enumerated among the village servants.

BURUGA. TEL. Eriodendron anfractuosum.

BURUNG. MALAY. Any bird.

BURUNGEE. DUKH. Siphonanthus Indica; HIND., Quercus flexuosa.

BURUT are distinguished from the Kalmuk only by their language. The Mongol, the Kalmuk, and the Burut are a very phlegmatic, good-humoured people; they have all accepted Buddhism, but practise many shaman rites.

BURYA. PERS. Mats.

BURZAL. HIND. Betula bhojputra.

BURZUD. PERS. Galbanum.

BUSA-KARELLA. HIND. Momordica charantia.

BUSHAN, of Upper Chenab, Salix alba.

BUSHIA, a town in the Himalaya, with horses, yaks, sheep, provisions, etc. The people, half nomadic Tartars, inhabit caves fitted up like houses in the cold season, and dwell in tents during the rest of the year. The height of Bushia is 9200.—*Rep. Proceed. Mag. Surv. India*, p. 3.

BUSHIRE or Abu-Shahr, in lat. 29° 0′ 15″ N., and long. 50° 51′ 30″ E., a port on the coast of the Persian province of Fars, 225 miles W.S.W. of Shiraz. It is situated at the N. extremity of a low sandy peninsula, about 11 miles long and 3½ broad. It has a population of about 12,000 souls. Treaties were made with the king of Persia in 1763 and 1841, and the British have a Resident there. The value of the trade amounts to about a million sterling. Its population are mixed Arabs and Persians, with about 100 Armenian merchants. The tribes around Bushire are the bravest on the Persian seaboard, and opposed the British in the war with Persia in 1856. It was captured by the British on the 10th December 1856. Bushire is probably the result of the silting up of a still more ancient harbour about 6 miles from it, where bricks with cuneiform inscriptions are found. Out of the plain near Bushire many vases have been taken, formed of ill-baked clay, and filled with seeds of the tulah plant or mallows, which soon decay when affected by the fresh air. Earthen urns, containing the remains of human bodies, are said to abound on the plain of Bushire. —*MacGregor*, pp. 80–102; *Ouseley's Travels*, i. p. 216; *Treaties*, vii. 99, 137.

BUSH-KURD district is looked upon by the natives as a part of the Kohistan, and the Kurds who inhabit it are never spoken of by the term Makrani, or people of Makran; but it is south of the Kohistan, and unquestionably in Makran. It is one uninterrupted and rugged mass of mountains, that afford pasturage for the cattle of the Kurd Baluchi, who depend on the lower countries for grain and other supplies. These people are a tribe of Kurds that have advanced out of Luristan. —*Pottinger's Travels*, pp. 305–6.

BUSH QUAIL. Lowa, HIND. Quails of the genus Perdicula.

BUSI. TEL. Vitex arborea.

BUSSAHIR or Bashahr, a hill state in the upper course of the Sutlej river, recognised 6th November 1815, at the close of the Nepal war, and in 1862 granted the right of adoption. The inhabitants suffer from goitre, but not so much as in the valleys of the Pabur and Tons; the people in the higher valleys do not suffer so much as those in low situations. The natives of Bussahir, Sookeyt Mundee, and Kooloo have sallow complexions, and seem all of the same race.

BUSSI KHEL, a tribe on the N.W. borders of British India. The Afridi lie between Peshawur and Kohat; they are fierce, factious, and strong, and, with the Bungush, the Jewaki, Bari, Bussi Khel, and Busti Khel, as also the Sipah and Buzoti, are more or less independent.

BUSSO. JAP. A Buddhist priest or talapoin.

BUSSY, an eminent commander of the French in India, from A.D. 1751. He threw all his influence in support of the Nizam of the Dekhan, was present at the battle of Ambur, which the French gained and Anwar-ud-Din fell, and he attacked Gingee successfully. He was attached to Muzaffar Jung, but after his death he appointed Salabut Jung to be subahdar of the Dekhan, and accompanied him to Aurangabad. He subsequently defeated the Peshwa, and was able to obtain for Dupleix the title of Nawab of the Carnatic. He subsequently obtained the cession of four provinces near Aurangabad, then of the four Circars. He was afterwards dismissed the Hyderabad service. He then returned to the Dekhan, and joined Lally at Arcot, and was taken prisoner at the battle of Wandiwash.—*Malleson, French in India.*

BUSTAR, a district and dependency in Central

India, surrounded by the Teling in the south, Khond and Mari Gond on the east, and Hindus to the north. It lies westward of the state of Jeypore, and has the Godavery for its southern boundary. In length it is about 170 miles, and in breadth about 120, with an area of 13,000 square miles. It is a country of plains and plateaux, lofty mountains and fertile valleys, rivers and forests, with a population of about 200,000.

The raja claims to be a Rajput, and the family add Singh to their name. The chief town is Jugdulpur. Till past the middle of the 19th century, human sacrifices to Deoteshwari Devi were of frequent occurrence, and at certain festivals as many as a thousand sheep and buffaloes would be sacrificed to two goddesses. The races consist of the hunting and fishing *Tugara* or *Purja*, who will eat anything, from beef and mutton down to rats and snakes. The *Gudwa*, who subsist by cultivation chiefly, seem much given to dancing and amusement. On holidays, men and women join in dancing to the music of a fife and drum. A ring is formed by all joining hands; the company circles round and round, relieved now and then by mighty hops to the centre and back. This finished, a man steps forward, singles out one of the other sex, and banters her about her ugliness, and so forth, and the woman retorts. The *Soondee* deal extensively in mahwa arrack. The *Maria* are numerous; inhabit the densest jungles, avoid all contact with strangers, and are so timid that they flee to the hills on the least alarm. They are strong and agile, very expert in the use of the bow, and are a cheerful, light-hearted race. The women tattoo themselves from head to foot. The clothing of the Maria decreases in quantity in direct proportion to the increase of the distance of their abodes from civilisation. They are very inquisitive, sharp observers, apt to learn, and remarkable for their truthfulness and honesty. The savage race in the Beila hills have leaf aprons.

BUSTARD. European and Indian bustard.

Beet-miaka, . CAN., TEL.	Jangli kaboot, . . HIND.
Ostarde, Outarde, Houtarde, Bistarde, . FR.	Starda commune, . . IT.
	Cowdun, Ahu-buru, PERS.
Trapp, Trappe, Trapgans, ... GER.	Jars, ... ,,
	Gustard, . . . SCOTCH.
Ackentrappe, . . ,,	Abu-tarda, ... SP.
Der Grosse Trappe, ,,	Nil-Naray, . . . TAM.

It is the Otis tarda, the great bustard of Europe, to which the English name bustard is usually given; but in the classifications of zoologists the family Otididæ has three genera, the Houbara, Eupodotis, and Sypheotides, some species of the last being usually termed florikin.

Eupodotis Edwardsii, *Gray*. Indian bustard.

Otis nigriceps, *Vig.*	Otis lucionensis, *Vieill.*?
Tokdar, Burra, . HIND.	Gurrayin of Hurriana.
Sohun Gugunbher, ,,	Bat-myaka, . . . TEL.

This noble bird is 4½ to 5 feet long, and extent 8 feet. It weighs 26 to 28 lbs. It is not known in Bengal, Behar, or the Malabar coast, but seeks the open grassy plains of India. It is becoming very scarce in the cultivated country, but is said to be still abundant in Rajputana. Their usual food are insects, but they eat reptiles and fruits. They are polygamous, and at the breeding season the male struts about on some eminence, puffing out the feathers of the neck and throat.

O. lucionensis of China may be a distinct species. Other species are E. nubra, *Ruppell;* E. Ludwigi, *Rupp.*; E. Caffra, *Licht;* E. Denhami, *Children;* E. Arabs, *L.;* and E. Kori, *Burchell.* A species very closely allied to E. Elwardsii is the Otis Australis, *Gray*, the wild turkey of Australia.

Houbara Macqueenii, *Gray*, Houbara bustard.

Otis marmorata, *Gray.*

Dugdoor, ... AFGH.	Tilaor, ... HIND.
Hurriana florikin, . ENG.	Obarra, . . W. PANJ.

This bird has a beautifully crested head, is 25 to 30 inches long, and extended is 4 feet. It weighs 3¼ to 3½ lbs. It is supposed that both the male and the female assume the ruff in the breeding season. It is found throughout the plains of the Panjab and Upper Sind, where it is much hawked with the cherrug falcon, Falco sacer. It also occurs from Dehli to Afghanistan, in Mesopotamia, in Europe, and England. It occasionally baffles the hawk by ejecting on it a horribly stinking fluid, which besmears and soils the hawk's plumage. Houbara undulata occurs in N. Africa and Arabia, and visits Spain.

Sypheotides Bengalensis, *Gmelin.*

Otis deliciosa, *Gray.*	Otis Himalayana, *Vigors.*
Charas, charaj, charaz, H.	Dabar of Nepal Terai.

The Bengal florikin is about 24 to 27 inches long, and 44 to 47 inches extended. In the breeding dress of the male, the whole head, which is crested, also the neck, breast, and lower parts, with the thigh coverts, are deep glossy black. It is found from Lower Bengal to all along the foot of the Himalaya. The sexes live apart, at no great distance from each other. They eat insects and sprouts of plants. It is shy and wary.

Sypheotides auritus, *Latham*, lesser florikin.

Otis fulva, *Sykes.*

Khar titr of Bhils.	Likh, ... HIND.
Kan-noul, . . . CAN.	Tan-mohr, . . MAHR.
Charaz, charas, . DUKH.	Warragu Koli, . . TAM.
Chulla charras, . . ,,	Niala-nimili, . . . TEL.

The Canarese, Mahratta, and Telugu names mean 'ground peafowl.' In breeding plumage, the male, in head, neck, ear-tufts, medial wing covers, and the whole lower plumage, is deep black; the chin alone is white. It is 18 or 19 inches long, and weighs 16 or 18 oz. Dr. Jerdon considers the black and common grey florikin to be identical, but in the plumage of different seasons; it is found throughout India, from the Himalaya to the south. It eats insects and beetles. It is hawked by the baz, the laggar, the shahin, and wokhab.

Otis tetrax, *L.*, the Tetrax campestris, the small bustard of Europe, is said to have been found in the Peshawur valley, and occurs in Central and Western Asia and North Africa.

The following are bustards of Africa, some of which spread into Arabia, viz. O. rhaad, *Shaw;* O. cærulescens, *Vieill.;* O. scolopacea, *Temm.;* O. afra, *L.;* O. afroides, *S.;* O. Senegalensis, *Vieill.;* O. melanogaster, *Rupp.*

The Australian bustard is the O. Australis; in the pairing season, the attitudinizing of the male is extremely singular.—*Ainslie, Mat. Med.; Eng. Cyc.; Jerdon, Birds.* See Birds.

BUSTI KHEL, an Afghan tribe. See Bussi.

BUT, a manner of pronouncing and writing the name of Buddha, also the Bhot or Bot race.

BUT. PERS. An idol. In the Hindi and

several Indian tongues, Bu or But is a spirit, generally an evil spirit.

But-Faroshi, a tax or fine levied to defray the cost of celebrating the worship of the village deity.

But-Khana, a temple, an idol-house; by some supposed to be the origin of the English word pagoda, also supposed to be from pai-guda.

BUT, also Butkalay. BENG. Cicer arietinum.

BUTA. HIND. Head of the Indian corn, the Zea mays. Buta-dar, a diaper fabric. Also any shrub or plant; Crotalaria burhia; Cheti-buta, Abelia triflora. Buta kara-mee, TEL., Nauclea parvifolia.

BUTAI-MISWAK, HIND., Astragalus multiceps.

BUTAIRI, or Ailri, HIND., Rhus semialata.

BUTALLA-POTAKA. TEL. Senna.

BUTALLI MARAM. TAM. Givottia rottleriformis.

BUTANA. HIND. Common pea.

BUTANI, a clan of the Baluch Maghazzi tribe, which has been located in Kachi for a long time. The Maghazzi are subdivided into four principal families or clans, of which the Butani of Jell are the most illustrious, and give the chief or sirdar to the whole. They boast of being able to muster 2000 fighting men, and between them and the Rind a blood-feud long existed. The Maghazzi and Rind are alike addicted to the use of ardent spirits, opium, and bhang. The Butani dwelling in the Dehra Ismail Khan district, were a robber tribe until they became British subjects.

BUTAN KOOSHUM. SANSK. Anisomeles Malabarica.

BUTASHA. HIND. Sugar cakes.

BUTAYAT. BURM. Ægyceras fragrans, *Kon.*

BUTCHER ISLAND, $3\frac{3}{4}$ miles from the shore in Bombay harbour. Its Hindu name is Depadevi, or the island of the gods, Holy Island.

BUTEA FRONDOSA. *Roxb.* Bastard teak.

Erythrina monosperma, *Lam.*

Pulasa; Kinaka, .	BENG.	Chuchra Pla, . .	PANJ.
Pouk-pin; Pouk-nway, ...	BURM.	Kinsuka, . . .	SANSK.
Mootr, Ch'hiul, .	CAN.	Kalu-kæla, . . .	SINGH.
Pulas, ...	ENG.	Porasa maram, .	TAM.
Parasa; Dhak, .	HIND.	Moduga chettu, .	TEL.
		Kimsukamu, . .	,,

This tree grows in most parts of British India and Ceylon. It covered the battlefield on which Clive defeated Suraj-ud-Dowla, which in history is known as the battle of Plassey. When left to nature it attains a good size, but it is much cut for firewood, and its roots cut for fibre to make ropes with, and it is generally seen gnarled and bushy. In April its large clusters of deep orange-coloured flowers, called teso, also kisu, attract attention. An infusion of the flowers of this and also of B. superba, dye cotton, previously prepared with alum, a bright yellow, which may be changed by an alkali into deep reddish orange. The lac insect is frequently found on the smaller branches. Its wood resembles teak in appearance, and is used for gunpowder charcoal, well curbs, and for building purposes. The leaves are sold to shopkeepers in the bazars for the purpose of wrapping small articles in them instead of paper. From the bark of the root a very strong fibre is prepared. The root is cut into lengths of from two to four feet, and the bark peeled off, dried, and beaten by handfuls with a wooden mallet. It is used for caulking boats, and making ropes and cables for anchoring boats. The flowers are offered by the Ho to their god Desauli Bonga. Its gum, of a deep red colour, is known in commerce as the Butea kino and Indian kino, the Palas gond or Dhak ka gond.

BUTEA SUPERBA. *Roxb.* iii. 267.

Tige moduga, . .	TEL.	Baranki chettu, .	TEL.
Tivva moduga, . .	,,		

An immense creeper with flowers resembling those of B. frondosa. It grows on the mountains of Coromandel, in the Circars, the Kheri jungle, and in the Dehra Doon, and is not uncommon in the provinces of Tavoy and Mergui. It yields the same kind of gum as B. frondosa.

BUTEONINÆ, the buzzard sub-family of birds of the order Raptores, or birds of prey, comprises Archibuteo hemiptilopus of Tibet and the Himalaya; Buteo pygmæus of Tenasserim; B. rufinus of India and N. Africa, and B. vulgaris, the common buzzard of Europe, N. Africa, Asia Minor, higher mountains of India, common in the W. Himalaya, rare in the Neilgherries, and replaced on the plains by B. canescens; rare, and to the northward and far west only, in America; mostly migratory in Scandinavia. B. Bacha, *Franklin*, and B. Melanotis, *Jerd.*, are synonyms of Spilornis cheela, *Daud.*

BUTHUS AFER, *Linn.*, the great black scorpion of Ceylon; is as large as a little crayfish; its sting occasions a little inflammation.

BUTI. HIND. A vegetable; flower.

Awani buti, Ballota limbata.
Buti ka mockka, Boletus ignarius.
Baggi buti, Stachys parviflora.
Dandi buti, Cleome ruta.
Farid buti, Farsetia Edgeworthii.
Ganda buti, Euphorbia helioscopia.
Gandi buti, Glinus latoides.
Kauri buti, Trichodesma Indica; Solanum gracilipes.
Khare buti, Oreoseris lanuginosa.
Mundi buti, Sphæranthus hirtus.
Pili buti, Abutilon Indicum.
Pipat buti, Heliotropium ramosissimum.
Popat buti, H. Europæum.
Resham buti, Berthelotia lanceolata.
San buti, Cassia obovata.
Tappal buti, Crozophora tinctoria.
Wadi buti, Ajuga bracteata.

BUTIA, a name comprising the Little Tibetans, the natives of Ladakh, the Tibetans of Tibet proper, and the people of Bhutan. See Bhot Bhutan; Bulti; Ladakh; Tibet.

BUTIRSACHA. MALAY. Glass beads.

BUTKUS. MAL. Elæodendron Roxburghii.

BUT MOOGRA. DUKH. Jasminum sambac.

BUTOCERA RUBUS, the Curuminga of the Singhalese. A beetle which penetrates the trunk of the cocoanut tree near the ground, and there deposits its eggs; and its grubs, when hatched, eat their way upwards through the centre of the tree to the top, where they pierce the young leaf-buds and do incredible damage.—*Tennent's Ceylon.*

BUTOMUS, a genus of plants of the ord. Butomaceæ. Roxburgh (ii. 315) describes B. lanceolatus of India. B. umbellatus, the Kiai-tsau of the Chinese, is a waterside plant of China and Europe. Its rhizomes, formerly eaten, are now used medicinally.

BUT PESH. HIND. Aplotaxis gossypina.

BUT SHUR. HIND. Ephedra Gerardiana.

BUT-SU-DA-NA. JAPAN. A Buddhist altar-shelf.

BUTTER.

Niu-nai-yu; Su-yu,	CHIN.	Manik sapi; Man-	
Smor, ...	DAN.	tega, ...	MAL.
Boter, ...	DUT.	Maslo, ...	POL.
Beurre, ...	FR.	Manteiga, . . .	PORT.
Karra; Maska;		Masslo korowe, . .	RUS.
Mackan, . . .	HIND.	Manteca, ...	SP.
Burro; Butiro, . .	IT.	Venne, ...	TAM.
Makhan, ...	MAHR.	Ma-sz-ko-yu, .	TARTAR.
Butyrum, . . .	LAT.	Venna, ...	TEL.

Butter is one of the components of milk, the others being curd or casein, a kind of sugar, and certain salts. The lighter matters suspended in milk, when it is allowed to stand, separate in the form of cream, which can be further separated, by churning, into butter and butter milk. The yield of cream is increased by dropping into the milk a small piece of zinc. Butter is naturally of a yellow colour, which is deepened when the cows feed in rich pastures, but it is often artificially heightened by arnotto and safflower. Karra, or fresh butter, is seldom used by the natives of India. It is generally kept till it turns rancid, and then clarified by repeated boiling. This is called roughan in Persia, and ghi in India. The ordinary drink of the Tartars is kumys, a spirit made of mares' milk. They pour the milk into a large leathern vessel, and, when they have got a considerable quantity, beat it till it begins to ferment like new wine. When it becomes quite sour, they beat it again violently, and then draw off the buttery part. The fermented whey makes a brisk sort of liquor, with an agreeable almond flavour, very intoxicating to those not much accustomed to it. The Tartars also make from goats' milk a kind of butter, which they boil and keep for winter use in goats' skins, and though they put no salt in it, it never spoils. It is seemingly ghi. After they have taken off the butter, they boil the curd again to make cheese, which they dry in the sun, and which is as hard as iron. These cheeses they put into sacks for the winter store, and when the supply of milk becomes scanty, they put this hard, sour curd into a leathern vessel, pour hot water upon it, and beat it till it liquefies; and with this acid drink they have to content themselves during the time of year so severely felt by pastoral nations. The Tartars live chiefly on their flocks and the produce of the chase. In China the milk of every domesticated animal has been employed for making cream and butter. The milk from the wild cow is said to be the best. Ghi, or clarified butter, is called T'i-hu.—*Smith*, 45; *Huc's Christianity*, i. p. 209; *Toml.*; *M'Cull.*

BUTTER, DR. D., a Bengal medical officer who wrote on the Topography and Statistics of Oudh, Calcutta, 1839; On Public Health in India; Planting of Trees along the Himalayas, Bl. Med. and Phys. Trans., Calcutta Government Gazette, and As. Jl., 1829, xxvii.; On the Preparation of Opium for the Chinese Market in the Behar and Benares Agencies, Bl. As. Trans., 1836, v. 165.

BUTTERFLY.

Let-pya, . . .	BURM.	Parwana, . . .	HIND.
Papillon, ...	FR.	Farfalla, ...	IT.
Schmetterling, . .	GER.	Mariposa, ...	SP.

Butterflies are very numerous in the S. and E. of Asia, and many of them very beautiful. They are classed by entomologists in the insect order Lepidoptera. The largest and most gaudy of Ceylon is the great black and yellow butterfly, the Ornithoptera darsius, *Gray*. Its upper wings, which often measure six inches across, are of a deep velvet black. Its caterpillar feeds on the Aristolochia and betel leaf, but the butterfly on the heliotrope. Papilio polymnestor, the black and blue butterfly, feeds on the ruddy flowers of the hibiscus or the dark-green foliage of the citrus. Papilio Hector has crimson spots on the black velvet of the inferior wings. When examining the Lachen valley, Dr. Hooker found the caterpillar of the swallow-tail butterfly (Papilio machaon) common, feeding on umbelliferous plants, as in England; and a sphynx (like S. euphorbiæ) was devouring the euphorbias; the English Cynthia cardui (painted-lady butterfly) was common, as were sulphurs, marbles, Pontia (whites), blues, and Thecla, of British aspect but foreign species. Amongst these, tropical forms were rare, except one fine black swallow-tail. Kallima inachis of India and K. paralekta of the Malay Archipelago furnish wonderful examples of protective resemblance to dead or decaying leaves, every one of them being some shade of ash or brown or ochre. The Ornithoptera paseidon of the Aru Islands, is the bird-winged butterfly. In the western districts of Java are the calliper butterfly, Charaxes kadeni; of birds, the elegant green and yellow trogon, Harpictes Reinwardti; the gorgeous little minivet fly-catcher, Pericrocotus miniatus, which looks like a flame of fire among the bushes; and the rare black and crimson oriole, Analcipus sanguinolentus. The Papilio arjuna has its wings covered with grains of golden green.—*Wallace*, p. 118.

BUTTER MILK.

Dhai, ...	HIND.	Salla, also Majiga, .	TEL.
Moroo, ...	TAM.		

Butter milk forms an ingredient in many native recipes; it is used by chucklers for softening leather.—*Rohde, MSS.*

BUTTER-NUTS. See Caryocar.

BUTTERS, VEGETABLE. This name is given to the concrete oil of certain vegetables, from its resemblance to the butter obtained from the milk of animals. The term is also occasionally, but improperly, applied to some vegetable products which are entirely of a waxy nature, such as the wax of Myrica cerifera. The name is likewise bestowed in Siberia on certain algæ, species of the genus Nostoe, such as N. pruniforme. The most important vegetable butters are produced by species of Bassia and certain palms.

Butter of Cacao, from Theobroma cacao. 1000 parts of the seed yield 300 parts of a concrete oil or butter, of a most agreeable flavour.

Butter of Cinnamon, from Cinnamomum verum, or C. Zeylanicum. By strong decoction the fruit yields a concrete oil, also called cinnamon wax, used for candles, and which exhales while burning a most fragrant odour.

Butter of Nutmeg, from Myristica moschata, is brought from the Moluccas, of two kinds, and is obtained by bruising the nutmegs into a paste, which is compressed in bags between hot metallic plates.

Butter of Cocoanut, from the Cocos nucifera, is prepared by rasping the pulp of fresh ripe cocoanut, adding a little hot water, squeezing and boiling the milky juice until the water has evaporated, and filtering through paper. This oil separates into two portions, the one fluid and limpid, the other a solid concrete substance of a pure white

colour, which, in the shade, remains unliquidated at all temperatures.

Butter of Palm-oil, from Elæis Guineensis, a native of Africa and America. It is much esteemed in Europe for unguents, and has been lately recommended for culinary purposes.

Butter and Tallow Tree, the Pentadesma butyracea, *Br.*, of Sierra Leone, is so named from the yellow, greasy juice which copiously flows from it when cut. It is mixed by the Negroes with their food.

Kawan Solid Oil, of Java and Singapore, is obtained from an undetermined species of Bassia.

Shea Butter is from the seeds of Bassia Parkii, *Don*, growing in W. Africa; likely to become valuable for the manufacture of candles and soap.

Galam Butter, from Bassia butyracea, Fulwa or Phulwara, also Choorie, of Nepal, Almora, and Kamaon in Northern India. In the province of Dotee this is so abundant, that the oil is cheaper than, and is used to adulterate, ghi. It is white and solid, fusible at 120°, and exhibits little tendency to become rancid when kept.

Bassia latifolia Oil separates into two portions,—one on the surface, fluid, and of a pistacio green colour; the other of a brownish green, and almost solid.

Bassia longifolia or Illupu Oil. One sample separated into two portions,—the upper, fluid, of a pale oil-green in colour, and the lower greenish white, and of the consistence of ghi. Another separated into three portions, the uppermost a golden yellow, and fluid; the middle, yellowish white, solid, and floating in the upper; and the lowest, solid, and brown in colour. A third was of the consistence of ordinary ghi. A specimen, almost solid, from Tanjore, was of a light golden-yellow colour.

Chinese Vegetable Butter from Stillingia sebifera is much in use in China. The number of these trees in the province of Che-kiang is immense.

Indian Vegetable Butter, Piney Butter, or Doopada Solid Oil, is from the Vateria Indica of the western coast of India. It is white or yellowish white, of the consistence of hard salt butter, and in the shade remains always solid. It is used for lamps principally, but is very suitable for soaps and candles. It is prepared by cleaning the seeds, then roasting and grinding them into a mass. To five seers of seed add twelve seers of water, and boil until the oil rises to the surface. Remove the oil, stir the contents of the vessel, and allow it to stand until the following day, when more oil will be observed on the surface, which may be collected, and the process repeated.

Carap or Carab Vegetable Butter, from Carapa Guianensis, a large tree in Trinidad and British Guiana.

Butter of the Great Macaw Tree, from Acrcomia fusiformis.

Japan Wax is from Rhus succedaneum.

Almond Butter, from Amygdalus communis.

Cocum Butter, from Garcinia purpurea seeds, which produce solid oil.

Gamboge Butter, Mukke Tylum, TAM., Arasana Ghoorghy yennai, CAN., is a product of the Garcinia pictoria, *Roxb.*, which grows abundantly in Mysore and the western jungles. Gamboge butters are solid, and of a deep leek-green colour. The oil is procured by pounding the seed in a stone mortar, and boiling the mass until the butter or oil rise to the surface. 2½ measures of seed yield one seer of butter; it is sold at the rate of 1¼ annas per seer of Rs. 24, in the Nuggur division of Mysore, and is used as a lamp oil and as ghi.

Sterculia fœtida Oil, Coodiray yennai, or Coodira pusjan yennai, TAM., is thick at all seasons of the year, and is obtainable probably in large quantities in the Nalla Malla and Yella Malla forests of the Peninsula of India.

Butter of Laurel, Laurus nobilis.

Solid Oils are obtained from some Dipterocarpi in the Indian Archipelago.

Solid Oil of the Horse-eyes and Cacoons of Jamaica, Fevillea scandens, is white and hard.

Mijo or Japan Butter, from Dolichos soja.

Solid Oil, from Myristica (Virola) sebifera of British Guiana.

Solid Oil from the Demerara butter tree, Saouari, Pekea tuberculosa.

Solid Oil of Bombay, from Salvadora Persica, or Vernonia anthelmintica?

Broonga Malagum Oil, of Masulipatam, separates into three portions,—the uppermost, fluid, resembling brown sherry; the middle, of the consistence of ghi, and brownish yellow; and the lowest almost solid, and of a hair-brown colour.

Mooroogana Butter, of Canara, is used for medicinal purposes, and as an ointment for the wounds of cattle injured by tigers. It is said to be produced from a forest tree growing in the Canara jungles. It is dark brown, and is the most solid of the solid oils.

Odul or Adul Oil, of Travancore, separates into two portions,—the upper, fluid, of the colour of golden sherry; the lower, reddish white, of the consistence of ordinary hard salt butter.

Shacotty Oil, of Canara, used for cutaneous eruptions, separates into two portions,—the upper, yellowish and fluid, and the lower brownish-red, and of the consistence of hard ghi.

Hibavania, a solid oil of Canara, from the Sampajoy district, of a clove-brown colour.

Camujuy Tree Oil; a small bottle, priced Rs. 2¼, from the same district, was a dark gelatinous mass, of the consistence of blanc-mange.

Oil of Hydnocarpus inebrians, the thortay oil of Canara, used for sores, is a very valuable vegetable solid oil, of the consistence of ordinary hard salt butter.

Terminalia bellerica, Tani-kai yennay, separates into two portions,—the one fluid, of a pale oil-green colour, and the other white, floccular, and of the consistence of ghi.—*Madras Museum Report, Simmonds*, pp. 510–514.

BUTTON.

Boutons,	FR.	Kanching,	MALAY.
Knopfe,	GER.	Botoens,	PORT.
Buttoun,	GUJ.	Pogowizu,	RUS.
Gundi,	HIND.	Botones,	SP.
Bottoni,	IT.	Battan,	TAM.
Bahru,	MALAY.	Buttasulu,	TEL.

Buttons are made from every possible material. Those of metal are often gilt; and five grains of gold, and sometimes 2½ grains, are made to cover 144 one-inch buttons, so great is the divisibility of that precious metal. A round ball or button is used in China to mark the rank of their wearers. The members of the first rank, or highest order, wear on the apex of their caps a dark-red coral ball or button; the second class have one of a

light red; third class, light blue; fourth, dark blue; fifth class has a crystal ball; and the sixth class a ball of mother-of-pearl. Members of the seventh and eighth class have a golden ball, and the ninth and lowest rank, one of silver. Each officer may be further distinguished by the decoration of a peacock's feather. This is attached to the base of the ball or button on the apex of his hat, and slopes downwards; it is worn at the back.—*Gray*, 27.

BUTTOO-PASSALEI KIRAI. TAM. Basella cordifolia, *Lam.*, B. alba, *Linn.*

BUTUM. ARAB. Pistacia terebinthus, turpentine.

BUTUNTI, a name given to the Tartars by the people of Lower Kunawar. They also call the Tartars Zhad, also Bhotia, and their country is called Bhot and Bootunt. These Tartars differ greatly in appearance from the people of Lower Kunawar.

BUVUSHIRUM. SANSK. Phyllanthus niruri.

BUWAYA. MALAY. Crocodile.

BUXAR, a town, lat. 25° 32′ N., long. 84° E. It gives its name to a district which is a subdivision of Shahabad. The town is built on the bank of the Ganges, and is largely inhabited by Mahomedans. A battle fought and won here by the British, 22d October 1764, under Sir Hector Munro, against Mir Kasim, the last independent Nawab of Murshidabad, placed Bengal and Behar in their possession.

BUXUS, a genus of plants, the species of which afford the valuable boxwood. B. sempervirens is the common box, and forms a large evergreen bush or small tree, common all over the S. of Europe, from Spain to the N. of Persia and into the N.W. Himalaya. The Himalaya boxwood is known as Pabur Lakri. Mr. Dunlop saw a jungle of this plant at Sem Kharrak, beyond Ramnee, the trees as tall as English firs, and some of them as thick round as a man's body. The chief supply of boxwood for Europe is derived from the southern parts of Europe, and from Asia Minor. European boxwood is more curly, softer, and paler than the Turkey. The Karens furnished Dr. Mason with specimens of a wood not light, but scarcely to be distinguished from the boxwood of Europe. Dr. Wallich found Nauclea cordifolia on the banks of the Irawadi, with wood coloured like that of the box tree, but much lighter, and at the same time very close-grained. One Tavoy tree, he says, has a strong, tough wood, in grain like box. B. Chinensis, *Lam.*, is the China box tree. Buxus emarginatus, *Wallich*, was introduced into Britain from the Himalaya. The wood is found to be softer than the common kinds, though like them in other respects. Woodcuts have been engraved upon this wood, which has the advantage of being of considerable size and thickness.—*Eng. Cyc.; Royle, Him. Bot.* p. 327; *Mason; Voigt.*

BUXUS SEMPERVIRENS. *Linn.*

B. Nepalensis.

Samshad, Shumaj; Safed dhawi, . . BEAS.	Chiki, ... JHELUM.
Paprang, . . . ,,	Papri, Papar, SUT., RAVI.
Hwang-yang-muh, CHIN.	Shanda, Lag-hune, . . TR.-INDUS.

This grows in northern Persia, also in China in the provinces of Kiung-Chau-fu, Hainan island, and in T'ung-jin-fu in the Kwei Chau province; it is abundant near Manikaran in the N.W. Himalaya. From being lopped, it is generally seen as a shrub, but at times grows to a tree of some girth, locally only, on the Sutlej and Beas, upon the Rattan Pir, near Panch, above Rawul Pindi, in the Salt Range, and Trans-Indus. The wood is carried to Umritsur and other places in the plains to be made into combs, but the supply is probably getting exhausted. This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 feet. Wood hard, heavy, and nearly as compact as the boxwoods of Europe. Used in the schools of art throughout India for wood engraving, and used for plugs for rifle bullets. The leaves of the box are poisonous to the camel.—*Cleghorn, Panjab Report*, p. 63; *Powell's Handbook; Dr. J. L. Stewart, M.D.*

BUYO of the Philippines, betel leaf, the sirih of the Malays, and Piper betel of botanists.

BUYUR. BENG. Jujube, Zizyphus jujuba.

BUZ. PERS. A kind of antelope, or long-horned mountain goat, called Tish by the Arabs.

BUZA. HIND. Hordeum hexastichum.

BUZGUND. HIND. Gulpista; Pistachio nut.

BUZLI. HIND. Oreoseris lanuginosa.

BUZOOR-BUTU of Bombay, Cycas circinalis.

BUZOTI and Sipah are small but very brave Pathan tribes, the Buzoti numbering 500, and the Sipah 300 fighting men. They live in tolerably close connection with their more powerful neighbours the Afridi, and manage to hold their own. After the British acquisition of the Panjab, they acted up to their engagements in regard to the Khaibar pass, and generally behaved well.

BUZRUK. ARAB. Linseed.

Buzr-kaluna, Plantago ispaghula.

Buzr-ul-Bunj, henbane seed.

Buzr-ul-Bunj-Ahmar, seeds of Cleome viscosa.

Buzr-u-Shibet, dill seeds.

BWÆ. BURM. Careya arborea, *Roxb.*

BWAI-JIN. BURM. Bauhinia anguina; B. racemosa.

BYA-JAINTI. HIND. Sesbania Ægyptiaca.

BYAKED, also Byakoor. BENG. Indian night-shade, Solanum Indicum.

BYANA or Byara. KARN. A piece of pasture land attached to a village, and assigned as a perquisite to the headman, who lets it out for the grazing of cattle at a charge per head.—*W.*

BYANS, a pass in Garhwal, in which are 9 villages and 184 houses. The people who occupy four of the Garhwal passes are Bhot; those in the Darma pass are said to be Mongols left by Timur. The Bhotia in Byans speak a dialect of Hindi.

BYANS RISHI is a mythical holy man, who is supposed by the people of Byans in the N.W. Himalaya to be dwelling on the top of the Kelirong mountain. He appears to be the rishi Vyasa.

BYAT, a powerful tribe which came originally from Tartary with Chengiz Khan. They were long settled in Asia Minor; and a number of them fought in the army of Bajazet against Timur. After his defeat, many of the families of this tribe were sent by the conqueror to the province of Diarbekir, but, having quarrelled with its ruler, they went to the territories of Baghdad, where they lived till the time of Shah Tamasp, who brought them into Persia. One half was settled at Souj Bulagh, a district of Teheran, and the remainder at Ashraff, in Mazenderan. They remained on these lands till Abbas II. transplanted a number of them to Khorasan. The

Byat are still more numerous in Turkey than in Persia; but in the latter country, in the reign of the Suffavean monarchs, they were registered at forty thousand families.—*Malcolm's Persia*, ii. p. 218.

BY-IT-ZIN. BURM. Antidesma paniculata.

BYLTÆ of Ptolemy, are the Balti people of Little Tibet. They have on the east the Khor country, which is inhabited by a people supposed to be the Chaurandi Scythæ of Ptolemy.—*Cunningham.*

BYNEE ARRACK is from Caryota urens.

BYNSA, one of the seven branches of the Bazigar race.

BYRAGI. ANGLO-HIND. For Viragi (vi, privative, raga, passion), Hindu Vaishnava ascetics. The followers of Ramanand and Kabir form their principal subdivisions. The Byraga, or Zafartakia, is a small crooked stick or piece of iron which the Byragi devotee places under his armpit, to lean upon as he sits. See Vairagi.

BYRD, amongst the Rajput races, the blessing of a bard to a ruler. Whenever a Suktawut chief enters the court of his sovereign, or takes his seat among his brother chiefs, the bards still salute him with the dying words of Ballo—'Doonah datar, Chaogoonah joojar; Khorasan, Mooltan-ka-aggul,' meaning 'Double gifts, fourfold sacrifice;' that is to say, with increase of their prince's favour the sacrifice of their lives would progress; and which, for the sake of euphony probably, preceded the byrd won by the founder, 'The barrier to Khorasan and Multan.' The byrd of the Chondawut is 'Dos sehes Mewar ka bur kewar,' 'The portal of the ten thousand [towns] of Mewar.' It is related that Sukta, jealous of so sweeping a byrd, complained that nothing was left for him, when the master bard replied, he was 'Kewar-ka-Aggul,' the bar which secures the door, 'Kewar.'—*Tod's Rajasthan*, i. p. 358.

BYSSUS, a long, delicate, lustrous, and silky fasciculus of filaments, by which some of the conchiferous molluscs, for example the Mytilacea, mussels, and Malleacea, hammer oysters, are moored to rocks, etc. It is an assemblage of muscular fibres, dried up in one part of their extent, but still contractile and in a living state at their origin. The tendinous foot of Byssoarca and Tridacna seems to be a step towards the organization of a true byssus. The byssus of the great Pinna of the Mediterranean is in a fleshy sac or sheath at the base of the foot, which is attached towards the middle of the abdominal mass of the animal. In Italy it is manufactured into various articles; and there are few museums without a glove or a stocking woven out of this substance. The pearl oyster, by a byssus, secures itself to the rocks. The animal's foot is composed of muscular fibres, and is 2½ inches long when distended. On the lower side there is a groove lined by a secreting membrane, which is an exact mould for the formation of the byssus. When the animal desires to attach itself to the rock, its foot is protruded, and, after seeking out a suitable spot with the tip for some minutes, is again retracted into the shell. A strong fibre, of the form of the groove in the foot, is thus left, attached to the base of the foot at one end, and to the rock at the other. The process is again and again repeated, until a strong cable is formed; and it was one of the most important results of the careful investigations of Dr. Kelaart in Ceylon, that the power of the animal to cast off its byssus at pleasure was ascertained. It leaves it behind to make another in a more convenient place. From this ability to shift its berth, it follows that the pearl oyster might safely be taken from its native beds and made to colonize other parts of the sea, and also that it would move of its own accord if the surrounding water should become impure or sandy, or when there is an influx of fresh water. The animal can reform the byssus at pleasure, if in good health and condition.

BYTTNERIACEÆ, the Byttneria tribe of plants, by some botanists considered a distinct natural order, by others reduced to a section of Sterculiaceæ.

BYTURNI river rises near Lohardugga, in lat. 23° 29′ N., long. 84° 55′ E., runs S., S.W., S.E., E., into the Bay of Bengal, by Dhumrah river; length, 345 miles. It receives the Sunk, 95 miles. About 26,000 square miles are drained by the Brahminy and Byturni. It is the Styx of Hindu mythology, and is sacred, more especially at its source. There is a legend that Rama, when marching to Ceylon to rescue his wife Sita from her captor Ravana, halted at the river-side, on the borders of Keunjhur, and numbers of Hindus visit the river every January. It is also written Baitarani.

BYZANTIUM of Ptolemy is supposed to be the Balabhi of Gujerat.

C

C, in the English alphabet, has no power of its own, but takes that of k before a and u, and of s before e and i. Its use for foreign words is therefore apt to mislead; for instance, in the Persian and Urdu word circar, a government, an authority, and in common use, there is one letter for two sounds, and two sounds for one letter,—a breach of all system. Even the form of ch has two sounds, as in character and charter. To get rid of this inconsistency, the tendency has been growing amongst scientific men, to substitute ka and ku for ca and cu, and to write Cabul and Cashmir as Kābul and Kāshmīr, and Cutch and Cudapah as Kach and Kadapah, and also to use k for the hard ch. The Italians have the soft English ch in cio and ce; and the French and Germans use the letters tch and tsch to meet the equivalent letters in all the cultivated languages of Southern India in which the sounds produced by the English compounds of ch, as in child, have single letters with corresponding powers in all those tongues, and, in all but Tamil, ch'h also has equivalents modified in compound letters, but there is no letter which has two sounds of ch, as in character, child. With entirely similar sounds for ca, cu, and ka, ku, some duplication is unavoidable. See Ch.

CABA. ARAB. A quadrangular building in Mecca, towards which all Mahomedans turn in prayer; the Black Stone, Hajar-us-siah, is built into its wall. It was a lingam of the god Mahadeva or Siva.

CABAB-CHINI. HIND. Cubebs.

CABAN, in the Philippine Islands, a measure of capacity.

CABBAGE, Brassica oleracea.

Peh-tsai,	CHIN.	Kobi,	HIND.
Chou,	FR.	Cavolo,	IT.
Kohl,	GER.		

The word is derived from the Latin, caput, a head, through the French cabus. The opinion is generally entertained by naturalists, that the white and red cabbage, savoy, borecoles, cauliflower, and broccoli have all originally sprung from the wild cabbage of the sea-coast. The cabbage, horse-radish, cress, mustard, turnip, etc., all belong to the natural order of Cruciferæ. The varieties cultivated are, red, rose, and white; also the hundred-leaved cabbage. Cabbage is largely eaten by the Chinese. From the seeds of a variety cultivated on the continent of Europe, the colza oil used in lamps is expressed.

CABBAGE, a term applied to the new leaf-shoots at the tops of palm trees; they are cooked and eaten as vegetables. That of the Alsophila excelsa of Flinders island, Australia, is in substance like a Swedish turnip, but is too astringent in taste to be agreeable, and it is not much improved by cooking.

CABINETS of silver are worn by all the Jangam sect of Hindus, each containing the conical emblem of Siva, the lingam of the Hindus, the phallus of the Greeks, and the priapus of the Romans. The tabernacle of Moloch, mentioned in Acts vii. 43, was doubtless a cabinet in which the object was enclosed; and the shrines of Diana were most probably of the same construction, and for the same purpose. A medal, with a figure of Diana's shrine, shows pointed cones and a semi-lune. Bacchus brought his thyrsus from the east when he returned from his Indian expedition. It was said to have been surmounted by a fir cone or pine, but a recent writer in the Edinburgh Review thinks it was the date. This fruit, according to Pliny, was consecrated to the worship of almost every heathen divinity. The date palm is the scriptural emblem of all that is dignified, beautiful, and good, and entered largely into the ornamentation of temples.—*Edinburgh Review; Milner's Seven Churches of Asia*, p. 130.

CABLE.

Tau, Ankertau,	GER.	Tali-sawuh,	MALAY.
Langar ki rassi,	HIND.	Amar,	TEL.
Gomena,	IT.		

In Southern Asia some cables for ships are made of coir, the requisite quantity being laid out at full length along the beach or other convenient spot; they are made up in strands, and twisted in a very simple machine, viz. a strong wooden frame in a strong board, across which three or four pins are placed, and turned, like the screws of a carpenter's bench, by as many men; the further end of the cable is fixed to a large revolving pin, which is turned round in a similar manner. As the strands are twisted, the horse in which this is fixed is drawn nearer to the other. It is evident that cable strands thus laid are very unequally strained, the outer lines being tight, while the inner ones are slack. By laying the strand and twisting it as each yarn leaves its separate reel, a strand is formed of which each yarn bears its due proportion of the strain. Huddart's patent rope was laid on this principle; the necessary apparatus for winding off the yarn might be readily made. Cables for the Shakespear bridges were formed of the country rattan. In the Red Sea, cables formed of the coating of the branches of the date tree are used; and the same material, with a proportion of fibre of the Kaldera bush, the Pandanus odoratissimus, is used by fishermen in forming drag ropes for their nets at Oopada. In the Eastern Archipelago rattan cables are largely used.—*Mr. Rohde, MSS.*

CABO NEGRO, Spanish, of the Philippines, is obtained from the gomuti palm, Arenga saccharifera, and resembles black horse-hair. It is found between the trunk and branches, in a matted form, interspersed with black twigs. When separated from the latter, it is manufactured into a cheap and durable cordage, chiefly used for cables and standing rigging. A single palm in its lifetime yields two crops of this material, each amounting to about 9 lbs. The twigs are used as writing pens, and also as arrows. Under the hair-like material a soft substance is besides collected, used as oakum for caulkings, and as such exported to China.—*Walton's State*, p. 119. See Gomuto.

CABOOK. SINGH. Lateritious deposit, said to be the product of decomposed gneiss.

CABOOL. See Kābul.

CABRAL. Alvarez Cabral, the Portuguese commander in the second expedition sent to India by the Portuguese. It consisted of 13 ships and 1200 soldiers, and sailed from the Tagus in March 1500. In his route he discovered Brazil, A.D. 1500, and took possession of it, and then sailed to Calicut. He lost four ships, in one of which Bartholomew Diaz perished. He entered into treaties with the chiefs at Cochin, Cannanore, Onore (Honore or Honawar), and Quilon, and built fortresses at their principal towns. The Zamorin at first was cordial, but, being instigated by the Mahomedans, attacked their fort, and killed all the Europeans. Cabral retaliated by destroying ten Mahomedan ships, and then returned to Lisbon in July 1501.

CACALIA COCCINEA, a flowering plant, mostly found in waste places.

Cacalia Kleinia, *Wight.* Hart's ear.

Lisan ul saur,	ARAB.	Yenna putu nalikel,	TEL.
Gao zaban,	PERS.	Jimmudu,	,,
Ermina-Kullie,	TAM.		

The leaves resemble the tongue of the buffalo; the stalks are prickly, and covered with white spots. While fresh, the leaves have a strong smell like hemlock; they are given in decoction in rhumatism, syphilis, and lepra. For the class of cases in which sarsaparilla is usually employed by European practitioners, they seem to be highly esteemed by Mahomedan and Hindu practitioners. A water distilled from the leaves is kept for use.—*O'Sh.* p. 420; *Honigberger*, p. 246.

Cacalia sonchifolia, *Linn.*

Emilia sonchifolia, *D. C.*		E. purpurea, *Cass.*	
Shudimudi,	BENG.	Udiram panum,	SANSK.
Pella camudi,	MALAY.		

A decoction of this plant is deemed antifebrile on the Malabar coast.—*O'Sh.* p. 420.

CACA-MULLU. TAM. Pedalium murex. Cacapalam, Lagenaria vulgaris.

CACATUINA or Cocatoo, a sub-family of birds of the family Psittacidæ, of the order Scansores. See Birds.

CACAY tree is the greatest ornament of the woods of Karnata. The foliage is a fine shining green; and the pendulous strings of flowers surpass those of the laburnum, not only in beauty,

but in length and number. In the cool of the morning they diffuse a most agreeable perfume. The plant is sacred to Ganesh, the god addressed by all Hindus about to commence any undertaking. The people worship him under the form of his favourite tree. The cultivators of every village place a stake of the Cacay on the ground, level a circular place round it, and purify this area with cow-dung. On this spot they assemble before the commencement of seed-time, burn some incense before the stake, make offerings of rice, milk, and the like, and pray for the success of their crops. The ceremony concludes with a rural feast. It seems to be the Cathartocarpus fistula.

CACHALOT, the Physeter macrocephalus, or sperm whale. The male ranges in length from 38 to 76 feet, is about 60 feet in the average. The female does not exceed 30 or 35 feet. The cachalot is without symmetry, of a prevailing dull black colour, occasionally marked with white, especially on the abdomen and tail. They propel themselves round by striking and pulling against the water with the flashes of their tails. The lower jaw is diminutive, slender, and in form not unlike the mandible of a bird; the teeth of the upper jaw, wholly ivory, in aged males are of great solidity, and weigh from 2 to 4 lbs. each. It spouts a thick watery mist from its nostrils at intervals of ten or fifteen minutes. The valuable sperm is chiefly situated in the head. It is a solid mass of soft, yellow, oily fat, weighing between 2 and 3 tons, in a hollow of the head, bared on the upper jaw, and forming the front and lower part of the snout. The cavity, called case, is situated to the right and beneath the spouting canal, and corresponds to nearly the entire length of that tube. It is filled with a very delicate well of cellular tissue, containing in large cells the limpid and oily fluid, which is liberated on the slightest force. The quantity, chiefly spermaceti, contained in this singular receptacle is often very considerable, and nearly 500 gallons have been obtained from the case of one whale. It has been noticed in the Mediterranean, and a stray individual in the Thames.—*Hartwig.*

CACHAR, a district in Assam, in the upper portion of the valley of the Barak, extending from lat. 24° 13′ to 25° 50′ N., and from long. 92° 26′ to 93° 29′ E. Its area, 3750 square miles. Its population in 1872 was 205,027, in the area of 1285 square miles, to which the census was confined. They consist of Manipuri, Cachari, Lushai or Kuki, Naga, Mikir, and Khassya. The Burmese invaded it, but were again expelled during the first Burmese war, when the legitimate raja, Govind Chandra, was restored by a treaty. On the southern frontier of Cachar lies the territory of the Lushai or Kuki, a most warlike tribe, who in 1848–49 drove up the Kuki from the south into Cachar; but Colonel Lister, by a judicious employment of the Kuki as soldiers, exerted a salutary influence over the Lushai. The Lushai, however, have in their turn been pressed up northwards by another tribe still more powerful than themselves, called the Poi, who approached from the south-east. The hilly tract lying between Cachar and Chittagong is inhabited by the Lushai, who claim and hold all the tract of country to the south of the parallel of the latitude of Chatterchoora hill, and east of Hill Tiperah to the Tepai river is the Burmese frontier. The Cachari dynasty ended on the assassination of Govind Chandra, without heirs, in 1830, and in 1854, Tularam Senapati of N. Cachar also died without heirs. The Cachari people must at one time have had an extensive sway in the valley of the Brahmaputra. The people adopted Hinduism about the beginning of the 18th century, and about half the number profess that faith. It yields rice, petroleum, salt from salt wells, and several valuable timbers, tea, caoutchouc from the Ficus elastica. The elephant, rhinoceros, buffalo, metna or wild cow, gavæus gaurus, tiger, black bear, and deer occur, with the sambur and the barah-sinha. The Manipuri women weave excellent cotton cloth, and a fine net for mosquito curtains. The agriculturists band themselves together as guilds or khel.—*Imp. Gaz.; Aitcheson's Treaties*, p. 77; *Ann. Ind. Adm.* xii. p. 86.

CACHARI. HIND. Cucumis pubescens.

CACHAR KALANG. TAM. Dioscorea alata.

CACHU. HIND. Colocasia antiquorum.

CACHUR. HIND. Curcuma zedoaria.

CACODOXUS ARGUS. *Linn.* A fish eaten by the natives, though many reject it on account of its reputed disgusting habits. In several examined in the estuaries of the Ganges and at Penang, the stomach contained remains of small fishes and crustacea. According to Bennet, it is in Ceylon angled on hooks baited with a kind of sea-weed ('Pendah'), of which this fish appears to be particularly fond.

CACRI. HIND. Cucumis utilissimus.

CACSHA, in the astronomy of the Hindus, the orbit of a planet, or the circle which ancient astronomers called the deferent; for the Cacsha carries epycycles (Paridhi), like the deferent.—*Warren.*

CACTACEÆ or Cacteæ, the Indian fig tribe of exogenous plants; many genera and species are found in S.E. Asia. Some species are the food of the cochineal insect. Of these the Opuntia tuna seems the most employed in Peru; O. Hernandezii is the most celebrated in Mexico; and O. cochenillifera, the native province of which is somewhat doubtful. The Old Man cactus, Cereus senilis, *Salm*, is so called from the hoary aspect of the columnar stems. The cactuses are natives, almost exclusively, of the new world, from whence the prickly pear (Opuntia Ficus Indica), now abundantly naturalized in the Atlantic islands, and generally on the shores of the Mediterranean, where it serves to form impenetrable fences, was originally introduced.—*Engl. Cyc.* p. 710; *Voigt*, p. 60.

CACTUS INDICUS. *Roxb.*

Opuntia Dillenii, *Haw.*

Nag-phunee, . .	BENG.	Kabuli-tsui, Gangi-sho, Kangi-chii, .	PANJ.
Naga-kali, . . .	TAM.		

Dr. Roxburgh supposed this plant to be a native of India, grounding his opinion on its general distribution and its native names. Dr. J. S. Stewart mentions it as a plant of the Panjab, on which the wild cochineal insect feeds. In the Panjab, it is grown as a hedge up to 4000 and 5000 feet, near the Jhelum. Dr. Roxburgh also mentions C. Chinensis, with its synonym Fabricia bracteata.—*Roxb.; Dr. Stewart; Voigt.*

CADABA INDICA. *Lam., W. and A.*

Stroemia tetrandra, *Roxb.*

Indian Cadaba, . .	ENG.	Chimurudu, . . .	TEL.
Ada-morinika, . .	TEL.	Polumorinika, . .	,,
Chekonadi, . . .	,,	Vula, ...	,,

A straggling shrub, flowers in terminal racemes, of a dingy white, nearly throughout the year; very common about Musalman burial-grounds. C. Indica, *Lam.*, and C. trifoliata, *W. and A.*, are plants of Coromandel.—*Riddell.*

CADAGA SALEH. TAM. Rungia repens.

CADALACCA. MALEAL. Cadalay, TAM. Cicer arietinum.

CADALI. SANSK. Musa paradisiaca.

CADALI PUA. TAM. Lagerstrœmia reginæ.

CADAM. HIND. Nauclea parvifolia.

CADAPILAVA. MALEAL. Morinda citrifolia.

CADASSUM. TAM. Barringtonia racemosa.

CADDIS-WORM insects are found in all tropical Asia. They belong to the family Leptoceridæ, and the genus Setodes contains several of them; they are enclosed in cases with projecting shields.—*Hartwig.*

CADELARI. MALEAL. Achyranthes aspera.

CADESIA. The battle on the plains of Cadesia, on the border of the Euphrates, fought in A.D. 632, sealed decisively the fate of Iran. This battle lasted for three days; was fought during the khalifat of Omar, by his general Saad, against Rustum, the general of Yezdejird III., the last of the Sassanian race. The Arabs are said to have lost about 8000 men, while the loss on the Persian side amounted to nearly 100,000.

CADJAN. ANGLO-MALAY.

Jowli, ... HIND. | Tennam olé, . . . TAM.
Cajan, ... MALAY. | Tati aku; Cobaré aku, TEL.
Pannam olé, . . . TAM.

A commercial word, used by the British in India for the dried leaves of the cocoanut and palmyra palms; they are largely used as a thatch, which resists the rain better than tiles; but roofs made of them should be relaid before the commencement of the rainy season; 149,500 were imported into Bombay in the year 1850–51. Books of palm leaves, called kavile in Telugu, are prepared from the palmyra and the fan or cocoanut palm, and are written on with an iron style.

Kajan, MALAY, are mats made from the leaf of the Mang-kwang. See Cocoanut Palm; Fan Palm; Ola; Palmyra.

CADJU. MALAY. Anacardium occidentale.

CADU. HIND. Lagenaria vulgaris.

CADUMBAH. MALEAL. Barringtonia racemosa.

CÆLODEPAS CALYCONUM. *Bedd.* A plant which grows at Paupanassum, at the foot of the Tinnevelly hills, and called kotpira. Its wood is very hard.—*Bedd. Fl. Sylv.*

CÆSALPINIA. Some of the species of this genus are useful trees or shrubs. C. bonducella and C. digyna are of the climbing plants, the seeds and oils of which are used in medicine. The pods of C. coriaria, or sumach, a small tree, are used as a tanning material; C. paniculata is a magnificent climber of the Himalayas; and C. sappan yields one of the Brazil woods of commerce. The fleshy pods of a Cæsalpinia are largely used as soap in all parts of China, and may be bought in every market town. C. bimas grows in the Eastern Archipelago. C. Braziliensis of S. America, province of Pernambuco, might be introduced into India; its wood yields a red dye; it is the Brazil wood of commerce.

CÆSALPINIA CORIARIA. *Willde.*

Poinciania coriaria, *Jacq.*

Libi-libi, Divi-divi, Dibi-dibi, . . . ENG. | American sumach, . ENG.

This small tree is now growing plentifully about Singapore, Salem, Bangalore, Hunsur, and Chicacole. It is a native of S. America, but in 1842 was introduced by Dr. Wallich into the Botanical Gardens at Calcutta. The seed-pods, for tanning leather, are considered superior to all the Indian astringents, and leather tanned with them is considered equal to that of the best of Europe manufacture. The pods are oblong, compressed, somewhat obtuse, curved laterally, the inner side being concave and the other convex. It is to the curved pod that the commercial term of divi-divi or libi-libi is given. The average produce of pods from a full-grown tree has been estimated at 100 lbs. weight, one-fourth of which consists of seeds or refuse, leaving about 75 lbs. of marketable matter. The divi-divi pods are of a dark brown colour externally, when ripe, and $\frac{3}{4}$ths of an inch wide. Underneath the outer skin of the pods, and separated from the seeds by a layer of woody fibre, is a considerable thickness of astringent matter of a light yellow colour, almost pure tannin, slightly darker in colour than that manufactured from galls, about 60 or 65 per cent. of the whole pod (excluding seeds). At an interval of six feet apart, an acre of ground will contain 1210 trees, yielding an average of 810 cwts., and 30 lbs. of divi-divi, or above $20\frac{1}{2}$ tons of marketable matter, worth, at only £5 per ton, £200. The quantity of mucilage it contains precludes it from the use of dyers. One part of divi-divi is sufficient for tanning as much leather as four parts of bark, and the process occupies only one-third of the time. The selling price ranges from £8 to £13 per ton. The imports into the United Kingdom in 1844 were 3900 tons; in 1845 and 1846, about 1400 tons each year; during the subsequent three years the imports were merely nominal; but in 1850 a renewed demand seems to have sprung up, for 2770 tons were imported into Liverpool, and a few tons into London. —*Voigt; M. E. J. R.; Dr. Cleghorn's Reports; Markham*, p. 353; *Simmonds' Comm. Products*, p. 503; *Indian Annals*, No. vii. p. 120; *Jurors' Report, Madras Exhibition*, 1855.

CÆSALPINIA DIGYNA. *Rott.*

C. oleosperma, *Roxb. F. I.* ii. 357.

Umul Kuchi, . . . BEN. | Nune gach'cha, . . TEL.

This climbing shrub grows in the Peninsula of India, and at Bhagulpur. The seeds yield an oil used in lamps.

CÆSALPINIA PANICULATA. *Roxb.*

Guilandina paniculata, *Lam.* | Hsoo-Kouk, . . BURM.

Grows in all India; magnificent climber in Sikkim, festooning the trees with its dark glossy foliage and gorgeous racemes of orange blossoms. —*Hooker's Him. Jour.* p. 25.

CÆSALPINIA SAPPAN. *L.* Sappan wood.

Lolan, ... AMBOYN. | Sachang, ... JAVA.
Bakam, . ARAB., BENG. | Kayu sappan, . MALAY.
Tein n'gyet, . . . BURM. | T'sia-pangam, . MALEAL.
Suh-muh, . . . CHIN. | Samya; Roro, MOLUCCAS.
Pattang, ... DUKH. | Sibukao, . PHILIPPINES.
Brasilienhout, . . DUT. | Pao Brasil, . . . PORT.
Brazil wood, Red wood, ENG. | Madera del Brezil, . SP.
Bois de Bresil, . . FR. | Vattanghy, . . . TAM.
Brasilienholz, . . GER. | Pattanga chakka, . TEL.
Pattangay, . . . HIND. | Bakkapu chettu, . ,,
Legno del Brasile, . IT. | Bakamu chakka, . ,,
Verzino, ... ,, | Bokmo, ... URIA.

This tree, the Verzina of Cæsar Frederick, grows widely over S.E. Asia. Its wood is a very important article of commerce. In 1842 as much as

78,000 cwts. were shipped from Ceylon, but the export from thence has decreased. A large quantity is exported from Siam and the Philippine Islands; as much as 200,000 pikuls annually from the former, and 23,000 pikuls from Manilla. 3524 pikuls were shipped from Singapore in 1851, and 4074 pikuls in 1852. 3670 tons of wood were imported into England in 1852, at £7 to £12 the ton. Fée considers Cæsalpinia sappan to be one of the Brazil woods of the merchants. But it is probable that it is the produce of more than one genus. The best Brazil wood is said to come from Pernambuco, where it is called Pao da Rainha, or Queen's Wood, on account of its being a royal monopoly. C. sappan grows in the N. Arcot forests, in the Nalla Mallai of Cuddapah in the Kotah jungles; is a native of Malabar, Ceylon, Bengal, Burma, Tenasserim, Siam, and Amboyna; is found in the immediate vicinity of Prome, growing on the small hills of the place, and near Thoung-zai, in the northern part of the Rangoon district, where it is also seen in small quantity. It is cultivated in Palghaut for dying the straw used in mat-making, and from its high price for this purpose, it is not used for carpentry. It grows with great luxuriance in South Malabar, where it is cultivated rather extensively by the Moplahs, who plant a number of the seeds at the birth of a daughter. The trees require fourteen or fifteen years to come to maturity, and then become the girl's dowry. Dr. Cleghorn thinks the dye-wood is damaged by being allowed to float in salt water. In the Bombay forests it grows freely in their cultivated places without any care, but the heart-wood is dingy, and wants that fine pinkish red which the wood of the southern forest has. The heart-wood being cut into chips, steeped for a considerable time in water, and then boiled, is used for dyeing. The cloth or thread is repeatedly dipped in this liquid, and hung to dry between each wetting, till it is brought to the shade required. To fix the colour, alum is added. The powder commonly used at the Holee festival is extracted from the wood of this tree. The reddish-brown tint so frequently met with in the clothes of the poorer Chinese, is produced from this wood. The seeds are used for colouring milk. The chips are used like logwood, and medicinally.—*Marsden's Sumatra*, p. 95; *Voigt; Captain Macdonald; Drs. Wight, M'Clelland, Gibson, and Cleghorn.*

CÆSALPINIA SEPIARIA. *Roxb.* Mysore thorn.

Reichardia decapetala, *Rottl.*

Hsoo-kyan-bo, . . BURM.	Phalwai, ... HIND.
Chilloor; Kilgatch, HIND.	Urn, Urni, of . KAGHAN.
Haidar ka jhar, . „	

Grows in Kamaon, Nepal, Bengal, Ava, Tavoy, Mysore, Ajmir, and in all the Himalayas under 5000 feet. It is a scandent, strong-armed shrub, used to fence around fields, and forming a splendid impenetrable hedge, covered with bright green leaves and large yellow spikes of flower. Hyder Ali surrounded fortified places with it.—*Voigt; Irvine; Chow-Chow; Thompson; Stewart.*

CÆSAR, the Arabic, Greek, and German Kaisar, a title of the emperors of Rome, which was applied to the Byzantine emperor, until the title was transferred to the Turkish sultan.

CÆSAREA ruins stand by the seaside, and from the summit of a tower that is washed by the waves, a view is obtained of the whole coast of Palestine, from Cape Blanco to Jaffa. When Colonel Skinner passed through, the area of this once proud city was used for a burial-ground.—*Skinner's Overland Journey*, i. p. 155.

CÆSAR FREDERICKE, a Portuguese jeweller who wandered from Bussora to Kurachee, and thence to Goa and Vijayanagar.

CAFFER BREAD, of the Cape of Good Hope, is from the Encephalartos caffer. The stem, when stripped of its leaves, resembles a large pine-apple. It is also called the Hottentot bread-fruit. The Kafir people bury it for some months in the ground, then pound it, and extract a farinaceous matter of the nature of sago.—*Captain Carmichael.*

CAFFER TEA, the leaves of Helichrysum nudifolium, common in the Cape Colony, and used medicinally.

CAFFREE CHILLEY, Capsicum grossum.

CAFIR, also Kafir, a term employed in India to designate the African race, usually the large-featured, curly-haired variety. La Bourdonnais enlisted many into his army, but the British in India have never enlisted them. They are employed in the city of Hyderabad. A small number were employed in the Ceylon Rifle Corps; comparatively few of their children grew up, usually falling victims to pulmonary complaints. Cafir also is a term to designate the idol-worshipping race in the N.W. Himalaya, known as the Siah Posh Cafir, because of their black-coloured clothes. Also a general term of abuse by Mahomedans to any non-believer in Mahomed. It is from the Arabic, meaning a denier, an infidel.

CAGGAR, the ancient Drishadvati, a river of the Rajputana desert, also known as the Hakra, but absorbed by the desert sands many centuries ago. The stream took a westerly direction by Phoolra, where it is still to be traced, and fell into the Indus below Cutch. Its absorption occurred during the reign of Rao Hamir, prince of Dhat, and caused great physical and political changes in the country. There are vestiges of large towns buried in the sands; amongst them is the Rung Mahal, west of Bhatnair, with subterranean apartments still in good preservation. The tradition is that it belonged to a Powar prince in the time of Alexander the Great, Sikandar Roomi. The absorption of the Caggar river is named as one of the causes of the comparative depopulation of the northern desert of India.—*Tod's Rajasthan*, ii. pp. 213, 214. See Saraswati.

CAHAMILILE. SINGH. A very hard, fine, close, even-grained heavy Ceylon wood.

CAHUA. HIND. Pentaptera arjuna.

CAILLEA CINEREA. *G. and P.*

Dichrostachys cinerea, *W.*	Desmanthus cinereus, *W.*
Mimosa cinerea, *Linn.*	Acacia dalea, *D.C.*
Mavalinga maram, TAM.	Venuturu, . . . TEL.

This small tree grows in Ceylon, in the Madras Presidency, and is common on sterile plains of the Dekhan, Dehli, Patna, and Paghamew.—*Voigt.*

CAIN, according to Bunsen (iv. 426), Qayin, is the type of the dwellers in towns. He was the progenitor of the city-building Aryan, as also of the vast Turanian wanderers, who move about all but cut off from the rest of mankind. Cain is called Kabil by Mahomedans, and is fabled by them to rest under Jab'l Shamshan, the highest wall of the crater at Aden, where he and his

progeny, tempted by Iblis, erected the first fire temple. See Abu Kubays.

CAIRN.

Ganj, ... HIND. | Birah, ... MAHR.

A heap of stones or tumulus piled over the resting-place of the ancient dead, in different parts of S. India. Prior to the Buddhist stupas or topes, this seems to have been a common mode of covering the dead; indeed, the tope is only a cairn regularly built. On the Neilgherry hills are found remains of cairns, barrows, cromlechs, kistvaens, and circles of upright loose stones. In the cairns or barrows, vases, cinerary urns, and other vessels of glazed pottery, are often found, which sometimes contain human bones, more or less charred, and mixed with ashes; sometimes a little animal charcoal alone. They are met with in almost every part of peninsular India, from Nagpur to Madura, in immense numbers on the Animally hills, a range on the south side of the great Coimbatore gap, which forms the commencement and northern face of the Southern Ghats, those on the Animally being of a more advanced order and in better condition than the Neilgherry barrows. Similar remains are found in Circassia and Russia; and circles of stones surrounding ancient graves, are found on the southern Arabian coast, and in the Somali country in Africa. All around Hyderabad and Secunderabad, in the Dekhan, are great numbers of cairns; and many of these remains are at Rajan Kooloor, in Zorapur, and also at Siwarji, near Ferozabad, on the Bhima. Neither the hill people, the Toda and Kurubara, nor any Hindus, know anything about the race to which these remains belonged; and neither in Sanskrit literature, nor in that of the Dravidian languages, is there any tradition on the subject. The Tamil people generally call these cairns pandukuri; kuri means a pit or grave, and pandu refers to the Pandu or Pandava brothers, to whom so much of Hindu mythology relates. The resemblance of the barrows and their contents (with the cromlechs, etc.) to the remains which are discovered in the ancient seats of the Celtic race in Europe, is exact (Dr. Caldwell's Grammar). In India, the topes or tumuli of Kraku-chanda, Kanaka, and Kasyapa existed before the preaching of Sakya; and the ancient elemental deities of the Vedas preceded the worship of Dharma or concrete nature.

Kodi Kul, or umbrella stone, Topi Kul, cap or covering stone, and Pandu Kul or Pandu stones, are other names by which the cromlechs of Southern India are known to the people. The Topi Kul is a large mushroom-shaped stone placed on the ground. Underneath it are urns of baked pottery, containing portions of human bones mixed with charcoal, and a fine powder or sand, in which also the urns had been placed. And whether with the Kodi Kul, the Topi Kul, the kistvaen or cairns, a foreign earth, *i.e.* an earth not belonging to the locality, is used to cover in the funeral urns. Mr. Babington was the first to notice them, about the year 1820. Underneath the Topi Kul he found a flat stone, and beneath it an urn or urns, resting in a shell corresponding to its shape, filled in with fine sand; and on ledges near the urn, were remains of iron implements and weapons, with heads of various kinds, an iron tripod, a lamp, etc. In 1831 Captain Harkness found groups of cairns on the Saroni hill at Ootacamund. They are low mounds of earth rising to the centre, surrounded by circular walls of dry stone, about 3 feet high, and about 6 to 8 feet in diameter. Underneath the surface earth was a pavement of large flat stones, resting on smaller stones, beneath which was a layer of fine brownish-black mould, 2 feet in depth, intermixed with broken pottery, charcoal, broken clay, images of buffaloes, and with other soil of a blacker and finer kind. Below the covering flags were numerous urns filled with black earth, bone, and charcoal, some perfect, some broken.

Captain H. Congreve, 1847, also described these, and he claimed for them a Scytho-Celtic or Druidic origin, and identity with similar European remains. He found at Ootacamund and in the Neilgherries generally, cairns with single and double rows of stones round them, disposed in circles; open temples of large rocks set on end, as at Abury in Wiltshire, and Rowldrich in Oxfordshire; single rocks as altars, surrounded by rough circular walls and rings of stones; barrows environed with a trench and mound; and single stones 5 to 10 feet high, etc. Beneath the flagstones, remains were found as described by Captain Harkness. Captain Congreve found cromlechs at Acheny, near Kotagherry, in which the people said pigmies not a foot high had been buried. At Adi Raer Cottay, he found a group of the kistvaen, or closed cromlech; and he said that there is not a relic of Druidism existing in England, the type of which he had not found on the Neilgherry hills.

Captain Meadows Taylor, between 1850 and 1860, discovered and described cromlechs, kistvaens, and cairns, in Zorapur in the Dekhan. The cromlechs were closed on three sides, and the south-west front left open. The kistvaens were closed on all four sides; and both were covered at top with a single slab of large size. Some of them had a round hole, of 6 to 9 inches in diameter, in the centre of the south side or south-west side. The kistvaens were partially filled with fine black or grey earth, intermixed with broken pottery, partly calcined bones, and pieces of charcoal. The cromlechs contained nothing. Both cromlechs and kistvaens were formed of sandstone and limestone rock, altered by the intrusion of granite. Some of the cromlechs and kistvaens were of large size,—the cromlechs up to $15\frac{1}{4}$ feet long by 9 feet broad, and $2\frac{3}{4}$ feet thick; the kistvaens up to 12 feet by $10\frac{1}{2}$ feet, and up to a foot thick, and the side slabs $12\frac{1}{2}$ by 8 feet. Those at Rajan Koolloor, at Haggeritgi, and elsewhere, are identical with those of the Neilgherries, with the kistvaen called Kitscoty House near Aylesford in Kent, with those in Wales and other European localities, and in Circassia, as described by Mr. Bell. The people call them Mori, Mohori, or Muni houses.

The remains near Hyderabad consist of single, double, and treble rows of large stones. In some places the space within the circle has been paved with large pebbles beaten down with clay; in others the circle stones have been simply placed around the covering earth, which has a heaped-up mound form, and contains only earth and small stones. They vary up to 50 feet in diameter. At various depths below, but chiefly about 9 to 14 feet deep, is a great block of rock, beneath which is a space enclosed by slabs, and also a passage or entrance. The grave-pits underneath are from 9

to 15 feet. The floor of the pit is flagged with stone slabs, on which is a cist, formed by slabs on edge, with a covering slab. Around the head of each cist were found circular vases, urns of red and black pottery, glazed and unglazed, spear heads, arrow heads, fragments of swords, of bill hooks, iron lamps, iron tripods. In one compartment of a cist Captain Taylor found a perfect male skeleton; in others, one, two, or three smaller skeletons, evidently of women, some with the skulls separate from the bodies, and the skeletons lying on their bellies; and between the upper flagstone and the cist, intermixed with the earth, were skeletons and portions of skeletons in every possible position, the skulls of many being separated from the bodies. These he considered to be the remains of persons who had been sacrificed and thrown into the grave-pit of the cairn. The slabs above, the guiding entrance below, and the cists, lay invariably N.E. and S.E.

In the circles near Hyatnuggur, and other places around Hyderabad, southwards to Zorapur, bells, iron weapons, and pottery have been found. The weapons consisted of arrow heads, a javelin rod like that used by the Binjari race of the present day, lance and spear heads, bronze bells and cups. In a Hyatnuggur cairn, also, were found chank shells (Turbinella pyrum), some of them intended to be used as conchs, others as ornaments, necklaces, etc. The pottery articles were cups, and an hour-glass-shaped drum, also human and other bones.

All around in the cantonment of Secunderabad and Bolarum are numerous remains, many of which have been opened, and some very perfect skulls obtained.

There are many cairns on the Masulipatam road, noticed by Captain (now General) Doria. Also at Goor Muktul, between Zorapur and Hyderabad; many near Dewarconda, about 40 miles S.E. from Hyderabad; also at Narkaelpilly. A return from Mr. Pelly showed 2129 cromlechs and kistvaens in the Bellary district, which the people believe to have been the dwellings of a diminutive race called Mohori. Cairns, cromlechs, and kistvaens are also to be seen in all the Raichore Doab; in the district lying between the Krishna and Tumbudra, on the Yemmee Gooda hills.

At Vibuthalli Captain Taylor discovered a great group of natural rocks or tors, surrounded by circles of stones. One at Vibuthalli consists of a square of 22 rocks on each side. It is partly incomplete, and the area measures 360 by 340 feet. At Shahpur is a parallelogram, where 56 huge rocks enclose a space and tumulus 400 feet by 260. Some of the masses exceed 200 tons in weight, one of them 267 tons, and it is difficult to imagine how such masses were moved from the granite hills at Shahpur, three miles distant. It had been a place of cremation on a large scale, and the tumulus consisted of human ashes, charcoal, and pieces of bone; and the remains of each body had been covered over with white earth.

The Zorapore graves are of two kinds, one in which the dead were buried, accompanied by human sacrifices; the other burned their dead, and placed their ashes in cairns, or collected and placed them in kistvaens.

Captain Congreve regarded these Neilgherry remains to be those of Scythic races. Captain (Colonel) Taylor discusses the question whether of Scythic races, Aryan or Turanian. Over vast wildernesses in the northern regions of Asia, along the banks of the Irtish, and beyond the remote Yenisei, innumerable tumuli are scattered, containing the remains of ancient art and long extinct races of men. Implements of silver, gold, and copper, girdles of the precious metals, bracelets decked with pearls, fragments of porcelain, have surprised the travellers who have seen a few of the tumuli opened. Similar tumuli are spread over the north of Europe. Esehricht, Nilsson, and Retzius, in Sweden and Denmark, Dr. Willde in Ireland, and MM. Robert and Serres in France, have attempted to identify in these relics the remains of different races supposed to have inhabited successively the north of Europe in early times. In the opinion of the Swedes, the sepulchral remains of northern Europe may be referred to three successive eras. They display different physical types and different stages of advancement in civilisation. The oldest are the relics of a people with round heads, having the transverse diameter of the cranium large in proportion to the longitudinal. The implements and ornaments which are found in the tombs of this race, indicate the greatest rudeness. They consist of tools and the heads of arrows and lances made of stone and bone, but nothing indicating a knowledge of the use of metals. It seems to be the opinion of Retzius and that of Nilsson (Scandinaviska Nordens Urinvanare, af S. Nilsson, Lund. 1838–43), that they were the burial-places of a people much older than the Celts. Similar remains, discovered in France, have been supposed by MM. Robert and Serres to be referable in like manner to different eras.

In the Alford district of Aberdeenshire are many cairns of enormous size. Some people think they have been beacons to give warning in time of danger; but many of them are situated in low places, and they are supposed to be tombs of some great men. It is a common saying among the people of that country to this day, when any person makes them a gift, 'God I wat, gin I live ahint you, I'se add a stane to your cairn.' The old Celtic is, 'Curri mi clach er do cuirn,' 'I will add a stone to your cairn;' *i.e.* I will do homage to your memory when you are dead. And to this day many old people never pass by any of these cairns without throwing a stone to it.

The Gond races in the Vindhya place great stones over the graves. Doorgawati, queen regent of Gurha Mundela, was killed in action against the troops of Akbar, under Asaf Khan, as an inscription of her family asserts (As. Res. xv. p. 437). She was interred at the place where she fell (Ben. As. Soc. Journal, vi. 628), and to this day the passing stranger places, as a votive offering, one of the fairest he can find of those beautiful specimens of white crystal in which the hills in this quarter abound. Two rocks lie by her side, which are supposed by the people to be her drums converted into stone; and strange stories are told of their being still occasionally heard to sound in the stillness of the night by the people of the nearest villages. The very ancient custom of casting a stone upon untimely graves is still observed throughout Spain, accompanied by a silent prayer for the dead.

In the Upper Godavery, British side, and Kistna

district south of Jaggiapetta, tombs and cairns are found in groups, particularly in the Kistna district, where there are hundreds on one hill alone,—four stone slabs on edge, and slab at bottom, and one on top; then round the tomb a ring of small stones, some 12 feet in diameter, and small stones within that heaped over the grave. The grave is sunk from 2 to 4 feet in the ground, according to the breadth of the side slabs. The sizes of the graves are from 1 foot 6 inches long by 1 foot broad, to 6 feet long by 2 feet broad. In the Kistna district the slabs are limestone; in the Upper Godavery, trap, hypogene rock and sandstone. In several of these graves has been found a skeleton. The body had been laid on the right side, head resting on right arm, head always north, feet south. The bones crumbled almost at a touch. The size of the upper slabs on the tombs vary in size from 4 feet by 3 feet to 8 feet by 6 feet; some of the smaller tombs have no slabs on them on top, but only small stones piled up as a cairn.

In the Upper Godavery, also, are tombs without cairns, no slabs at bottom, only four forming the sides. They are generally 4 feet by 3 feet square; some immense slabs on top measured 14 by 5 feet. The graves are filled up with small earthen pots, filled with burnt bones and clay. Beads, apparently made of ivory, and some small glass ones of red and green colour, in the pot that contains the charred remains of the skull. There is a splendid tomb of sandstone on the Nizam's side of the river opposite Lingala; the slab on top is 9 feet square, the tomb surrounded with eight rings of stone (sunk in the ground) some 7 feet in diameter; it is evidently a chief's grave. In another grave, with smaller slabs and fewer rings round, were the usual pots with bones and beads; the rings contained a skeleton with feet in towards the tomb, the skull placed between the knees. These were the skeletons of slaves that had been sacrificed on the death of a chief, number according to rank. Herodotus describes this ceremony. Mr. Rivett Carnae, in the beginning of 1847, brought to notice the existence of barrows, a little further northward, at the village of Junapani, near Nagpur, in which were found articles of pottery, spear and arrow heads, battleaxes, a horse snaffle bit, stirrup-irons, and a small iron model of a bow and arrow.

In the Bengal Asiatic Journal, xiii. p. 618, for 1844, is Colonel Yule's description of the Khassya people of East Bengal, an Indo-Chinese race, who keep cattle but drink no milk, and the sister's son inherits property and rank. They habitually erect dolmens, menhirs, cists, and cromlechs, almost as gigantic in their proportions, and very similar in appearance and construction, to the so-called Druidical remains of western Europe. The undulatory eminences of the country, some 4000 feet to 6000 feet above the level of the sea, are dotted with groups of huge unpolished squared pillars and tabular slabs, supported on three or four rude piers. In one spot, buried in a sand grove, were found a nearly complete circle of menhir, the tallest of which was 30 feet out of the ground, 6 feet broad, and 2 feet 8 inches thick; and in front of each was a dolmen or cromlech of proportionately gigantic pieces of rock, while the largest slab hitherto measured is 32 feet high, 15 feet broad, and 2 feet thick. Several had been very recently erected. The method of obtaining the blocks, is by cutting grooves, along which fires are lighted, and into which, when heated, cold water is run, which causes the rock to fissure along the groove. The lever and rope are the only mechanical aids used in transporting and erecting the blocks. The objects of their erection are various, — sepulture, marking spots where public events had occurred, etc. The Khassya word for a stone, 'mau,' as commonly occurs in the names of their villages and places, as that of man, maen, and men does in those of Brittany, Wales, Cornwall, etc. Thus Mausmai signifies in Khassya the stone of oath; Mauloo, the stone of salt; Mauflong, the grassy stone, etc.; just as in Wales, Penmaen Mawr signifies the hill of the big stone; and in Brittany a menhir is a standing, and a dolmen a table stone, etc. A cairn of considerable size, on the roadside at the top of the Ajunta ghat, seems to have been a thankoffering for the ascent of the ghat. We added, like the rest of our camp, one stone to the heap.—*Ras Mala, Hindoo Annals*, ii. p. 387; *Dr. Pritchard, Rep. Brit. Ass.* 1847, p. 236; *Colonel Meadows Taylor in J. E. Soc.* 1869; *Dr. Caldwell's Grammar; As. Res.* v. xv.; *Capts. Harkness and Congreve in M.L.S.J.; Captain Yule; Beng. As. Soc. Journ.* xiii. p. 619. See Cheda; Cromlech; Ghorband; Tsalai.

CAIRO, the capital of Egypt, in lat. 30° 6′ N., and long. 31° 26′ E., a very ancient city in the valley of the Nile, and known to the people as Misr. After the conquest of Egypt by Cambyses (B.C. 525), the Babylonians are said to have founded New Babylon, on the site now occupied by old Cairo. That city, during the Roman occupation, was the headquarters of one of the three legions stationed in Egypt. In A.D. 638 New Babylon was captured by the Arabs, and a new city gradually arose beyond it, which received the name of 'Fastat,' from its having grown up around the tent (fastat) of the Arab general. The modern city was built adjacent to Fastat, in the 12th century A.D., a portion of the stone used in the construction having been obtained from the ancient city of Memphis.

In A.D. 973, the new city, under the title of Misr (al Kahirah, *i.e.* the Victorious), was constituted the capital of Egypt. The citadel was built in 1116 by the famous Saladin (Salah-ud-Din), who also erected the beautiful aqueduct seen from its walls. Within the walls are the Pasha's palace, the arsenal, mint, and public offices, a mosque, and a well 260 feet deep, known as Joseph's Well. It was not, however, Joseph the son of Jacob who sank it, but a ruler of that name, about A.D. 1100. Under the successors of Salah-ud-Din, Cairo was greatly extended; its magnificence culminated about 1340 A.D.

On the 26th January 1517, the Osmanli sultan, Selim I., entered the city as its conqueror, and thenceforward its history is a blank down to the 22d July 1798, when it was occupied by the French army under Bonaparte. In 1801 the French garrison capitulated to the Turkish army. On the 3d August 1805, Muhammad Ali Pasha took possession of the citadel, which witnessed the massacre, 1st March 1811, of 400 Mameluke Beys, by his orders. Amir Bey alone escaped by leaping the wall. The population is estimated at 400,000, Egyptians, Mahomedans, Copts, Jews, Europeans, and other strangers from the principal

oriental states, but the mass of the population consists of Egypto-Arabian townspeople, of a much more mixed origin than the fellaheen or agricultural population.

CAJAN. MALAY. Fronds of the palmyra and cocoanut palms.

CAJANUS INDICUS. *Spreng.* Pigeon-pea. Of this there are two varieties, which differ only in the colour of the vexillum.

Var. α, with vexillum of a uniform yellow colour on both sides.

Cajanus flavus, *De Can.*	Cytisus cajan, *Linn.*
Dhal, Arhar, . . BENG.	Shakhull, . . . PERS.
Pai yen khyung, . BURM.	Adaki, ... SANSK.
Tuvaray, ... CAN.	Kolu, also Velu, of SIMLA.
Dhal, ... ENG.	Segapu, Tovaray,
Dangri of . . . GUJ.	Purpoo, . . . TAM.
Lal Tur, also Dhal, HIND.	Yerra Kondalu, . TEL.
Dhingra Kundi of Kangra.	Potu Kondalu, . ,,

This is a very valuable pulse.

Var. β, vexillum purplish and veined on the outside, yellow on the inside.

Cajanus bicolor, *D. C.*	Cytisus pseudo-cajan, *Jacq.*
Burry Tur, . . DUKH.	Main Tovarai, . . TAM.
Two-coloured Dhal, ENG.	Malay Tovarai, . . ,,
Hill Doll, ... ,,	Konda Kandulu, . TEL.

An excellent pulse, makes a pudding little inferior to that made of peas, and is a particular favourite. When husked and split, it constitutes the kind of dhal which most commonly enters into the formation of the vegetable curry of the Hindu,—moisture, 12·0; nitrogenous matter, 20·1; starchy matter, 63·1; fatty or oily matter, 1·5; mineral constituents (ash), 3·2. This is sown in fields at the commencement of the rains in June, and sometimes much later; it is ripe in December. The seeds are sometimes ground into flour, or split like dry peas; for the latter they are an excellent substitute. It is one of the plants employed in the Bengal Powder-works at Eshapore, in the manufacture of gunpowder charcoal. It might probably be employed in the manufacture of pyroligneous acetic acid. The green pods are cooked in curries. The seeds are separated from the dried pods by beating, and to give a bright colour are mixed with red earth and steeped in water until they germinate. They are then removed, and dried in the sun for two days, and bruised in a mill to break up the seeds, when it is freed from the testa. The cotyledons are now called dhal, which is cooked for curries; also sweet cakes are made from it. Dhal sells at 18 to 24 lbs. for a shilling. The dry leaves and stalks are given to cattle, and the stalks used as thatch.—*Beng. Phar.* p. 235.

CAJAPUTI OIL, Kayaputi, Cajaputi oleum. This oil is obtained from the leaves of the Melaleuca cajaputi of Maton and Roxburgh; and it has been said, also from M. leucodendron, which is the species known to the people as the kayuputi, literally white wood. Rumphius described two trees, Arbor alba major and Arbor alba minor, and in 1798, Mr. Smith, of the Calcutta Botanic Garden, was sent to the Molucca islands to obtain the true sort of cajaputi plant. He obtained several of each of the trees, and they were distributed over India. Specimens sent to England, were ascertained by Dr. Maton to be those of the Melaleuca cajaputi, *Roxb.*, a small tree with an erect but crooked stem, covered with thick, rather soft, light-coloured bark; branches scattered, with slender twigs which droop like those of the weeping willow. A native of the Molucca islands, especially of Boeroe, Manipe, and of the S. of Borneo. It is called daunkitsjil, but also cajaputi. The leaves are collected on a warm dry day in autumn, and placed in dry sacks, in which they nevertheless become heated and moist. They are then cut in pieces, macerated in water for a night, and then distilled. Two sackfuls of the leaves yield only about three drachms of the oil. This is clear and limpid, of a light green colour, very volatile, diffusing a powerful odour, having a warm aromatic taste, something resembling that of camphor, followed by a sense of coolness. Sp. gr. 0·914 to 0·927; soluble in alcohol. It boils at 343°. — *Crawfurd's Dict.; O'Sh.; Royle; Mason.* See Melaleuca cajaputi.

CAJU. GUJ., HIND. Casearia elliptica? also HIND., Anacardium occidentale. Cashew-nut tree. Caju ka tel, the oil from the apple.

CAJUR. HIND. Phœnix dactylifera, the date-palm, properly Khajur.

CAKAY. CAN. Cathartocarpus fistula.

CALA. SANSK. Time in its natural acceptation; a term applied to a variety of mathematical and astronomical subjects. Cala, in Hindu astronomy, an arc of one minute of a degree; also the phases of the moon, of which the Hindus count 16. Maha Cala, the conjunction or opposition of the sun and moon. See Kala; Yug.

CALABAR SKINS.

Petitgris, ... FR.	Vaor, ... IT.
Grauwerk, ... GER.	Bjelka, ... RUS.
Vajo, ... IT.	Gris pequeno, . . SP.

Siberian squirrel skins, of various colours, used in making muffs, tippets, etc.—*M'Culloch; Faulk.*

CALABASH, Cucurbita lagenaria, *Linn.*

Hurrea kuddoo, . HIND.	Chooray kai, . . . TAM.
Laboo Ambon, . MALAY.	Anapa kaya, . . . TEL.

This is the Lagenaria vulgaris, *Ser.* It is of two kinds, the long or Ceylon, and the round; they are good vegetables when young, and are useful when dry as vessels, also as fakirs' bottles, as the sounding drum for the sitar, and as a buoy for swimming across rivers. The New World calabash is the shell of the fruit of Crescentia cujete, *L.*, a tree of the West Indies and South America, applied to various domestic purposes, and often carefully carved or painted.—*Rohde, MSS.*

CALABASH NUTMEG, Monodora myristica, var., of tropical West Africa, bearing globular fruits, 4 to 6 inches in diameter, filled with aromatic seeds. These might, with advantage, be brought to India.

CALABA TREE, Calophyllum calaba, *Linn.*

CALACUTA, in Hindu mythology, a poison produced from the churning of the ocean.

CALADANA. HIND. Pharbitis nil.

CALADIUM ESCULENTUM. *Willde.*

Colocasia esculenta, *Schott.*	Ervi, ... HIND.

A small bulbous root, sown from March to July in rows of beds, mostly along a watercourse where ginger is planted. It requires much water, and takes from six to seven months to ripen. When boiled and then roasted, it is very wholesome, and somewhat resembles a yam in taste; the natives also put it into curries. It is not liked by Europeans.

CALADIUM XANTHORIZUM. *Smith.*

Kwei-kui, . . . CHIN.	Tuh-kioh-lien, . . CHIN.

This Chinese arum has a round irregular bulb, used medicinally.—*Smith.*

CALAH, one of the three cities mentioned in Genesis x. 11, 12 as having been restored by Asshur, son of Shem. B.C. 746, Calah revolted, and Tiglath-Pileser became ruler of Assyria. It has been identified as the modern Nimrud, q.v.

CALA JIRA. HIND. Fennel flower seed.

CALAMANDER WOOD.

Koulou-midrie, . SINGH.	Kalumederiye, . SINGH.
Koulmidrie, . . ,,	Calamander maram? TAM.

A commercial term applied to the woods of two or three species of Dalbergia growing in Ceylon, one of them the D. quæsita, *Thw.* It is scarce even in Ceylon; it is probably the most beautiful of all fancy woods. The figure is between that of rosewood and zebra-wood; the colour of the ground is usually a rich hazel brown, described as chocolate brown with black stripes. It is hard, and turns well. Mr. Rohde (*MSS.*) met with variegated ebony of rich lustre in logs of ebony cut in the Northern Circar hills, but whether this was owing to the wood being young, or whether the wood was from a distinct tree, he did not know; but there seems no doubt that very many trees yield an ebony.—*Ains. Mat. Med.* p. 211; *M'Culloch; Rohde, MSS.; Holtzapfel; Mendis; Fergusson; Thwaites.* See Dalbergia.

CALAMARIDÆ, the family of dwarf snakes. See Reptiles.

CALAMARIES, or Squids, are molluscous animals, of the family Teuthidæ, section Decapoda. Most of the genera are fossil; but Loligo or Teuthis has twenty-one recent species, and one of them is luminous at night. See Mollusca.

CALAMBAC, Chin-hiang, CHIN., also Calambeg, called aloes-wood, is the agallochum of the ancients, and the agila or eagle-wood of the moderns. It is produced in Siam and Sylhet by Aquilaria agallocha.—*Royle, Illustr.* p. 171.

CALAMBUCO, one of the best timber trees of the Philippines. The wood is largely employed in the fabrication of domestic utensils and agricultural implements.—*Crawfurd, Dic.* p. 79.

CALA MEEN. TAM. Polynemus Indicus.

CALAMINE.

Shih-sui-yuen, . . CHIN.	Calamina, . . . LAT.
Carbonate of zinc, ENG.	Zinci carbonas, . . ,,

Rough calamine is prepared for medicinal use by burning; prepared article, usually called oxide of zinc, is often adulterated with sulph. baryta, carbonate of lime, etc.—*Royle.*

CALAMUS. This genus of palm trees is indigenous to Southern Asia, and Dr. Griffiths enumerated 58 species. They abound in the Madras territories, along the foot of the Himalaya from Dehra Doon to Sylhet, in Assam, Chittagong, in the Malay Peninsula, Siam, Cochin-China, Sumatra, and in the Eastern Archipelago. The species are mostly spreading shrubs or small trees, erect, or climbing to a considerable height, or trailing their weak stems several hundred feet along. They furnish the dragon's blood, Malacca canes, and rattans of commerce, some being formed into walking-sticks; some, as the C. rotang and others, form the canes or rattans of commerce, of which the people of the Khassya hills make bridges 300 feet long, and those of the Animally hills are formed into long looped ladders. The hard flinty coating of the cane stems are readily split into strips, from which the bottoms of chairs and similar articles are manufactured. It is not, however, possible to say from what particular species the canes of the shops are obtained, it being probable that many are gathered indiscriminately; C. rotang has, however, been said to furnish the stouter, and C. scipionum the more slender sorts. But the C. tenuis of Assam, C. gracilis, C. extensus, and others, all furnish the canes of commerce. The stem of Calamus verus is described as being 100 feet long, that of C. oblongus 300 to 400 feet, of C. rudentum upwards of 500 feet, and of C. extensus as much as 600 feet. Rumphius even states (vol. v. 100) that one kind attains the extraordinary length of 1200 feet. The cane stem is closely covered over by the tubular bases of the leaves, through which it is drawn by the cane-gatherers when green; afterwards it is dried in the sun, and then is ready for the market. The ground rattan is distinguished by its straight head and altogether straight and stiff character, as well as by its pale colour, some of them are at least an inch in diameter, and others not half that thickness. Some are distinguished by a hard, and others by a soft bark. It is not known whether the slender are of the same species as the thicker kinds, only growing in different situations, or from roots of different ages; but Rhapis flabelliformis is said to yield the ground rattan. Another kind of rattan is called dragon cane. This, both light and dark coloured, is thicker than the last, has long internodes and a hard bark, less flexible than the common rattans, but strong, springy, and much valued. A variety, with soft bark, is called Manilla dragon cane. Other kinds of canes, imported from China, are known, one with stiff stems and large knots, by the name of Jambee, another as Whangee. This has a pale, hard bark, and flexible stems, with internodes of about an inch and a half or two inches, and a number of little holes at the knots. Some of the canes of commerce, however, are produced by species of bambusa, saccharum, and other grasses. The flesh that surrounds the seeds of this genus is a delicate article of food; limpid water flows from the stems when cut through; and the young shoots of some of them, while still tender, are fritted or boiled, chopped small, and, being fried with pepper and gravy, are said to furnish a very delicate dish. One of the kinds of dragon's blood or jurnang is the produce of species of calamus; and those which chiefly yield it are the C. petræus, *Lour.*, C. rudentum, *Lour.*, C. verus, *Lour.*, and C. draco, *Willd.*, of which the last three were by Linnæus reckoned mere varieties of C. rotang. Mr. Gamble names 39 species.

Calamus arborescens, *Griff.*, is an arboreous species of rattan common in the Burma jungles. Griffith justly terms it 'a very elegant palm.'

Calamus draco, *Willde.*

Dam-ul-Akhwain, ARAB.	Rotan-jarnang, . MALAY.
Ky-eing-ni, . . BURM.	Kanda-murga-rattam,
Tu-tang, Koh-liu, . CHIN.	TAM.

This grows in Burma, the Malay Peninsula, Sumatra, and the Eastern Archipelago, and is said to be the species which, as a natural secretion of its fruit, yields the best d'jurnang or dragon's blood, an article of commerce from the earliest times, and still in demand. In the forest of Tenasserim, the natives call it 'red rattan,' as it produces a red exudation like dragon's blood. It is little known in the Peninsula of India. The plants when young are elegant, and resemble small palm trees, after which they become scandent,

and overrun any neighbouring trees. The fruits are fleshy, red, and astringent. Dragon's blood is of more importance in the arts than in medicine, being chiefly used as an ingredient in varnishes and paints. In commerce it occurs in powder, grains, masses, drops the size of an olive, and in sticks, enveloped in the leaf of the talipot palm.

Calamus erectus, *Roxb.* Its seeds are used as a substitute for betel-nut.

Calamus extensus, *Roxb.*, Nela poka, TEL. Its seeds are used for betel-nut. See Canes.

Calamus fasciculatus, *Roxb.* Rattan cane.

Buro-bet, . . .	BENG.	Parambu, . . .	TAM.
Perambu, . .	MALEAL.	Amla Vetasawmu,	TEL.

This cane is a native of Bengal, used for walking-sticks.

Calamus inermis, *T. And.*, furnishes the finest alpenstocks.

Calamus latifolius, *Roxb.*, of Chittagong, Burma, and the Andamans, is used for tying timber rafts, and to make cables.

Calamus montanus, *T. And.*, of Sikhim and Bhutan, is the best cane for suspension bridges and for dragging logs.

Calamus rotang, *Linn.* Rattan cane.
C. Roxburghii, *Griff.*, *Royle.*

Bet, Beta, . . .	BENG.	Betamu, Bettapu,	TEL.
Rotan, ...	MALAY.	Niru Prabba, Pemu,	,,
Bed, ...	PERS.	Pepu, ...	,,
Perambu, . . .	TAM.		

This species of calamus is said to furnish the stouter of the rattan canes of commerce, which are readily split into strips, are extensively used for the caning in the backs and bottoms of chairs, sofas, and light carriages; are made into matting, seats, sofas, baskets, and cabinets; and throughout the Archipelago vessels are furnished with cables formed of cane twisted or plaited. They are likewise formed into ropes by the people of the forests, to drag heavy weights and to bind wild elephants. The kinds employed for caning chairs, etc., are known in commerce by the name of rattan cane, and are yielded by long trailing species which abound wherever the genus is found. The most northern one, Calamus Royleanus, no doubt yields the rattans collected in the Dehra Doon, while C. Roxburghii doubtless yields those collected in more southern latitudes. Dragon cane is thick, both light and dark coloured, with long internodes and a hard bark, less flexible than the common rattans, but strong, springy, and much valued. C. Royleanus, C. rotang, common in Bengal and on the Coromandel coast, are used for all the ordinary purposes of cane; as also are C. tenuis of Assam, gracilis, extensus, and others. Canes form a considerable article of commerce. Between four and five millions of them have been exported from the East Indies. Dampier says: 'Here we made two new cables of rattans, each of them four inches about. Our captain bought the rattans, and hired a Chinese to work them, who was very expert in making such wooden cables. These cables I found serviceable enough after, in mooring the vessel with either of them; for when I carried out the anchor, the cable, being thrown out after me, swam like cork in the sea, so that I could see when it was tight, which we cannot so well discern in our hemp cables, whose weight sinks them down, nor can we carry them out but by placing two or three boats at some distance asunder, to buoy up the cable, while the long boat rows out the anchor.' The tow-ropes mentioned by Marco Polo as used by the Chinese for tracking their vessels on their numerous rivers and canals, seem also to have been made of cane, and not of bamboo, as sometimes stated, as they were split in their whole length of about thirty feet, and then twisted together into strong ropes some hundred feet in length. In Java, Sumatra, and throughout the eastern islands, vessels are furnished with cables formed of cane twisted or plaited. This sort of cable was very extensively manufactured at Malacca.

Mr. G. Bennet says (Wanderings, ii. p. 121) that near Macao the rattans are split longitudinally, soaked, and attached to a wheel, which one person keeps in motion, whilst another binds the split rattans together, adding others to the length from a quantity carried around his waist, until the required length of the rope is completed.

Calamus Royleanus, *Griff.*, the most northern of the canes, being found in the Dehra Doon, where it abounds. Plentiful in the eastern Kamaon forests, and used in all cane-work.

Calamus rudentum, *Loureiro*, grows on the Mahabaleshwar hills and Dekhan, also in Cochin-China and the Moluccas. Loureiro describes this large species as being twisted into ropes in the eastern regions, and employed, among other purposes, for dragging great weights, and for binding untamed elephants.

Calamus scipionem, *Loureiro.* Griffith considered this to be the species which yields the Malacca cane, but the plant does not appear about Malacca. He was, however, informed that the canes are imported from Siak, on the opposite coast of Sumatra. Some of these are simply mottled or clouded, others of a brown colour, in consequence, it is said, of their having been smoked. The more slender specimens with the longest internodes are those most highly valued.

Calamus viminalis, *Ainslie.*

Bet, ...	DUKH.	Perupum, ...	TAM.
Vetra, ...	SANSK.	Betta, ...	TEL.

It grows in the woods, and its fruit is eaten by the common people.—*Roxb.; Griffith; Seeman; Voigt; Royle, Fib. Pl.; Mason; O'Sh.; Bennet; Thompson; Ainslie*, p. 231; *Gamble.*

CALANDRA GRANARIA.

Ch'heda, Ghun, .	HIND.	Makora, . . .	HIND.

A weevil very destructive to grain. It is one of the insects styled goon by the people. See Insects.

CALANOS, a Brahman who accompanied Alexander the Great into Western Asia. He was an old man upwards of 80, and went along with Alexander through Gedrosia, the modern Makran. But at Pasargada, in Persia, he fell sick, and ended his life by immolating himself on a pile. According to Plutarch, his real name was Sphones. His native country was on the banks of the river Camala.—*Cal. Rev.* See Zarmano Chegas.

CALAPA. MALAY. Cocoanut palm. From this is derived the old word for the cocoanut, calaper, still usual amongst sailors.

CALAPNATH. HIND. Andrographis paniculata.

CALASTRI or Kalahasti is a zamindari estate in the Madras district of North Arcot, Madras. The town, in lat. 13° 45′ N., and long. 79° 44′ E., is the principal town of a Hindu chief known as the raja of Calastri.

CALCAREOUS SPAR. Calc-spar.

Ying-shwui-shih, .	CHIN.	Han-shwui-shih, .	CHIN.
Peh-shwui-shih, .	,,	Safed surma, . .	HIND.

The varieties of this mineral are calc-spar, Iceland spar, satin spar, chalk, rock milk, calcareous tufa, stalactite, stalagmite, limestone, oolite, pisolite, argentine, Fontainebleau limestone, white and clouded marbles, statuary marble, compact limestone, stinkstone, anthraconite, plumbo calcite, mineral agaric. Calcareous spar is used in India medicinally, and they call it white antimony, probably from its rhombohedral fracture resembling that of galena, which is usually employed in lieu of antimony; and natives use this also for the eyes, just as they do sulphide of antimony. At Sankerydroog, 25 miles S.W. of Salem, a great quantity of calcareous spar is burnt and sent to Salem and other parts, for eating with betel, as betel-eaters hold it in esteem. It requires a much greater heat than the ordinary kinds of limestone, and is generally burnt in small circular kilns with a jungle shrub, which gives out a great heat. When burnt it is much whiter than ordinary chunam, takes a most beautiful polish, and is much used for the last coat of plaster in houses, etc., giving the appearance of the whitest marble when polished. It occurs also at Masulipatam and in Travancore; rhomb spar at Nellore, and satin spar, or fibrous carbonate of lime, in the Hyderabad territory. Calcium is estimated to constitute one-fourth part, by weight, of the materials of which the earth consists. The importance of the uses of the compounds corresponds with the abundance of the element itself. But for the use of calcium in separating iron from ore, iron would not occupy the important position it does. Its compounds form ranges of mountains, coral islands, and chalk cliffs. There are few industries which do not depend in some way upon it in the form of carbonate of lime, as limestone, chalk, marble, calc-spar, and shells.

Calcined shells, Poh-fen and Hai-koh-fen of the Chinese, when finely powdered, are used in China as a face powder, or for dusting sores. The famed polished wall plaster of the Madras houses is made of lime prepared from calcined shells dredged from the neighbouring Pulicat lake. See Chunam.

Calcis carbonas, Chalk, Carbonate of lime.

Kils,	ARAB.	Karrimatti,	HIND.
H'toung h'pyu,	BURM.	Kapur ingris,	MALAY.
Craie,	FR.	Gil safed,	PERS.
Kohlensaurer kalk,	GER.	Simi chunambu,	TAM.
Valaiti chuna,	HIND.		

Chalk is only seen as an article of import into India. The Hindustani, Malay, and Tamil names describe it as foreign lime. It is used in households; but the bones of vertebrata, a large part of the shells of testaceous mollusca, of crustacea, corals, oyster shells, crab's claws, crab's eyes, as they are called, are all employed in eastern countries medicinally, as also the lapis judaicus, which is the spine of fossil echinus. All consist of pure carbonate of lime, with some animal matter intimately intermixed.—*Royle.*

CALCULUS CYSTICUS, bezoar.

Hajr-ul-Bakir,	ARAB.	Gauzereh,	PERS.
Gairun,	DUKH.	Gorochana,	SANSK.
Biliary calculus,	ENG.	Koroshanam,	TAM.

Biliary concretions occasionally found in the gall bladders of horned cattle in India. They are generally contained in a little bag, which holds two or three small calculi, each about the size of a tamarind stone, or one large one as big as a marble. They are of a bright yellow colour, and are considered by native practitioners as highly valuable in certain indispositions of young children, owing to their cordial and alexipharmic qualities. A piece about the bigness of a mustard seed is commonly given for a dose to a babe of two months old, in conjunction with an infusion of omum or siragum. This substance is also used, together with kadukai and machakai, in preparing a mixture for cleansing the inside of the mouths of new-born infants. The Vyteans prescribe a solution of it in warm ghi, to be poured up the nose in cases of nervous headache; and they administer it, too, in doshum (typhus fever), made into a draught with woman's milk.—*Ains. Mat. Med.* p. 85. See Bezoar; Gall Stones.

CALCUTTA, in lat. 22° 34′ 2″ N., long. 88° 23′ 59″ E., at the cistern of the barometer at the Surveyor-General's office, is 18 feet (G. T. S.) above the sea. It is the capital of British India, built on the left or eastern bank of the Hoogly river. It is a place of great trade, and has a mint, a cathedral, a governor's house, a fortress, a town hall, great hospitals, schools and colleges, a botanical garden, custom office, high court, and public monuments to Sir David Ouchterlony, Warren Hastings, Wellesley, Cornwallis, Outram, and others. The name is from Kalika (Kali, and ăt), to move, also said to be from Kali Kota, and it was the first concession to the British in that part of India. It was, when they obtained it, only a miserable village known also as Kali Ghat, of which also some believe its present name is a corruption. It is about 80 miles from the Bay of Bengal. On the 18th June 1756, it was taken by Suraj-ud-Dowla. Messrs. Drake and Minchin had made their escape along with the women and children, but Mr. Holwell held out for forty-eight hours longer, and he and 146 of the people were then imprisoned in a small guard-room, about 20 feet square, and on the following morning only twenty-three issued alive. The guard-room was thenceforward known as the Black Hole of Calcutta. In January 1757 it was recovered by a detachment from Madras under Admirals Watson and Clive, and the treaty of Calcutta was agreed to on the 9th February 1757. The population greatly increased:—

1710,		10,000 to 12,000
1752.	Mr. Holwell's estimate,	409,056
1814.	By Sir E. Hyde East,	700,000
1821.	By Town Assessors,	179,917
1821.	By Calcutta Magistrates,	230,552
1831.	By Captain Steel, Superint. of Police,	187,081
1837.	By Captain F. W. Birch, do. do.,	229,714
1850.	By Mr. Simms, Surveyor of Calcutta,	361,369
1866.	By the Justice of the Police,	377,924
1872.	In the Census of Lower Bengal,	429,535
1881,		684,658

In 1686 the English merchants quited Hugli and occupied the three river-side hamlets, Sutanati, Kalikata, and Govindpur, where in 1696 they erected the original Fort William, and in 1700 they formally purchased the site from prince Azim, son or grandson of Alamgir I. Between 1752 and 1773, the present fortress was constructed, at a cost of two kror, and the natives gathered around it. After the battle of Plassey, a mint was established, and the first coin was issued on the 19th August 1757. In 1797 it was declared a presidency. The town has a European and a native portion; and until the latter half of the 19th century, its insanatory condition was con-

stantly exposed. There are now several colleges, medical schools, and hospitals. In 1873 the death-rate was 25·82 per 1000. It has several times suffered from cyclones; those of 5th October 1864 and 2d November 1867 caused great damage to the houses and to the shipping.

Calcutta municipality exercises jurisdiction over seven square miles. The Mahratta Ditch, around Calcutta, was excavated by the natives in the middle of the 18th century, as a protection against Mahratta inroads. Calcutta has been the nurse of many able statesmen, learned men, and philosophers,—Warren Hastings, Sir John Shore, Sir William Jones, Drs. John Borthwick Gilchrist, Horace Hayman Wilson, Francis Balfour, N. Wallich, Sir W. O'Shaughnessy, Buchanan, Lord Dalhousie, and Lord Canning, Mr. Carey, Mr. Marshman, and James Prinsep.—*Imp. Gaz.*

CALDANI, a body of Christians in Kurdistan who use the Syrian language in their liturgy.—*De Bode.* See Kuldi.

CALDERA BUSH, Screw pine.

Talam, ... Tam. | Mogili, ... Tel.

This is the Pandanus odoratissimus, *Linn.*, which was brought into India from the Mauritius. Its leaves are valuable for making soft matting; the droops from the stem are a mass of tolerably fine fibres, and the ends, beaten out, are used by plasterers for brushes; the fibre is used for lines and cordage; and the plant itself makes good fences near the sea, but it soon becomes straggling. —*Rohde, MSS.*

CALDOORTY, in Travancore, 700 feet above the sea, has a rainfall of 150 to 200 inches. Tea is grown there.

CALDWELL, The Rev. Dr. R., during the latter half of the 19th century a missionary for Christianity in the south of peninsular India; author of the Comparative Grammar of the Dravidian Languages, and On the Shanar Race. His success in conversions was great, and he was created a bishop of the English Church.

CALEMBERI. Singh. Coromandel or calamander wood.

CALENDAR. Nations have adopted different divisions of time, from which history has presented difficulties and contradictions. That of the Chaldæans was seen by Callisthenes, the favourite of Alexander. It commenced B.C. 2234. The Chinese calendar was reformed under the Han dynasty, B.C. 1991.

The Romans called the first day of each month Calend, from a word which signified 'called,' because the pontiffs on those days summoned the people together, to apprise them of the days of festival in that month. The Roman calendar is stated to have been introduced by Romulus, the founder of Rome. He divided the year into ten months only,—Mars, Aprilis, Maius, Junius, Quintilis (afterwards called Julius), Sextilis (afterwards called Augustus), September, October, November, and December. Mars, Maius, Quintilis, and October contained 31 days, and each of the six other months 30 days, so that the ten months comprised 304 days. The year of Romulus was therefore of 50 days' less duration than the lunar year, and of 61 days less than the solar year.

Numa Pompilius placed two months, Januarius and Februarius, before Mars. Julius Cæsar consulted the astronomers of his time, and fixed the solar year as 365 days 6 hours, comprising, as they thought, the period from one vernal equinox to another. The six hours were set aside, and at the end of four years forming a day, the fourth year was made to consist of 366 days. The day thus added was called intercalary, and was added to the month of February, by doubling the 24th of that month, or, according to their way of reckoning, the sixth of the calends of March. Hence the year was called bissextile. This almost perfect arrangement, which was denominated the Julian style, prevailed generally throughout the Christian world till the time of Pope Gregory XIII. The calendar of Julius Cæsar was defective in this particular, that the solar year, consisting of 365 days 5 hours and 49 minutes, and not of 365 days 6 hours, as was supposed in the time of Julius Cæsar, there was a difference between the apparent year and the real year of 11 minutes. This difference at the time of Gregory XIII. had amounted to ten entire days, the vernal equinox falling on the 11th instead of the 21st of March, at which period it fell correctly at the time of the Council of Nice in the year 325. To obviate this inconvenience, Gregory, in 1582, ordained that the 15th of October should be counted instead of the 5th for the future.

The solar, *i.e.* really the sidereal year, called the Shuboor Sun, or vulgarly the Soor Sun, that is, the year of (Arabic) months, was apparently introduced into the Dekhan by Taghalaq Shah, between A.C. 1341 and 1344, and it is still used by the Mahrattas in all their more important documents, the dates being inserted in Arabic words written in Mahratti characters. The Fasli or 'harvest' year of other parts of India was not introduced until the reign of Akbar and Shah Jahan, and they mostly continue to this day to be used even by the British in revenue accounts. —*History of the Sikhs; Captain Cunningham*, p. 34; *Bunsen*, ii. pp. 402, 442; *T. of Ind. Cal.* See Era.

CALENDERING. Mora, Tel. A term said to be corrupted from cylindering, cotton or linen goods being passed between cylinders or rollers, and made of a level and uniform surface. In India, an appearance similar to that produced by calendering is given to goods, particularly to such chintzes as were intended for the Persian market, by beating them, and then rubbing them on a board with a shell slightly waxed. The texture is no doubt injured by it. The coarse cloths formerly largely exported, were beaten with a heavy block on a log of wood, before being made up in bales.—*Rohde, MSS.*

CALENDRELLA BRACHYDACTYLA, the Alauda brachydactyla, or short-toed lark of S. Europe, N. Africa; rare in Britain; extremely common in India, where it is currently known to Europeans as the ortolan.

CALF. As the Basava and Nandi of the Hindus, the brazen calf mentioned in Scripture as an object of worship by the Hebrews is still worshipped by Hindus in India. It is rarely if ever of wood, is often of brass, but oftener of stone. See Bull, Lingam; Nandi.

CALI, the Diana Taurica of Greece. See Kali.

CALI, in Hinduism, the expected tenth incarnation of Vishnu in the shape of a white horse with a human head. See Kali.

CALICHI-KAI. Tam. Bonduc nut; Cæsalpinia bonducella.

CALICO.

Kattun, ...	DAN.	Pano de Algodao, .	PORT.
Katoen, , . . .	DUT.	Wuboika, . . .	RUS.
Toile de coton; Coton,	FR.	Tela de Algodon, .	SP.
Kapra, ...	HIND.	Cattun, ...	SW.
Bombagina; Tela, .	IT.	Tuni, ...	TAM.
Kayin-Kapas, .	MALAY.	Gud'da, ...	TEL.
Bawelnika, . . .	POL.		

Cotton cloth, originally manufactured at Calicut on the Malabar coast, still largely made in India, but much of that used is brought from Britain. Arrian (i. 539) speaks of the beautiful white linens of India, probably the same with the modern calicoes. These formed, as they do at present, a great part of the people's clothing.

CALICOIL, a stronghold of the raja of the Kollari race, now ruled by the Puducottah raja.

CALICO PRINTING. This art was common to the Egyptians and the Hindus, and is still largely practised by the latter, with a skill which produces much to be admired, even in the midst of the productions of the world, and after so many attempts have been made to improve this art, certainly imported from the East. Pliny was acquainted with the wonderful art by which cloths, though immersed in a heated dyeing liquor of one uniform colour, came out tinged with different colours, which afterwards could not be discharged by washing. The people of India apply the mordants both by pencils and by engraved blocks. The cloth-printers at Dacca stamp the figures on cloth which is to be embroidered. The stamps are formed of small blocks of kantul (artocarpus) wood, with the figures carved in relief. The colouring matter is a red earth imported from Bombay, probably the so-called 'Indian earth' from the Persian Gulf. Though the art is now practised to much perfection in Britain, Indian patterns still retain their own particular beauties, and command a crowd of admirers. This is no doubt due in a great measure to the knowledge which they have of the effect of colours, and the proportions which they preserve between the ground and the pattern, by which a good effect is procured both at a distance and on a near inspection. Printing in gold and in silver is a branch of the art which has been carried to great perfection in India, as well upon thick calico as upon fine muslin. The size which is used is not mentioned, but in the Burmese territory the juice of a plant is used, which no doubt contains caoutchouc in a state of solution.—*Royle, Arts, etc., of India*, p. 483; *Pennant's Hindoostan*, i. p. 132; *M'Culloch's Commercial Dictionary*, p. 215.

CALICUT, a seaport town on the Malabar coast, in lat. 11° 15′ 2″ N., long. 75° 15½′ E., and six miles N. of Beypur. It is not visible from the ocean, the only building to be seen being a tall white lighthouse. Thick groves of cocoanut trees line the shore, and are divided from the sea by a belt of sand, while undulating green hills rise up behind, and a background of mountains is often hidden by banks of clouds. The name is from Colicodu or Colikukaga, a cock crowing, as Cheruman Permal gave his sword, and all the land within cockcrow of a small temple, to the Zamorin, or raja of Calicut, who attained considerable power in the 15th century. Pedro da Covilham, the Portuguese, landed here about 1486, Vasco da Gama in 1498; in 1501 Alvarez Cabral established a factory here, but the colony was massacred, which Da Gama revenged, and in 1510 Albuquerque burnt the Zamorin's palace. The Danish Government established a factory in 1752. In 1766, when Hyder Ali invaded Malabar, the Zamorin shut himself up in his palace and set fire to it, dying with his family in the flames. It has been repeatedly in the hands of the Portuguese, Dutch, French, British, and Mysoreans, and in 1817 it was restored with Mahe to the French. Tipu Sultan destroyed its flourishing trade, expelled from the country the merchants and factors of the foreign commercial houses, caused the cocoanut and sandal trees to be cut down, and ordered the pepper plants in the whole surrounding district to be torn up and hacked to pieces, because these plants, as he said, brought riches to the Europeans, and enabled them to carry on war against the Indians. Besides cocoanut products, coffee, pepper, cardamoms, ginger, cocculus Indicus, gingelly seed, turmeric, arrowroot, croton seeds, and terra japonica form articles of export. There are many of the Tiar and 15,837 of the Moplah race in the Calicut district. The population in 1871 was 48,338, of whom 11,983, or 33 per cent., were Shanars, or toddy drawers from the palms.—*Imp. Gaz.; Horsburgh; Bartolomeo's Voyage.*

CALICUT MANCHE, a trading ship of the western coast of India. See Boat.

CALIF, from the Arabic khalifah, a vicegerent, was the title assumed by the Mahomedan rulers at Baghdad, of whom the first after Mahomed were Abubakr, Umar, Usman, and Ali. Under the Abbas dynasty they attained to great power. In Central Asia, the sultan at Constantinople is even now by most sunni called the Khalif of Rum. They claim that this dignified position was granted to Selim I. by a descendant of Ahmad; and it is through Ahmad and Mutawakkal B'Illah that they claim to have had transferred the right to the office of khalif of Islam. It is, however, an elective office. See Khalif.

CALI-KASTURI. BENG. Abelmoschus moschatus.

CALIMERE POINT, a cape or promontory in the Tanjore collectorate, the Calligicum of Ptolemy, in lat. 10° 17′ N., long. 79° 56′ E., the most southerly point on the Coromandel coast. Two pagodas near each other, are about a mile from the shore.—*Imp. Gaz.*

CALI-NADI. The boundary between Dehli and Kanouj was the Cali-nadi, or black stream,—the Calindi of the Greek geographers.—*Tod's Rajasthan*, ii. p. 9.

CALINGA, an ancient kingdom on the eastern coast of the Peninsula of India, at its upper end. The dynasty ruled at Rajamundry and in the Northern Circars. The meaning of the word is a country abounding with creeks. The town of Kalingapatam alone remains to indicate the rule of that dynasty; but the term Kling or Kalen of Burma, and the Hindu religion of the Javanese, seem to have come from them.

Kalingapatam is in lat. 18° 20′ N., long. 84° 10′ E., a seaport town on the right bank of the Vomshudara river, 15 miles N. of Chicacole. It is in the Ganjam district. Under Mahomedan rule it was a trading port of consequence, and the remains of a large town are still to be seen. There is good anchorage. The exports are rice, wheat, oil-seeds, grain, hides, timber, beeswax.

CALINGULA. TAM. A sluice, a weir, or

waterway, constructed in the bunds or dams of tanks to permit the escape of surplus water, and thus guard against the accumulating waters overflowing the softer parts of the dam.

CALI-SIND. This river comes from Rangri, and its petty branch, the Sodwia, from Raghughur. There are four rivers in India called Sind,—first the Sind or Indus; the Little Sind; the Cali Sind, or black river; and the Sind rising at Latoti, on the plateau west and above Seronge.

CALI YUGA. See Yuga.

CALLAGOUK ISLAND, lat. 15° 34′ 12″ N., long. 97° 38′ E., in the opening of the Gulf of Martaban, is a small granite island rising about 150 feet above the sea, with few trees, and with a small skirting shore with indenting bay, in which mangroves grow. It has also the name of Curlew Island. Stones for the lighthouse at Cape Negrais were quarried here.

CALLIAN, the Kalliara of the Periplus, a town near Bombay. It has all around an extensive series of Buddhist caves, one or two chaitya or waggon-vaulted caves, with the dahgopa; also vihara or monasteries, hermitages, vaulted reservoirs for water. The identity of Callian with Kalliara has been disputed, but is generally recognised, as it is mentioned by Cosmas, who was only acquainted with the western coast of the Peninsula.

CALLIANDRA CYNOMETROIDES. *Bedd.* An interesting tree growing on the Tinnevelly and Travancore mountains at 2500 feet elevation, in the dense, moist forest not far from Courtallum. It is in flower and ripens its fruit in November. Its timber is very good.—*Beddome.* See Inga.

CALLICARPA, a genus of plants of the order Verbenaceæ. Roxburgh described eleven species,—acuminata, Americana, arborea, cuspidata, incana, lanata, longifolia, macrophylla, lanceolaria, pentandra, and purpurea.

C. Arborea, *Roxb.* i. 390, a stout, tall tree of Nepal, Kamaon, Oudh, the Morung mountains, Goalpara, Chittagong, and Moulmein.

C. Incana, *Roxb.* i. 393.

Mashandari, . . BENG.	Bannu, ... JH.
Muttura; Muttranja, ,,	Sumali, ... CHEN.
Pattharman; B'a-pattra, JH.	Denthur; Druss, . RAV.

Grows in the Panjab.—*Voigt; J. L. Stewart.*

C. Lanata, *Linn.*

Callicarpa cana, *Linn.*	Callicarpa Americana, *Lour.*
,, tomentosa, *Lam.*	
Massandari, . . BENG.	Tondi; Teregam, MALEAL.
Aroosha fibre of Chittagong	Kat Komul, . . TAM.
Bastra, ... HIND.	

This plant is recommended by Dr. Royle for the fibre of its inner bark, Thondy nar. O'Shaughnessy says it is bitterish, and rather aromatic.

C. Wallichiana, *Walp.*, a very small tree of the western forests generally.—*Royle, F. Pl.* p. 310; *O'Sh.* p. 456.

CALLICHROUS CHECHRA. *B. Ham.* The butter fish of the rivers of India.

CALLIGONUM POLYGONOIDES. *Linn.*

Balanja, . TRANS-INDUS.	Flowers—Phogally.
Berwaja, . ,, ,,	Root—Tirni.
Phok or Phog, CIS-INDUS.	

The shoots of this moderately-sized shrub are greedily eaten by goats and camels; the wood is used as fuel; and in Bikanir the twigs are much used for huts and for linings of shallow wells. In the Cis-Sutlej and Southern Panjab, the fallen flowers are used as largely as in Muzaffargurh for food; they are made into bread, or are cooked with ghi, and eaten as a relish.—*Stewart; Powell.*

CALLINICUS, a surname of the second Seleucus, B.C. 246, and the fourth of the Syrian rulers after Alexander. See Greeks.

CALLIOPSIS, a genus of flowering plants, esteemed in India. In sowing, dig and pulverize 18 inches deep; give abundance of manure. Water before sowing; sow thinly, and press, and cover with fine sand.—*Riddell.*

CALLISTEPHUS CHINENSIS. *Cass.* Chinese star. Several other species are named by Voigt as having been grown near Calcutta.—*Voigt.*

CALLISTHENES, as the friend of Alexander, was permitted access to the Babylonish records. It is stated in the Dabistan, that Callisthenes sent to his uncle a technical system of logic (Nyaya), which was the basis of the Aristotelian system. See Babylon; Calendar.

CALLITRIS QUADRIVALVIS. *Vent.*

Thuja articulata, *Desf.* | Jointed Arbor vitæ, ENG.

The plant coppices readily, and is largely used for fuel; its roots furnish the beautifully-grained Citrus wood for ornamental work. It produces the juniper resin or sandarach of commerce.

CALLOCEPHALON GALEATUM, the Ganga cockatoo of Australia.

CALLUCA, an ancient commentator of the Vedas. His era is not known, but he lived at a time when the religious views were on the change.

CALNEH, an ancient town, on the site of which it is supposed that Ctesiphon was built.

CALOEE or Caloaie. SUMATRAN. The Rheea, China grass, Boehmeria nivea.

CALOENAS NICOBARICUS, the Nicobar pigeon, is of great size and splendour. Its appearance and habits exhibit a near approach to the gallinaceous birds. It lives chiefly on the ground, runs with great swiftness, and flies up into a tree when disturbed. Its nest is of the rude platform construction usual among the pigeon family. Eggs are white.—*Macgillivray's Voyage*, i. p. 244; *Jerdon.*

CALOMEL, the Shwui-yin-fen and Hung-fen-king-fen of the Chinese. A chloride of mercury used in medicine by European and native medical practitioners. It is known in India as Raskapur, but this is rarely free from soluble corrosive sublimate, which is often present in poisonous proportions, unfitting such for medicinal use. It is largely made by the Chinese.—*Powell.*

CALONYCTION GRANDIFLORUM. *Choisy.*

Convolvulus latiflorus, *Desr.*	Ipomœa latiflora, *Rom. and Schult.*
C. grandiflorus, *Linn.*	
Moon flower, . . ENG.	Naga-mughatei, . TAM.
Munda valli, . MALEAL.	Vuladambu, , . . ,,
Alanga, . . . SINGH.	Naga-rama-katti, . TEL.

This beautiful creeper was introduced into the East, from the West Indies. Its large pure white blossoms open at sunset and fade at daylight. Its seeds, when young, are eaten.—*O'Sh.*

CALONYCTION ROXBURGHII. *G. Don.*

Ipomœa grandiflora, *Roxb.*, *Rheede.*

Nway-ka-zwoon a phyoo, . . . BURM.	Chandnee, . . . HIND.
	Panditi vankaia, . TEL.

A large-flowered species, whose snowy blossoms

open at sunset and shut at daylight. It is sometimes carried over arbours and pandals. It is

'The white moon-flower, such as shows
On Serendib's high crags to those
Who near the isle at evening sail,
Scenting her clove trees in the gale.'—*Mason.*

CALONYCTION SPECIOSUM. *Choisy.*

Ipomœa bona nox, *Linn.* | Munda Valli, *Van Rheede.*

This species is seen in European gardens.

CALOPHYLLUM (from the Greek Kalos, beautiful, and Phullon, a leaf), a genus of plants belonging to the natural order Garciniaceæ. C. angustifolium, inophyllum, and tacamahaca, grow in S.E. Asia; but in Southern India several species have not as yet been determined. They furnish useful timber,—C. angustifolium yielding one of the poon spars of commerce, and C. calaba, the East Indian tacamahaca, though C. inophyllum is also quoted as the tacamahaca tree. In Tenasserim the house carpenters often use the timber of a species of calophyllum, which also furnishes spars. A species of the Poona marum is a large tree common in the Western Ghats of peninsular India. Its wood is much used in house, and to some extent in ship building. C. angustifolium grows in Penang; C. Blumii, *Wight*, in Java; C. Burmanni, in Ceylon; C. decipiens, in Travancore; C. longifolium, in Bombay; C. Moonii, in Ceylon; C. polyanthum, *Wall.*, in the Khassya mountains; C. tacamahaca, in Madagascar and the Seychelles; C. tomentosum, *Wight*, in Ceylon. C. amœnum, *Wall.*, is a timber tree of the Andaman Islands. C. bintagor grows in the Moluccas. C. bracteatum, *Thw.*, a great tree growing in the Saffragam district of Ceylon by the sides of streams, at no great elevation. C. Burmanni, *Wight, Illust.* i. 129, grows in the hotter parts of the island of Ceylon, and at no great elevation. C. cuneifolium, *Thw.*, a great tree, grows in Ceylon at an elevation of 3000 to 4000 feet at Madamahanewera. C. Moonii, *Wight, Illust.* i. 129, Domba keena-gass, SINGH., a great tree of the Ceylon forests, in the district between Galle and Ratnapura; not uncommon. C. tomentosum, *Wight, Illust.* i. 128, Keena tel, SINGH., is a tree of Ceylon, growing abundantly in the Central Provinces, at an elevation of 3000 to 5000 feet; common; its timber is valued for building purposes; and the seeds are collected in considerable quantities for the oil they contain. C. trapezifolium, *Thw.*, a great tree of Ceylon in the Hunasgiria district, in the Central Provinces, growing at an elevation of 4000 to 5000 feet. C. Walkerii, *Wight, Illust.* i., a tree of Newera Ellia, Adam's Peak, and other of the most elevated parts of Ceylon. An oil is extracted from the seeds of this and the other species of the genus, which is used for burning.—*Thw. Enum. Pl. Zeyl.* i. p. 51; *Choisy; Roxb.; Voigt; Mason; Gamble.*

CALOPHYLLUM ACUMINATUM. Waldombe, SINGH. A tree of the western parts of Ceylon, the timber of which is used for common house-building purposes. A cubic foot weighs 39 pounds. It lasts 20 years.—*Mr. Mendis.*

CALOPHYLLUM ANGUSTIFOLIUM, *Roxburgh*, is said to be a tree of Penang, and to occur also in Coorg, Mysore, Canara, and along the ghats, northwards to Sawuntwari, but rarely of any great size beyond the line of the Nilcoond ghat. It is here that, according to Dr. Cleghorn, poon spars are obtained from this tree. Dr. Gibson also says that, to the best of his knowledge, poon spars are furnished by Calophyllum angustifolium, which is a magnificent tree in the ravines of the Southern Ghats. In habit and appearance it is totally distinct from C. inophyllum. He says that it is from the inland forests of Canara, backed as these are by those of Coorg to the east, that the supply of poon spars is principally drawn. In 1850 Dr. Wight was satisfied that Dillenia pentagynia is a tree which furnishes poon spars.—*Drs. Gibson, Cleghorn, and Wight; Mr. Rohde's MSS.; Dr. Roxburgh; Tredgold; Markham*, p. 452. See Poon.

CALOPHYLLUM CALABA. *Linn.* Calaba tree.

C. spurium, *Choisy.* | C. apetalum, *Willd.*
C. calabioides, *G. Don.* | C. Wightiana, *Wall.*
Bubbe mara, . . . CAN. | Gorrukeenee, . . SINGH.
Tsiru panna, . MALEAL. | Cheru Pinnai, . . TAM.

This is a native of the western provinces of Ceylon, of Travancore, and in Canara and Sunda; it grows on the banks of rivers and streams, chiefly above the ghats, and produces the true East Indian tacamahaca resin. It grows to a height of 60 feet, and its timber is used for bullock carts, staves, cask headings, house-building, and for canoes. Sir J. Herschel seems to think the East Indian tacamahaca to be the produce of C. inophyllum, for he says specimens obtained from C. inophyllum, the tacamahaca of Ceylon, are desirable in order to aid pharmacologists in accurately determining the tacamahaca of European commerce.—*Herschel's Manual of Scientific Enquiry*, p. 414; *Dr. O'Shaughnessy; Mr. Mendis; Dr. Gibson; W. and A.* p. 103.

CALOPHYLLUM DECIPIENS. *Wight.*

Var. α. Foliis obovato-oblongis, basi rotundatis, grows in the Ambagamowa district.

Var. β. Foliis cordato-orbiculatis, grows at Hinidun Corle, at an elevation of 1000 to 2000 feet.—*Thw. En. Pl. Zeyl.* i. p. 51; *Wight, Ic.* 128.

CALOPHYLLUM ELATUM. *Bedd.*

C. tomentosum, *Wight, Hooker.*

Poongoo, . ANIMALLY. | Poon, Poone, . MALABAR.
Siri Poone, . . S. CAN.

A very large, straight tree, with numerous longitudinal cracks down the bark. Grows abundantly in most of the moist ghat forests or sholas on the western coast from Canara down to Cape Comorin, and in similar forests on the lower Pulneys, Anamallai, Coorg, Mysore, and the Sirumallai. It is never found in dry, deciduous forests. Colonel Beddome says it yields the poon spar of commerce. Thousands of these trees have lately been destroyed by the axe of coffee-planters in Malabar, Coorg, and Travancore; quantities still remain, but chiefly in very inaccessible places. In the ghat forests of South Canara they are felled by the Forest Department, and floated down rivers to the coast depots; but the demand for the article does not seem great, though many years ago a single fine spar has fetched as much as Rs. 1000. The wood is scarcely known, except as a spar, though it is occasionally used for building and bridge-work by planters; it is reddish, coarse-grained, but ornamental. The tree has never been planted, and would not succeed except in the moist forests on the mountains at an elevation of 1000 to 4000 feet; it flowers in January and February, and the seed falls early in the rains, and germinates freely in the dense shade of

the shola forests. This tree was for some years supposed to be the Calophyllum angustifolium of Roxburgh, which is from the Prince of Wales' Island.—*Beddome, Fl. Sylv.* p. 2.

CALOPHYLLUM INOPHYLLUM. *Linn.*

C. bintagor, *Roxb.*	Balsamaria inophyllum, *L.*
Phung-nyet, . . . BURM.	Ponna, . . . MALEAL.
Wuma mara, . . CAN.	Domba Gass, . . SINGH.
Alexandrian laurel, ENG.	Tamanu, . . . TAHITI.
Undi; Sultana champa, HIND.	Pinne maram, . . TAM.
	Punnaga chettu, . . TEL.

This beautiful tree, with an appropriate name, grows in the western part of Ceylon, where it is employed for masts and cross sticks of Yettra dhonies and fishing boats, and poles of bullock carts. A cubic foot weighs 40 pounds. In the alpine forests it attains a great size, and it furnishes part of the poon spars so valuable for shipping. This grows to a considerable size on the Malabar coast, but is a still larger tree on the island of Balambangan and along the shores of Banguey and Sampamnangio, where it has got the names of Palo-Maria and Dancawn. It is also common in the Philippine Islands, where, as in Malabar, the natives prepare oil from its fruit. Near the Burman monasteries this fragrant-flowered calophyllum is occasionally seen. It is in flower and fruit most part of the year; it grows well in sandy tracts close to the sea, where few others thrive; it is rare at a distance from the coast. It yields fruit twice a year, in March and September, and frequently attains the age of 300 years. It is cultivated in Java for the sake of its shade and the fragrance of its flowers, and there the wood is much used in house, and to some extent in ship, building. Mr. Dalrymple tells us that no tree is superior to this for knees and crooked timber. A resin is obtained from the roots and trunk, said by some authorities to be identical with the tacamahaca of the isle of Bourbon. The flowers have the odour of mignonette. The seeds yield about 60 per cent. of their weight of oil. In the Samoan islands, the large ava bowl is made from the tamanu, C. inophyllum, and occupies a conspicuous place.—*Roxb.; Capt. Elphinstone Erskine, Islands of the Western Pacific*, p. 46; *Drs. Wight, Gibson, Mason, Ainslie, O'Shaughnessy; Eng. Cyc.; Voigt; Thwaites*, i. 51; *Bennet*, i. 112; *Seeman.* See Oils.

CALOPHYLLUM LONGIFOLIUM. *M'Cl.* Tha-ra-bi, BURM. In Pegu this is found near towns, together with two other species of the same genus, which are of smaller growth. It is abundant in Mergui, Tavoy, and in lesser quantities near the Attaran river and its feeders. Maximum girth, 3 cubits; maximum length, 22½ feet. When seasoned it sinks in water. It has a red wood, adapted to cabinetmaking, and is there used for planking, masts, and yards of junks; it is excellent for helves. Strongly recommended to make models.—*Dr. M'Clelland; Captain Dance.*

CALOPHYLLUM WIGHTIANUM. *Wall., Cat.*

C. spurium, *Choisy.*	C. calobates, *G. Don.*
C. apetalum, *Willde.*	C. calaba, *Linn.*, in part.
C. decipiens, *W. Ic.*	

Colonel Beddome unites all these as the Kal-Poon of S. Canara, a middling-sized tree, common near the banks of rivers on the western sides of the Madras Presidency; in S. Canara it is very common, and its timber is much esteemed; is of a red colour, very hard and heavy, and valuable for engineering purposes.—*Beddome*, p. 90.

CALORNIS METALLICA, the metallic starling of the Aru Islands.

CALOSANTHES INDICA. *Blume, W. I.*

Bignonia Indica, *Roxb.*	Spathodea Indica.
,, pentandra, *Lour.*	
Pana wood, ANGLO-TAM.	Totilla-gass, . . . SINGH.
Khyoung-Sha, . . BURM.	Achi maram; Vanga, TAM.
Shiona, ... HIND.	Dundilapu chettu, . TEL.
Aulantha, . . MALEAL.	Pam-pena chettu, . ,,

This tree grows in Ceylon, Coimbatore, throughout the Konkans, in Malhim, and the jungles of Kandesh. Dr. Wight mentions that it is said to be a very soft and juicy wood, of no value.—*Dr. Wight, Voigt, Thwaites.* See Bignonia Indica.

CALOTES, a genus of reptiles of the family Agamidæ;

C. versicolor, *Daud*, Ceylon, Sind, Martaban.
C. mystaceus, *D. and V.*, Ceylon, Mergui.
C. Emma, *Gray*, Mergui, Martaban.
C. ophiomachus, *Merr.*, S. India, Ceylon, Nicobars.
C. nemoricola, *Jerd.*, Neilgherries.
C. gigas, *Blyth*, Mirzapur, Neilgherries.
C. tricarinotus, *Blyth*, Darjiling.
C. platyceps, *Blyth*, Khassya Hills.
C. Maria, *Gray*, Khassya Hills.
C. Rouscii, *D. and B.*, India.
C. nigrilatris, *Peters.*

The green calotes of Ceylon, in length about twelve inches, with the exception of a few dark streaks about the head, is as brilliant as the purest emerald or malachite. C. versicolor and C. ophiomachus possess in a remarkable degree the faculty of changing their hue. The head and neck, when the animal is irritated or hastily swallowing its food, become of a brilliant red (whence the latter species has acquired the name of the 'blood-sucker'), whilst the usual tint of the rest of the body is converted into pale yellow. The sitana, and a number of others, exhibit similar phenomena.

Dr. Jerdon obtained at Sagur a new species of calotes, with enormous head, short and thick body, the tail not exceeding the body in length, and the toes also short and strong.

Calotes Rouxi (?) *Dumeril and Bibron.* Three adult specimens, and another half-grown, were forwarded by Dr. Kelaart from Newera Elia, in Ceylon. They accord fully with the description as regards structure; but the colouring is remarkable, and different again from that of Dr. Jerdon's supposed C. Rouxi of S. India.—*Tennent*, p. 277; *Jour. B. A. S.*

CALOTROPIS GIGANTEA. *Brown.*

Var. *a.* Alba or white. | Var. *b.* Lilicina or blue.

a. White variety.

Asclepias gigantea, *Linn.*

Ashur, ... ARAB.	Yerika, Erika, . MALEAL.
Shwet Akund, . . BENG.	Belerika (white), . ,,
Rowi, ... BOMBAY.	Arka, Mandara, . SANSK.
Mai-oh, ... BURM.	Sri-ai-Taurkam, . ,,
Yokada, ... CAN.	Moodu-waru, . . SINGH.
Bed-ul-Ashar, . . EGYPT.	Vella yercam (white), TAM.
Kercher, ... ,,	Tella jilledu, ,, TEL.
Gigantic swallow wort.	Racha jilledu, . . ,,
Madar, Akund, . HIND.	Nalla jilledu (purple), ,,

Calotropis is a genus of plants of the natural order Asclepiaceæ. The species produce useful fibres, a cotton wool, an acrid juice, a gutta percha like substance, and a manna. Three species are met with all over Southern Asia, but C. gigantea is that common in the southern, and C. Hamiltonii in the northern parts, and C. procera grows in Persia and Syria (Voigt, p. 540). C. gigantea is, by the Hindus, held sacred to Siva.

Its buds also form one of the five flowers on the darts with which Kama, the Indian god of love, is supposed to pierce the hearts of mortals;

'Infants winged, who mirthful throw
Shafts rose-tipped from nectareous bow.'

Sir William Jones refers to it in his hymn to Kama Deva.

The rope is called Lamb-dor, HIND., Toondee coir, TAM., Galum taroo, TEL. It will grow in barren places, and it has been suggested to plant it as a barrier to drift sands. It yields a kind of manna called Shakar-al-ashur, also Ak or Madar ka shakar (sugar). Its milky juice has been prepared like caoutchouc and gutta percha, and yields 50 per cent. It is evaporated in a shallow dish, either in the sun or in the shade; when dry, it may be worked up in hot water with a wooden kneader, as this process removes the acridity of the gum. It becomes immediately flexible in hot water, but hardens in cold water; is soluble in oil of turpentine, and readily takes impressions. It is, however, a conductor of electricity. The wood is white, tolerably hard and close-grained, and grows to a girth of 12 inches. It is used for gunpowder charcoal, and by firework manufacturers. The silky down of the pods is used by the natives on the Madras side in making a soft cotton-like thread. It is susceptible of being spun into the finest yarn for cambric, and has been used for the manufacture of a light substitute for flannel by Messrs. Thresher & Glennie of London. It works well with either silk or cotton. It is also being tried by Messrs. Cowan & Co. of Edinburgh as a material for paper. In 1856 Major Hollings exhibited carpets manufactured in the jail at Shahpur in the Panjab from the follicle in the seed-pod. He mentioned that the manipulation of the floss was precisely the same as cotton. A carpet 7 feet by 3½ feet cost Rs. 7. Fibres are prepared from the stem and branches. These are dried in the sun for 24 or 36 hours, when they are taken up and the bark peeled from the wooden parts, and the greenish-coloured fibres gathered. A night's bleaching whitens them.

The cleaned fibres are one of the bowstring hemps of India. This fibre possesses most of the qualities of flax, and can be worked with the same machinery, as it splits to almost any degree of fineness with the hackle, and bears dressing and beating well. It was used by wealthy natives for making strong cloths, cambrics, and lawns; and it is employed for fishing lines, nets, gins, bowstrings, and tiger traps. It does not rot readily in water. It is even considered better adapted for cloth than for cordage. The strength exceeds that of all other vegetable substances, as the following experiments made at Coimbatore, of a three-strand ⅜ inch rope, will show:—

1.	Coir, Cocos nucifera,	sustained	224 lbs.
2.	Pooley Manjee, Hibiscus cannabinus,	,,	290 ,,
3.	Marool, Sanseviera Zeylanica,	,,	316 ,,
4.	Cotton, Gossypium herbaceum,	,,	346 ,,
5.	Cutthalay nar, Agave Americana,	,,	362 ,,
6.	Junapum or Sunn, Crotolarea juncea,	,,	407 ,,
7.	Yercum nar, Calotropis gigantea,	,,	552 ,,

Its fibre is valued at £30 to £35 a ton. The follicles are supposed by some to be the apple of Sodom. Its juice and the powdered bark of its roots have long been employed as alteratives by the natives of India in leprosy and other cutaneous affections, also in syphilitic ailments, and are supposed to possess active properties. Dr. Duncan obtained from it a principle which he called Mudarine. In Arabic authors on Materia Medica it is even supposed to have been known to the Greeks. The leaves, smeared with oil, are used in rheumatism.—*Wight's Contributions; Hooker, Him. Journ.* i. 86; *Royle, Him. Bot.* 275; *Drs. Riddell, Hunter, Mason, O'Shaughnessy*, p. 43; *Wight in M. E. Reports of* 1857; *Royle, Fib. Pl.; Simmonds, Com. Prod.; Burton*, iii. 122; *Jour. Agri-Hort. Socy. of India*, viii. 107. 226. See Carbon.

CALOTROPIS HERBACEA. *Carey.*

Asclepias herbacea, *Roxb.* | Chota Akunda, HIND.

The roots are employed to make gunpowder charcoal. The stem yields useful, strong fibres, and the white, silk-like material of the pods has been successfully mixed with silk.—*Voigt; M. E. Proceedings.*

CALOTROPIS PROCERA. *R. Brown.*

C. Hamiltonii, *W.* | C. gigantea, *Andr.*
Asclepias procera, *Ait.* | C. Wallichii, *W. Contr.*

Aka, Madar, . . . HIND. | Pashkand, . . PANJAB.
Spulmei, . . . PANJAB. | Nalla jilledu,
Spalmak, . . . ,, | Jilledu, . . . TEL.

This grows in Palestine, Abyssinia, Arabia, in Hindustan, the Peninsula of India, Peshawur, and the Panjab, is quite arboreous, ten or twelve feet high, and in Sind four and five feet in girth. The bark is stripped and made into halters for cattle, ropes, netting, twine, and fishing lines, all durable. The silky floss of its follicles is used for pillows. A manna, Shakar-al-Ashur and Shakar-at-Tighal, obtained from it, is sold in the shops. Its acrid juice is applied to cutaneous ailments and in leprosy, and is used by Rajputs to poison their infant daughters. The fresh bark of the root, also the powder of the root, are likewise used in leprosy. The bark of the root and the dried milk possess similar properties to those of the C. gigantea; it is, however, far inferior as an emetic remedy. According to Dr. Wallich, this and C. gigantea are the same species. The insect that causes the manna is called Galtigul.—*Royle, Ill. Ind. Bot.* p. 275; *O'Sh.* p. 454; *Stewart; Powell.*

CALPA. SANSK. Creation or formation. In Hindu theogony, at the end of every calpa (creation), all things are re-absorbed in the deity, who, in the interval of another creation, reposes himself on the serpent sesha (duration), who is also termed ananta (endless). Agni savarni, in Hindu mythology, is one of the 14 patriarchs who preside successively over the 14 Manwantara of the calpa. —*Warren's Kala Sanhita*, p. 311.

CALPENTYN ISLAND, south of Cordiva, is a spit of sand which runs off the Ceylon shore on the west coast, and extends from lat. 7° 36′ to 8° 16′ N. The fort is in lat. 8° 14′ 20″ N., and long. 79° 45′ E. A statue of St. Anne is on its N.E. end. The people are industrious; cultivate the cocoanut, and gather Calpentyn moss and the orchilla weed. In the Gobb, or lake behind the peninsula, there is an extraordinary abundance of fish, which are dried and exported. Sharks' fins, trepang, and turtle are also sold. The long tongue of land on the south almost touches the main.

CALPI, a Hindu astronomical term of 4,320,000,000 years. See Calpa.

CALPICARPUM ROXBURGHII. *G. Don.*

Cerbera fructicosa; periwinkle tree.

Sa-lat, ... BURM. | Gutti gunneru, . . TEL.

A handsome flowering shrub, almost constantly covered with blossoms like those of the rosy periwinkle, Vinca rosea, but larger and faintly fragrant.—*Mason.*

CALTURA, a small sea-coast town in Ceylon, in lat. 80° 4′ E., long. 6° 12′ N. A favourite resort of the Dutch and British.

CALUMBA ROOT. Cocculus palmatus, *D. C.*

Jateorrhiza calumba and J. palmata, *Miers.*

A plant of east tropical Africa, which was first made known as a medicine by F. Redi about 1677. Semedus mentioned it before 1722 among medicines from India. In works on Materia Medica in use in India, it occurs by the name of Kalumb. It grows wild in the forests of Mozambique and Oibo in Eastern Africa, and got its name because it was imported indirectly through Colombo in Ceylon.

CALUVERE. SINGH. A tree of the northern and eastern part of Ceylon, furnishing a fine black wood, used largely for buildings and furniture. A cubic foot weighs 71 lbs., and it lasts 80 years. —*Mendis.*

CALYA or Cali-naga, a serpent slain by Krishna.

CALYMERE POINT, on the Coromandel coast, in lat. 10° 18′ N., long. 79° 54½′ E., is low, and covered with cocoanut trees, with two pagodas near each other about a mile inland.—*Horsburgh.*

CALYPTOMENA RAFFLESII, the tampoe tree of Borneo. Its fruit has an agreeable sub-acid flavour, and is largely eaten. The pulp, mixed with rice and fermented, furnishes an intoxicating drink.

CALYPTRÆIDÆ, a family of the mollusca, the bonnet limpets, containing several recent and fossil genera, the genus Calyptræa being the cup and saucer limpet.

CALYPTRANTHES CARYOPHYLLIFOLIA. *Wilde, Swartz.*

Eugenia caryophyllifolia, E. Jambolana, *Roxb.*

Jamoon, ... HIND.	Nawel maram, . . TAM.
Battedombe, . SINGH.?	Neredi chettu, . . TEL.

A large-growing timber tree. The wood is light, and chiefly used for making grain measures, but is also made into carriage frames, cots, etc., and in Ceylon for common house-building; a cubic foot weighs 45 lbs. The bark is astringent, and is used in decoction by the natives for dysentery. The fruit when ripe is of a very dark purple colour, and about the size of a large cherry. In taste it somewhat resembles the sloe, but is much sweeter. A variety of this tree—

Oojla jamoon, . . DUK.	Vullay nawel, . . . TAM.
Sweta jemboo, . . SANSK.	Tella neredi, . . . TEL.

has a fruit nearly similar to it in natural qualities, and has got its names from being of a different colour (white).—*Riddell; Mendis; Ainslie.*

CALYSACCION ANGUSTIFOLIA. *Gibson.*

Soorpunni, ... CAN.	Koolmara, ... CAN.

Grows in Canara and Sunda, in ravines of the ghats, and below in sheltered valleys, but is not common in N. Canara or Sunda. The tree there furnishes one of the poon spars. It produces an excellent edible fruit. It is a tree which ought to be conserved everywhere, and largely increased.—*Dr. Gibson.*

CALYSACCION LONGIFOLIUM. *Roxb.*

Ochrocarpus longifolius, *Benth. et Hook.*
Calophyllum longifolium, *Wall., Cat.*
Mammea longifolia, *B. H.*

Tha-ra-bi, . . . BURM.	Suringel, ... MAHR.
Taringi, ... CAN.	Gardoondy, . . . ,,
Woondy (male tree), MAHR.	Gorgoondy, . . . ,,
Pooney (fem.), . . ,,	

A large tree which grows in the Northern Circars, Konkans, the Kennari jungles, Malabar, and Western Mysore. The flower-buds, Nag-kesur, are used for dyeing silk, and for their violet perfume.—*Useful Plants; Elliot's Flora Andhrica; Roxb.; Beddome.*

CALYSTEGIA SEPIUM. *Smith.* Siuen-hwa, CHINESE. A large and beautiful plant of China, one of the Convolvulaceæ. Its root is boiled and eaten by the Chinese.—*Smith.*

CALYX, the botanical name for the outer covering of the flower of a plant.

CAMA, in Hindu cosmogony, the son of Dharma, the first man.

CAMA or Camadeva, the Hindu god of love, to whom the last days of spring are dedicated. There is no city in the East where the adorations of the sex to Camadeva are more fervent than in Udyapura, 'the city of the rising sun.' On the 13th and 14th of Cheyt they sing hymns handed down by the sacred bards: 'Hail, god of the flowery bow! Hail, warrior with a fish on thy banner! Hail, powerful divinity, who causeth the firmness of the sage to forsake him!' 'Glory to Madana, to Cama, the god of gods; to him by whom Brahma, Vishnu, Siva, and Indra are filled with emotions of rapture!'—*Bhavishya Purana; Tod's Rajasthan.* See Kama; Kammeri deva.

CAMA. HIND. The lotus flower, Nelumbium speciosum. Camala or Camala-devi, a name of Lakshmi as the Hindu goddess of prosperity. See Lakshmi.

CAMACHI-PILLU, also Wassina-pillu. TAM. Andropogon citratum, lemon grass. Camachi-pillu Tylum, lemon-grass oil.

CAMACHYA, a Hindu goddess, a form of Kali in her avenging character. Kali says, 'By human flesh, Camachya, Chandica, and Bhairava, who assume my shape, are pleased one thousand years.'

CAMA-CUMPA. SANSK. The vessel of desire; an ornamental vase on Hindu temples, from which grain is represented as pouring.—*Tod.* See Cumbha-yoni.

CAMADHENU or Surabhi, a cow produced from the churning of the ocean.

CAMAHWAJA. SANSK. The banner of Cupid.

CAMALA DEVI was the wife of a raja of Gujerat, and was celebrated as the flower of India. On the fall of Nerwalla, the capital of Gujerat, her husband became a fugitive, and Camala Devi was taken prisoner and carried to Ala-ud-Din's harem; and, attracted by her beauty, wit, and accomplishments, he made her his queen. Her fascinations soothed that savage Pathan in his moodiest hours, and influenced him to a lenity hitherto unknown to him. Her daughter Dewala Devi had escaped with her father. Her reputation for beauty equalled that of her mother, and the son of Ram-deo, the raja of Deogiri (Dowlatabad), had long sued for her, but her father, proud of his Rajput origin, would not accept a Mahratta, even though a prince. Camala Devi, however, having expressed to Ala-ud-Din a wish to be joined by her daughter, Ala-ud-Din sent a strong army, under a general, to bring Dewala Devi to Dehli. In this extremity, her father accepted the Mahratta prince, and sent off his

daughter to Deogiri under an escort, but the escort was overtaken, the fair maiden seized and carried to Dehli, where Khizr Khan, the son of Ala-ud-Din, married her. Their union was very happy, and the poet Khusru praised them. But Khizr Khan's eyes were put out by Cafoor. A few years from the death of Ala-ud-Din, the throne of Dehli was filled by a converted Hindu, who filled the capital with Hindu troops, put to death all the survivors of Ala-ud-Din's family, and transferred Dewala Devi to his own zanana.

CAMALAPBABHU, a title of Vishnu.

CAMALAPUR, a large village 32 miles north-west from Bellary. Iron ore from the neighbouring hills is largely smelted here.

CAMARI, according to Abul Ghazi, one of the eight sons of Japhet, whence the Camari, Cimmerii, or Cimbri. The Camari are one of the Saura tribes, or sun-worshippers of Saurashtra; claim descent from Garuda, the bird god of Vishnu (who aided Rama to the discovery of Sita), and the Macara or crocodile; and date the fabulous conception from that event, and their original abode from Sancodra Bate, or island of Sancodra. Whether to the Dioscorides at the entrance of the Arabian Gulf this name was given, evidently corrupted from Sanc'ha-dwara to Socotra, need not be inquired into here. Like the isle in the entrance of the gulf of Cutch, it is the dwara or portal to the Sinus Arabicus, and the pearl shell (sanc'ha) there abounds. This tribe deduce their origin from Rama's expedition, and allege that their crocodile mother landed them where they still reside. They seem to be a Scythic race from Sakadwipa and the Dasht-i-Kapchak, and, like the Takshak, Jit, Kat'hi, and Hun, have entered India from the north-west.—*Tod's Rajasthan*, i. p. 604.

CAMBALU, an ancient name of China.

CAMBAY, in long. 72° 51′ E., and lat. 22° 5′ N., in Gujerat, is at the head of the bay which bears its name, on the estuary of the Mahi, between the mouths of the Sabarmati on the west, and the Mahi on the east. It is said to be the town in which Zarmonachegas was born. Marco Polo travelled through it at the close of the 13th century, when on his return to Europe. Cambay or Khambhat is the capital of a feudatory state ruled by a Mahomedan family of Moghul descent, and of the Shiah sect. In 1875 its area was estimated at 350 square miles, and its population at 175,000. Cambay town has 33,709 souls. Near the town, skirting the shore of the gulf, and along the banks of the Mahi and Sabarmati rivers, are vast tracts of salt marsh-land, submerged at high spring tides. The population consists of Mahomedans, Jains, and Parsees, with the wild tribes of Koli and Wagri, and the languages spoken are Gujerati and Hindustani. The name is from Khambha-tirth or Stambha-tirth, the pool of Mahadeva. Vikramaditya is said to have been born here.

Cambay Gulf is formed by the coast of Gujerat on the west, and the Peninsula of India on the east, and extends due north 80 miles, being about 3 miles wide at its entrance. In ordinary springs the rise and fall is 25 feet. Surat lies at the eastern point of the gulf. The gulf receives the two rivers Tapti and Nerbadda.—*Imp. Gaz.*

Cambay Stones.—In 1503, Lewes Uertomenes, a learned gentleman of Rome (See As. Soc. Jl. 1824, vol. xviii.), says, 'In this region is also a mountain where the onyx stone, commonly called the cornelian, is found; and not far from this, another, where chalcedony and diamond are found.' It was visited in 1623 by Pietro de la Valle. Captain Hamilton, who visited Cambay in 1681, says, 'The cornelian and agate stones are found in this river, and nowhere else in the world. Of cornelian they make stones for signets; and of the agates, cabinets entire except the lids. I have seen some 14 or 15 inches long, and 8 or 9 inches deep, valued at £40. They also make bowls of some kinds of agate; and spoons, and handles of swords, daggers, and knives, and buttons, and stone seals and snuffboxes of great value.'

Cambay still enjoys celebrity for its silicious minerals,—cornelians from Ratanpur in the Rajpipla state; agates from Rewakanta, Kapadwauj, and Sukaltirth, on the Nerbadda, and from Rajkot in Kattyawar. The Bhils are the miners. They are worked into every variety of ornament,—cups, boxes, necklaces, handles of daggers, of knives and forks, seals, etc. Cambay stones form a distinct geological formation, derived probably from the amygdaloid trap rocks drained by the Nerbadda and Tapti. They pass in Europe and America for Scotch, Irish, Chamouni, Niagara, Isle of Wight 'pebbles,' according to the place in which they are sold. The Brazils import them as largely as India into Europe, where the terms 'Brazilian' and 'Indian' agates are used indifferently by the trade. The principal varieties sold in Bombay are crystal, milk-quartz, prase, a green variety, moss stone, mocha stone, fortification agate, chalcedony, cornelian, chrysoprase? heliotrope, onyx, obsidian? and very rarely amethyst.

Necklaces, black and green,	Rs. 0.8 to 2.8
,, red,	0.2 ,, 5
Paper-cutters,	0.8 ,, 2
Knife handles, per dozen,	6 ,, 12
Stones for brooches,	1 to 8 annas.
Snuffboxes,	0.12 to 10
Cups and saucers,	5 ,, 100
Pen handles,	0.6 ,, 1
Studs of all sorts, per dozen,	0·6 ,, 2
Trouser buttons, per pair,	8 to 10 annas.
Coat ,, ,,	6 ,, 8 ,,
Bracelet beads of all sorts, per pair,	0.12 to 2
Paper-weights,	4 ,, 5
Tables of sizes,	15 ,, 50
Guns ,,	25 ,, 100
Ear-rings, per pair,	0.2 ,, 1
Finger-rings,	1 to 6 annas.

The fragments of a Murrhine cup—the little Cambay stone cup still made in Cambay—were exhibited in the theatre of Nero, as if, adds Pliny, they had been the ashes of 'no less than Alexander the Great himself!' Seventy thousand sesterces was the price of one of these little Cambay cups in Rome in the days of Pompey. The price in Bombay ranges now from Rs. 5 to Rs. 100. Nero paid 1,000,000 sesterces for a cup, 'a fact well worthy of remembrance,' slyly remarks Pliny, 'that the father of his country should have drunk from a vessel of such a costly price!' The stones are sawn or ground down; for the native lapidary's wheel consists of a strong wooden platform 16 inches by 6, and 3 inches thick. In this are two strong wooden uprights. Between these is a wooden roller 8 inches long and 3 in diameter, fastened into a head at the one end. This works on an iron spindle or axle at each end. On the

one end the axle is screwed and fitted with a nut, by which the saw or grinding wheel can be made fast. The saw consists of a thin plate of iron, the cutting material consisting of ground corundum. The lap wheels consist of two circular discs or cakes of lac, with ground koorund, coarse or fine, according to the work, of a copper disc for polishing, and a wooden one for finishing the work. These are spun backwards and forwards by a bow, the string of which passes round the roller. The lapidary sits on his hams, steadying the wheel with his foot, and holding on the stone with his left hand, while he works the bow with his right. For very fine work, a small-sized wheel, similar to the English lapidary's wheel, but of smaller size, is used. It is driven by a multiplying wheel, strap, and pulley. The custom-house returns give the value of the traffic in Cambay stones at an average betwixt £10,000 and £12,000 annually, one per cent. of the stones finding their way to Europe. Gayni or Gajni was one of the ancient names of Cambay, and it was the port of the ancient Balabhipura, the ruins of which are 3 miles from Cambay. Almeyda, when he visited the coast of Cambay, observed a very ancient town, with a large mosque, and near it a spacious place, covered with tumuli.—*Hamilton's New Account of the East Indies*, Lond. 1744; *Report of the Juries in* 1851; *Pennant's Hindoostan*, i. p. 64; *Tod's Travels.*

CAMBESSEDEA OPPOSITIFOLIA. *W. & A.*
Mangifera oppositifolia, *Roxb.*

This indigenous tree of Tenasserim has a reddish-coloured, hard, close-grained wood, said to be durable. It produces a fruit much like a plum. There are two varieties, one bearing an intensely sour fruit, and the other one as insipidly sweet.—*Mason; Voigt.*

CAMBODIA, or the kingdom of Khmer, extends from long. 101° 30′ to 104° 30′ E., and lat. 10° 30′ to 14° N., with an area of 62,000 square miles. It was reduced to its present dimensions in 1862, by two of its provinces being annexed to Siam. It is bounded on the S.W. by the Gulf of Siam, on the S.E. by French Cochin-China, on the N. by Laos, and on the N.W. and W. by Battambang and Angcor. The Mei-kong flows through the kingdom. The population is 1,000,000, of whom four-fifths are the native Kho. The Chinese number 100,000. Buddhism prevails. Its capital is Phnompenh, on the Mei-kong. Cambodia town is nearly 240 miles up the river. It has four provinces, Potisat, Kampong-Suai, Kampong, and Kampot-Son. For the past three centuries its independence has been lost, Siam on the one side, and Cochin-China on the other, having encroached on it. In Cambodia is the great temple of Nakhon-Vat, which seems to have been built in the 10th century. Every angle of the roof, every entablature, every cornice, bears the seven-headed serpent. The outer enclosure measures 570 by 650 feet. It is a towered pyramid more than 600 feet in breadth, and rising to 180 feet at the summit of the central tower. It is built of large stones, beautifully fitted, without cement. M. Delaporte says that the ancient Khmer temples were dedicated to Brahmanism. At Angkor-Wat he detached from the higher parts the chefs d'œuvre of Cambodian sculpture,—bas-reliefs, once brilliantly gilt; pediments,—all the subjects of which M. Delaporte maintains, down to those which decorate the most secluded sanctuary, are devoted to the exploits of Rama and the glories of Vishnu. At Angkor-Tom, M. Delaporte visited several new monuments, on most of which he also finds on the principal pediments the exploits of Rama and Vishnu. He cleared of rubbish and explored the ancient palace of the Khmer kings, a work of magnificent and wonderful sculpture, the rising terraces of which are adorned with superb compositions in bas-relief; the enormous three-headed elephant, Iravati, is there enthroned in all the places of honour, as at the angles of all the gates of the city, where he is shown by the god Indra, accompanied by two apsaras. When the country became subject to the government of Cochin-China, the trade of Cambodia was transferred to Sai-gon, which was occupied by the French in 1863. Cambodia river, also called the Mei-kong, discharges itself into the sea by three principal branches, of which the most western is the best for ships. Its entrance is in lat. 9° 31′ N., and long. 106° 36½′ E. It is one of the largest rivers in Asia, and is said to rise in a lake in Yunnan.—*Chin. Jap. and Phil. Chr. and Der.*, 1881.

CAMBOO. TAM. Holcus spicatus.

CAMBRIC or Cambrick.

Kameryksdock, . . DUT.	Cambraia, ... PORT.
Cambray Batiste, . FR.	Kamertug, . . . RUS.
Kammertuch, . . GER.	Cambrai, ... SP.
Cambraja, ... IT.	

A fine cotton or linen fabric, largely imported into India.

CAMBRIDGE, author of War in India, London 1762.

CAMBYSES, a king of Persia of the Kaianian dynasty, and father of Cyrus. He conquered Egypt, B.C. 525 to 522. He took Memphis by storm; and he visited the tomb of Menes. Cambyses is a Greek variant of the cuneiform Kabujiya. —*Bunsen, Egypt*, ii. 610, iii. 237, iv. 288, v. 740. See Fars; Persian Kings.

CAMEL.

Jamal, Gamal, . . ARAB.	Camello, . . . IT., SP.
Chameau, . . . FR.	Camelus, . . . LAT.
Kameel, ... GER.	Unta, ... MALAY.
Kamelos, ... GR.	Ottagam, . . . TAM.
Oont, ... HIND.	Loti-pitta, Wonte, TEL.

Camels are mentioned in 1 Kings iv. 28, Esther viii. 10, and Isaiah lx. 6; and they are still largely used as beasts of burden, or to carry messages, and for war purposes, in Egypt and in all the countries in the south of Asia, from Syria up to the Burmese countries and China. There are two kinds, that with one hump, and another with two humps. The species employed on the European steppes through which the Don and Volga flow to their respective seas, are the two-humped; and Lieutenant Irwin distinguishes two varieties of two-humped camels. Beyond the Jaxartes, he remarks, is the two-humped species, in the Turki language called uzhri, and by British writers Bactrian. His height is far less than an Indian camel, his hair longer; he is not capable of bearing severe heat, and is not easily naturalized even at Bokhara. In Khokan he is the prevalent species. The camel called Baghdadi has also two humps, but his height is equal to that of the Indian. He is found chiefly in the south-west of Khorasan, yet even there is much outnumbered by the Indian species, meaning, we presume, the one-humped camel of Turkestan.

In Arabia there are three varieties of one-hump camels. The largest and clumsiest, called khowas,

are used to carry heavy burdens at the slow and measured pace of a large caravan; the second, called deloul, or saddle camels, are selected when young from the former, and are employed in journeys, singly, or with light caravans consisting of similar animals; the third bears the name of hajin in Arabia, maherry in Africa, hurkary in S. Asia, and is the dromedary of the Hebrew Scriptures. It is lightly formed, and of a very pale brown, approaching a cream colour. Being well trained, its speed with a man on its back and no baggage is between eight and nine miles per hour, and it can accomplish at the utmost 70 miles in 24 hours for two or three days in succession. Wellsted tells us (i. 292) that Nejd is equally the nursery of the camel as of the horse; but the camel of Oman in all ages has been celebrated in the songs of the Arabs as the fleetest. Their legs are more slender and straight, and their eyes more prominent and sparkling. The single hump of the camel of Arabia is round and fleshy whilst the animal continues in good condition, but wastes away when out of condition. Wellsted had known £28 paid for one in Oman; but £6 to £10 is their average price. Depth of chest and largeness of barrel constitute their chief points of excellency. A camel of Hejaz can carry from 250 to 500 lbs.; and an ordinary burden camel can walk about 2½ miles an hour, making daily a march of 20 or 30 miles. M. Fontaine mentions an instance of an Arab on his camel taking and returning with a message from Coseir to Canneh, a distance of 225 miles, in 28 hours, at the rate of 8 miles an hour continually, which seems incredible. Colonel Chesney mentions that he crossed from Basrah to Damascus, 958½ miles, in 19 days, or daily 50 miles. Nizam-ud-Din Ahmad, author of the Tabakat-i-Akbari, while Bakshi of Gujerat, was summoned to Lahore by the emperor (A.H. 998) A.D. 1589-90. The Wakiat-i-Mustakhi says that he took with him a party on camels, and that they accomplished the journey of 600 kos (1200 miles) in twelve days, for which the king bestowed honours on him. General Ferrier tells us that the camels from Turkestan and the country of the Hazara are exceedingly large and strong, but not very active. Those from the Seistan are slenderly formed and wiry, but, though small, are as hardy an animal as can be found, and incredibly swift; they will travel 25 leagues in a day without feeling fatigue, and are never affected by the great heat of the sun. These are generally used for riding, and those of Turkestan as beasts of burden. The Bokhara camel and the two-humped Kirghis camel are only surpassed in strength and swiftness by the Arab, and especially the camel of the Hejaz. Besides the Bactrian camel, the Turkomans have a mule breed between this and the Arabian animal, with a hump which can neither be called single nor double, though more near the latter than the former. This is a large, useful, and highly-prized animal, capable of transporting from 1000 to 1200 lbs. with ease; but the creature is short-lived, and the Arabs do not breed from it, giving as a reason that the progeny are intractable and bad-tempered.

In Colonel Stewart's 'Journey through North-Eastern Persia,' he states that the load of the Khorasine camel is 600 to 700 lbs. A correspondent of the Pioneer writes: 'I have frequently seen Brahui camels go out of the fort at Dadur, in Southern Afghanistan, laden with 12 maunds, about 1000 lbs., the ordinary load being 8 maunds, or 650 lbs. I have also met them frequently on the line of march with these loads, and yet one rarely saw a dead Brahui camel.'

They were used by the British in the wars on the N.W. frontier of 1879-1881, but they died in great numbers.

Camels are extensively bred in Murwut, Meeanwullee, and Esakhail, and are purchased by the Povinda and other itinerant traffickers. In Syria, the rutting season is in spring, and the males then become extremely unruly. The female carries twelve months, and breeds one at a time. The young camels are weaned at the beginning of the second year. Camels are known to attain to the age of 40 years; but after 25 or 30 its activity begins to fail, and it is no longer able to endure much fatigue. In the northern districts of Arabia, the hair is not shorn from the camel, like wool from sheep, but is plucked off, about the time it is naturally shed by the animal, and seldom amounts to more than two pounds. It is woven into stuffs for clothing.

M. Huc, however, tells us that in Chinese Tartary the fur of an ordinary camel weighs about ten pounds. It is sometimes as fine as silk. That which the entire camel has under its neck and along its legs is rough, tufted, and black, but the hair in general is reddish or grey. The Tartars do not take any care of it, but suffer it, when it falls off, to be lost. The milk of the camel is excellent, both for butter and cheese; the flesh is tough, ill-tasted, and little esteemed by the Tartars. They make use, however, of the hump, which they cut in slices and take with their tea. It is said that the emperor Heliogabalus had camel's flesh served at his banquets, and that he was especially partial to the foot; but to modern taste the flesh of the camel is detestable. Like the sheep and goat, their need for water to drink varies with the dryness or moistness of their food. A succulent grass, moist with rain or dew, and near the bank of rivers, of itself furnishes almost sufficient fluid for their wants; but a dry grass, an arid atmosphere, and a burnt-up soil render them very thirsty, and they then readily rush into water. Skinner mentions (ii. pp. 112, 113) that his camels had been 19 complete days without drinking. But they can lay in a large store of food. Pottinger mentions that he allowed his camel 15 lbs. of flour daily, in addition to all the grass it ate. The camels eat the tamarisk and the camel thorn. In parts of the Panjab country, where camels are reared in great numbers, they delight especially in lana, plants of the salsolaceous tribe, which are also useful for burning to get soda. There is often quite a rivalry of interest over a patch of salsola land,—the camel-feeder wants it for his animal, and the soda burner for his furnaces.—*Powell's Handbook; Dr. J. L. Stewart, M.D.; Chesney's Overland Route; Huc's Recollections of a Journey*, p. 130; *Postans' Personal Observations*, p. 108; *Mignan's Travels*, p. 27; *Wellsted's Tra.; Burton's Pil.; Pottinger's Beluch. and Sinde; Fontaine's Egypt; Robinson's Tra.* ii. p. 183.

CAMELEOPARD, or giraffe, a mammal of S. Africa, the Camelopardis giraffa of naturalists. One variety has been named C. Æthiopica, *Ogilby;* another variety, C. Sennaarensis.

CAMELIDÆ. Fossil remains of this family have been discovered in the Siwalik hills and in Burma. See Camel; Camelus.

CAMELINE, the aba cloak of the Arabs, made of camel's hair. The aba, or cameline, as it is called in the Persian Gulf, is worn in Oman by all classes; it is the camel's hair cloak of Arab shaikhs, and is often striped white and brown.

CAMELLIA, a genus of the east of India and China, of the nat. ord. Ternstromiaceæ, and furnishing several species of ornamental flower plants, such as C. Japonica, malliflora, reticulata, drupifera, and thea. C. oleifera of China yields a valuable oil, C. kissi is a tree of Nepal, and C. caudata is a shrub of the Khassya hills.—*Voigt.*

CAMELLIA JAPONICA. The single red variety of this species grows spontaneously in the woods of China, from 20 to 30 feet in height, and with stems thick in proportion. Its elegant flowers are much admired by the Chinese, who enumerate thirty or forty varieties, for each of which they have a separate name. Many of these varieties are unknown out of China, and Chinese gardeners are likewise ignorant of a large proportion of those found in western conservatories. This elegant flower is cultivated solely for its beauty; but there are other species of camellia raised for their seeds, the oil expressed from them being serviceable for many household and mechanical purposes. The camellia bears the same Chinese name that the tea plant does; and the term cha is likewise employed, as tea is with ourselves, to designate any infusion.—*Williams' Middle Kingdom*, p. 285; *Fortune's Residence.*

CAMELLIA THEA. *Link.* China tea plant.

C. theifera, *Griffith.*	Cha, ... HIND.

The Assam tea plant is a shrub with a thin grey bark, and grey soft wood, weighing 56 lbs. per cubic foot. It is cultivated in Kangra, Kuhi, Dehra Dūn, Kumaun, Darjeeling, the Western Duars, Assam, Cachar, Chittagong, Hazaribagh, in Northern India, and also on the Nilgiri Hills and Ceylon.—*Gamble.*

CAMEL'S HAIR.

Poil de Chameau,	FR.	Mu-i-Shutur, . .	PERS.
Laine de chevron,	,,	Pelo-o-lana de Camello, . . .	SP.
Kameel-haar,	GER.	Ottagam ma'ir, .	TAM.
Oont ka bal, . .	HIND.	Wonte ventrukulu,	TEL.
Pelo di Camello, .	IT.		
Unta Ruma, . .	MALAY.		

The soft underwood is of a light-brown colour. In the Panjab it is made into chogas of a cheap kind, but they are soft, warm, and useful. The long hair is not made use of; it is employed in Europe for making paint-brushes.—*Powell, Handbook, Panjab; M'Culloch's Dictionary.*

CAMEL'S-THORN, Alhaji maurorum.

CAMEL THISTLE, Echinops echinatus.

CAMELUS BACTRIANUS. *Linn.*

C. ditrophus, *Walther.*	C. turcicus, *Alpinus.*
Mecheri, ... ?	Le chameau, . . . FR.
Bactrian camel, . . ENG.	Trampel their, . . GER.

It is found in N. Persia and Turkestan. It is about 10 feet long, has two humps on its back, has dark-brown shaggy hair, long under the throat.—*Eng. Cyc.*

CAMELUS DROMEDARIUS. *Linn.*

C. monotophus, *Eversmann.*	C. dromas, *Gesner.*
	C. minimus, *Klein.*
C. vulgaris, *Forskal.*	C. vetus, *Frisch.*
Jamal, ... ARAB.	Arabian camel, . . ENG.
Camel, dromedary, ENG.	Le dromedaire, . . FR.

Its countries are Africa, Arabia, Persia, Baluchistan, Rajputana. It is about 8 feet long, has one hump on the middle of the back, pale brown hair. An instance of great endurance of this camel is mentioned by Captain Smith, who purchased one, named Tipu Sahib, for Rs. 300, that carried him 680 miles in 12 days across the desert of India from Jodhpur to Sukkur in Sind. On another occasion, the same camel carried him 110 miles from Sukkur to Kotri, without a halt, in 30 hours.—*Smith's Nepal*, pp. 20, 26; *Eng. Cyc.* See Camel.

CAMELUS SIVALENSIS, a fossil species discovered by Dr. Falconer and Captain Cautley in the tertiary deposits of the Siwalik Hills of Hindustan. Its crania, jaws, and teeth are in the British Museum. It was nearly related to the existing species, but exceeded them by at least one-seventh in height.—*Eng. Cyc.* p. 733.

CAMEO, the cyamea of Pliny. They are still largely manufactured in Italy from the large red shield shell of the Maldive Islands, the Cassis rufa. It is brought from the Maldives to Ceylon as tribute, and is exported to Italy. It is not a manufacture of India. In 1846 the average value of the large cameos made in Paris was six francs each, giving a sterling value of £32,000; and the value of the small cameos was about £8000, giving a total value of the cameos produced in Paris in 1846 at £40,000. At the same time, in England not more than six persons were employed at the trade. The black helmet, on account of the advantageous contrast of colour in the layers, produces very effective cameos. In 1847 the consumption of shells in France for this purpose was—

Bull's Mouth,	80,000	av. price	1s. 8d.	value	£6400
Black Helmet,	8,000	,,	5s. 0d.	,,	1800
Horned Helmet,	500	,,	2s. 6d.	,,	60
Queen Conch,	12,000	,,	1s. 2½d.	,,	700

The art of cameo-cutting was confined to Italy until 1830, at which time an Italian began cutting cameos in Paris. It might be introduced into India.

CAMERON, JOHN, F.R.G.S., author of Our Tropical Possessions in Malayan India.

CAM-HI, an emperor of China who first subdued the Mongol Tartars, which he effected more by kindness than by the sword.

CAMJOO of Tibet, Capra hircus, *Linn.*

CAMLET.

Kamelot, ...	DUT.	Ciambellotto, . .	IT.
Camelot, ...	FR	Kamlot, ...	RUS.
Kamelot, ...	GER.	Camelote, ...	SP.

A fabric of wool or long hair.—*M'Culloch.*

CAMMETTI. MALAY? Excoecaria cammettia.

CAMOENS. Luis de Camoens, a native of Portugal, was born at Lisbon about A.D. 1524, and educated at the University of Coimbra, but, falling in love with Catharina de Atayade, he was banished from court. He joined the army invading Morocco as a soldier, where he was often wounded, and lost an eye, and he describes himself then as with 'one hand the pen and one the sword employed;' but, neglected, he left Portugal A.D. 1553, and landed at Goa, after a voyage of nine months. He joined an expedition against the king of Pimenta, and a year afterwards accompanied Manoel de Vasconcellos up the Red Sea, and returned to Goa, but he involved himself by writing his Absurdities of India, and was banished to the Moluccas. During the five years

that he remained there, he visited some of the islands of the Archipelago, and amassed a small fortune, but, embarking it in trade, he was shipwrecked near the river Mei-kong in Cambodia, saving only the manuscript of his poem, the Lusiad, deluged with the waves, through which, clinging to a plank, he forced his way to the shore. The Lusiad describes the system of modern commerce, founded on the discovery of the Cape route. The geographical descriptions are singularly accurate. He returned to Lisbon, where he lived in great poverty, till his death in the Lisbon hospital, A.D. 1579. His poem, the Lusiad, celebrates the great voyage of Vasco da Gama, and gives a history of the Portuguese in India. The 'Cave of Camoens,' where he is supposed to have written a portion of his Lusiad, is a place of interest at Macao. It is picturesquely situated upon the summit of a small hill on the margin of the inner harbour.—*American Expedition to Japan*, p. 165.

CAMOMILE, Anthemis nobilis.

Ehdakl mirzie,	ARAB.	Chamomilla,	LAT.
Camomille,	FR.	Babuneh-gow,	PERS.
Romische hamiller,	GER.	Manzanilla,	SP.
Babune-ka-phul,	HIND.	Chamandi pu,	TAM.
Camomilla,	IT.	Shamanti puvva,	TEL.

A herb much employed in domestic medicine.

CAMPANULACEÆ, the Campanula tribe of plants, comprising the genera Campanula, Cephalostigma, Cidonopsis, Symphiandra, and Wahlerbergia. The genus Campanula consists of flowering plants, the Canterbury bell, Venus's looking-glass. C. dehiscens and C. lancifolia are noticed by Roxburgh as growing in Bengal. C. edulis is a native of Arabia Felix. Its thick and sapid root contains a considerable quantity of starch, and is eaten by children. C. glauca, its root is used by the Japanese in syphilis. C. grandiflora grows wild amongst the Chinese hills.—*Fortune's Wanderings.*

CAMPBELL, A., M.D., a medical officer of the Bengal army, who was political officer at Darjiling for upwards of a quarter of a century. When he first took charge of the office, there were not twenty families, but by 1853 a population of ten thousand had gathered together. He found it an inaccessible tract of forest, and left it an excellent sanatorium, with a revenue of fifty thousand rupees. He journeyed to the confines of Tartary. He wrote an Itinerary from Phari, in Tibet, to Lhassa, with appendices; Routes from Darjiling to Phari; Report of the Death of Cosmos de Koros, the Tibetan Scholar; The Literature and Origin of certain Hill Tribes in Sikkim; Memorandum on the Bora Chung of Bootan; On the Native Alum or Salagit of Nepal; On the Inhabitants of Sikkim and their Language; Limboos of Sikkim and other Hills.—*Beng. As. Soc. Trans. and Journ.*

CAMPBELL, SIR COLIN. See Clyde.

CAMPBELL, SIR GEORGE, K.C.S.I., a Bengal civil servant, born in 1824, and sailed for India in 1842. In 1845 he was appointed the assistant to the Governor-General's Agent, N.W. Frontier, subsequently Deputy-Commissioner, Cis-Sutlej States. On returning to Britain, he published Modern India; and India as it May Be. He wrote extensively on the ethnology of India generally. In 1854 he was called to the bar; in 1855 he was appointed Commissioner of the Cis-Sutlej States; and in 1867, Commissioner of the Central Provinces. He was Lieutenant-Governor of Bengal; and on retiring from the service, became a member of the Indian Council in London, and subsequently a member of Parliament.

CAMPBELL, LIEUT. J., Assistant Surveyor-General, an officer of the Madras army, wrote on the use of Sir Howard Douglas' Reflecting Semicircle; On the Use of Kater's Altitude and Azimuth Instrument; Suggestion of a Tide Register; Table of Specific Gravities of Aqueous Vapour, and Dry and Saturated Air; Meteorological Journal of Royacottah; On the Advancement of Geological Science in India; On the Construction of the Portable Barometer; On the Formation of the Table-land of Southern India; Plain of Baramahal, 2000 feet above the level of the sea, Soda Soils of; On the Manufacture of Steel in Southern India; Improvement of the Silk manufactured in Mysore and the Salem Districts; Report on the Kaolin Earth of Mysore; Report on the Construction of Philosophical Instruments in India; On the Manufacture of Pottery-ware in Southern India; Meteorological Experiments at the Gumsur Mountains; Journey overland to India; On estimating the distance of Objects of Known Height at Sea. —*Mad. J. L. and S. Cal. J. Nat. Hist.*

CAMPHIRE of Scripture, the Henna, or Lawsonia alba.

CAMPHOR.

Kafur,	AR., HIND., PERS.	Kapur Japun,	JAP.
Pa-yok, also Parouk,	BUR.	Camphora,	LAT.
Kapur Bali,	CHIN.	Kapur Barus,	MALAY.
Kamfer,	DUT.	Alcanfor,	PORT., SP.
Camphre,	FR.	Kamfora,	RUS.
Kampfer,	GER.	Karpura,	SANSK.
Kupros,	GR.	Capuru,	SINGH.
Kopher,	HEB.	Carpuram,	TAM.
Canfora,	IT.	Carpuramu,	TEL.

Chinese Camphor tree, Chang-nau, Pien-nau, Shau-nau, Chang-chau-fu, Shau-chau-fu.

Camphor of Borneo, or Barus Camphor, Lung-nau-hiang, Po-luh-hiang, Hoh-po-lo-hiang, Ping-pien, Mei-hwa-p'ien.

The camphor of commerce is obtained from two trees, one of which, Dryobalanops camphora, grows in Sumatra, Borneo, and Labuan; the other, the Camphora officinalis, or Laurus camphora, grows in China. The names for it in many languages of the world, are sufficiently alike to show that a knowledge of the substance came from one source, probably China or Sumatra, and the words Dutch, or Japan, or Tub camphor, Barus camphor, China camphor, Formosa camphor, have been added merely to indicate the place of production. The unrefined or crude camphor of commerce is the product of the Camphora officinalis, and is of two kinds, viz. Dutch or Japan, or Tub camphor, so called from being brought from Batavia to Europe in tubs, containing 1 cwt. to 1¼ cwt., and is in the form of lumps of pinkish grains. The second kind is called ordinary crude camphor, China camphor, and Formosa camphor, much of it being produced in Formosa, shipped to China, and re-shipped to Europe in square chests lined with lead-foil, and containing from 1¼ to 1½ cwt. In this crude state it consists of dirty greyish grains. This crude material is obtained by distillation from the roots and wood of the Camphora officinalis tree, which is chopped up and split up into billets, which are boiled in plenty of water in large boilers, with a conical or round straw cover smeared with clay outside; and, as the water boils, the crude camphor is deposited on the inner straw. Refined camphor is obtained from this product by

distillation, which is carried on in various ways; but the whole process consists in using two round vessels, inverting one above the other, and adding 2 per cent. of quicklime in order to absorb any oil, and distil from one vessel to another. Two earthen pots, luted together, answer perfectly, a very small aperture being left for the escape of air on the first application of heat. It is largely refined in Bombay. In China it is prepared very carelessly, by soaking in water the chipped wood of the root, trunk, and branches, and subliming it.

The *Borneo* or *Barus* camphor, the Lung-naou-hiang or 'dragon's-brain perfume' of the Chinese, is a product of the Dryobalanops camphora, *Colebrooke*. It is much esteemed in China, and is called by the natives and in commerce, 'kapur barus,' or Barus camphor, to distinguish it from the product of the Camphora officinalis, or Japan camphor. It derives its name of Barus from a place in Sumatra where it is produced, and whence it was probably first exported. The tree is found on all the northern parts of Borneo, and is said to be particularly abundant in the country of the Kyan, in the interior, on the Bintulu and Rejang rivers. The produce, though so valued by the Chinese, is not much used by the natives, though it is occasionally taken inwardly as a medicine. The price in China of the Borneo camphor is said to be higher than that of Japan, in the proportion of twenty to one; it has been supposed that this disproportion is caused more by some fancies of the consumer than any real distinction of properties. As not one in ten trees is found to produce camphor, its presence must be caused by a particular state, either of vigour or disease, in the tree; and the camphor collectors cut notches in the trees, in order, before felling, to ascertain whether they are likely to produce camphor. It is said that in those which produce it, the younger and smaller trees are often found to be quite as prolific as the older and larger trees. The camphor is found in a concrete state in the crevices or fissures of the wood, so that it can only be extracted by felling the tree, which is afterwards cut into blocks and split into wedges, and the camphor, which is white and transparent, is then taken out. An essential oil is also found in hollows in the wood, which the natives crystallize artificially; but the camphor thus obtained is not so much esteemed as that found naturally crystallized. From the oldest and richest trees they rarely collect more than two ounces. After a long stay in the woods, frequently of three months, during which they may fell a hundred trees, a party of thirty persons rarely bring away more than 15 or 20 pounds of solid camphor, worth from 200 to 250 dollars. The variety and price of this costly substance are enhanced by a custom which has immemorially prevailed among the Batta race, of delaying the burial of every person who, during his life, had a claim to the title of raja (of which each village has one) until some rice, sown on the day of his death, has sprung up, grown, and borne fruit. The corpse, till then kept above ground among the living, is now, with these ears of rice, committed to the earth, like the grain six months before, and thus the hope is emblematically expressed that, as a new life arises from the seed, so another life shall begin for man after his death. During this time the corpse is kept in the house, enclosed in a coffin made of the hollowed trunk of a durinon, and the whole space between the coffin and the body is filled with pounded camphor, for the purchase of which the family of the deceased raja frequently impoverish themselves. *Camphor oil* is also said to be collected by incisions at the base of the trunk, from which the clear balsamic juice is very slowly discharged. Barus camphor is getting scarce, as the tree must be destroyed to obtain it. About 800 pikuls are annually sent to China. Malay camphor is more fragrant and not so pungent as the Chinese camphor. 983 tubs of camphor were exported from Java in 1843; 625 bales were imported in 1843, the produce of the Japanese empire, and 559 pikuls exported from Canton in 1844. In London in 1880 it was selling at 85s. the cwt. The wood of the camphor tree is good timber, suited for house and ship building. The liquid camphor of the same tree appears of the nature of camphogen. Dr. A. T. Thomson, by passing a current of oxygen gas through it, converted it into camphor. In Spain, a camphor has been obtained from some of the Labiatæ. In Burma considerable quantities have been produced from the Blumea grandis; and a similar chemical product has been obtained in Europe, by passing a stream of muriatic gas through turpentine. It is largely employed in medicine; and to burn camphor before an idol forms part of the ritual of the Hindus.—*Low's Sarawak*, pp. 44–46; *Marsden's Sumatra*, p. 150; *Royle's Mat. Med.*; *Crawfurd's Dictionary*, p. 81; *Simmonds' Comm. Prod.*; *O'Sh.*; *Mason's Tenasserim*; *Tomlinson*, pp. 287–8.

CAMPHORA, a genus of plants belonging to the Lauraceæ, of which three species, C. glandulifera, C. officinarum, and C. porrecta occur in the south and east of Asia.

Camphora glandulifera, *Nees*, is the Laurus glandulifera, *Wall.* It is a tree of the Nepal mountains, with small yellowish-green odoriferous flowers, and pale yellow light wood, smelling strongly of camphor while fresh. It is weak and unfit for furniture. Its bark has been named the sassafras of Nepal. Dr. Royle says (Ill. Him. Bot.) it contains solid grains of camphor in its wood. —*Voigt*, p. 308; *Royle*, p. 324; *O'Sh.* p. 545.

Camphora officinarum. *Bauh.* Laurus camphora, *Linn.*, officinal camphor tree, camphor laurel. A considerable tree of Cochin-China, Formosa, Japan, and China, principally near Chiuchu, in the province of Foh-kien; also in Canton, Hu-peh, Kwang-si, and Foh-kien. The tree furnishes excellent planks, beams, and boards. Camphor is diffused through all parts of the plant; the root, trunk, and branches, when cut into chips, are boiled in water and then sublimed into inverted straw cones contained within earthen capitals. It is thus obtained in the form of crude camphor, chiefly from the province of Foh-kien and the opposite island of Formosa, but some of good quality is also procured from Japan. It is sometimes imported into Britain from Batavia.—*Williams' Middle Kingdom*, ii. p. 137; *O'Shaughnessy*, p. 455.

Camphora porrecta. *Linn.*
C. parthenoxylon, *Nees.* | Laurus pseudo sassafras, *Blain.*
Laurus ,, *Jack.*

A tree of Penang, Sumatra, and Java, furnishing a strong wood, which is durable if kept dry. —*Voigt; Roxb.* ii. 708.

Camphor Oil, Kapur minyak, MALAY; the liquid camphor of the Dryobalanops camphora tree.

Camphor Cup, a cup for use after the manner of the quassia-wood or 'bitter cup.'

Camphor Wood of Sumatra is from the Dryobalanops camphora, of which the wood is hard, compact, and brownish-coloured. The fragrant, light-coloured, soft wood of which the trunks and boxes of China are made, is supposed to be that of the camphor tree of Japan, Laurus camphora, or Camphora officinarum. Camphor-wood is valuable for the construction of chests and almirahs, as its powerful odour protects the contents from the ravages of white ants and other insects. The Martaban camphor-wood, Laurus sassafras, is from a very large tree, scattered sparsely throughout the Tenasserim provinces. Wallich wrote that it was very like Laurus glandulifera, which furnishes the sassafras and camphor-wood of Nepal. The Karens call it the 'tree galanga,' from its fragrance. — *Holtz; Mason; O'Shaughnessy.*

CAMPNOSPERMA ZEYLANICUM. *Thw.* A tree 30 to 40 feet high, not uncommon in Ceylon, growing on the banks of streams at Ratnapura and lower part of the Saffragam district up to 4000 feet elevation.—*Beddome*, p. 168.

CAMPONG. MALAY. A village, an enclosure, a courtyard, the Anglo-Indian compound, the Hindi ăngăn.

CAMRUKH. HIND. Averrhoa carambola.

CAM SING MOON or Cum sing moon, a safe harbour in the Canton river, formed between the southern port of Keeow island, and a point of Macao island called Bluff Head. It was much frequented by opium vessels.—*Horsburgh.*

CAM-WOOD, a dyewood from the Baphia nitida of Africa, used in dyeing the bright red of English bandana handkerchiefs.

CANAAN. This name, according to one authority, is from Chana, the ancient name of Phœnicia. According to another, Canaan or Palestine was called after Canaan, the youngest son of Ham.

CANADA TURPENTINE, or Canada balsam, is obtained from the Abies balsamea in Canada. Between the bark and the wood of the trunks and branches of the trees are vesicles containing the oleo-resin, which exudes when they are broken. Canada balsam is much used by varnish-makers in the manufacture of some of the most transparent varnishes. It is also extensively employed by opticians as a cement. The great value of Canada balsam for optical purposes, depends on its transparency and its refractive power, which is nearly equal to that of glass. When used to connect the pieces of an achromatic lens, it prevents the loss of light by reflection, and excludes moisture and other foreign bodies from the space between the surfaces of the glasses. In Nicol prisms (single image prisms of Iceland spar) it serves the important purpose of transmitting the ordinary ray, and of interrupting the passage of the extraordinary one; its index of refraction being intermediate between that of Iceland spar for the ordinary ray, and that of the same substance for the extraordinary ray.—*Pereira.*

CANAGA. CAN., TEL. Pongamia glabra.

CANALS for irrigation are of the greatest importance in all the tropical countries liable to the calamities resulting from excessive droughts.

The great canal of the world is that of *Suez*, connecting the Red Sea with the Mediterranean, and separating Africa from Asia. It was commenced 25th April 1859, the first ships passed through it in the year 1867, and it was formally opened for traffic in December 1869. It had occupied ten years of labour to bring it to that state, and cost to that period 13 millions sterling = 13 kror of rupees.

In British India the great works are the Ganges Canal, the Eastern Jumna Canal, the Agra Canals, and the Lower Ganges Canal.

The *Multan Inundation Canals* supply the district of Multan between the Sutlej and the Chenab, where rain hardly ever falls, and convert it into a succession of beautiful gardens, shaded by palm trees. There is a burning sun above and canals flowing below.

The rude inundation *canals of Gugaira* and other districts of the Bari Doab above Multan, are of value, and from those in the rich country of Muzaffargarh, between the Chenab and the Indus, the land is made one sheet of cultivation.

The inundation canals of the *Shahpur* district draw their supply from the Jhelum.

The *Derajat Canals* run parallel with the river Indus and fill during the periods of inundation.

The *Khadar* lands of the Bahawulpur State are 10 or 12 miles wide, and border the Indus. They are irrigated by inundation canals from the Sutlej.

The aggregate length of the *Upper Sutlej Canals* is 213 miles.

The *Khanwah Canal* leaves the Sutlej at a point 20 miles below Firozpur, by a mouth 90 feet wide, narrowing to 20 feet at the end of its length of 55 miles.

The *Sohag Canal*, 73½ miles long, leaves the Sutlej a little below the mouth of the Khanwah, and irrigates the country between that canal and the river.

The *Para Nullah* is a continuation of the Sohag, and is connected with the old bed of the Beas by a channel called Nawabbin.

The *Kutora Nullah* is to the north of the Khanwah canal, and it was proposed to bring into it the waters of the Sutlej.

The canals of the *Lower Sutlej* and the *Chenab* fertilize the Multan district, irrigating 120,000 acres, belonging to 120,000 villagers. In 1871–72 they were 39 in number, with an aggregate length of 632 miles; 11 had been made by the British.

The *Indus Canals* include those of Muzaffarnagar and the Derajat. There are 66 in the Muzaffarnagar district, drawing their supplies from the Indus and the Chenab. Those of the Derajat are 592 miles in aggregate length, of which, up to 1871–72, 108 had been constructed by the British.

The *Dera Ghazi Khan* district and the Sind Sagar Doab need irrigation.

The *Peshawur valley*, with the exception of a small opening towards the Indus, is encircled by mountains, and comprises 2400 square miles, divided into two by the river Kābul, which enters the plain at Michni. It is joined midway by the Swat river flowing from the N.W., and entering the plain at Abazai it waters Yusufzai by many channels, the Bara from the S.W. entering the plain at Shaikhan.

Bahawulpur State extends for 300 miles along the left banks of the Sutlej, Chenab, and Indus. In former times, the Ghaggar, the ancient Saraswati, flowed through it from the Siwalik mountains to the Indus, between Rori and Uch, parallel

with the Sutlej, but it dried up; and ruins of old towns are dotted along its banks, and all the once fertile tract is now barren and sandy, drifted from the desert, and is known as the Bahawulpur Bangar. To the west of the Bangar are narrow strips 10 or 12 miles wide, along the left banks of the Indus, Chenab, and Sutlej, called the Khadar. In 1867–70, Major Minchin, political agent, led a canal 105 miles long from the Sutlej, and called it the Ford-wah. He also formed six small canals in the Khairpur district.

Below *Khairpur*, are the Vahind, the Khanwah, Naoranga, Kutubwah, Sultanwah, Mubarakwah, Minchinwah, Baruswah, Sadikwah, and the Hariari or Fertiliser, all of them large channels 100 to 200 feet wide, irrigating a vast area by an endless network of branches, and annually cleared out.

From the *Indus* nine canals lead, two of them excavated by the British; and in July and August the Indus floods the face of the country, the waters reuniting to run into the eastern Narra, a great channel belonging to the Sind system of irrigation.

In the *Bari Doab*, between the Beas and Ravi rivers, there has been a great State canal completed; but canals are still needed for the 7,000,000 of acres unirrigated in the Rechna Doab, between the Ravi and Chenab; the Chuch Doab, between the Chenab and Jhelum; and the Sind Sagor Doab, between the Jhelum and the Indus.

That of the Bari Doab up to 1871-72 cost upwards of £2,000,000, and was irrigating 300,000 acres.

The great *Sirhind Canal*, commenced in 1871–72, was projected to draw its waters from the Sutlej, to irrigate an immense area now desert, and the total cost was estimated at £2,980,427, a third part of which was to be borne by the native states.

After the rivers of the Panjab unite at Mithankot, the Indus flows for 450 miles to the sea, through the arid rainless country of Sind. Here artificial irrigation is essential to cultivation. The river during bygone ages has silted up, and its banks are now greatly above the alluvial plain. When the bed attains a certain height the water falls over, and since historical times the river has been changing its course to the west. The banks are permanent only at Sukkur; at Jharrak, where it is bound by rocky banks; and at Kotri, by hills and deep tenacious clayey soil. The canals are excavations carried away from the river in an oblique direction, so as to secure as great a fall as possible. They vary from 10 to 100 feet in width, and from 4 to 10 feet in depth, and none are deep enough to draw off water from the river except during inundations. The irrigation is carried on by the water flowing into the channels during the inundations, or it is raised by the aid of machinery or Persian wheels. Some of the canals are 70 and 80 miles long. On the western or right bank, the chief canals are the Sind, 66½ miles, Ghar or Larkhana, Bigari, and Western Narra.

On the east or left bank of the Indus river is the Eastern Narra. It was an ancient channel which passed through the Thur, and had near it among the sand-hills, about 400 small dunds or lakes or bottoms. In 1859 a channel from the river at Rori was led into it, and its channel was dammed at places to prevent the escape of water into the large dunds.

Two canals have been led from the Eastern Narra,—the Mitrau, which in 1866 had 190 miles open, and irrigated 156,803 acres, and the Thur canal, irrigating 38,000 acres. Under Sir Bartle Frere's administration, the ancient channel of the Narra, 120 miles long, was reopened on the 7th May 1867, to distribute water over the vast plain of Mirpur.

From Hyderabad southwards, the *Fullali* canal is the main feeder of irrigation channels. Originally it was a natural branch of the Indus, which it rejoined 16 miles below Hyderabad; this was stopped by a dam in the time of the Amirs, and its waters were sent into the Gaja, the Guni, and other canals.

In 1861 the cost of clearances of the main canals was £41,041, but the allotment in 1871–72 was insufficient. Canals of a permanent character, proposed to be led off the Indus from Sukkur, Jharak, and Kotri; and the first of these, from Sukkur, was opened in 1870.

In the *valley of the Ganges*, above its junction with the Jumna at Allahabad, and in the whole length of the country through which the Jumna flows, the rainfall does not exceed 30 inches. Firoz Shah, emperor of Dehli between 1351 and 1388, drew a canal from the Jumna to water his favourite hunting ground at Hissar, but it had long fallen into disrepair, when Akbar in 1568 ordered its restoration. In 1626, Shah Jahan's engineer, Ali Murdan Khan, projected a canal in the Doab, which shortly ceased to flow. He also led one from that of Firoz, to convey water to the city of Dehli. The Dehli canal crossed the lowland by a masonry aqueduct, traversed the Aravalli hills by a canal cut through the solid rock, 60 feet deep at the crest, and flowed through the city in a masonry bed, throwing off innumerable minor streams; but in 1753 this branch ceased to flow. When the British came into possession, all these works had fallen into ruin, and in 1820 the canal of Firoz was restored from where the Jumna issues from the Siwalik hills. At Dehli it separates into a branch which enters the city at the Kābul gate, and part of it flows down the Chandni Chouk; the other branch follows that of Firoz to Hissar, and sends off the Rohtak branch. The united length is 445 miles, and that of the watercourses 728 miles; and the total outlay up to 1871–72 was £282,517, from about 447,171 acres.

The *Ganges Canal*, commenced in 1848, was opened on the 8th April 1854. It is wholly a British project. The water is brought from Ganes Ghat on the Ganges, 2½ miles north of the town of Hurdwar, close to the foot of the Siwalik mountains. The main channel is 348 miles long, and the branches 306 and the distributaries 3078, in aggregate length; and 767,000 acres in 5061 villages are irrigated by them. The principal engineer was Sir Proby Cautley. Commencing at Hurdwar, as the river Ganges issues from the mountains, it runs through the country on the right bank of the river. One of its many branches re-enters the Ganges at Cawnpur, and another joins the river Jumna. The canal is carried by a great viaduct, three miles long, over the river Salani. It is of earth, and is protected by a wall of masonry and a bridge of fifteen arches, each of fifty feet of span, through the volume of another river, and beneath the bed of a third, and was planned to re-enter the Ganges at Benares. The Solani aqueduct leaves a clear waterway of

700 feet, and cost £300,000. The total cost of the canal was not less than two millions sterling (£2,036,000). It takes about 75 per cent. of the water of the Ganges, whose volume, however, is not diminished. It traverses the Doab, and by countless branches, dykes, and channels, irrigates almost every village throughout a tract of country upwards of 800 miles in length, and is supplied to every tiller on payment of a water tax. At Hurdwar, the pass through which it issues, at the lowest ebb discharges about 7000 cubic feet of water every second. Its current was too strong for navigation, and the expected advantages from it for irrigation were not attained. It is carried through Hurdwar, Alighur, Cawnpur, Hamirpur (530 miles), with branches to Futehghur, Bulandshahr, and Koel. A ridge of land rises slightly above the level of the adjacent country, and runs along the centre of the Doab, sloping down on the one side to the Jumna, and on the other to the Ganges. The canal has been constructed on the top of this ridge to the vicinity of Alighur, whence it diverges into two channels, one to Cawnpur, and the other to Hamirpur and Etawa. On the completion of the canal, it was opened in April 1854, and the water admitted on an aqueduct across the Solani river at Roorkee. The engineer, Sir Proby Cautley, on leaving Calcutta, was honoured with a salute from the batteries of Fort William, and was favourably noticed in the Government Gazette.

The *Agra Canal* has been led off from the Jumna below Dehli, to irrigate the lands of Dehli, Agra, and Muttra. It irrigates 350,000 acres. The *Futtehpur Sikri* reservoir may also be mentioned.

The *Rohilkhand Canals* comprise the Nehtore, the Nugina, the Bygool, 180 miles, the Muradabad, the Paba, 13 miles long, and the Kailas canals; and the Kitcha and Dhora watercourses, 32 miles. They irrigate the belt of country along the Terai, where much rice is grown.

There are five canals in the *Dehra valley*, between the Ganges and the Jumna, aggregating 67 miles in length, and irrigating 11,039 acres. There are ten miles of rajbuha.

The tanks in Mhairwara in 1871-72 had a total area of 8675, and irrigated 14,826 acres. They were largely constructed by Colonels Hall and Dixon.

The *canals of the N. W. Provinces* have irrigated on the average 1,065,450 acres.

A dam has been thrown across the *Sone* river, and two main channels lead off from it.

The *Midnapur Canal* was partly open in 1871-72. It is 52 miles long, to irrigate 200,000 acres.

Mention may be made of the *Arrah Canal*, 70 miles long, to irrigate 430,000 acres, and of the *Patna Canal*, 84 miles long, to irrigate 390,000 acres.

The Humirpore and Jhansi irrigation works consist of lakes and reservoirs, partly natural, partly artificial, and are under the direct control of the civil authorities (*Friend of India; Annals of Indian Administration*).

The *Mahanadi river* drains the fertile plain of Chatisgarh, in the Central Provinces, and falls into the Bay of Bengal after a course of 529 miles. Its basin covers an area of 45,000 square miles. It is liable to heavy but short-lived floods, and the province of Orissa at the deltas has long suffered from them. The E.I. Irrigation Company undertook to form a great anicut, and it was commenced in 1862; they failed, and in 1868 transferred their works to the Government for £1,050,000, but the water has never brought remunerative rates.

Canals, as watercourses for cultivation, have only since 1862 been in progress in the Bombay Presidency. A weir of 1550 feet has been thrown across the Girnar river, in Kandesh, and one across the Panjur. In Sultanah a weir 2000 feet long has been drawn across the Kistna, to feed channels 45 miles long. A large tank has been formed at Koorgaum near Barsee, a reservoir at Mukti near Dhulia, and a tank at Hurtola. A reservoir has been constructed near Sholapur at a cost of £90,000. Large works have been planned for Gujerat and the W. Dekhan, and others for the Central Provinces; for works from the Pench river north of Nagpur, and from the Warda river to its south, and for the waters of the Betwa river to be led to irrigate Bundelkhand, which has been fifteen times desolated by famine in the last three centuries. One-third of the water will go to the Patiala State.

In *Madras*, of the native engineering works, those for the application of water to irrigate fields and gardens, wells, tanks, and river channels take the first rank. There are innumerable tanks or artificial lakes of various sizes formed in basins, that near Cummum being seven miles in circumference. The most northern of its rivers, the *Godavery*, at Rajamundry, when about fifty-five miles from the sea, divides into two streams, forming a delta of rich alluvial country. A little above this point the river is 2000 yards broad, but it soon expands at Dowlaishwaram into a width of three times that extent, parted, however, by islands into four branches. An anicut has there been thrown across the channel, the united lengths of the four dams being 3955 yards. Upwards of two miles of stream is blocked up by a solid, well-protected mass of stone, in lime cement, with a breadth at the base of nearly 130 feet, and a height of twelve feet above the natural surface of the water. Along the left bank of the river is one channel, another to Cocanada, and other channels; the total being 840 miles of main channel, irrigating 780,000 acres of land. In 1871-72 there were 56,471 boats and rafts engaged in traffic on this canal.

The rajas of Vijayanagar in 1521 constructed nine dams across the Tumbudra river, and had channels of 89 miles of total length. The old travellers, Conti and Cæsar Frederick, tell of cool streams flowing through the streets of the city. In 1860 the Madras Canal and Irrigation Company undertook to bring a navigation and irrigation canal from the river, throwing an anicut across at Sankasala; its history is useful.

It was intended to provide for the continuous irrigation of the Bellary district, of the Koondey valley and the Nellore district. The weir across the Tumbudra at Sankasala was 1500 yards in total length of clear overfall, which was broken into two lengths by an intervening island. The Hindry Aqueduct carried the canal, 90 feet broad and 8 feet deep clear waterway, over that river, at an elevation of 32 feet, by 40-feet arches, the length between the abutments being 651 feet; the cost of the first 75 miles was £8710 per mile; the next 115 miles cost £2900 per mile; and the whole

canal cost £5260 per mile. It has not produced all the hoped-for benefits for irrigation, and for navigation it has not been applied. Indeed, navigation and irrigation seem incompatible.

At *Baiswara*, 60 miles from the sea, an anicut or dam 1250 yards long, with a base of 305 feet, has been thrown across the Kistna river, and its channels irrigate the Guntur and Masulipatam districts. The delta covers an area of 10,000 square miles. From the E. side the main channel is divided into two branches, one to Masulipatam, the other to Ellora. It was constructed by General Charles Orr. The main western channel divides into the Nizampatam and Commamur branches.

The *Krishna* Canal, in the Bombay Presidency, is excavated from above the dam near Kurvar in the Satara district.

The *Ekruk* tank is four miles north of Sholapur on the Adela, a branch of the river Bhima. Its dam is 7200 feet long, and 72 feet high in the centre, and the lake formed is 6½ square miles. It submerged five villages, two of them in the Nizam's territory, but 35,840 acres are brought under the influence of the tank.

An anicut was completed across the *Pennar* river at Nellore in 1855. It was breached by the hurricane of 1857, but restored in 1861, and in 1863 the irrigated area was 32,874 acres. It is 520 yards in length.

The *Cauvery* and *Colerun* anicuts are the most ancient in Southern India, and those to which the British first directed their attention. At the head of the island of Srirangam, near Trichinopoly, the main river divides into two branches, the southern retaining the name of Cauvery, the northern being called the Colerun; and the tendency was for the Cauvery to silt up, and the whole of the water to pour into the Colerun. The native anicut had been built about the third century of the Christian era, and consisted of a solid mass of rough stone 1080 feet long and 40 feet broad, irrigating 669,000 acres. Sir Arthur Cotton threw a masonry anicut, 750 yards long, across the Colerun, resting it on three lines of wells 6 feet in diameter in the sandy bed of the river, which has thrown the water into the Cauvery and cleared the bed of the Colerun. In 1836 an anicut was thrown across the Colerun to regulate the supply of water for S. Arcot. Colonel Sim was the engineer.

The Mauri Conwai river is in Mysore, with the Nundoor Sreeramadwara and Maseehully reservoirs.

The *Periar* river runs to waste into the Cochin marine lagoon, and it has been proposed to turn it into the eastern districts by a cutting 140 feet deep and a dam 60 feet high, and add to the water supply of Madura and Ramnad, now obtained from the Vaiga.

The *Tambrapurni* river waters the Tinnevelly district. It has been crossed by several dams in very ancient times.

The *East Coast Canal* from Madras to Sadras is for traffic.

The *Grand Canal of China* has been led through and near a series of lakes, some of considerable extent, extending all the way from Nan Wang, in lat. 35° 55′ N., long. 116° 30′ E., down to the Yang-tze-kiang.—*Moral and Material Progress*, 1871–2; *Markham's Embassy; Annl. Ind. Adm.; Report on the Administration of the Panjab; Powell's Handbook, Econ. Prod. Panjab; Jackson's Manual.* See Irrigation.

CANAMBOO. TAM. Crotalaria juncea, *Linn.*

CANARA, a maritime province on the western coast of the Peninsula of India, with an area of 7800 square miles. It is arranged by the British into two revenue districts, North Canara or collectorate of Honore, and South Canara as far south as the Chundragherry river, and from that river commences Malabar. Canara formed part of the Mysore Dominions, and came under British rule after the fall of Seringapatam in 1799. Below the mountains the country is rocky, mountainous, intersected by numerous mountain streams running to the sea, with exceedingly fertile valleys. The Garsuppa falls of the Sherranutty river have four portions. The Grand Fall falls perpendicularly 880 feet. Three languages are spoken, viz., Tulu in the ancient Tuluva country, Malealam as far north as the Chundragherry river, and Canarese in the taluks of Honawar and Cundapore above the Ghats. In the Buntwal taluk are colossal images of Gomata Raya, carved out of single blocks of granite, and placed on the tops of hills. The interior of the Jain temple at Moodbiddery is beautiful. Near Cundapore, close to the sea, is a small fresh-water lake, in which the Hoowana or flower fish is caught.

North Canara, since the 1st Feby. 1862, has been administered by the Bombay Presidency. It lies between lat. 13° 52′ and 15° 31′ N., and long. 74° 10′ and 75° 7′ E., with an area of 4235 sq. m., and in 1872 a population of 398,406 persons, 364,402 of them being Hindus. The Havik Brahmans cultivate betel-nut gardens. The Nanaiti Mahomedans are seamen; they are well to do, and represent the colonies of Arab merchants of whom a remnant still exists along the coast from Gogo southwards. There are Sidi Mahomedans, descendants of African slaves whom the Portuguese held. They have the woolly hair and black skin of the pure African negro; are poor, and cultivate little patches rudely in the forests.

South Canara is under the Madras Presidency. It lies between lat. 14° 31′ and 15° 31′ N. and long. 74° 1′ and 75° 2′ E., and has as its eastern boundary the Western Ghats, through which the Manjarabad, Kolur, and other passes lead up to Mysore and Coorg; its area is 3902 sq. m. The people, about a million in number, consist of Saraswati, Konkani, and Sivalik Brahmans, Bant, Koragar; Portuguese of mixed descent, native Christians, Mopla of Arab descent. The aborigines include the Malekudi, Koragar, Holyar. The Malekudi are a forest race who practise the Kumari cultivation, but labour on coffee estates. The languages spoken are Tulu, Malealam, Canarese, and Konkani, besides Urdu and English. Tulu, the language of Tuluva, is spoken between Udipi and Kumbla by about 180,000 people, south of the Puishwenni river and elsewhere; with Moplas, Malealam is the prevailing tongue. Prior to British rule, the Holyar were the slaves of the Wargdar or proprietors, and even yet continue in a state of modified serfdom.—*Findlay; Imp. Gaz.; Madras Records.*

CANARESE or Karnataka is an ancient classical and a modern dialect, the former containing different inflexional terminations. Hala Kannada, is an ancient written character formerly used by the Canarese people in writing. Canarese is a language in the centre of the Indian Peninsula,

spoken by about nine millions of people, partly under the Hyderabad, the Mysore, and the British Governments of Bombay and Madras. The ancient Hindu term, Karnatica, comprehended all the high table-land in the south of India above the Eastern and Western Ghats, and its rulers seem never to have held sway beneath the Ghats; though in the present day, by a strange fatality, it is now only the countries below the Ghats, the Carnatic on the east and Canara on the west, to which the name of the ancient Karnatica kingdom has come to be applied, and its name is now never given to the Bala Ghat, or country above the Ghats.

The great bulk of the Canarese-speaking people are of one race, who are pure Dravidians. They have adopted the Jangama sectarian faith, the followers of which, by their tenets, ought to have no caste distinctions. Most of their subdivisions are restricted to vegetable products as food; and so carefully do they act up to these, that no one of these vegetarians will even bring any living creature for sale to any one of a flesh-eating people. Their sect is, perhaps, amongst the most exclusive of all in India. It is doubtless this tenderness towards animal life that guides them to their avocations, which are mostly those of civil life, cultivators and shopkeepers, and may have led to their non-resistance to invaders; but in all the great armies which the British have formed during the past century, of the Canarese Jangama sectarians not more than a few thousand men may have become soldiers, and certainly not even one of that portion who abstain from animal food. The Teling and Canarese nations have, till recently, continued equally advanced as to elementary school education; and though, in this respect, both races fall short of the progress made by the energetic, restless, impetuous Tamil people, they are greatly in advance of the Mahratta. For nearly 200 years the inland tract occupied by the Canarese-speaking people had been traversed by great armies, bent on conquest, and since the fall of the great Vijayanagar dynasty all comers seem to have crossed this tract without opposition.

Canarese, properly the Kannadi or Karnataka language, is bordered by the Tamil and the Telugu on the east. It is spoken throughout the plateau of Mysore and in the western districts of the Nizam's territory as far north as the village of Murkundah, lying 30 miles south-west of Beder. Also it is spoken in part of the ancient Tuluva country on the Malabar coast, now long designated as Canara, a name which it acquired from having been subjected for centuries to the rule of Canarese princes. But in Canara, the Malealam, the Konkani, and the Tuluva are also spoken, though less extensively than the Canarese. From A.D. 800 to 1500 it was free from any admixture of foreign words, but since then Sanskrit words have been extensively introduced; and during the supremacy of Hyder Ali and Tipu, Urdu words were largely imported into it in Mysore, while it added Mahratti in the N.W. and Telugu on its N.E. The Canarese character differs slightly from the Telugu, from which it has been borrowed, but the characters used for Tamil, Malealam, and Telugu are quite distinct from each other. The ancient Canarese character, however, entirely differs from that of the modern Telugu, and the Canarese language differs even more widely from the Telugu than it does from the Tamil. There is an ancient dialect of the Canarese language current, as well as modern, the latter differing from the former by the use of different inflexional terminations. The ancient Canarese dialect, however, has no connection with the Sanskrit character to which that name has been given, in which, viz. the Hala Kannada, many very ancient inscriptions in the Mahratta country as well as in Mysore are found.

CANARIUM, a genus of plants of the natural order Burseraceæ. Wight says the resinous juice of C. commune has properties similar to copaiva, while the kernels of the seed afford by expression a bland, edible oil. C. strictum, *Roxb.*, is known in Malabar under the name of the 'black dammer tree,' in contradistinction to the Vateria Indica, which is the 'white dammer tree.' This tree is rather common in the alpine forests about Courtallum in the Tinnevelly district, and is regularly rented there for the sake of its dammer. The dammer is transparent, and of a deep brownish-yellow or amber colour when held between the eye and the light, but when adhering to the tree has a bright, shining, black appearance. The fruit is a very hard, three-celled, oval nut, tapering at each end.

Under the names Dhoop and Googul, Dr. Gibson mentions two species of Canarium in Canara and Sunda, one on the ghats above, and the second species of great size cultivated near Bilgil and at Siddapore. The choice gum-resin afforded by these trees is extensively used in the arts, and exported both inland and to the coast.—*Wight, Ill.; Dr. Gibson.* See Boswellia; Resins.

CANARIUM BENGALENSE. *Roxb.* An immense forest tree of Assam, Sylhet, and the adjacent mountainous countries, flowering in May and June. From fissures or wounds in the bark, a large quantity of very pure, clear, amber-coloured resin exudes, which soon becomes hard and brittle, and is not unlike copal. But in the Calcutta bazar it was only valued at from Rs. 2 to Rs. 3 for seven maunds of eighty pounds each. —*O'Shaughnessy*, p. 285; *Voigt*, p. 149; *Roxb.* iii. p. 136; *Royle's Him. Bot.* p. 177.

CANARIUM BRUNNEUM. *Thw.*

Scutinanthe brunnea, *Thw.*

Maha-bulu-mora, ... SINGH.

A tree 50 to 60 feet high, growing in the Central Provinces of Ceylon at elevations of 2000 to 3000 feet.—*Beddome, Fl. Sylv.* p. 127.

CANARIUM COMMUNE. *Linn.* Java almond.

C. mehenbethene, *Gært.*	Colophonia Mauritiana, *D. C.*
Amyris Zeylanica, *Retz.*	Bursera paniculata, *Lam.*, *Rumph.*
Balsamodendron Zeylanicum, *Kunth.*	
Bois de Colophane, . FR.	Jungli Badam, . . HIND.

Grows in the Mauritius, Ceylon, the Peninsula of India, the Moluccas, and the Indian Archipelago. It was brought from the Moluccas to the Calcutta Botanic Garden, but in Roxburgh's time did not thrive, owing to the coldness of the winter months. The bark yields an abundance of limpid oil, with a pungent turpentine smell, congealing into a buttery, camphoraceous mass. It has the same properties as balsam of copaiba, for which it could be substituted; and is said to yield East Indian elemi. Its nuts are three-cornered

and edible, but apt to produce diarrhœa.—*Roxb.* iii. p. 177; *O'Shaughnessy*, p. 288; *Voigt*, pp. 148-9.

CANARIUM GENICULATUM. *M'Cl.* A large and valuable timber tree found in the Pegu valley, but scarce. The wood is white-coloured, and adapted to house-building.—*M'Clelland.*

CANARIUM NIGRUM. *Roxb.*

Marignia acutifolia, *D. C.* | Dammara nigra, *Rumph.*

A tree of Amboyna and the Moluccas; a reddish, soft, viscid, heavy-smelling substance exudes from wounds in its bark.—*Voigt*, p. 149.

CANARIUM PIMELA. *Smith.* Pimela nigrum.

Luh-lan, Wu-lan, . CHIN.	T'sipg-kwo, . . . CHIN.
Kan-lan, ... „	Chinese olive, . . ENG.

This tree grows in the Chinese provinces of Kwang-si and Foh-kien. Its pointed oblong fruits, from 1¼ to 1½ inch long, are eaten green or shrivelled, and are often preserved in salt. At Amoy the hard kernels are often beautifully carved for heads. Lan-tang, a kind of gum or black dammer, is obtained from its branches, bark, and leaves. The kernels of the Pimela alba (Luh-lan) are similarly used.—*Smith.*

CANARIUM STRICTUM. *Roxb.*

Dammara nigra legitima, *Rumph.*

Manda-dup, . . . BENG.	Thelli mara, . . MALEAL.
Gugal, Dup, . . . „	Kongilam maram, . TAM.
Black dammer tree, ENG.	Karapa Kongilamu, „
Canari, . . . MALEAL.	

This very beautiful, large tree is most abundant in all the moist ghat forests on the western side of the Madras and Bombay Presidencies up to 4000 and 4500 feet, but it does not occur in Ceylon or elsewhere, and it is never seen in dry forests. Its brilliant crimson foliage makes it a most beautiful sight when in young leaf. The leaves of saplings and young trees are very much larger than those of full-grown trees.

This is the black dammer tree of Tinnevelly and Malabar, and is so named in contradistinction to the Vateria Indica, which is called the white dammer tree. C. strictum is common near Courtallum, where it is rented for its dammer. While adherent to the tree, it gives a bright, shining black tint, but by translucent light is of a deep brownish-yellow or amber colour. The balsam exudes in a very fluid state, and trickles down the trunk, where it gradually hardens by exposure to the sun; the fresh resin continuing to flow over that already hardened, gives the stalactitic appearance to the huge lumps of resin, in which form the resin is brought to the market. It is perfectly homogeneous, has a vitreous fracture. It is insoluble in cold, but partially soluble in boiling alcohol on the addition of camphor; when powdered, it is readily soluble in oil of turpentine. Powdered and burnt on the fire, it emits a more resinous smell, and burns with more smoke, than white dammer. The size of the lumps of this resin, together with its colour and the peculiarity of shape already mentioned, suffice to distinguish it from other Indian resins.—*M. E. J. R.; Voigt*, 149; *Roxb.* iii. 138. See Gums and Resins.

CANARIUM SYLVESTRE. *Gærtn.*

C. Sylvestre alterum, *Rum.* | Schinus Bengalensis, *S.*

A tree of Chittagong and Assam. Timber hard, tough, and close-grained, used for furniture.

CANARIUM ZEYLANICUM, *Blume*,

C. Balsamiferum, *Moon.* | Kakoona-gass, . . SINGH.

Occupies the warm, moister parts of Ceylon up to an elevation of 1500 feet. A resinous balsam exudes copiously from the trunk of this tree, which, mixed with paddy chaff, is used by the natives for burning, as the smoke drives away snakes from the domicile. C. coccineo-bracteatum and C. euphyllum are also known.—*Thw.* i. p. 79.

CANARY SEED, Phalaris canariensis, *Linn.* Mainly used to feed caged birds. The annual British consumption may be estimated at about 10,000 quarters, of which about 8000 are grown in England, especially in the Isle of Thanet and Essex.

CANAVALIA GLADIATA. *D. C.* Sword-bean.

Dolichos gladiatus, *Roxb.*	Dolichos ensiformis, *Lour.*
Mekhun, . . . BENG.	Thambatin, . . TAM.
Makhum-shim? . „	Segapu Thambatin? „
Makshun-shim, . „	Tela „ „
Pai-noung-nee, . BURM.	Tamma; Chama? . TEL.
Kadsambal, . . HIND.	Segapu? . . . . „
Shimlee, . . . SANSK.	

This plant has four varieties, viz.:—

a. Flowers and seeds red.	*c.* Flowers and seeds white
b. Flowers white, seeds red.	*d.* Flowers red, seeds grey.

The three first of these are cultivated for their large swordlike pods; that with the white flowers and white seeds is considered the best, and is often two feet long. It is esteemed by Europeans.—*Mason; Voigt.*

CANAVALIA OBTUSIFOLIA, *D. C.*,

Koyli avari, . . . TAM.

Is a common plant on the Coromandel coast, where it occurs along with the Ipomæa pescapræ, and is a useful binder of loose sand.—*Cleghorn.*

CANAVALIA VIROSA. *W. and A.*

Dolichos virosus, *Roxb.*	Dolichos ensiformis, *Lour.*
Kalo Shim, . . BENG.	Wild sword-bean, . ENG.
Kat Shim, . . . „	Adavi chamma, . . TEL.
Kudsumbar of BOMBAY.	Karu chamma, . . „

Grows on the Coromandel and Konkan coast, and on the seashore of the Tenasserim provinces, in great profusion.—*Mason.*

CANAXA. This battle, in which the younger Cyrus lost his life, was fought in the plain between Hit and Felugia.—*Kinneir's Memoir*, p. 267.

CANCER, the crab genus of crustaceæ of the family Canceridæ; several species occur in Southern and Eastern Asia. C. carnifex, C. hydromus, C. corallinus, C. maculatus, and C. tenax have been transferred to the genera Gecarcinus, Carpilius, and Rupellia.

Cancer roseus, *Ed.*, Red Sea.
C. integerrimus, *Ed.*, Indian Ocean.
C. marginatus, *Ed.*, Red Sea.
C. ocyroe, *Ed.*, Asia seas.
C. mamillatus, *Ed.*, Australia.
C. sculptus, *Ed.*, Red Sea.
C. limbatus, *Ed.*, Red Sea.
C. savignii, *Ed.*, Red Sea, Indian Ocean.
C. calculosus, *Ed.*, New Holland.

CANCHI, the Tamil name of Conjeveram.

CANCHI PANDU. TEL. Solanum nigrum.

CANCHORI VER. TAM. Tragia involucrata.

CANCRA. HIND. Pavetta Indica.

CANDAHAR, a town in Afghanistan, in long. 65° 28′ E., and lat. 31° 37′ N., 3484 feet above the sea. It is the Khenta of the Vendidad. According to Elphinstone (Caubul, p. 425), there has been a city here since the time of Alexander, and the ancient city stood till the reign of the Ghilzai, when Shah Husain founded a new city under

the name of Husainabad. Nadir Shah attempted again to alter the site of the town, and built Nadirabad; at last Ahmad Shah founded the present city, to which he gave the name of Ahmad Shahi, and the title of Ashraf-ul-Balad, or the noblest of cities; but the old name of Candahar still prevails among the people, though it has lost its rhyming addition of Dar-ul-Karar, or the abode of quiet. Ahmad Shah himself marked out the limits of the present city, and laid down the regular plan, which is still so remarkable in its execution. The houses in the town are from 16,000 to 20,000; the population, 45,000 in number, consist of different tribes. Houses as under:—

Aakyi Khel, . 50	Dowlat Shahi, 50	Makuzai, . . 100
Arab, . . . 50	Ghilzai, . . 100	Nurzai, . . 600
Alikozai, . . 650	Hindus, . . 300	Parsivan, . 1240
Alizai, . . 200	Ishakzai, . . 600	Pathans, . . 200
Achakzai, . 150	Ismail Zai, . 100	Popalzai, . . 600
Babi and Babur, . . 200	Kakar, . . 550	Pirian, . . 100
	Kashmiri, . 100	Saddazai, . . 100
Barakzai, . 940	Kalezai, . . 350	Sarkani, . . 200
Bardurani, . 150	Kharoti, . . 200	Turks, . . 50
Bamezai, . . 400	Khugiani, . 150	Others, etc., 440
Bisakzai, . . 100	Madozai, . . 150	

The more remarkable objects are the tomb of Ahmad Shah, the public baths, the citadel. It was occupied by the British Indian army from 20th April 1839 till the 8th August 1843, and was re-occupied in 1879. See Afghanistan; Kandahar.

CANDALLA, in lat. 20° 3′ N., and long. 74° 49′ E., in the Dekhan, N.W. of Aurangabad. The entrance to the caves of Candalla is 1932 feet above the sea.—*Wils. Schl.* See Kandalla.

CANDALOO. TEL. Cajanus Indicus.

CANDELARIA, or candle-fly, is found in Labuan and Sarawak. It has a curved and pointed head. It frequents the tops of lofty trees.

CANDESH. See Kandesh.

CANDIA or Crete, an island in the Mediterranean. Mount Ida, famous in history, is in the centre of this island.

CANDLES.

Kaarzen, ... DUT.	Diyan; Lilin, . MALAY.
Chandelle, . . . FR.	Kandil, . . . ,,
Kerzen; Lichter, . GER.	Velass, . . . PORT., SP.
Butti, . . GUJ., HIND.	Swjetschi, ... RUS.
Candelle, ... IT.	Vatti, . . . TAM., TEL.

Almost all the candles in use in the East Indies are imported from Europe and America. For lighting, the natives use oil lamps of various shapes, often of metal fixed on an iron spike, which they stick into the ground. Wax and tallow candles are, however, made in several parts of India,—in Vizagapatam, Goa, Malabar, Patna, Calcutta, Peddapore, and Berhampur; but the large importations of candles from Europe have caused the manufacture to decline considerably. It is useful to place two thin instead of one thick wick in each, and the wicks should be plaited, not twisted. Wax candles improve with age. The candles used in Japan are made of an oil said to be pressed out of the seeds of the Rhus succedanea? This oil becomes, when concrete, of the consistence of tallow, and is not so hard as wax. The province of Fetsigo, more particularly, produces this tree, and consequently supplies the greatest quantity of this oil. In the eastern parts of China, the product of the tallow tree, Stillingia sebifera, and beef and hog's tallow in the south, are used in the manufacture of candles. Wax is only employed to encase the tallow or lard, which, from the heat of the climate and its unclarified condition, never becomes hard.—*Royle, Arts, etc., of India*, p. 484; *Thunberg's Travels*, iii. p. 188; *Rohde, MSS.*

CANDLESTICKS.

Kandelaars, . . . DUT.	Candellieri, ... IT.
Chandeliers, . . . FR.	Podsweschnikii, . RUS.
Leuchter, . . . GER.	Candeleros, ... SP.

Candlesticks are in general use in the East Indies, but to shield them from the wind are usually covered with glass shades.

CANDLE-TREE, Candle-nut tree, Aleurites triloba. Its nuts are strung together and used for candles. Torches are made from the candle-wood of Demerara.

The Candle-tree, Parmantiera cereifera, might be introduced into India. It is confined to the valley of the river Chagres (Isthmus of Panama), where it forms entire forests. In entering them a person might almost fancy himself transported into a chandler's shop. From all the stems and lower branches of the trees hang long cylindrical fruits, of a yellow wax colour, so much resembling a candle as to have given rise to the popular appellation, 'Palo de velas,' candle-tree. The fruit serves for food to numerous herds of cattle. —*Dr. Seeman.*

CANDY, a province of Ceylon, formed out of an ancient kingdom, subdued in the early part of the 19th century by the British. The town of Candy was taken on the 19th July 1819.

CANDY, Sugar-candy.

Kurri-shakur, GUJ., HIN.	Kal-kandu, . . . TAM.
Gula batu; Batu, MALAY.	Kala kanda, . . TEL.
Nabhat, ... PERS.	

Crystallized sugar was at one time largely imported into India from China, but is now made in many parts of India.

CANDY, a measure of weight equal to 500 lbs. in some places, but it varies in different towns. A candy (khundee) in one place differs very much from the candy of another place. Again, a candy, for instance, of metal, is not the same as a candy of tobacco; and there is a different candy for cotton and sugar. The candy used in buying is not always the same in the same place as the candy used in selling.

CANER. HIND. Nerium odorum.

CANES or Rattans.

Canne, roseau, . . FR.	Bed, . . HIND., PERS.
Baton, raton, . . . ,,	Canao, ... SP.
Rohrt, ... GER.	Junco de Indias, . . ,,
Nathur, ... GUJ.	Perambugal, . . TAM.
Rotan, . . . MALAY.	Bettamulu, . . . TEL
Canna, bastone, . . IT.	

Canes are the produce of the Calamus genus of palms, of which the species are numerous in the islands of the Indian Archipelago, in the Malayan Peninsula, in the humid parts of the Madras territories, in the forests of the districts of Chittagong, Sylhet, and Assam, along the foot of the Himalaya as far north as the Dehra Doon, where a species is found which Griffith named C. Royleanus; and he applied the name of C. Roxburghii to the plant which Roxburgh called C. rotang, common in Bengal and on the Coromandel coast. Both are used for all the ordinary purposes of cane; as also are C. tenuis of Assam, C. gracilis, C. extensus, and others. But those of the shops

are gathered indiscriminately, and it is not possible to say from what particular species they come. C. rotang has, however, been said to furnish the stouter, and C. Scipionum the slenderer sorts. Mr. Griffith considered C. Scipionum of Loureiro to be the species which yields the well-known Malacca cane, but the plant does not appear about Malacca, and the canes are stated to be imported from Siak, on the opposite coast of Sumatra. Even this does not, however, seem to be correct, as the Malacca Committee for the Exhibition of 1862 sent Malacca canes, as cut from the jungle, previous to being subjected to the process of smoking, which gives the cane the rich brown tint so much admired in Europe. The stem of Calamus verus is described as being 100 feet long; that of C. oblongus, 300 to 400 feet; of C. rudentum, upwards of 500 feet; and of C. extensus, as much as 600 feet. Rumphius even states that one kind attains the extraordinary length of 1200 feet (vol. v. p. 100). In the Tenasserim Provinces there are numerous species indigenous in the forest, and the Karens have different names for seventeen species or varieties, used extensively instead of cordage. The stays of the masts in Burmese boats are usually made of rattans, and they are split up into strings for the innumerable purposes to which cord and twine are usually applied. All that gives stability to bamboo houses, is the rattan which ties them together. The Calamus rudentum of Loureiro is manufactured at Malacca into cables, and is employed for dragging great weights and binding wild elephants. A cane bridge over the Temishang in the Khassya hills is 312 feet long, and 50 feet above the river. It oscillates greatly. —*Mason's Tenasserim; Royle, Ill. Him. Bot.; Royle, Fib. Pl.; Cat. Ex.* 1862. See Calamus.

CANGNI. HIND. Panicum Italicum.

CANGOO. TAM. A Tinnevelly wood of a whitish brown colour, used for handspikes and wheelwright's work.—*Col. Frith.*

CANGUE, a wooden yoke, by which Chinese criminals are punished, and are led about the streets as a spectacle to the people. It consists of two large pieces of wood fitting into each other, and having one to three openings, through which the head and one or both hands are drawn, according to the greatness of the crime. Such a yoke weighs from 50 to 100 lbs., and presses so heavily upon the back and shoulder, that the criminal is unable to feed himself, and must wait till some compassionate person lifts the food to his mouth. Such punishment is inflicted for periods varying from a few days to several months, and in the latter case it is almost always fatal. This instrument of torture makes a man resemble the foot of a huge heavy table.—*Sinnett's Lady's Voyage*, p. 49; *Huc, Chinese Empire*, i. p. 272.

CANHO. SIND. Citrullus cucurbita, *Linn.*

CANIATCHI. Cani, land, and Atchi, heritage. In the south of India, land property. Tod thinks the atchi, like the ote and awut, Rajput terminations, implies clanship.—*Tod's Rajast.* i. 496.

CANIDÆ, the dog tribe, family of mammals, comprising the genera Canis, Cuon, and Vulpes, of which the common dog, Canis familiaris, and its many varieties, the wolf, Canis pallipes, and the jackal, Canis aureus, occur in India. The wild dogs of India have been removed to the genus Cuon, and the foxes belong to the genus Vulpes.

CANIS? in Penang, a large tree, used for door frames.—*Col. Frith.*

CANIS AUREUS. *Linn.* The jackal.

C. aureus Indicus, *Hodgs.* | Lupus aureus, *Kœmpf.*

Siar, sial, . . .	BENG.	Kola Ghidar, HIN.,	MAHR.
Nari, ...	CAN.	Shighal, ...	PERS.
Shighal, . . .	DUK.	Srigala, ...	SANSK.
Jackhals, . . .	DUT.	Nakka, ...	TEL.

The jackal is found in a great part of Asia, Syria, Arabia, Persia, and in all India west of the Brahmaputra. Along the line of the Ganges, in Lower Bengal, they move in packs, and eat indiscriminately. In the Peninsula they are of larger size, and seen singly or in pairs; and in the Dekhan live much on wild fruits; the coffee bean of the plantations is largely eaten by them. Their cry when moving at night is very disagreeable, and even when clicketing their call is unpleasant. Native sportsmen believe that an old jackal, which they call bhalu, is in constant attendance on the tiger, and whenever his cry is heard, which is peculiar and different from that of the jackal generally, the vicinity of a tiger is confidently pronounced. Sir W. Elliot says he has frequently heard the cry attributed to the bhalu.—*Cat. of Mammalia; Jerdon.* See Jackal.

CANIS FAMILIARIS. *Linn. Var.* Indica. The Pariah, Polygar, and Brinjara dogs, and Tibetan mastiff. The Brinjara dog is a large, powerful animal, in shape and with limbs somewhat resembling the Persian greyhound, only much more powerful. The breed seems, however, to be disappearing from amongst the Brinjara tandas, and replaced by the ordinary pariah. In 1868 the editor met a great tanda on the march at Ajunta, but only pariah dogs amongst them. Indeed, between the Brinjara dog and many of the pariah dogs there is so great a resemblance, as to impress with the belief that they are the same variety. In many villages are pariah dogs in no way distinguishable from the Brinjara. The large Brinjara dog is an eager hunter of the larger game, a faithful, intelligent, and good watch-dog, but does not crave attention. The Polygar dog is large and powerful, and is peculiar in being without hair. The Beder race of Zorapore and Ghurghunta hunt the wild boar with a large powerful breed of dogs. A peculiar breed is raised by the raja of Rampur, seemingly between the Persian greyhound and the Tibetan mastiff. The Tibetans have a mastiff, a terrier, and a poodle, and the two last are pets, and the poodle is often fed for the table. The Chinese dogs from Japan, the original of the King Charles spaniel, is sometimes seen in India. The C. Ægyptiacus, C. cauda, C. Dukhunensis, do not need separate remark. See Dog.

Canis laniger, *Hodgs.*, Tibet white wolf.

Chankodi, . KAMAON. | Changu, ... TIB.

Himalaya.

Canis niger, *Jerd.*, black wolf of Tibet.

Hakpo-chanko, . . TIB.

Canis pallipes, *Sykes, Blyth*, Indian wolf.

C. lupus, *var.*, *Ell.*

Bighana, .	BUNDELKH.	Landgah, . . .	HIND.
Tola, ...	CAN.	Nekra, ...	,,
Bhera, Bheria, Byria, Bharya,	HIND.	Hundar, Hurar, .	,,
		Toralu, , . . .	TEL.

The wolf roams in Central and Southern India; they are never seen singly, but always in large or small packs. If a single one appear, it

may be assumed that others of the pack are near. They are bold, even in the vicinity of towns, scarcely moving off from a horseman. Length from muzzle to insertion of tail, 36 to 37 inches; do. of tail, 16 to 17½; height at shoulder, 24 to 26; length of head, 10; circumference of do., 16 to 17; weight of an adult female, 42 lbs. The wolves of the Southern Mahratta country generally hunt in packs, chase the goat antelope (Gazella Arabica), steal round the herd of Antilope cervicapra, and conceal themselves on different sides till an opportunity offers of seizing one of them unawares, as they approach, whilst grazing, to one or other of their hidden assailants. On one occasion, three wolves were seen to chase a herd of gazelle across a ravine, in which two others were lying in wait. They succeeded in seizing a female gazelle, which was taken from them. They have frequently been seen to course and run down hares and foxes; and it is a common belief of the ryots that in open plains, where there is no cover or concealment, they scrape a hole in the earth, in which one of the pack lies down and remains hid, while the others drive the herd of antelope over him. Their chief prey, however, is sheep, and the shepherds say that part of the pack attack and keep the dogs in play, while others carry off their prey; and that, if pursued, they follow the same plan, part turning and checking the dogs, while the rest drag away the carcase, till they evade pursuit. Instances are not uncommon of their attacking man. In 1875, 1061 persons were devoured by wolves; in the next five years, 887, 564, 845, 492, and 347; and from four to six hundred are annually destroyed. Sometimes a large wolf is seen to seek his prey singly. These are called won-tola, and reckoned particularly fierce. In Oudh and the Panjab they destroy large numbers of children. Their ordinary prey are deer, sheep; and in pursuit, they display great sagacity, throwing out flanking parties, and surrounding game. In 1866 the editor witnessed a sambur run close up to a railway train in Berar, halt as the train moved on, and it then fled at speed; looking beyond, a body of wolves were seen in pursuit.

CANJANG-KIRAI. TAM. Basella alba, *Linn.*

CANJARA. TAM., MALEAL. A tree which grows to about 2½ feet in diameter, and from 25 to 30 high, of little use or durability. The natives value its fruit, which is very intoxicating, and used by them as a medicine.—*Edye, M. and C.*

CANJARA. SANSK. Daucus carota.

CANJAROTE POOYA, a river which formed originally the southern boundary of Canara, separating it from Travancore.

CANKRI KAI. MALEAL. Cucumis sativus, *L.*

CANNA, a genus of flowering plants of the order Marantaceæ. C. Indica, or Indian shot, is one species. Voigt enumerates sixteen as having been in the Calcutta Gardens. C. edulis of Peru furnishes one of the arrowroots of commerce.

CANNABIS SATIVA. *Linn.* Indian hemp.

Cannabis Indica, *Rumph.*	Cannabis orientalis, *Roxb.*
Kinnub, ... ARAB.	Cheroo-Kansjava, MALEAL.
Bin; Ben, ... BURM.	Bhanga; Ganjika, SANSK.
Hinnup, Kinnup, . DUT.	Vijya, ... ,,
Hanf, ... GER.	Mat-kansha, . . . SINGH.
Kannabis, . . . GR.	Ganjayi, ... TEL.
Ganja; Bhang, . . HIND.	Kinnabis, . . YUNANI.
Lacki-lacki, . . MALAY.	Defrunoos, . . . ,,
Jeru Kansjava, . . ,,	

The hemp plant is grown in Persia, Syria, Arabia, and throughout India, in some places for its fibre; in others, and generally, for its intoxicating products. It is common in waste places in many parts of the Panjab plains, Cis and Trans Indus, and much more abundant and large (reaching 9 or 10 and 12 or 14 feet in height at times) in many places in the Himalaya, up to 10,000 feet. It appears to be more commonly cultivated in Garhwal, etc., than in any part of the Panjab Himalaya, but in the latter it is frequently grown in small patches on the Sutlej and Bias at 5000 to 7000 feet; and Dr. Stewart had seen fields at 10,000 on the Chenab in Lahoul. On the Sutlej the seeds of the cultivated plant are roasted and eaten in small quantity with wheat. The most important product of this plant is the resinous exudation, which does not appear to be produced below a certain elevation in the hills. It is used as a narcotic, as are the dried tops of the plant. The latter are gathered for home use in many parts of the hills, and also occasionally in the plains (they are largely used in Sind, where the plant appears to be grown in the fields for this purpose), but the great source of the charras is Turkestan. Dr. Cayley states that in October 1867 this drug to the value of Rs. 44,760 was imported from Yarkand into Leh, and Rs. 19,422 worth of bhang was exported from the latter to the Panjab in the same month. During 1867, 1830 maunds were imported from Yarkand to Leh, and 817 maunds were sent from the latter southward by various routes. The drug is mostly consumed with tobacco in a hookah, its use extending to Afghanistan, according to Bellew (Dr. J. Stewart, P. Plants, p. 216). In 1859, an experimental consignment of two tons of Himalayan hemp was valued in the English market at from £30 to £32 per ton. The price at Lahore is about £15 or £16 per ton.

The hemp plant secretes the resinous principle in its leaves, on which account these, as well as the charras collected from off the young tops of the stem and flowers, is highly esteemed in all eastern countries, on account of its exhilarating and intoxicating properties. Among the Arabs the hemp has a variety of names, as 'the increaser of pleasure,' 'the cementer of friendship,' etc. By its name of Hasheesh it is often mentioned in the works of travellers in Egypt, Arabia, and Syria; while the name of Bhang is not less known in the far east.

Of the intoxicating products, *Charras* is the concreted resinous exudation from the leaves, slender stems, and flowers, collected in the Himalaya, Yarkand, and Herat. It is eaten in a sweetmeat, or smoked like gauja.

Ganja, the dried hemp plant which has flowered, and from which the resin has not been removed; also the whole plant. It is smoked in a water pipe until a peculiar contraction of the throat is felt.

Bhang, and *Subza*, and *Sidhi*, the larger leaves and capsules without the stalks; also Sukho or Sawia, the small leaves, seeds, and husks ground and made up with water, milk, etc. These are highly aphrodisiac, but often lead to impotency, insanity, delirium tremens, catalepsy.

Majum is a confection made of bhang, ganja, charras, opium, poppy seeds, datura leaves and seeds, cloves, mastic, cinnamon, aniseed, cumin, cardamoms, made up with milk or ghi and sugar.

Tadhal is a preparation from bhang, poppy seeds, and other similar articles. It is believed to have cooling properties. The charras produces visionary ecstatic pleasures, sometimes catalepsy; or the intoxicant, with his arms outstretched, balances on his toes as if soaring. The misuse of bhang is a frequent cause of insanity.—*Materia Medica; O'Shaughnessy*, p. 581; *Powell, Handbook; Cleghorn, Panj. Rept.* p. 66.

CANNA EDULIS. The tubers afford 'Tous-les-mois,' a farinaceous food used by invalids.—*Mason; Ains. Mat. Med.* 142; *Riddell.*

CANNA INDICA. *Linn.* Indian shot.

C. orientalis, *Roxb.*	C. Chinensis, *Willde.*
Surbo jaya, . . . BENG.	Silarumba, . . . SANSK.
Bud-da-tha-ra-na, . BURM.	Kundamani cheddi, TAM.
Ukkilbar ke munke, DUK.	Kull valei manni, . ,,
Sabba jaya, Hakik, HIND.	Guri Genza chettu, TEL.
Katu Balu, . . MALEAL.	Krishna tamara chettu, ,,

There are several varieties of this, the colours of the flowers scarlet, orange, red and yellow mixed. Varieties are often seen in gardens, and much cultivated by the Burmese for the seeds, which they use for sacred beads.

CANNANORE, a seaport town on the west coast of India, in long. 75° 24′ E., and lat. 11° 51′ N., known to the natives by the name of Kouryal-bandar. In 1871, population 10,265, rainfall 97 inches. It is a military cantonment, and has been known to Europeans from the earliest times. 'Proceeding along the sea-coast, says Bartolomeo, you then arrive at Cannanore, a town with a castle, and subject to the government of queen Collatiri, by the Europeans called Collastri. This city is of great antiquity, and the king of Collatiri belongs to the first class of the Indian princes. The capital of the kingdom of Cannanore, called also Colanada, lies in the latitude of 11° 50′, and is distinguished by the same name. The whole surrounding district, which extends towards the north as far as Mount Delly, is inhabited by the Molandi, who live merely by piracy. These sea-robbers are mentioned by Pliny, Arrian, Ptolemy, and other ancient authors. They unite themselves to other pirates who reside on the Angedib islands, near Goa, and capture all the small vessels which sail from Goa to Cochin. The huts in which their wives and children live, stand on the eastern side of Mount Delly.' This mountain, which forms a cape or headland, lies in the latitude of 12° 5′; and here Malabar or Maleala, properly so called, ends. Cannanore is now in British territory, held by a body of European and native soldiers; it is a place of large trade. There is a fort which was built by the Dutch in 1656, and the cantonment lies to its north. Across the bay from the fort is the quarter occupied by the Mopla race of Mahomedans.—*Imp. Gaz.; Voyage to East Indies.*

CANNIBAL.

Adam-khor, . . PERS.	Kai-tangata, . . MADRI.

Cannibals still exist in several parts of the world. The *Birhor* of the Central Provinces of India are said to eat their aged relatives, who invite their relations to kill and eat them.

The *Aghora*, a disgusting sect of saiva Hindus, are said to have eaten human beings till close to the middle of the 19th century.

Tribes of the *Batta* race in Sumatra, and some of the New Zealanders, continued to do so until towards the latter part of the 19th century.

Mr. Stanley and the missionaries describe many cannibal tribes on the banks of the Congo river in Central Africa, and of other races on the New Calabar river. The *Immithlanga*, a Zulu tribe, and the Moshesh in S. Africa, were cannibals; also the *Fan* of the west coast of Central Africa, and the *Niam* or *Sandeh* in the region of the Gazelle Nile, and the light-coloured civilised *Monbuttoo* race on the Uelle river. In the instance of the Basuto people the habit had newly arisen.

At the time of the Tai-ping insurrection in China, an English merchant in Shanghai met his servant in the street carrying home the heart of a rebel, with the avowed intention of eating it to increase his own courage.

The ancient Mexicans were cannibals.

Papuans of New Guinea, the Solomon Islands, New Hebrides, New Caledonia, and the Fiji group, were cannibals. It is common to all Polynesians, in the Marquesas Islands, the Hawai group, Tahiti, and the Maori of New Zealand. The Australians are not habitual cannibals. The odious rite exists with considerable civilisation. The natives of the Solomon Islands are dwarfish, but they build canoes which are 'perfect gems of beauty,' and they have a fine sense of vocal harmony. The New Hebrideans have a yet more inveterate love than these vocalists for human flesh. In one of the islands, Aneityum, the natives have been cured of the bad habit by the missionaries; but the population, which was 12,000, is now but a sixth part of that total. Epidemic diseases and a sudden change from barbarism to civilisation are the causes. Nowhere was the passion for human flesh more violent than with the Fijians. At great feasts twenty bodies would be served up at once. No solemnity was perfect in the times before British domination without human sacrifices. When a chief died, wives and slaves were buried with him. When a chief's house was built, a slave was buried under each pole which held it up. The Fijian had a firm belief in a future state, in which the actual condition of the dying person is perpetuated. Thus a young man, being unable to eat, was buried alive by his father at his own request, lest he should grow thin and weak. Somewhat luxuriously he asked to be strangled first; but 'he was scolded and told to be quiet, and be buried like other people, and give no more trouble; and he was buried accordingly.'

Anthropophagy has vanished with the people themselves from among the Iroquois and Algonkin; it has disappeared from among the people of the high plains of Anahuac, the Indians of Peru, and most Brazilian races. It is increasingly circumscribed in the Southern Ocean by the dying out of the cannibal races, and the pressure of white settlers. The number of cannibals is still, however, very considerable. The Batta of Sumatra, according to Friedman, may be reckoned at 200,000 souls; the cannibals of the Niger delta at 100,000; the Fan, according to Fleuriot de Langle, at 80,000; the cave-dwellers of the Basuto country (about a tenth of the whole population), at 10,000; the Niam-Niam, at about 500,000; the Miranha and Mesay, according to Marloy, at 2000; other South American cannibals, at 1000; the Australian aborigines? at 50,000; the Melanesians (without including New Guinea), 1,000,000,—a total at the present of 1,943,000 human beings addicted to

anthropophagy. A native paper of British India, in A.D. 1870, stated that a person had been transported for life by the Session Court at Jhansi, on a charge of eating dead human bodies stolen from graves. It was said that he had lived on this fare for a number of years.—*P. M. Gazette; Richard Andre in the Erganzungs blattern; Dalton's Ethnology; Newbold's British Settlements*, ii. pp. 370–373; *Peschel, Races of Man*, p. 161. See Aghora; Batta; Birhor.

CANNING. Charles John Canning was born at Gloucester Lodge, Brompton, in 1812. He was the third son of George Canning, a celebrated statesman, and was educated at Christ Church, Oxford. He entered upon public life in 1836, as member for Warwickshire. In the following year his mother died, and he went to the House of Lords. When Sir R. Peel came into power in 1841, he was appointed Under Secretary for Foreign Affairs. For a month or two, in the reconstructed ministry of Sir Robert Peel, Lord Canning was Chief Commissioner of Woods and Forests; but in July 1846 he resigned with his party, but returned with the Coalition Ministry in 1853. In the government of Lord Aberdeen, Lord Canning was Postmaster-General, and distinguished himself by his administrative capacity. He made many changes in the internal organization of the department, and set on foot the practice of submitting annually to Parliament a report of the work, and especially the progress, achieved by the post office. He held the same appointment for a short time in Lord Palmerston's cabinet. Lord Canning began his rule in India on the last day of February 1856, and in 1857 the army of Bengal revolted, and much of Northern India rebelled, under the guidance of Nana Rao of Bittur, and of the emperor of Dehli. The years 1857-1858 were employed in suppressing the mutiny, in which he displayed great boldness and self-reliance, and when the embers of the insurrection alone remained, he was the first to urge clemency.

On the 3d March 1858 he issued a proclamation declaratory of the policy he intended to pursue with regard to the talukdars of Oudh, which he afterwards modified, on the remonstrance of Sir James Outram, then Chief Commissioner. Oudh had been the centre of the rebellion, and on its suppression the inhabitants were disarmed, and the forts of the petty chieftains dismantled. He was the first Viceroy of India, having been appointed Viceroy and Governor-General 1st November 1858, and 12th March 1862. During his administration, the loyalty of the Sikhs and of the Nepal ruler, Sir Jung Bahadur, was conspicuous; equally so was the perfidy of Nana Rao and the emperor of Dehli. Several servants of Government, Sir Henry Lawrence, Sir John (Lord) Lawrence, Sir Robert Montgomery, Sir Colin Campbell, Sir Nevil Chamberlain, Sir George Balfour, Sir Hugh Rose, Sir Robert (Lord) Napier, Sir Hope Grant, Sir Henry Norman, Sir Bartle Frere, by their labours in war and in peace did the state service, and won honours for themselves. Earl Canning, on his return home, was appointed a Knight of the Garter by letters patent, dated Balmoral, May 21, but he died at London on the 17th June 1862.

CANNON.

Top, ... HIND.	Peringi gul, . TAM., TEL.
Mariam Bad-il, . MALAY.	

The cannon used for war in Eastern and Southern Asia by the eastern nations, or by the Europeans, are either imported from Europe and America, or are cast in the foundries of the several countries. The British have a considerable foundry near Calcutta, but cannon of the more recently invented forms are all imported from Britain. From the Persian term top, is the Hindi term top-khana, a battery of artillery. The British in India have mounted batteries drawn by bullocks, ponies, horses, and mules, also camel batteries and elephant batteries, and mountain trains.

CANOES.

Canot, ... FR.	Canoa, ... SP.
Barchetta, ... IT.	

Canoes are largely used in India as river and ferry boats, and have shapes and forms to suit the rivers and waters. Canoes at Calicut are hewn out of the trunk of the jack-fruit tree, Artocarpus integrifolia. Coast canoes of Point de Galle and the Malabar coast have weather-boards on an outrigger in the form of a smaller canoe; they are sharp at both ends, and beat to windward without tacking. The Jangar of the Malabar coast, for rivers, is a kind of canoe. The rivers of the Northern Circars are crossed by a double canoe, formed out of two pieces of a cocoa-nut or a palmyra tree hollowed, and kept apart by cross ties of wood. Canoes scooped out from single trees are in universal use in Burma, the Malay Peninsula, and the Malay and Eastern Archipelago. Canoes of the Solomon Islands have no outriggers. The practice of standing up to paddle canoes seems to be general throughout the coasts of New Guinea. The brown-coloured natives of the Archipelago all sit, or 'squat,' while paddling their canoes, excepting the Baju Laut, or sea gipsies, who stand like the Papuans, and give as a reason for assuming this posture, the superior facilities it affords them of seeing turtle, and of chasing them when discovered. See Boats.

CANOON-GO. ARAB., PERS. The village clerk; an expounder of the rent terms, literally, rule-teller.

CANOPUS STAR. See Kumbha yoni.

CANOUJ, in the N.W. Provinces, in lat. 27° 2′ 30″ N., long. 79° 58′ E., with a population of 17,093. It is said to have existed from 1000 B.C., and to have been founded by two sons of Cush, who named it Mahadya, afterwards changed to Kanya kubja. It was not unfrequently called Gadhipoora Jye-Chand. It was held by the Rahtor dynasty from the close of the 5th to that of the 12th century, and terminated with Jye-Chand, A.D. 1194. In S. 1268 (A.D. 1212), eighteen years after its fall, Seoji and Saitram, grandsons of Jye-Chand, abandoned Canouj, and with two hundred retainers journeyed westward to the desert,—according to some of the chronicles, on a pilgrimage to the shrine of Dwarica, but according to others, to carve their fortunes in fresh fields. Seoji, on the banks of the Looni, exterminated, at a feast, the Dabeys of Mehwo, and soon after killed Mohesdas, chief of the Gohils of Kherdhur. One of the chronicles asserts that it was Asothama, the successor of Seoji, who conquered 'the land of Kher' from the Gohils; and he established his brother Soning in Eedur, a small principality on the frontiers of Gujerat, appertaining, as did Mehwo, to the Dabey race; it was during the mātūm, a period of mourning for one of its princes,

that the young Rahtor destroyed the clan. His descendants are distinguished as the Katondia Rahtor. The third brother, Uja, carried his forays as far as the extremity of the Surashtra Peninsula, where he decapitated Beekumsi, the Chawara chieftain of Okamundala, and established himself. For this act his branch became known as the Badhail; and the Badhail are still in considerable number in that farthest track of ancient Hinduism. Its wars with Dehli accelerated the ruin of Hindu independence. This kingdom appears to have been called Panchala. It seems to have been a long but narrow territory, extending on the east to Nepal (which it included), and on the west along the Chambal and Banas as far as Ajmir. The identity of Canouj and Panchala is assumed in Menu 11. 19. Its limits, as assigned in the Mahabharata, are made out by connecting notes (vol. iii. p. 135, vol. iv. p. 142) in the Oriental Magazine. These boundaries, enlarged a little on the south and on the west, are the same as those assigned by Colonel Tod to the same kingdom at the time of the Mahomedan invasion. Mr. James Fergusson (p. 735) gives the following rulers in the Christian era—

Vasu Deva.	Reign.	A.D.
Vikramaditya I. of Ujjain,	25	470?
Sri Harsha,	20	495
Vikramaditya II., the Great,	35	515
Siladitya I. of Malwa,	30	550
Prabhu Kara,	25	580
Raja Verddhana,	5	605
Siladitya II. of Canouj,	40	610
Died and troubles commence,		648–650

—*Tod's Rajasthan*, ii. p. 13; *As. Jl.* 1817; *Elphinstone's History of India*, i. p. 402; *Ferg.* p. 735.

CANOUJIA, a clan of Gaur Brahmans. Also tribes in the north-west of India, who trace their origin from the city of Canouj. The Canouj Brahmans are met with from the Himalaya to the Narbada and Bay of Bengal. They have many subdivisions, but the khutkool or six houses—(1) Sandel-got, (2) Oopmun-got, (3) Bharadwaj-got, (4) Bhuradwaj-got, (5) Koteayun or Visvamitra-got, (6) Kusip-got, and (6½) Sakrint-got—are chief. The honour of an alliance with the privileged khutkool is such, that, like the Kulin Brahmans of Bengal, some of them have as many as twenty or twenty-five wives. Amongst them are included the Sunaluk'hee, who are said to have been made Brahmans by Raja Ram Bug'hel, when he was in a hurry to make a sacrifice, but as he could not perform it without assembling a lakh and a quarter of Brahmans, he collected people from all classes and parts, and invested them with the juneoo, or sacred thread. Others say that Manik Chand, the brother of the famous Jye-chand Rahtor, others that one of the Surneyt rajas, others that the redoubtable Ram Chunder himself, was the manufacturer. However this may be, the Sunaluk'hee rank very low in the scale of Brahmans.—*Gloss.*; *Elliot*, *Supp.*

CANRU. HIND. Flacourtia sepiaria.

CANSA, son of Ugra, a tyrant killed by Krishna.

CANTALA. HIND. Agave vivipara and A. yuccæfolia.

CANTHA-JATHI. BENG. Barleria prionitis.

CANTHARIDEÆ, a small tribe of vesicatory beetles, containing eleven genera, among which are Cantharis, Mylabris, and Meloe, species of all of which have been employed as vesicatories. The genus Cantharis does not occur in India, but is largely imported. The genus Mylabris is very common in the Dekhan. Cantharis erythrocephala occurs in Shanghai and Chefoo.—*Royle.*

CANTHARIS VESICATORIA. *Latreille.*

Blistering beetle, . ENG.	Canterelle, ... IT.
Spanish flies, . . . ,,	Cantharis, ... LAT.
Cantharides, . ENG., FR.	Hischpanskie muchi, RUS.
Mouches d'Espagne, FR.	Cantaridas, . . . SPAN.
Spanische Fliegen, . GER.	

A genus of Coleopterous insects, abundant in all the south of Europe, and spread into Germany. This insect was at one time largely imported into India, but since the year 1850, species of Mylabris, obtained in India, have been substituted.—*Royle.* See Cantharideæ.

CANTHIUM, a genus of plants of the natural order Cinchonaceæ. The species now recognised as of the E. Indies, are C. angustifolium, Chinense, didymum, floribundum, longifolium, parviflorum, parvifolium, and recurvum. Other species have been transferred to the genera Randia, Stylocorine, and Webera.

CANTHIUM DIDYMUM. *Gærtn.*

C. cymosum, *Pers.*	Webera cymosa, *Willd.*
C. umbellatum, *W. Ic.*	Rondeletia cymosa, *Poir.*
Psydrax dicoccos, *Gærtn.*	Cupea cymosa, *D.C.*
Ursool, ... MAHR.	Tolan, ... URIYA.
Nalla balsu, . TAM., TEL.	Poruwa, . . . SINGH.
Nalla Regu, . . TEL.	

This is a small or middling sized, very handsome tree with deep green foliage. It is very abundant on most of the mountains in the Madras Presidency, particularly so on all the hills in the Salem district; grows in the Godavery forests, and is very common in Ceylon. A variety was considered by Wight as a distinct species from the Didymum of the eastern coast, but it only differs slightly in the inflorescence, and is not now considered specifically distinct; the wood is close-grained and hard, and mottled and very dark-coloured in the centre, like old seasoned oak.—*Beddome, Fl. Sylv.* p. 221.

CANTHIUM NITENS. *W. Ic.* Malai caurai, TAMIL. Dr. Gibson seems to consider Dr. Wight's C. nitens identical with C. didymum (the Canthium umbellatum, *Wight*), and adds, that if right in this conjecture, the tree is a common one on the Bombay Ghats, and, from its flowers and shining leaves, well worthy a place in gardens. The wood is small, and is said not put to any use.—*Wight; Gibson.*

CANTON, a city and seaport of China, capital of Quang-tong, in the south-west of China, built on a river of same name. At an early date after the Hijira, the Arab Mahomedans established a factory at Canton, and their numbers were so great by the middle of the 8th century, that in 758 they attacked and pillaged and fired the city, and fled to their ships. In their commercial transactions with the Chinese, the natives of Europe were long restricted to this town. The city consists of three sections, divided by high walls; the streets are narrow, paved with small round stones in the middle, and flagged at the sides. Canton river has two tides in the 24 hours, greatly influenced by the moon's declination. At its entrance it is called Choo-keang. It is divided into two channels by the Wan-tong islands, the eastern one of which is the Hoo-mun or Hoo-tow-mun, or Tiger's Head entrance of the Chinese, the Bocca Tigris of Europeans, and Foo-mun of pilots. The channel to the west is called Bremer channel. Canton city is on the N. bank of the river, about

30 miles above the Bocca Tigris, 75 miles from Hong-Kong, and 70 miles from Macao. The wall is 6 or 7 miles in circumference. Canton was captured by the British, and ransomed 25th May 1841.—*Horsburgh.*

CANTOR, DR. THEODORE, a Bengal medical officer, author of valuable contributions, in the Bengal Asiatic Society's Journal, to the knowledge of the mollusca, the fishes, reptiles, and mammals of Southern and Eastern Asia; Notes respecting Indian Fishes, in Lond. As. Trans. v. p. 165; Notice of Skull of a Gigantic Batrachian, Bl. As. Trans. 1837, vi. p. 538; Catalogue of Malayan Reptiles, ibid. xvi. pp. 607, 897, 1026; Catalogue of Malayan Fishes, ibid. xviii. p. 963; On the Hamadrayas genus of Hooded Snakes, As. Res., Lond. Zool. Trans. 1838, p. 172; Spicilegium Serpentum Indicorum, Lond. Zool. Trans. 1839, pp. 31, 39; On Production of Isinglass from Indian Fishes, ibid. p. 115.—*Dr. Buist's Catalogue.*

CANVAS, sail-cloth, tent-cloth.

Zeildock, ... DUT.	Canevazza, . . IT., PORT.
Toile a voile, . . FR.	Parussina, ... RUS.
Segeltuch, . . . GER.	Parussnoe polotno, . ,,
Lona, . . IT., PORT., SP.	Kittan, . . . TAM., TEL.

Canvas woven from hemp is used in Europe as sailcloth for ships' sails, and a finer kind is made for towels and common tablecloths. Canvas is manufactured at Pondicherry and at Cuddalore, and sold in bolts, containing 40 yards, at from 20 to 25 rupees, and a coarser at 8 to 15 rupees a bolt. Canvas of excellent quality is manufactured in Travancore. European canvas, though much dearer, is generally preferred in India to the native material,—Europe material selling at 24, 25, and 26 rupees per bolt, while the ordinary country can be had for 16 rupees. A coarse description of very hard brown canvas has been for some time produced in Bengal. In some parts of the Madras Presidency, cotton canvas of very good quality is produced; two or more threads are placed together, sometimes the threads of the web are twisted either wet or dry. Native vessels have all their sails made of an inferior description obtained in the northern parts of Madras Presidency, at the rate of 6 to 8 rupees a maund of 25 lbs.—*Rohde, MSS.*

CANYA, in Hindu astronomy, the solar sign Virgo.

CANYA KUBJA, an ancient name of the town of Canouj.

CAOUTCHOUC, India rubber.

Siang-pi, ... CHIN.	Gomma elastica, IT., PORT.
Gummi, . . . DA., SW.	Chirit murai, . MALAY.
Verderhars, . . . DUT.	Borracha, . . . PORT.
Gom elastick, . . ,,	Goma elastica, . . SP.
Gomme elastique, . FR.	Resina, Ule, . . ,,
Feder Harz; Kautschuk, ... GER.	

India rubber, or caoutchouc, is a vegetable compound which is found in all plants with a milky juice, as in the moraceæ, euphorbiaceæ, artocarpaceæ, apocynaceæ, cichoraceæ, papaveraceæ, campanulaceæ, and lobeliaceæ. India rubber has long been known to the natives of the East Indies and South America. It was not, however, till the expedition of the French academicians to S. America in 1735 that its properties and nature were made known in Europe, by a memoir upon it by M. de la Condamine. And subsequent notices of it were sent to the French Academy in 1751 by M. Fresnau, and in 1768 by M. Macquer. It is used for machinery, in electric and surgical apparatus, weaving, and clothing.

Great Britain Imports.		
	Cwts.	Value.
1830,	464	...
1840,	6,640	...
1857,	22,000	...
1874,	129,163	£1,326,605
1878,	149,724	1,313,209

British India Exports.		
	Cwts.	Value.
1874,	16,837	£117,775
1875,	19,893	108,618
1876,	15,258	97,861
1877,	13,308	90,169
1878,	13,794	89,381
1879,	10,033	61,685

The selling prices in London per lb. are—African, 1s. 5d.; Borneon, 1s. 9d.; S. and Central America, 2s.; and Madagascar, 2s. 3d.

The plants yielding the caoutchouc of commerce are—

Ficus elastica, Assam.	Hancornia speciosa of Pernambuco, in S. America.
Chavannesia esculenta, Burma.	Manihot glazionii, the Ceara tree of S. America.
Urceola, Borneo.	Hevea Benthamiana, *Mull.*, of S. America; also Brasiliensis, discolor, Guyanensis, lutea, pauciflora, rigidifolia, spruceana.
Vahea, Madagascar.	
Landolphia, Africa.	
Castilloa elastica, S. America.	
C. Markhamiana, *Collins*, S. America.	

Caoutchouc is obtained in Borneo from three trees, — manoongan, manoongan putih, and manoongan manga, from 50 to 100 feet high, and about 6 inches diameter,—seemingly three species of Willughbeia.

The American sources of the commercial supply are from the Hevea Braziliensis, H. Gwyanensis, Castilloa elastica and C. Markhamiana, and Hancornia speciosa. The African caoutchouc is got from the Vahea gummifera of Madagascar, and Landolphia Owariensis; and the Asiatic plants are Ficus elastica, Urceola elastica of Sumatra, Borneo, and Penang, Willughbeia edulis, and Chavannesia esculenta. Other plants are named, viz. Siphonia elastica, S. calinchu, Jatropha elastica, and Melodinus monogynus. The banyan tribe generally yields a milky juice, which, for many purposes to which caoutchouc is applied, might be rendered serviceable. So long ago as 1836, Dr. Royle reported fully on the Assam caoutchouc from the Ficus elastica. The Ficus elastica has been introduced into the Tenasserim Provinces, and appears to grow as well as an indigenous plant. Caoutchouc from Ficus elastica was brought to Arakan in 1878 by clans of the Shandoo or Poor race, who receive it in barter from the Lushai. They reside north and south of the Blue Mountains. The plant is indigenous for thirty miles south of the Blue Mountains. In 1873 the Government of India formed plantations of it. It has aerial roots, and grows to a large size, above 100 feet, in the evergreen forests at the foot of the Assam hills.

Chavannesia esculenta, a troublesome creeper in the Burma forests, attains a girth of 11 inches, and its crown covers an area of 300 square feet. Its caoutchouc is similar in quality to that of the Ficus elastica.

Species of Ficus produce the caoutchouc brought from Java; and F. radula, F. elliptica, and F. prinoidos are amongst those mentioned as affording a portion of that brought from America. Next to the Moraceæ, the order Euphorbiaceæ yields the largest quantity of caoutchouc.

Siphonia elastica, a plant found in Gayalla, Brazil, and extending over a large district of Central America, yields the best kinds of India rubber that are brought into the markets of Europe and America. The caoutchouc which is brought

from the islands of the Indian Archipelago is from the Urceola elastica, a climbing plant of very rapid growth and gigantic dimensions. A single plant is said to yield, by tapping, from 50 to 60 lbs. annually. It is also obtained from the juices of Callophora utilis and Cameraria latifolia, plants of South America and Willughbeia edulis, in the East Indies. Caoutchouc, whilst it is in the tissues of the plant, is evidently in a fluid condition; but after its separation from the other fluid parts, it forms a solid mass similar in its external characters to vegetable albumen. In this state it is dense and hard, but may be separated and rolled out so as to form a sheet resembling leather. Caoutchouc is employed to rub out pencil marks made on paper, and largely for waterproofing. When distilled, it yields oils which have a composition similar to oil of turpentine. In N.E. India, an India rubber tree grows to some 70 to 100 feet high. Immense forests of it are found on the west side of the Brahmaputra, extending along the Miri and Abor mountains. The rubber from this tree from some chemical property cannot bear the heat of a passage to Europe. It becomes a fluid during the voyage. Otherwise, in cold climates it is equal to other rubbers.

The Caoutchouc trees of the Bhamo and Mogoung districts are estimated at 400,000. They thrive most in damp moist soil, and in thick forests, shady and cool. They grow to from 75 to 150 feet high, and their roots grow over the ground to some distance. They are fit to tap when from 6 to 10 years old, at which time they are 21 to 30 feet high, and 4½ feet in girth.

In the Tenasserim Provinces, also, a species of Echites, an indigenous creeper, yields caoutchouc not at all inferior to that which is obtained from the elastic fig tree. The Agricultural and Horticultural Society, in reporting on a specimen sent them by Major MacFarquhar of Tavoy, observed: 'With care in preparing, it would be equal to the best South American.' Caoutchouc is also procurable from the Nerium grandiflora, a beautiful climbing shrub often met with in gardens. The Loranthi abound in Malabar; and a similar substance might readily be procured, as obtained from Urceola elastica in Penang and the Archipelago, Ficus religiosa, F. Indica, Hippomane biglandulosa, Cecropia peltata, and the Jintawan of Borneo.

Castilloa, the Ule of South America, belongs to the Artocarpaceæ, and is one of the loftiest of the forest trees of tropical America. There are two known species, Castilloa elastica, *Cerv.*, and C. Markhamia. Which yields the India rubber is at present (1876) disputed. The collectors are called Hulero. C. Markhamia attains to 180 feet in height, with a diameter of 5 feet, and a yield of 100 lbs. of India rubber; wood soft and spongy; leaves 14 inches long and 7 broad.

Hevea Brasiliensis (Siphonia Brasiliana, *Kth.*) grows in the valley of the Amazon. It is the Castilloas of South America. It is the most valuable of the India rubber trees, and furnishes the Para rubber. It was introduced into India in 1873, as it affords the best caoutchouc, exported from Para in Brazil. The juice is obtained by incisions cut through the bark; it falls freely from any wound. The stiffening milky juice is plastered over bottle-shaped clay moulds, the clay being removed, when sufficiently coated, by washing. Other species of hevea yield juice abounding in caoutchouc of various qualities. It is dissolved by turpentine and spt. eth. sulphur. In Britain there are about twenty factories where this article is made into shoes, boots, capes, cushions, elastic bands.—*Poole's Statistics of Commerce; Rohde, MSS.; Royle, Productive Resources of India*, p. 76; *Mason's Tenasserim*; *Bonynge, America*, p. 258; *Reports, Exhibition of* 1851; *Eng. Cyc.; Trans. Royal As. Soc.; Tomlinson*, pp. 296–299; *Captain Strover*, 1873; *Markham, Peruv. Bark.*

CAPA. See Eleusine coracana.

CAPALA. HIND. Rottlera tinctoria. The oil, which is obtained plentifully from the kernels of this fruit after the removal of the celebrated kupli or kamala powder, promises to be of some importance medicinally as a cathartic oil, and deserves a more complete investigation. See Dyes.

CAPE ADEN, a high, rocky, peninsular promontory on the south coast of Arabia, 5 miles long and 3 broad. Its most elevated part, 1776 feet high, is called Jabal Shamsham, and in clear weather is visible 60 miles off. This peninsula was taken by the British in 1839, and has since been fortified. Several parts on and near it are named, as Hejaf, Al-Ainah, Shaikh Ahmid Island, Ras ibn Jarbein, Ras Marbut or Steamer Point, Ras Tarshein, 988 feet; Ras Marshigh.—*Findlay.* See Aden.

CAPE BUNGO, in Japan, in lat. 33° 32′ N., long. 132° 2′ E., at which Ferdinand Pinto landed in 1542. See Pinto.

CAPE COMORIN, in lat. 8° 4′ 20″ N., and long. 77° 35′ 35″ E., is a low, sandy point, with a small white, square pagoda at its extremity. A little to the W. is a large village. Inland, the Cape rises in a gradual slope to the base of the ghats, the nearest of which, at 4 m. N.W., is an isolated, very sharp conical hill, 1403 feet high, often mistaken for the Cape itself. It is the most southerly point of the Peninsula of India. The name is from Kumari, a virgin, the virgin goddess Durgah, and has a legend that a virgin once leaped from it into the sea. It is covered on the eastern ridge with palmyra trees.—*Horsburgh; Imp. Gaz.* See Comorin.

CAPE DALGADO, on the E. coast of Africa, in lat. 10° 41′ 12″ S., and long. 40° 39′ 51″ E.

CAPE GUARDAFUI, a headland on the coast of Africa, nearly opposite Aden.

CAPE HEN, or Sooty Petrel, is the Puffinus major, also Diomedia fuliginosa.

CAPE JASHK is the N.E. limit of the Gulf of Oman.

CAPE LIANT, in the Gulf of Siam, in lat. 12° 34′ N., long. 101° 11′ E., called by the Siamese Lem Samme San. The whole of the coast, from Cape Liant to Kamas in Cambodia, is an uninterrupted archipelago of beautiful islands. One of them, Hin Chalan, is in lat. 12° 27¾′ N., and long. 100° 57¼′ E. See Cambodia.

CAPE MONZE, a cape in the southern part of Baluchistan, in lat. 25° N. It is the most westerly point in India. The mountains of Baluchistan are there only a few miles broad.

CAPE NEGRAIS, its extreme S. point in lat. 16° 1′ 30″ N., and long. 91° 13′ 16″ E., is the termination of the mountain range that runs N. and S. along the Arakan coast.

CAPE OF GOOD HOPE, the southernmost point in Africa. It was rounded by the Egyptians ages before the Portuguese succeeded under the command of Vasco da Gama. Cape Town, the capital of the territory of the Cape, stands on the west side of Table Bay, and rises in the midst of a desert, surrounded by black and dreary mountains, Table Mountain (3315 feet high), the Sugar Loaf, the Lion's Head, Charles Mount, and James Mount, or the Lion's Rump. From these several rivulets flow into Table Bay, False Bay, etc. This town surrendered to the British in 1795, and was restored in 1802 by the treaty of Amiens; it again surrendered to the British in 1806, and was finally ceded to them in 1814. Long. 18° 23′ E., lat. 33° 50′ S.

Cape Gooseberry, Physalis Peruviana, also Brazil cherry.

CAPE PALMYRAS, a projecting land in Orissa.

CAPE PETEL, also Cape Pigeon, the Daption Capense, *Stephen*, also called Pintado, and by sealers the Egli bird.

CAPE RAMAS, in lat. 74° E., and long. 15° 6′ N., on the west coast of India, near Goa, has a small fort on it belonging to the Portuguese.

CAPERS.

Kebbir, ... ARAB.	Capparis, ... LAT.
Kappers, . . . DUT.	Kebbir, ... PERS.
Capres, ... FR.	Kaperszii, . . . RUS.
Kappern, ... GER.	Alcapparrais, . . SP.
Cappari, ... IT.	

The capers of commerce are the unexpanded buds of Capparis rupestris of Greece, C. fontanesii of Barbary, and C. Ægyptiaca of Egypt. Preserved in vinegar, these flower-buds constitute a well-known article of commerce and of luxury at our tables. The quality depends exclusively upon the age at which they are gathered, the smallest and youngest being the dearest and most delicate, and the largest and oldest the coarsest and cheapest. On an average, each plant of the caper bush gives a pound of buds. The consumption of capers in Britain is about 60,000 lbs. a year. Several other species of Capparis possess stimulating properties.

CAPER SPURGE, Euphorbia lathyris.

CAPILLAIRE, a syrup prepared with leaves of the Adiantum capillus Veneris and A. caudatum. The last grows in Ceylon, also amongst the Courtallum hills in the Indian Peninsula, in Cochin-China, and at Amboyna; the first is called by Rumphius, Micca Miccan Uttan.—*Ainslie's Mat. Med.* p. 297.

CAPOETA MACROLEPIDATA, a fresh-water fish of Tenasserim, Penang, and Java, with a large swimming bladder of which isinglass is made. See Isinglass.

CAPOOR KICHLIE. TAM. Curcuma zedoaria. Likewise the root of a plant called also Kakhur, sent to India and Persia for medicinal purposes, and for perfumery, and to preserve clothes from insects. It is about half an inch in diameter, and cut up when brought to market; it has a pungent bitterish taste, and slightly aromatic smell.—*Middle King.* ii. p. 400.

CAPPARIDACEÆ, the caper tribe of plants. Sixty-four species occur in the East Indies, of the genera Gynandropsis, Cleome, Polanisia, Cratæva, Niebuhria, and Capparis. Some American Capparidaceæ are very poisonous, others act as vesicatories, and a few are merely stimulant. To the latter class belongs the Capparis spinosa of the south of Europe.

CAPPARIS APHYLLA. *Roxb.*

Karu, ... HIND.	Doro (unripe fruit), SIND.
Kirrur, ... SIND.	Pukko (ripe ,,), ,,
Karil, ... ,,	Pusse (flowers), . ,,

This small tree grows on the banks of the Jumna, in Tinnevelly, Dekhan, Gujerat. On his journey to Kābul, the Honourable Mr. Elphinstone found it growing in the midst of the desert. All over the Panjab its flower-buds are cooked as a pot-herb; its unripe fruits are gathered, made to assume the acid fermentation, and made into a pickle with pepper, mustard, and oil, and eaten with bread. The fruit is about the size of a marble, and is gathered both green and ripe by great numbers of the natives, who eat it largely. Its wood is durable, and not eaten by insects. Karil fruit is considered by natives useful in boils, eruptions, swellings, piles, and in affections of the joints; also as an antidote to poisons.—*Roxb.; Voigt; Dr. J. L. Stewart; Powell's Handbook.*

CAPPARIS BREVISPINA. *D. C.*

C. acuminata, *Roxb.* ii. 566.

Kalo-kera, . . . BENG.	Palikee, ... TEL.
Authoondy kai, . TAM.	

A scrambling shrub of Malabar and Bengal, common in hedges, with a beautiful red fruit, the size of a small pear; the stem armed with yellow thorns in pairs at the leaves. The green fruit is used in making pickles.—*Jaffrey; Voigt; Roxb.*

CAPPARIS DECAISNÆI. Its buds, Paneero, SINDI, are pickled, and would well replace the ordinary capers of commerce; leaves epipastic.

CAPPARIS DECIDUA. Its fruit, Karil, called also Déle, is gathered from the tree when it is of a bright red colour, and about the size of a cherry; it is used as a pickle.—*Powell's Handbook.*

CAPPARIS DIVARICATA. *Lam., W. and A.*

Pachoonda, . . MAHR.	Budareni, ... TEL.
Toaratti maram, . . TAM.	

A small tree of Coimbatore, and not uncommon on the more arid wastes and in the dry hedges of the interior of the Bombay Presidency. Wood only fit for fuel.—*Wight; Gibson.*

CAPPARIS GRANDIS. *Linn., W. and A.*

C. maxima, *Heyne.*	C. brevispina? *Gibson.*
C. bisperma, *Roxb.*	
Waghutty, . . MALAY.	Guli, ... TEL.
Vellai toaratti maram, TAM.	Gullem chettu, . . ,,
	Regutti ,, . . . ,,

A small tree of Coimbatore, and common in waste places inland of the Bombay Presidency; wood close-grained, hard, and good; too small for general use, but good for turning.—*Wight; Gibson; Elliot, Flor. Andh.; Usef. Pl.*

CAPPARIS HEYNEANA. *Wall.* Chayruka, HIND. A shrub growing in S.W. India, at Cochin and Courtallum. Its leaves are used for rheumatic pains in the joints, and its flowers as a laxative drink.—*Voigt*, 74.

CAPPARIS HORRIDA. *Linn., W. and A. Ic.*

C. Zeylanica, *Roxb.* ii. 567.

Thorny caper bush, ENG.	Katallikai, . . . TAM.
Ardanda, . . . HIND.	Atanday, ... ,,
Hunkara, . . SANSK.	Adonda; Arudonda, TEL.

Grows in the Panjab, Bengal, and the Peninsula of India. The natives eat its fruit dressed in different ways, but chiefly as a pickle.—*Drs. Ainslie*, p. 238, *Stewart, Roxb.*

CAPPARIS OBOVATA is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 3000 to 5000 feet. Its fruit is pickled. —*Cleghorn, Panjab Report*, p. 68.

CAPPARIS PANDURATA. *Linn.*

C. Zeylanica, *Linn.* | Than-yeet, . . . BURM.

CAPPARIS SEPIARIA. *Roxb.* ii. 568.

Kantagur ; Kamai, BENG. | Nalla uppi, . . . TEL.

Grows in Bengal and Peninsula, and is a good hedge plant.—*Voigt*, pp. 74, 75.

CAPPARIS SINAICA. The buds of the caper of Mount Sinai are the Filfil-ul-jabl, or mountain pepper of the East.—*O'Shaughnessy.*

CAPPARIS SPINOSA. *L.*

Barari; Ber, . . CHEN. | Kakri; Bassor, . SUTLEJ.
Kabra, . HIND. of LAD. | Kaur; Kiari, . . ,,
Bandar, ... SUTLEJ. | Taker, ... ,,
Bauri, ... ,, | Kabarra, . . TR. IND.

In Europe this plant furnishes the caper. It generally grows in the Panjab, exactly as a recent traveller has described it on Sinai, viz. 'in bright green tufts hanging down from the clefts of the rocks,' and adorned with very handsome large flowers. It is found near Multan, in the Salt Range, along the Trans-Indus hills to Peshawur, and in the valleys of some of the great rivers, ascending to 5000 feet at Wangtri, on the Sutlej 8000 feet, *Thomson*, and on the Indus above Iskardo to about 10,500 feet (*Jacquemont* and *Thomson*), and it occurs to 12,000 near Leh. The ripe fruit is made into pickles by the natives of the Salt Range, etc., but in some places at least eaten only by Hindus. Mr. Edgeworth prepared the buds in the European style as capers, and found them excellent. In Ladakh the leaves are used as greens; they are eaten by goats and sheep; and in Kangra the roots are said to be applied to sores.—*Dr. J. L. Stewart*, p. 616.

CAPPER, COLONEL, Quartermaster-General of the Madras army in the latter part of the 18th and beginning of the 19th century, and his house on the sea-beach is still known by his name. He was the first to put forward the view that the storms of the Indian Ocean are rotatory, and in 1801 he published a book on the Winds and Monsoons, adopting the view that hurricanes are whirlwinds. He took an active part in the troubles of the Madras army, and was embarked for England, but the ship never reached.

CAPRA ÆGAGRUS. *Gmelin, Blyth, Hutton.*

Antilope gazella, *Gmel.* | C. hircus, . *Gray.*
Ægoceros ægagrus, *Pallas, Wagner.* | Hircus gazella, ,,
Capra Caucasica, *Gray.* | Capra Blythi, *Hume.*
Persian wild goat, . ENG. | Borz, ... PUSHTU.
Pa-sang (male), . PERS.? | Ter (male), Sera, SIND.
Boz (female), . . . ,, | Phashin, . . BALUCH.

This has five varieties, viz. :—

Var. a. Capra ægagrus, *Buch.*, lives in the highest Khassya mountains, where they are reared by the people. It has no wool, and is used for food.

Var. b. Capra ægagrus of Changra, *Buch.*

C. ægagrus lanigera, *Desm.* | C. hircus, *var.*, *Desm.*
Shawl goat, . . . ENG. | Cholay, . . . NEPAL.
Bouc de Cachemire, FR. | Camjoo, ... TIBET.
Changra, ... HIND.

This is domesticated in Tibet, and the wool is exported to Kashmir, where it is made into the finest shawls. It has on the body a long coarse hair, intermixed with which is a fine soft wool, which is the article used in the manufacture.

Var. c. Capra imberbes, the Berbura, *Buch.* The Berbura goat is found to the west of the Jumna. Its female is the Berburi, and the Bengali call it Ram Sagul. The body is very like the long-legged goat of the south of India; in manners they are similar. The scrotum of the male externally is separated into two distinct bags.

Var. d. Tibetan goat of Ladakh; has a short tail, and very short ears, scarcely two inches long, and concealed; has long, soft, pendulous hair, but no wool.

Var. e. Tibetan goat of Ladakh; has long, soft, pendulous hair, but no wool.

C. ægagrus, of the mountains of Asia, is believed to be the parent stock of all the goats, mingled perhaps with the C. Falconeri of India. The breeds greatly differ from each other, but they are fertile when crossed.—*Darwin.*

CAPRA MEGACEROS. *Hutton, Blyth, Jerdon.*

Ægoceros Falconeri, *Hugel, Wagner, Schreber.* | H. megaceros, *Adams.*
Hircus Falconeri, *Gray.* | Capra megaceros, *Blyth, Hutton.*
Capra Falconeri, *Hugel, Wagner.* | C. Caucasica, *Jerdon.*
 | C. Blythii, *Hume.*
Hircus ægagrus, *var.*, *Gray.* | C. Jerdoni, ,,
Sind wild goat, Ibex, ENG. | Rapho-chhe, Ra-chhe,
Rass of Wood, . . ,, | Rawa-che.

The *Mar-khor* inhabits the highest parts of the Tibetan Himalaya, also the Suliman range, the Pir Panjal, Kashmir, the Hazara Hills, the hills of the Jhelum and Chenab, and Ladakh.

The Kashmir variety (Capra Falconeri) has openly spiral horns. The horns of the Suliman variety more nearly approach a straight line. The Sind goat or Sind ibex is identical with the wild goat of the Caucasus, Armenia, and Persia, probably of Crete. It is not found east of the Indus. The famed bezoar (pa-zahr, PERS., fa-zahr, PERS.) of commerce is obtained from this goat. It associates in small herds frequenting steep and rocky hills, in winter descending to the bare spots in the wooded region. It is much sought after by sportsmen, and the horns are considered a great trophy.—*Jerdon*, p. 291.

CAPRA SIBIRICA. *Meyer, Blyth.*

C. sakeen, *Blyth.*
C. Pallasii, *Schinz.* | C. Himalayana, *Blyth.*
Himalayan ibex, . ENG. | Kyl of . . . KASHMIR.
Skin (male), Iskin, HIM. | Tangrol of . . KULU.
L'-dmau (female), . HIND. | Buz of . . . . SUTLEJ.

Is found throughout the Himalaya from Kashmir to Nepal; rare in Kashmir. The soft under fleece is called asli-tus, and is used for lining shawls, stockings, gloves, and is woven into a fine fabric called Tusi. No wool is so rich, so soft, and so full. The hair itself is manufactured into coarse blanketing for tents, and twisted into ropes.—*Jerdon*, 292.

CAPRELLA, the phantom shrimp, is found on seaweed sitting upright like a monkey, holding on by its hind claws, and, with ghastly grimaces, mesmerizing all passers-by with its fore-claws. It sits in like guise upon sponges a mile or two deep in the darkness,—there, however, not a quarter of an inch, but three inches long.

CAPRIFOLIUM CHINENSE. *Smith.* Kin-yin-hwa, of the Chinese; a climbing plant with gold and silver flowers; one of the Caprifoliaceæ.

CAPRIFOLIUM SEMPERVIRENS. *R. et S.*

Lonicera sempervirens, *D.C.* | Trumpet honeysuckle.

The honeysuckle occasionally seen in India.

CAPRIMULGIDÆ, the goatsucker family of birds, belonging to the tribe Insessores,—Caprimulgus affinis of Java, C. albonotatus, C. Asiaticus of India, C. atripennis, C. Indicus of Kamaon, Malacca, C. Kelaarti, C. macrouris of Java, C. Mahrattensis of the Dekhan, C. monticolus of do., C. ruficollis, C. Europæus; migratory night-jar of Europe, N. Africa, W. Asia, Siberia, and Kamtschatka.

CAPRINÆ, a sub-family of mammals of the family Bovidæ, comprising goats and sheep, 1st capricorns, or antelope goat or mountain antelope; 2d, the true goats. See Antilopinæ, Bovidæ.

CAPROVIS ARGALI.

Ægocerus argali, *Pallas.*	O. argali, *Pallas.*
Ovis ammonoides, *Linn.*	O. Hodgsoni, *Blyth.*
O. ammonoides, *Hodgs.*	

Hyan, nyan, nyund, nuan, niar, gnow, . . TIB.

Dr. Gray says this species, the Nyan or Bambhera, or wild sheep, seldom or never crosses the Himachal, the Indian side of which range is the special habitat of the Nahoor, while to the north and west beyond Tibet, C. argali is replaced by other species; so that Tibet may be considered as the special habitat of one species (Ovis ammonoides), and the plateaux north of Tibet as far as the Altai of another (Ovis ammon.), cited as types of the true ovine form; and it may be added, that the six sorts of tame sheep of Tibet and the Sub-Himalayas, all without exception exhibit the essential characters of that form. There are several species that may be confounded under this head. The Siberian Argali is found in the most northern part of that country, and it is probably different from the Himalayan animal; but Mr. Blyth had not been able to discover any difference between the specimen received from Mr. Hodgson and those which were sent from Siberia by the Russian naturalist.

CAPROVIS VIGNEI, the Houriar, extends along the eastern spurs of the Salt mountains, but becomes less common as we proceed eastward, and is seldom met with on the ranges beyond the town of Jhelum, or southwards of the Beas river. It is confined to the north and western portions of the Panjab, including the Suliman chain, where it is known by the name of Kuch. It is also a denizen of the mountains around Peshawur, including the Khaibar pass, Hindu Koh, and Kafiristan. The Shapoo or Shalmar of Ladakh, if not identical, is certainly very closely allied; its differences are slight, and such as might result in a great measure from the marked diversity of climate, food, etc., of the two regions. This species is no doubt the Sha of Tibet described by Vigne; and possibly the wild sheep of western Afghanistan, Persia, the Caucasus, Armenian and Corsican mountains, is the same species altered mayhap by climate and other external agencies. The eastern limits of the Shapoo have not been fixed with certainty; but it would seem that, commencing at Ladakh, it proceeds westward towards the Indus into the regions where the Houriar is found; and probably when these regions are explored, we shall find out the relation between what has been supposed distinct, but which Dr. Adams is inclined to consider one and the same animal.—*Adams.*

CAPSELLA BURSA PASTORIS. *Mænch.*

Mullay muntha keeray, *Tm.* | Shepherd's purse, . ENG.

Common on the Neilgherries; also grows in Europe, Persia, Asia, and Japan; used by the natives as a pot-herb.—*Jaffrey; Wight.*

CAPSICUM, red pepper, chillies.

Filfil, ...	ARAB.	Chabu, . . .	MALAY.
Nga youk thi, . .	BURM.	Lada mera, . . .	,,
Ta-hu-tsiau, . . .	CHIN.	Lada china, . . .	,,
Lah-tsiau, . . .	,,	Chabe sabrang, . .	,,
Lall mirich, . . .	DUKH.	Filfil i Siah, . . .	PERS.
Mirchie, ...	GUJ.	Mallaghai, . . .	TAM.
Chabai, Chabe,	MALAY.	Mirapa-kai, . . .	TEL.

The shell of the fruit is fleshy and coloured, and contains a pungent principle, which also exists in its seed in great activity. On this account both the fruit and seeds of different varieties or species of Capsicum are in request as a condiment; and either in the unprepared state, or ground, when they are called cayenne pepper, form a conspicuous feature amongst the plants affording stimulating substances used by man. In Europe the Capsicum enters largely into the seasoning of food and the preparation of pickles, and in warmer countries it constitutes one of the first necessaries of life, either green or ripe. It is the species of this genus, and not any of the genus Piper, which is the peppery condiment of all the inhabitants of India and the Asiatic islands in Eastern Asia; the latter, indeed, being little used, and mostly raised for exportation. Foreign species or varieties of Capsicum have been introduced into the Archipelago, and are named by the Malays, Chabe China, the Capsicum of China; and Chabe Sabrang, the Capsicum of India, literally, of 'the other side of the water.' There are now numerous varieties of chillies in India, many of which have been introduced. They are raised from seeds that have been kept for one year, for if fresher, the crop is generally a failure. One species, called 'devil's pepper,' introduced by Lord Harris from Trinidad, is so intensely hot that the natives can hardly manage to use it. It is cultivated during the cold months. In the Tenasserim Provinces two or three species enter into all the native dishes, not in the form of pepper, but the fruit, stewed or roasted, is eaten with the food. In India, the dried fruits of several species and varieties of Capsicum usually seen are the C. annuum (common Capsicum), C. frutescens (goat pepper), C. grossum (bell pepper), C. minimum (bird's eye pepper), perhaps only cultivated varieties of one species. They are valued as a digestive condiment, and are raised all over the S.E. of Asia as condiments, and to make cayenne pepper and chilli vinegar.—*Tomlinson; Crawfurd, Dict.* p. 82; *Jaffrey; Mason.*

CAPSICUM ANNUUM. *Linn.* Common chilli.

Gach mirich, . .	BENG.	Kapu molagu, .	MALEAL.
Spanish pepper, .	,,	Matitsawranga, .	PANJ.
Common capiscum,	,,	Mollagu; Mollaghai,	TAM.
Red pepper, . . .	,,	Mirapa-kaia, . .	TEL.

Is largely cultivated in South America, Mexico, and India. C. baccatum, *Linn.*, bird's eye pepper, var. of C. annuum, *Linn.*—*Roxb.* i. 573. See Chillies.

CAPSICUM FASTIGIATUM, var. of C. annuum, called red pepper, Guinea pepper, cayenne pepper, common capsicum, chilli pepper, Usari mollaghai, TAM., a small conical orange-coloured pod, shining externally, internally containing spongy pulp, and white flat reniform seeds in two cells. It contains a volatile neutral principle called capsicine, and acts as an acrid stimulant, and externally a rubefacient. It is used in putrid

sore throat, scarlatina; also in ordinary sore throat, hoarseness, and dyspepsia, and yellow fever, and in diarrhœa occasionally, also in piles.—*Powell's Handbook*, i. p. 363.

CAPSICUM FRUTESCENS. *Linn.* Var. of C. annuum, *Linn.*

Lal Lamba mirch, .	BENG.	Chabai, . . .	MALAY.
Nepal chilli, . . .	ENG.	Chabe Lombok, .	,,
Golconda chilli, .	,,	Lada mera, . . .	,,
Goat pepper, . .	,,	,, china, . . .	,,
Chilli, ...	,,	Brahu maricha, .	SANSK.
Bird pepper, . .	,,	Mallaghai, . . .	TAM.
Cayenne pepper, .	,,	Mirapa-kai, . . .	TEL.
Lall mirch, . . .	HIND.	Golakonda, . . .	,,
Lanka mirch, . .	,,	Mirapa (yellow variety),	,,
Lalgach march, .	,,	Sima mirapa, . .	,,

This, the large red capsicum, is grown all over India by sowing the seed broadcast, and when the plants are about 6 inches high, putting them either in rows or beds 18 inches apart. The soil should be rich. They require watering, and to be kept clear of weeds; a yellow variety is β C. flavum. —*Roxb.* i. 574; *O'Shaughnessy*, p. 468.

CAPSICUM GROSSUM. *Willde.* Bell pepper. Kafferi mirich, HIND. A var. of C. annuum.

CAPSICUM MINIMUM.

Gna yoke, . . .	BURM.	Bird's eye pepper, .	ENG.
Gna yoke mo-hmyau,	,,	Oosi-mulaghai, . .	TAM.
E. Indian bird pepper,	ENG.	Sudi mirapa kaia, .	TEL.

This plant yields its fruit for a series of years. Its fruit is very hot.

CAPSICUM NEPALENSIS. Var. of C. annuum, *Linn.*

Gach march, . .	BENG.	Mallaghai, . . .	TAM.
Capoo Moolagoo,	MALEAL.	Mirapa-kai, . . .	TEL.
Ratamiris, . . .	SINGH.		

This is the most acrid and pungent of the species Capsicum.

CAPSICUM PURPUREUM and C. minimum are cultivated in small quantity in Pegu for domestic use.—*M'Clelland.*

CAR, the ruth of India, used at the Hindu temples to convey the idol from one place to another. This is usually preceded by native music, flaring torches, dancing girls, and priests, the deity bedizened with jewels, and carried on a richly-constructed throne, and fanned with gorgeously-constructed fans. While Sir G. Campbell was Lieutenant-Governor of Bengal, twenty people fell while the car at Goopto was being dragged; eight were run over, five were killed on the spot, and three were wounded, of whom one died. The six victims were women.

CARABIDÆ. *Leach.* The family of ground beetles, about 9000 species are known. Almost all possess a very pungent, disagreeable smell; and a few, called bombardier beetles, have the peculiar faculty of emitting a jet of very volatile liquid, which appears like a puff of smoke, and is accompanied by a distinct crepitating explosion. They are mostly nocturnal and predacious. They are chiefly remarkable for brilliant metallic tints or dull red patches, when they are not wholly black, and are therefore very conspicuous by day, but insect-eaters are kept off by their bad odour and taste. They are sufficiently invisible at night, when it is of importance that their prey should not become aware of their proximity. Many species of Carabus, a genus of the family Carabidæ, occur in India. C. cœlestis is a beautiful beetle of China. C. impressus, *Fabr.*, and C. politus, *Fabr.*, occur in the East Indies.

CARAB TREE, Ceratonia siliqua, *W.*

CARACAL, Felis caracal, *Schreber*, the Indian lynx, occurs in Africa and Asia. It has immense speed, runs into a hare as a dog into a rat. It often catches crows as they rise from the ground, by springing 5 or 6 feet into the air after them.

CARAGANA FLAVA. *Smith.* Hwang-tsing of the Chinese. In China its root is eaten as food in times of scarcity. It is obtained from the provinces of Ngan-hwui, Che-kiang, and Hunan.

CARAGANA GERARDIANA is the Tartarian furze. C. arborescens is the tea tree of Siberia.

CARAGANA VERSICOLOR. *Royle.*

Caregana pigmæa, *D.C.*	Dama, ... TIB.

A small shrub which grows in Tibet and Western Himalaya at elevations of 14,800 feet, and is very useful for fuel.—*Drs. Stewart and Thomson.*

CARALLIA CALYCINA. *Benth.* This large Ceylon tree has two varieties,—var. α, Singhe Raja forests, between Galle and Ratnapura, at no great elevation; var. β, Central Province, at an elevation of 4000 to 5000 feet.—*Thw.* ii. p. 121.

CARALLIA INTEGERRIMA. *D. C.*

C. Ceylanica, *Arnt., W., Ill.*	C. Timorensis, *Bl.*
C. corymbosa.	C. octopetala, *F. v. Mueller.*
C. Sinensis.	Pootia cereopsifolia, *Mig.*
Kierpa, ... BENG.	Punschi, ... MAHR.
Punselu, Andi Punar, CAN.	Dawata, ... SINGH.

A very common tree in the Western Ghat forests, up to 4000 feet, from Bombay down to Cape Comorin, also on the Cuddapah hills; most abundant in S. Canara. In Ceylon it is met with up to 3000 feet, and it is indigenous in Bengal, Burma, Hong Kong, and tropical Australia. It is a highly ornamental tree, on account of its beautiful foliage. The timber is ornamental and of a reddish colour, and is used for furniture, cabinet purposes, and fittings. It is tough and not easily worked, brittle and not durable, and has a pretty wavy appearance, and is peculiar in structure, having a great deal of cellular tissue. A cubic foot unseasoned weighs about 56·60 lbs., and 44 lbs. when seasoned, and its specific gravity is ·684; in Burma, where the tree is known by the name of Maneioga, it is used for planks and rice pounders. In Calcutta it is in use for house-building.—*Beddome, Fl. Sylv.*

CARALLIA LANCEÆFOLIA. *Roxb.* A tree of Sumatra.—*Voigt.*

CARALLIA LUCIDA. *Roxb.*

Carallia integerrima, *D.C.*	Carallia integrifolia, *Grah.*
Kierp, Kierpa, . . BENG.	Dewata gass, . . SINGH.
Maneioga, . . . BURM.	Davette, ... ,,
Phansi, ... CAN.	

This handsome tree grows on the Malabar side of India, in the Konkans, the Circars, Kamaon, Sylhet, Chittagong, Pegu, Mergui, and in Ceylon up to 3000 feet. On the Bombay side it is small, but pretty frequent in the forests of the S. Konkan. Wood hard, close-grained, and might be used in turning. Thwaites says it is rather ornamental, and adapted for furniture. It is a large and common tree north of Rangoon and throughout Pegu. Wood of a peculiar structure, thick medullar rays going through from the centre to the circumference; colour red; used for planks and rice pounders, and may possibly be found useful for cigar boxes. In the southern forests of Pegu it is a plentiful tree of large girth, and in Calcutta is employed in house-building, under the name of Kierpa.—*Drs. Gibson, M'Clelland, Brandis, and Voigt.*

CARALLUMA ADSCENDENS. *R. Br.*

Stapelia adscendens, *Roxb.* | Cullee moolayan, . TAM.

This curious-looking fleshy plant, with angular stems, belonging to the natural order Asclepiaceæ, is used by the natives in making pickles, and sometimes in chatni.—*Jaffrey.* See Vegetables.

CARAMBOLA TREE, Averrhoa carambola. Largely cultivated in the Kwang-tung province of China.

CARAMBU. TAM. Caryophyllus aromaticus.

CARAMBU. MALEAL. Ludwigia parviflora.

CARANA PALM, the Maurita carana. Its leaves are used as a thatch for houses.—*Seem.*

CARANX ROTTLERI. Rudder fish; an inhabitant of the southern seas, from 1 to 2 feet long. C. mate, *C. and V.*, horse mackerel. See Fishes.

CARAPA, *sp.* Taila-oon, BURM. A Tavoy wood used in building.—*Col. Firth.*

CARAPA GUIANENSIS. Its seeds yield a solid oil or vegetable milk. It is a large tree of Guiana. See Dyes.

CARAPA MOLUCCENSIS. *Lam.*

Xylocarpus granatum, *Kœn., Willde.*

Kadul, ... SINGH. | Kandalangha, . . TAM.

This tree is a native of the coast in Malabar, Ceylon, and in the Sunderbuns; is also found in Africa, Australia, Madagascar, and the Malay Archipelago.—*Beddome, Fl. Sylv.* p. 136.

CARAT, from the Greek keration, a kind of vetch. A carat weighs 4 grains French, or $3\frac{3}{4}$ grs. troy. It is used in weighing precious gems, and also in valuing the alloyed precious metals, in this case standing for an imaginary 24th part of the pound troy, the number of carats indicating the pure metal, and the remainder the alloy. Thus the carat standard of the sovereign is 22, or 2 parts alloy; of watch-cases with the Goldsmiths' Hall mark, 18, or 6 alloy. In France the latter is the lowest legal standard.—*King.*

CARAVAN. See Kafilah; Karwan.

CARAVANSARY. These, in Syria, form four sides of a large quadrangular court. The ground floor is used for warehouses, the first floor for guests, and the open court for the loading and unloading of their burdens, and the transaction of mercantile business generally. The apartments used for the guests are small cells opening into a corridor, which runs round the four sides of the court.—*Eothen*, p. 243. See Dharmsala; Serai.

CARAWAY PILLAY. TAM. Bergera Konigii.

CARAWAY SEED.

Carvi; Cumin des pres, FR.	Carvi, ... IT.
Brodkummel, . . GER.	Carum Carui, . . LAT.
Keummel, . . . ,,	Alcaravea, . . . SP.

These aromatic seeds are used to flavour cheese, spirits, liqueurs, and articles of medicine.—*O'Sh.*

CARBI or Karbi. BENG. Stalks of Sorghum vulgare, used as fodder.

CARBON, when pure, is diamond; less pure, is plumbago, coal, and charcoal.

CARBONATE OF LEAD, white lead, ceruse.

CARBONATE OF LIME.

Kwang-feu, . . . CHIN.	Carbonate de chaux, FR.
Chalk, ... ENG.	Carbonas calcis, . . LAT.

A very abundant mineral, and embraces several varieties, of which stalactical carbonate of lime is one. All the limestone caves of Tenasserim have stalactites hanging from their roofs, and stalagmites rising on their floors. The Siamese Karens often bring over bits of limestone of the shape of a shell, and, when broken, a shell usually of the genus Melania appears, that has been encrusted with carbonate of lime. Much of the alabaster of which ornaments are made in Burma, is stalagmite; but all the alabaster images of that coast are made of marble, and not of compact gypsum, which they much resemble.—*Mason.*

CARBONATE OF SODA. Impure carbonate of soda, called Sajji or Sajji matti, occurs as an efflorescence in some part or other of almost every district in India. Muriate of soda and carbonate of lime exist in the soil, and the natron is found on the surface of the moist earth or mud. Near Gundycottah, on the banks of the Pennar, common salt is interstratified with the upper schistose strata of the argillaceous limestone on which the sandstone rests; and on the surface of the neighbouring soil, natron, contaminated with much muriate of soda, is collected.

Barilla, an impure carbonate of soda, is prepared by burning plants of the Salsola and other species, and collecting the ashes, which melt into a coloured mass. *Sajji lota* is a somewhat purer kind, but still contains an immense amount of organic and other foreign matter, such as the sulphates of soda and lime, chloride of sodium and potassium, sulphide of sodium, sulpho-cyanide and ferro-cyanide of sodium, together with silica and clay. The *Kangan khar* plant yields the best alkali. The pure sajji from this plant is called lota sajji, and the residue mixed with ashes is called Kangan khar sajji. The other two plants yield only a dirty and inferior substance known as Bhutni sajji, 'devil's soda.' This is black in colour, and sold in pieces like lumps of ashes. The plant burned in the Panjab is termed Khar, or in Persian Ashkhar; its scientific name is Caroxylon Griffithii. There are many square miles densely covered with this last, whereas the Khar is comparatively rare. Khar is applied to various herbs belonging to the natural order Chenopodiaceæ, particularly the Anabasis multiflora and the Caroxylon Griffithii. The ashes, which fuse, run into a pot placed beneath the burning heap.—*Powell; Stewart.*

CARBUNCLE.

Escarboucle, . . . FR.	Carbunculus, . . . LAT.
Karfunkel, . . . GER.	Merah; Dalima, MALAY.
Anthrax, ... GR.	Mastiga, ... ,,
Bareketh, ... HEB.	Carbunculo, . . . SP.
Carbonchio; Carbonchis, IT.	Manikiam, . TAM., TEL.

One of the inferior gems; that variety of the garnet called almandine. Common in Southern India. Carbuncles, from the most ancient times of the Romans, have been set with a backing to enhance their colour. The carbuncles of superior brilliancy are called males, and those of inferior colour, females. Under this term the ancients included all gems of a red colour, such as hyacinths, rubies, garnets. The carbuncle, in Hebrew, Bareketh, signifying flashing stone, or lightning stone, was supposed to fall from the clouds, amid flashes of lightning.

CARCATA, also Carcataca. SANSK. The solar sign Cancer. See Varsha.

CARCHARIAS, a genus of heterocercal fishes, belonging to the Squalidæ or shark family. C. leucas, *Valen.*, is found in the southern seas. It is about 12 feet long. Carcharodon Rondelettii of Australia, a large shark; one of them measured $36\frac{1}{2}$ feet.

CARCHEMISH, the capital of the Hittites, is the modern Kala Jerablus, on the west bank of the Euphrates, 20 miles below Beredjik.

CARDAMOM HILLS, a range of hills in Travancore, rising 2000 to 4000 feet high, and lying between lat. 9° 27′ and 10° 4′ N., and long. 76° 52′ and 77° 17′ E. They are unhealthy and sparsely occupied. The cardamoms grow best at about 3000 feet; and annually about 10 tons, value £30,000, are collected.

CARDAMOMS.

Hilbuya, . . .	ARAB.	Puwar, ...	MALAY.
Ebil, ...	,,	Capulaga, . . .	,,
Yalakki, . . .	CAN.	Kakelah-seghar, .	PERS.
Taou-kau, . . .	CHIN.	Heil, ...	,,
Yang-chun-sha, .	,,	Ensal, ...	SINGH.
Ellachi, ...	HIND.	Yellam arisi, . .	TAM.
Cardamomi, . .	IT.	Yeylakulu, . . .	TEL.
Kapol, ...	JAV.		

The cardamoms of the shops are the produce of several genera of plants,—Alpinia, Amomum, Elettaria, and Renealmia. The round seeds of Amomum cardamomum of the Burma forests, Sumatra, and Malacca, are used by the Malay in lieu of the true cardamom. A. angustifolium of Madagascar supplies some of the cardamoms; A. maximum of the Malay Islands, Nepal, and Ceylon, also produces a cardamom of an inferior character. Alpinia cardamomum of the western coast of India in the Travancore forests, produces a cardamom in great request. Amomum grana paradisi of Madagascar and Ceylon yields an inferior sort. Elettaria cardamomum of the hilly parts of Mysore, Coorg, Malabar and Travancore, and Canara, yields the true cardamom, and is both cultivated and wild. In the Travancore forests they are found at elevations of three to five thousand feet. The mode of obtaining them is to clear the forest of trees, when the plants spontaneously grow up in the cleared ground. The average number of candies is about 140 to 300 candies; value, 1000 to 2000 rupees the candy of 600 lbs. Cardamoms are much esteemed as a condiment, and great quantities are annually shipped to Europe from Malabar and Travancore. In commerce there are three varieties, known as the short, short-longs, and the long-longs. Of these the short are more coarsely ribbed, of a brown colour, and are called the Malabar cardamoms or Wynad cardamoms. They are reckoned the best of the three. The long-longs are more finely ribbed, are of a paler colour, and the seeds are white and shrivelled. The short-longs merely differ from the latter in being shorter or less pointed. It is usual to mix the several kinds together, when ready for exportation. Some care is required in the process of drying the seeds, as rain causes the seed-vessels to split, and otherwise injures them; and if kept too long in the sun, their flavour becomes deteriorated. They are chiefly procured from the high lands overlooking the Dindigul, Madura, and Tinnevelly districts. In these mountains the cultivators make separate gardens for them, as they thrive better if a little care and attention be bestowed upon them. Cardamoms are a monopoly in the Travancore State, and cultivators come chiefly from the British provinces, obtaining about 200 to 240 rupees for every candy delivered over to the Government. In the forests on the western slopes of the Coorg mountains, cardamom cultivation is carried on to a great extent. In February, parties from Coorg start for these western mountains, and, selecting a slope facing west or north, mark one of the largest trees on the steepest declivity. A space about 300 feet long and 40 feet broad is then cleared of brushwood at the foot of the tree, which is cut down about 12 feet from the ground, and carries with it a number of small trees in its fall. Within three months after its felling, during the first rains of the monsoon, the cardamom plants in the soil begin to show their heads all over the cleared ground, and before the end of the rainy season, October, they grow two or three feet. The ground is then carefully cleared of weeds, and left to itself for a year, and then, 20 months after the felling of the great tree, the cardamom plants are the height of a man, and the ground is again carefully and thoroughly cleared. In the following April, the low fruit-bearing branches shoot forth, and are soon covered with clusters of flowers, and afterwards with capsules. Five months afterwards, in October, the first crop is gathered, and a full crop is collected in the following year. The harvests continue for six or seven years, when they begin to fail, and another large tree must be cut down in some other locality, so that the light and air may cause a new crop to spring up. The harvest takes place in October, when the grass is very high and sharp, sorely cutting the hands, feet, and faces of the people, and concealing numerous large leeches. The cultivators pick the cardamom capsules from the branches, and convey them to a temporary hut, when the women fill the bags with cardamoms, and carry them home, sometimes to distances of ten or twelve miles. Some families will gather twenty to thirty maunds annually, worth from 600 to 1000 rupees. The cardamom tracts of Travancore are almost all granitic and gneiss. The smaller capsules, or lesser cardamoms, are the most valuable. The Elettaria cardamomum is also cultivated in Ceylon, and a species occurs wild. The Karen forests of Tavoy and Mergui abound with cardamom plants; and, while subject to the Burmese government, the Karen were required to collect the seeds and pay them in as tribute; but they now employ their time more profitably. When they did collect, they were in the practice of mixing a spurious kind of cardamom with the true produce of a plant belonging to the genus Amomum, believed to have been A. cardamomum. The cardamom called by the Chinese Yang-chun-sha, the hairy China cardamom of pharmacologists, is said to be produced in the province of Kwang-tung.—*Madras Ex. Jur. Rep.*; *Drs. Mason, Voigt; Crawfurd's Dictionary; Thwaites, En.; Drury, Cochin; Roxb.* i. 72.

CARDAMOMS, bastard or wild.

Kapulaga,	BALI., JAV., MALAY.	Kurrocha,	GUJ., HIND.
		Hil kilan, . . .	PERS.

Wild or bastard cardamoms are much larger than the true cardamom, more pungent but less aromatic, with a strong camphoraceous taste. They are not much esteemed, and are only used by the poorer classes of natives as a substitute for real cardamoms. They are brought to Bombay from the Malabar coast. The wild or bastard cardamom of Siam is produced by Amomum xanthioides, *Wallich*; the seeds have been imported into England, while the empty capsules found in the drug shops of China are exported from Siam. The plant bearing scitamineous fruit,

to which the name 'large round China cardamom' has been given, and which is known to the Chinese as Tsau-kau, continues unknown; and the same remark applies to the bitter-seeded cardamom, Yih-che-tsze, and ovoid China cardamom, Taou-kau or Qua leu. It is probable that all of them are productions of the south of China, or of Cochin-China.—*Faulkner.*

CARDIADÆ, a family of molluscs, comprising the genus Cardium, the cockle, of which there are known 270 fossil and 200 recent species, with four sub-genera and the fossil genus Conocardium. Many species of Cardium occur in India.

CARDIOPTERIS. At Cachar, in the Assam valley and Chittagong, this remarkable plant covers the trees for upwards of sixty feet, like hops, with a mass of pale-green foliage, and dry white glistening seed-vessels.—*Hooker, Him. Jour.* ii. p. 334.

CARDIOSPERMUM HALICACABUM. *Linn.*

Nuputki,	Beng.	Budha-kakara,	Tel.
Ma-la-mai,	Burm.	Kanakaia,	,,
Shib-jhub,	Duk.	Nella gulisienda,	,,
Heart-pea,	Eng.	Uparinta,	,,
Balloon vine,	,,	Budha busara,	,,
Ulinja, Paloolavum,	Male.	Ullena tige,	,,
Karavi,	Sansk.	Vekkudu tige,	,,
Jyotishmuttee,	Singh.	Patali tivva,	,,
Moda-cottan,	Tam.	Ekkudatige,	,,
Mudda-cattan,	,,		

The seeds—Habb-ul-kulkul, . . . Arab.

An annual climbing plant, with an inflated membranous capsule, hence its name. The root is aperient. It is mucilaginous, and slightly nauseous to the taste; is raised in great quantities by the natives of Tenasserim, but more as a vegetable than a medicine. Grows all over India; and popular superstition asserts that by eating the seeds, the understanding is enlightened and the memory rendered miraculously retentive. C. canescens, *Wall.*, grows on the Irawadi.—*Roxb.* ii. 292; *Voigt*, 93; *Mason; Ains. Mat. Med.* 89; *Dr. J. L. Stewart; Powell*, i. 330. See Jyotishmati.

CARDOLE, a thick black oily substance obtained from the pericarp of the cashew nut, Anacardium occidentale. It is a powerful vesicating agent.

CARDS, playing cards.

Kaarten, Speel-Karden,	Dut.	Carte de giaco,	It.
		Kartii,	Russ.
Cartes à jouer,	Fr.	Carnas, Naipes,	Sp.
Spiel-Karten,	Ger.	Kort,	Sw.
Ganjifeh,	Hind.		

The playing cards of the Hindu and Mahomedan are round pieces of strong card, painted with figures of men, quadrupeds, and fish.

CARDUCHI, the Kurd country; Kurdistan.

CARDUUS, *sp.*

Ts'z'-ki,	Chin.	Siau-ki,	Chin.
Shuh-tan,	,,	Ta-ki,	,,

A plant of China. C. nutans, *L.*, Gul-i-badawurd, flowers large, rich crimson; used medicinally to purify the blood.—*Voigt; Powell*, i. 356.

CAREI, a people mentioned by Ptolemy, who inhabited the southern part of Tinnevelly. Karei, in Tamil, means "the shire."

CARELA. Beng. Momordica charantia.

CARETTA IMBRICATA, a turtle. See Chelonia.

CAREX, a genus of plants belonging to the natural order Cyperaceæ. Several species grow on the sea-shores and near the rivers of India. C. Indica, *Willde*, is a native of Nepal. C. Moorcrofti and *Falc.*, a running wiry sedge in Tibet, binds the sand like the C. arenaria of the British coasts.—*Hooker, Him. Jour.* ii. p. 155.

CAREY, Dr. W., a celebrated missionary at Serampore. He landed in Calcutta on the 11th November 1793. He was the son of a parish clerk. He joined Messrs. Ward and Marshman at Serampore on the 10th January 1800. His whole life was passed in the translation of the Scriptures into the languages of India; his whole career was marked with a passionate desire to reveal Christ to men who knew him not. His strong natural benevolence had been intensified by deep piety. 'I do not know,' says Wilberforce, 'a finer instance of the moral sublime, than that a poor cobbler working in his stall should conceive the idea of converting the Hindus to Christianity, yet such was Dr. Carey.'

Carey translated the Bible into Kashmiri, Multani, Dogri, Sindi, Garhwali, Kamaoni, Kanouji, Kosali, Magadhi, Bhugeli, Bhatti, Jypuri, Bikaniri, Marwari, Harouti, Udaipuri, Ujjaini, Nepali, Palpa, Assamese, Mahratti, Gujerati, Konkani, Manipuri, and Khasi, mostly Hindi dialects.
Carey and Leyden, into Pushtu, Baluchi.
Carey and Newton, into Panjabi.
Carey and Chamberlain, into Braj.
Carey and Sutton, into Assamese.
Carey and Taylor, into Mahratti.
Carey, Lisle, and Jones, into Khasi.

He founded the Agri-Horticultural Society of Bengal in 1820. He advertised that a meeting would be held in Serampore, but at the hour appointed only himself and two brother missionaries were present. But he voted himself into the chair; the proceedings were published, with the secretary and treasurer's names, and the society began. He was author of State of Agriculture in Dinajpore, in As. Res. vol. vi.; Geographical Notices of Serampore, As. Jl. 1835, ii. 55.—*Tr. of a Hindoo.*

CAREYA ARBOREA. *Roxb.*

Bakoomba of	Bombay.	Ave-mavo, Ayma,	Tam.
Ban or bambhooai,	Burm.	Puta-tanni maram,	,,
Baubwai,	,,	Pailæ maram?	,,
Kamba,	Hind.	Kumbhi,	Tel.
Koombha,	Mahr.	Buda-darmee,	,,
Peloa,	Maleal.	Dud-Ippi,	,,
Kahaatta,	Singh.		

Flowers—Vakhumba; Fruit—Gugaira, Kuhni, Hind.

This large tree grows in most parts of British India, Burma, and Tenasserim, and also in N. Australia and Queensland. It rises to 20 feet. Dr. M'Clelland says that in Pegu the timber is large, the wood red and equivalent to mahogany, and there forms the chief material of which the carts of the country are made; Dr. Mason adding that it is a useful timber for house-building; and Dr. Brandis mentions that it is used for gun stocks, house posts, planks, etc. A cubic foot of the Pegu wood weighs 55 lbs. It sells in Pegu at 12 annas per cubic foot. Dr. Gibson tells us that it is not much used on the Bombay side, but that the timber stands the action of water well. As it is generally crooked, he thinks it merits trial for the crooks of boats, corners of carriages, etc. In Ceylon it is used for the axles of bullock carts and in buildings. Its fibrous bark is used as matches for matchlocks, guns, etc.; and in Ganjam, according to Capt. Macdonald, the scant clothing of the Byragi and other Hindus affecting peculiar sanctity, is made of the fibrous bark of this tree. The bark is astringent, and in Ceylon used in tanning and medicinally. Its large greenish flowers are given by Hindus after childbirth.

Careya sphærica, *Roxb.*, is almost identical with C. arborea. It grows in the Northern Circars, in the mountains at Chittagong, and at Moulmein. Its bark serves as cordage, and is used as a slow match for guns. It has large greenish-white flowers, with some deep red filaments.—*Roxb.* ii. 636.

CARHARAS, in the Konkan. There were human sacrifices here to Renuca Devi.

CARIARI. HIND. Gloriosa superba.

CARICAL or Karikal, a small settlement belonging to France, between Tranquebar and Nagore.

CARICA PAPAYA. *Linn.* Papaw tree.

Papaya vulgaris, *Lam.*	Papaya carica, *Gærtn.*
Gadang-castila, . . BALI.	Papa, Bati, . . MALAY.
Thin-baw, . . . BURM.	Papoia umbbalay, MALEAL.
Them-baw-thee, ,,	Pæpol, ... SINGH.
Muh-kwa, ...CHIN.	Pappali maram, . TAM.
Papaia, ... HIND.	Madana anapa chettu, TEL.
Arand Kharbuja, ,,	Madhurnakam, . ,,

This plant, one of the Papayaceæ, is found throughout India, and grows without much care. The fruit is gathered in a green state, is dressed as curry and in tarts, and when ripe it is used as a dessert. Its dark-coloured seeds taste like the watercress. The fruit is large and oblong, suspended upon the leafless part of the trunk, like the jack-fruit; the surface when ripe is a pale orange yellow. A milky juice exudes on incision from the rind; and the rind and seeds are deemed in the Mauritius a powerful vermifuge. Tough meat, rubbed with this juice, becomes tender, without any injurious property being communicated to it. The flesh of animals fed on the leaves and seeds is said also to be remarkably tender, but this seems unlikely. And in Bengal, Mahomedan table servants use the juice with the view of softening beef-steaks and old fowls. The leaves are used by the negroes in washing linen, as a substitute for soap. Pulp of the fruit is eaten with pepper and salt. Juice of the pulp removes freckles.—*Roxb.* iii. 824.

CARICATURE PLANT, or face plant, Justicia picta. The white portions on its green leaves present caricatures of the human face. Graptophyllum hortense of the Indian Archipelago is also so called from the curious variegation of its leaves.

CARIM CORINI. MALEAL. Justicia ecbolium. Carim-gala, Pontedera vaginalis. Carim-pana, Borassus flabelliformis. Carim-tumba, Anisomeles Malabarica.

CARIMON, two small islands, Great and Little, off the Malay coast. They command the entrance to the Straits of Malacca.—*Horsburgh.*

CARINARIA, a genus of Gasteropod molluscs, in Asiatic seas. C. vitrea, C. fragilis, C. Mediterranea, and C. cymbium, are recorded. The shells of this genus are known to collectors under the names of Venus' Slipper and the Glass Nautilus. C. vitrea, *Lamarck*, has a beautiful transparent vitreous shell.

CARIN CHEMBI. TAM. Coronilla picta. Carin kulloo, glass. Carin serigum, fennel flower, nigella seed, Nigella sativa.

CARI NUCHI. TAM. Gendarussa vulgaris.

CARIRAM. MALEAL. Strychnos nux vomica.

CARISSA CARANDAS. *Linn.*

Capparis carandas, *Gmel.*	Echites spinosa, *Burm.*
Kurumchi, . . . BENG.	Maha-karomba, . SINGH.
Bengal currants, . ENG.	Kalaka, Kalapa, . TAM.
Kurunda, . . . HIND.	Perin-kalaka pallam, ,,
Kile, Keelay, MALEAL.	Pedda kalivi pandu, TEL.
Karamurda, . . SANSK.	Vakka, also Vakudu, ,,
Krishna-pak phula, ,,	Gotho, ... URIA.
Sushenas, Areigna, ,,	

A large thorny bush, cultivated for its fruits, but grows abundantly wild in the Kangra and the Kotah jungles, and in March and April fills the air with the fragrance of its blossom; also grows wild in most parts of the Dekhan, bearing a dark blue-coloured berry when ripe; and this is sometimes eaten by Europeans, and in the green state is made into tarts, jellies, and pickles; the jelly is considered inferior to none made of other Indian fruits. The fruit is about the size of a large olive, and when ripe is black, and has a very pleasant taste, somewhat like a damson. This species is a marked exception to the generally poisonous nature of the Apocynaceæ family.—*Roxb.* 1687; *Mason; Dr. Stewart; Capt. Macdonald.*

CARISSA DIFFUSA. *Roxb.*

Gau, ... HIND.	Kurumudika, . SANSK.
Garna, Garunda, . ,,	Waa-kailu, . . . TEL.
Mardak, ... ,,	San Kurunda, . . URIA.

This shrub is a native of the Ganjam district, and from thence northward to the mouth of the Hoogly, and common throughout the Panjab. Its small white or pink flowers about April perfume the air around. The wood is used for combs, in turnery, etc., and as fuel. A Kangra authority states that the very old wood gets quite black and fragrant, and is sold at a high price as Aggar, or Ud-i-Hindi.—*Roxb.* i. 689; *Dr. Stewart.*

CARIVAN-SARAI, in Persia and India, a halting-place for travellers, generally a house with many apartments, either opening into an open quadrangle or to the outside road. It is from karwan (caravan), a cortege, and sarai, a rest-house; the chattram of the Tamil people, and dharmsala or sarai of N. India. See Sarai.

CARI-VILLANDI. MALEAL. Smilax ovalifolia.

CARLESS, CAPTAIN, I.N., author of a Survey Report of the Mouths of the Indus. He and Lieutenant Grieves carried on important surveys in the neighbourhood of the Indus. He wrote an account of a visit to Beylah, Bom. Geo. Trans. i. p. 304; Memoir on the Gulf of Akaba, ibid. p. 172; Evaporation in the Red Sea, ibid.; State of the Kakewarree Mouth of the River Indus, ibid. p. 876; Account of Hot Springs at Peer Muggun near Kurrachee, ibid. 1840, p. 16; Remarks on the Course of the Hurricane which occurred on the Malabar Coast in April 1847, ibid. 1849, viii. part i. p. 76; Memoir to accompany the Survey of the Delta of the Indus, ibid. part iii. p. 328; Account of the Inscriptions on the Rocks of Shren Waj, near Jedda, Red Sea, *Bom. As. Trans.* ii. p. 273.

CARLI-CAVES, in the Western Ghats, near the Bhor ghat. The wonderful galleries and colossal elephants of its caves are dug out of solid trap. See Architecture; Buddhism; Caves; Karli.

CARLUDOVICA PALMATA, a tree of Panama. Panama hats are made of its leaves; they are made in Veraguas, Western Panama, and Ecuador, and are worn in the W. Indies and Central America. It might be introduced into India.

CARMA. SANSK. The name of one of the Kanda or general headings of the Vedas. This chapter relates to works; the other two, Gnyana and Upashana, relate to faith and worship. See Vidya.

CARMEL, a small range of hills extending six or eight miles inland in a S.E. direction from the

Bay of Acre. Mount Carmel is a termination of the chain of hills commencing at the plain of Esdraelon to the S.E. The valley of martyrs, a very narrow dell open to the sea, is near, as also the garden of Elias. The holy fountain of Elijah is close. The cistern seems to have been hewn in the rock, and is about six feet deep, full of clear, delicious water.—*Skinner's Overland Journey*, i. p. 101; *Robinson's Travels*, i. p. 196.

CARMINATIVES. The following are largely used medicinally and for culinary purposes:—

Pimpinella anisum, common anise.
Illicium anisatum, star anise. Badian khatai.
Anthemis nobilis, chamomile. Baboone.
Lavandula vera, lavender.
Ruta graveolens and other sp., rue. Sudab.
Andropogon iwaranchusa. Roosa.
Anethum graveolens, dill. Sonf.
,, sowa. ,,
,, panmori. ,,
Carum carui, caraway. Zeera seeah.
,, nigrum. ,,
Eugenia pimento, allspice.
Amomum zingiber, ginger. Ada.
Fœniculum officinale, fennel.
Melaleuca cajaputi, cajaput. Kyapooti.
Juniperus communis, juniper. Hoober.
Piper cubeba, cubebs. Kubab chinee.
Caryophyllus aromaticus, clove. Long.
Laurus cinnamomum, cinnamon. Darchinee.
Juniperus sabina, savine.
Ocimum basilicum, basil. Tulsi.
Rosmarinus officinalis, rosemary.
Moringa pterygosperma, sohunjuna.
Mentha piperita, peppermint.
,, pulegium, pennyroyal.
,, viridis, spearmint. Pudina.
Amomum cardamomum, cardamom. Elachee.
Origanum majorana, marjoram.
Sassafras officinale, sassafras.

CARMINE. A beautiful pigment prepared from cochineal, discovered accidentally by a Franciscan monk of Pisa, who, having formed an extract of cochineal with salt of tartar, for the purpose of employing it as a medicine, obtained a fine red precipitate on the addition of an acid. Homberg, in 1656, published a method for preparing it. The makers in some of the principal towns of Europe succeed in preparing different varieties of it of greater or less purity and lustre. Many of their processes are kept secret; and although the chemistry of the art is well understood, yet there are certain details of manipulation, and an empirical knowledge of the effects of temperature, doubtless acquired after long experience and many failures, which confer on the carmines of some makers a greater lustre than on those of others. The use of carmine has of late years been extended to the manufacture of superfine red inks, of artificial flowers, and to silk-dyeing. Carmine is the finest red colour which the painter possesses. It is chiefly used in miniature painting and in water colours. It is made in large quantities in Paris. Carmine is one of those colours called lakes, a term applied to certain colouring substances which behave like acids, and combine by precipitation with a white earthy basis, usually alumina. Carmine is the richest and purest portion of the colouring matter of cochineal, isolated in the manner here alluded to. Various imitations of carmine are prepared for the use of those who exhibit rouge on their cheeks. French carmine is superior to that of English manufacture, and the superiority is said to depend on the influence of light on its formation and precipitation; the clear sky of the south of France being more favourable for the process than the more hazy atmosphere of England.—*Tomlinson.*

CARNAHUBA, a tree of S. America, Havana, and Mexico, which should be introduced into India. Humboldt and Murichi have described it as the tree of life. Cattle eat the heart of the young tree, and at its full growth a fecula is obtained from it. Its fruit is also nourishing. But its chief product is the wax which covers the surface of its young leaves, in the form of a glutinous powder. When melted by heat, it cannot be distinguished from wax of the honeycomb.—*Marius.*

CARNATIC, an ancient name of the table-land in Southern India, above the Eastern and Western Ghats, known as the Balaghat; to this region, though the people speak Canarese, the name is now never applied, but it is now given to the country below the Eastern Ghats, or Paeen Ghat. Its ancient kingdoms were the Pandya, Chera, Chola, and Calinga. In B.C. 75 an expedition left the eastern side of the Peninsula, from ancient Calinga, and formed a colony in Java. The Pandya dynasty ruled in parts of the south of the Carnatic, with varying fortunes, from the 4th or 3d centuries B.C. At present it is a province on the Coromandel coast, about 500 miles long from north to south, and averaging about sixty miles broad. From the 16th to the 18th centuries, it was overrun by Mahratta, Mahomedan, French, and British soldiery. Sadut Oollah was ruler of the Carnatic from 1710 to 1732, and was succeeded by his nephew, Ali Dost. Ali Dost was killed in battle against the Mahrattas, and was succeeded by his son, Sufdar Ali. Of his two daughters, one married Chunda Sahib. Chunda Sahib seized on Trichinopoly in 1736, but the place was taken by the Mahrattas, and Chunda Sahib was made prisoner, and lingered for eight years in prison, where he was murdered by the raja of Tanjore. Sufdar Ali was assassinated by his brother-in-law, Murtuzza Ali, leaving a minor son; but this youth also was assassinated, while Anwar-ud-Din was his guardian, and Anwar-ud-Din succeeded to the throne as Nawab of the Carnatic. During the conflicts for supremacy in Hyderabad and the Carnatic, between the French and British, naval and land battles were fought at Damalachery near Madras, at Amboor on the Pennar river, near Gingee, at Valconda on the Arni, at Cauverypauk, at Vicravandi Bahur, at the Golden Rock, Sugar Rock of Trichinopoly, at Wandewash, also off Negapatam, Tranquebar, and at Fort St. David. Anwar-ud-Din, when about eighty years old, fought and fell at the battle of Amboor, in 1749; his son, Mahomed Ali, fled to Trichinopoly, but he was acknowledged by the treaty of Paris in 1763. From that time till his death in 1795, the Carnatic was occasionally under his rule, and at times under the civil and military administration of the British. In 1795 he was succeeded by his eldest son, Umdat-ul-Umra, who died in 1801, when the British put aside Umdat-ul-Umra's son, and placed his nephew, Azim-ud-Dowla, on the throne. The British, in 1856, on the demise of Mahomed Ghous, grandson of Azim-ud-Dowlah, finally abolished the titular nawab, from which followed long efforts to seat the second son of Azim-ud-Dowla. The people of the Carnatic are of the Dravidian stock, and speak the Tamil and Telugu languages.—*Malleson's French in India.*

CARNELIAN, quartzose minerals so called, be-

cause some kinds are of a flesh colour, from carnis, Latin, though others are white. In Japan they are found in vast quantities; and they are also collected in the province of Gujerat, at Cambay. Many of the antique gems are engraved in carnelian, and it is now much used for seals. Carnelian is very common in Burma, and has been found at Moopoon and Mergui. One of its Burman names means 'fowl's blood.' See Cambay Stones.

CAR-NICOBAR, the most northerly of the Nicobar islands. See Nicobar.

CARNIVAL. This name for the Roman Saturnalia is derived from the sun-god Carneus, the Celtic Apollo, whose shrines were on the coast of Brittany; and one monument remains at Carnac sacred to the manes of the warriors and of the sun-god. The character of this festival was entirely oriental, and accompanied with the licentiousness which belonged to the celebration of the powers of nature. Even now, although Christianity has banished the grosser forms, it partakes more of a pagan than a Christian ceremony.—*Tod's Rajasthan*, i. p. 547.

CARNIVORA, an order of the mammalia constituting flesh-eating animals, beasts of prey. They include the genera felis, hyæna, cuon, canis, vulpes, and others in the families Ursidæ, Melididæ, Mustelidæ, Felidæ, Viverridæ, and Canidæ. The lion and the leopard occur in Asia and Africa, the tiger in Asia only. See Mammalia.

CARNIVOROUS PLANTS are found in both hemispheres. The Drosera rotundifolia or sundew is one. When an insect alights on its central disc, it is instantly entangled by the viscid secretion there, and the surrounding tentacles after a time bend and ultimately clasp it on all sides, and the insect is digested. D. Anglica, D. intermedia, D. capensis, D. spathulata, D. lunata, D. filiformis, D. trinervis, D. heterophylla, and D. binata. Dionæa muscipula, or Venus' flytrap, Aldrovanda vesiculosa, Drosophyllum Lusitanicum, Roridula dentata, Byblis gigantea, have similar functions, as also Pinguicula vulgaris, P. grandiflora, P. Lusitanica, with Utricularia vulgaris, U. neglecta, U. clandestina, U. montana, U. velumbifolia, amethystina, Griffithii, cærulea, orbiculata, multicaula, Darlingtonia Californica, Sarracenia purpurea, and S. flava, with Heliamphora nutans.

CAROB TREE, or St. John's Bread, Ceratonia siliqua, of south Europe and the Levant. Its legumes are used for cattle-feeding. The seed is the original of the jeweller's carat.

CAROLINA PADDY. Rice seed was originally taken from India to North America, and its cultivation has been so successful in Carolina, one of the United States, as to have led to its being re-imported into India as seed.

CAROLINAS, an extensive chain of islands which stretch nearly east through the middle of the Pacific Ocean, betwixt the parallels of lat. 7° to 10° N.

CARON OIL of Chittagong. The crooked tree from which this is obtained, grows in wet places near fresh water, very common in the sides of ditches which surround native dwellings. The seed is bean-shaped, and produced in a flat pod; the pods grow several together. The flower is pink and white, of the shape of a bean flower or blossom. The oil is used for burning in native lamps, and in large quantities for boiling with dammer to soften it for the seams and bottoms of ships. It is also often used by native practitioners for the cure of itch. A maund of seeds costs Rs. 1–8, and the extraction of the oil by heat costs 8 annas; the oil produced amounts to $6\frac{3}{4}$ seers per maund.—*Local Committee, Chittagong.*

CAROOKUVA. TAM. Zizyphus trinervus.

CAROONUCHI. TAM. Gendarussa vulgaris.

CAROOR, in long. 78° 9′ E., and lat. 10° 50′ N., 50 miles from Trichinopoly, on the bank of the Cauvery, has a strong fortress. It was the capital of the ancient Chera kings. See Carnatic.

CAROXYLON GRIFFITHII. *Moq.*

Salsola Griffithii. | Lagkame, Khar, . HIND.

A Central Panjab plant, furnishes by lixiviation some of the sajji or carbonate of soda of commerce. —*Stewart.*

CARP, the genus Cyprinus of fishes. The gold carp of China is the Puntius (cyprinus) auratus, *Linn.* In India carps are habitual filth-eaters.

CARPENTER BEE, Xylocopa tenuiscapa, *Westw.* Another species found in Ceylon is the X. latipes, *Drury.*—*Tennent's Ceylon*, p. 418. See Bee; Beetle; Insect; Xylocopa.

CARPENTERS are one of the five Hindu artisan castes of India, and wear the poitu or zonar. They claim to be Brahmans, and worship chiefly Visvakarma, the artificer of the Hindu gods. Those of Travancore follow the law of descent by the sister. See Hindu; Poitu; Polyandry.

CARPETS.

Galim, Zuli, . . ARAB.	Prangmadani, . MALAY.
Tapyten, . . . DUT.	Kalasa, Xatifah, ,,
Vloer-tapyten, . ,,	Ghalichah, . . . PERS.
Tapis, ... FR.	Kowru, Kilimi, . . RUS.
Teppiche, ... GER.	Alfombras, Alcitifas, SP.
Shatranji, . . . HIND.	Tapetes, ... ,,
Tappeti, ... IT.	Jam'kalam, . . . TAM.
Parmadani, . . MALAY.	Jamcana, ... TEL.

Carpets, either of cotton, silk, or wool, are employed in the eastern countries, from the south of India to Turkey in Europe, for domestic use, for praying on, and for occasions of state. The carpets employed by the ancients are thought to have been of the nature of tapestry, and used for covering couches rather than floors. True carpets seem to have been early employed in Persia; and those called Turkish were probably originally of Persian manufacture, whence the manufacture might have been introduced into Turkey, and where, as well as among the many Turkoman tribes and in Northern Africa, it is still practised. The Persians still remain unrivalled in the happy combination of colour and pattern for which their carpets have long been distinguished, whence the most varied hues and deepest tints are brought into close approximation, and, far from offending the eye, please by their striking, because harmonious, contrasts. The places in India where a regular manufacture and trade are carried on, are Jubbulpur, Bareilly, Lahore, Merut, Rungpur, Benares, Mirzapur, Allahabad, and Gorakhpur in Bengal; North Arcot, Tanjore, Ellore, and Malabar in the Madras Presidency; and also at Mysore, Bangalore, Warangal, Bellary, Masulipatam, as well as at Shikarpur, Khyrpur, and Hyderabad in Sind. Those of Bengal commend themselves by extraordinary cheapness; they are extensively used throughout India, and also somewhat largely exported. In point of texture and workmanship, however, the rugs from Ellore, Tanjore, and Mysore, though they are comparatively much dearer, are greatly preferred.

Kermanshah has a manufacture which adds much to the wealth of its province; none can be more rich, soft, and beautiful. *Persian carpets* are made also at Meshed, in the Turkoman country, and in Khorasan, and are justly celebrated for the beauty of the patterns, the fineness of the wool, and the durability of the colours—vegetable dyes—amongst others, a green not made elsewhere, conjectured to be saffron and indigo. Some of them fetch high prices in the country itself, as £6 or £8 for one of two yards square. The finest are made at Sena, and there is a famous manufacture carried on at Ferahoun, near Teheran. Carpets of any size can be made there. The finest carpets of all used to be made at Herat; and one in the Chahal Minar at Isfahan was 140 feet long and 70 feet wide. Large numbers were formerly exported to England through Trebizond, and they were sold nearly as cheap in London as in Persia, owing probably to the course of trade. Persian and Turkey carpets are most esteemed.

Eastern carpets have attained great popularity in Europe since the middle of the 19th century, but it has not led to any very general diffusion of real knowledge about them. The ordinary buyer knows three classes, and only three, which he roughly distinguishes as Turkey, Indian, and Persian carpets. The expert is, of course, a good deal more exact than this; but even his knowledge is, as yet, vague and confused. The most exquisite products of the loom were frequently destined for the adornment of the holy Kaba, or some scarcely less venerated shrine. Sometimes the whole interior of a mosque, such as that at Meshed Ali, was hung with beautiful carpets; and the Mihrab, or niche towards Mecca, was always a favourite object for such ornamentation, which in this case corresponds to the altar-hangings of Europe. Mats of a less costly nature were spread on the floor; and it is recorded that in 1012 A.D. the mosque of El-Hakim at Cairo was strewn with 36,000 ells of carpeting, at a cost of 5000 dinars, whilst the Azhar required 13,000 ells of striped mats a year. The Kaba at Mecca was covered with hangings in the 'days of ignorance' before Islam was preached, and cloths from the Yemen, or a white Chinese silk carpet, covered the shrine; and later on the famous white and gold fabric of the Copts, or heavy velvet or plush carpets from all parts of the East, were employed in the decoration of the Mecca temple. The rulers of the Mahomedan world vied with each other in presenting the richest covers to the Kaba; the very Mongol Khans of Persia sent gorgeous hangings; and we read of a cover studded with gold and pearls and precious stones to the value of 250,000 gold pieces. Difficult as it is to classify the designs of eastern carpets with any precision, they may roughly be divided into two classes, the floral and the geometrical; and that of these the former is the design affected by the higher and Aryan races, the latter the design of the lower and Turanian. The old woman whom Vambery saw in Central Asia, tracing the pattern of the carpet on the sand for the girls to follow, is the typical designer of the Turkoman and Mongolian races; while the native Indian and Persian work is found in lovely conventionalized flowers and leaves, the 'tree of life' and other symbols. There is always, however, a difficulty of distinguishing between the carpet work of one district and another, from the prevailing custom of pilgrimages in the East. Every pilgrim brings his carpet with him to Mecca, or Kerbela, or Kairwan,—he may take more than one, for an offering, or for sale,—and ultimately these find their way, for nothing or for nominal prices, to the priests and their hangers-on, who re-sell them for exorbitant sums as relics to the outgoing pilgrims. Thus carpets of every style and character pass from hand to hand, and, coming from southern India, make their way to Smyrna or Tashkend, the promiscuous dispersion becoming one of the chief secondary causes of the cosmopolitan character of Saracenic art, and of its diffusion over so vast an area, and at the same time serving to make the origin of that art almost hopelessly obscure. In Northern Africa, it is only in Kairwan that the genuine Tunisian carpets are now manufactured. In all other parts of the regency European designs have been adopted, with the inevitable result of destroying all that was quaint and original, and substituting vulgar and egregious patterns. The old Moorish style of working in iron has thus far escaped contamination, and large Saracen locks and giant keys, charmingly ornamented, may still be procured. The Susanjird kind, among the various sorts of weaving that go by the name of Persian carpet-work, has always held the first place. We read of the Susanjird carpets in the palace of the Abbasi khalifs of Bagdad in the tenth century; and the nobles of the East were emulous of obtaining pieces of this fine work for the floors of their scarcely less magnificent residences. In the sale of the carpets of the Fatimite khalifs in 1067, a carpet fetched a thousand dinars —at a time when dinars weighed more than the present half-sovereign; and a Mameluke prince of the fourteenth century gave 70,000 pieces of silver for a silk carpet wrought with gold. Susanjird work was also highly prized in Europe. Byzantine palaces were found to need these rich carpets as much as the mansions of Bagdad; and the merchants were given carte-blanche as to the price they paid for their commissions. Such luxuries were only for the very rich. Susanjird carpets appear always to have been confined to the houses of the great or the houses of God, which the great chose to honour; but the anarchy which came of the Tartar invasions affected the art of weaving in a disastrous manner. Tamerlane, though his exploits were embroidered on the old tapestry which the Persian ambassador brought to Philip III. of Spain, was a chief destroyer of the skill which depicted him. Whatever the origin of the name, Susanjird designates a loom embroidery which, though it may be of various kinds, possesses a distinct character of its own. Susanjird may be knotted (like plush) or plaited (like Gobelin work), or it may combine both methods; but its essential characteristic is flat relief. The combination of the knotting and plaiting (which was not done as it is at the present day) gave the work a peculiar character. The Susanjird carpet has the effect of a picture; the embroidery is like painting; and the general impression is soft and delicate. The subjects represented are either figures or conventional ornaments; and the figures include, not merely animals, but maps and plans of towns, like mediæval work 'cum historiâ' or 'à ymages.' The ornamental work is chiefly derived from the vegetable world, and corresponds to the European designation 'à arbres.'

In *Persian art* the treatment is essentially symbolic. The lion or the eagle is represented as the symbol of power or rule; indeed, on a gold border in the Vienna Museum the figures are explained by the Arabic word for dominion, and another piece has 'sultan' under a lion's figure. A descending eagle signifies bad luck, but a flying or standing eagle means good luck; while the unicorn welcomes the advent of a good prince. Hounds and leopards for hunting occur in Persian patterns, and stand for fame or increasing honour. More interesting are the ornamental designs derived from trees and flowers,—the embroidery 'à arbres.' Sir George Birdwood remarks that the great source of the majority of Persian carpet patterns is the tree of life, the straight trunk with long regular parallel horizontal branches terminating in buds, which pervades all eastern and much western decorative art. Sometimes on Persian rugs the entire tree is represented, but generally it would be past all recognition but for small representations of it within the larger. In Yarkand carpets, however, it is seen filling the whole centre of the carpet, stark and stiff, as if cut out of metal. In Persian art, and in Indian art derived from Persian, the tree becomes a beautiful flowering plant or simple sprig of flowers; but in Hindu art it remains in its hard architectural form, as seen in temple lamps, and the models in brass and copper of the sacred fig as the tree of life. It is extremely curious to trace the history of the tree of life (and the tree of healing, for there are two kinds in Persian decoration) through its various stages, and to find its head in the knop and flower, or cone and flower pattern, as we recognise it on Assyrian marbles and Egyptian wall-paintings, on Indian monuments, Cashmere shawls and Italian brocades; in the Greek honeysuckle and palmette scroll, and the Renaissance shell; and the tongue and dart, egg and tongue patterns in classical mouldings. The persistence of the tree of life, or the pattern formed from its head, in eastern and western decorative art, is very remarkable, and, it should be added, very admirable. That the Tapisserie de Haut Lisse was derived from the East seems beyond a doubt. At the end of the twelfth century the Paris statutes make mention of 'tapiciers sarrazinois,' in contrast to 'fabricans de tapis nostrez;' and in 1302 we hear for the first time of an 'autre manière de tapiciers que l'on appelle ouvriers en haute lice.' It was probably about the time of the Second Crusade that this oriental high-warp tapestry found its way into France.

Printed calicoes of large size and suitable patterns are used for covering the floors in India; but the most common carpets employed there are made of cotton, called *shatranjis*. These are of different colours, usually blue and white, in red or orange stripes, squares, or stars; some are of large size, and well suited for halls and tents, being thick and strong in texture, the two surfaces alike, smooth, and without pile. They are manufactured in different parts of India, at Murshidabad, Rangpur, Agra, etc., and at many places in the Madras Presidency. Another kind of cotton carpet is that with a pile of cotton, and similar in appearance to a Turkey carpet, manufactured at Sasseram —white, with a centre and border in blue; and they are made also in the Hyderabad country with every variety of coloured pattern.

Cotton carpets for tents are made at Cumbum, Rajamundry, and other parts, the price being under one rupee the square yard. They are generally in broad stripes of red and shades of blue. Small carpets of this description are produced in almost every district, and are used for sleeping on. They are somewhat less in price in proportion than the larger ones. Carpets of a small description, woven with wool, in stripes on a stout cotton web, are made at about the same cost.

Silk is another material of which carpets are made in the East; and the pile, being of silk, imparts both softness and richness to the surface, while the colours are clear and brilliant. They are beautiful as specimens of variety in pattern, brilliancy in colouring, as well as of pleasing harmony in the whole. Silk carpets of small size, are made in Tanjore, Hyderabad, and Khyrpur.

Woollen carpets, of large size, and of beautiful and well-coloured oriental pattern, are made at Mirzapur, Gorakhpur, Bangalore, Vellore, and other parts of Madras. Mirzapur is most famous in India for its carpets, which are frequently sold in Britain as Turkey carpets. The woollen rugs from Ellore are admired for their general characteristics of oriental pattern and colouring; and these, as well as the large carpets from Mirzapur, all in the same style, are well adapted for sale in Europe. At the Madras Exhibition of 1857, there was a large display of carpets and rugs, viz. 1. The imitation Axminster or close-nap woven carpet; 2. The short velvet pile or tapestry carpet and woollen rug; 3. The long velvet pile or imitation Turkey carpet; 4. The silk or velvet pile carpet. Of the Axminster carpets, there were some very good specimens of close-nap carpets from Warangal, the colours clear and bright, but a sameness in the patterns. The carpets were strong, soft, and very close in the weaving. The only one for which Warangal is famed is Persian carpets, which are made there of all sizes, and of worsted, cotton, or even of silk. The weavers are all Mahomedans, and are congregated principally at Mutwara, although there are a few looms within the Warangal fort. The weavers are drunken, turbulent, and ignorant, possessing no capital, and dissipating in excess the little money they may procure on accomplishing a piece of work. Carpets, chiefly of a small size, about two yards long and a little more than a yard in breadth, are made for the Hyderabad market, money being advanced to the weavers by the dealers there. A worsted carpet of this size and shape costs at Warangal from $2\frac{3}{4}$ to $2\frac{1}{2}$ rupees. A cotton carpet there is twice the price of a worsted one. A silk one is very highly priced. A common trick among these weavers is to substitute hemp for worsted.

Of the *velvet pile carpets*, some large and creditable specimens from Ellore were closely woven, bright and harmonious in colour, and the patterns more varied than those from any other locality. Some of the rugs from Tanjore were also very tasteful.—(*Madras Exhibition Juries' Reports*). At Iyempettah in Tanjore they make very handsome carpets of silk.

The *rugs* and *carpets* produced at Ellore vary in price from $2\frac{1}{2}$ to 4 or 5 rupees a yard. They are of dyed wool upon a cotton web. The colours are not so bright as those given in Europe. Commoner descriptions, of the size

of small hearth-rugs, are exported thence to England and Persia.

Dr. Walker (As. Jo. 113) gives the following description of carpet-weaving at Hunumcunda, which is generally applicable:—The carpet loom is nothing more than the common native loom, placed vertically instead of horizontally. The waft is of thick, strong cotton twist, being arranged by no wafting mill, but by one of the workmen going round and round two stakes fixed in the ground, and dropping the thread at each as he passes. In the loom it is kept on the stretch by two strong billets of wood, the threads being attached by separate loops of cotton fixed to a bamboo, which is elevated or depressed at the will of the weaver. The worsted is held in the left hand, and a crescent-shaped knife in the right, the fingers of both being left free. The inner thread of the waft is then seized, the worsted wound round the outer, crossed on itself, and the extremity drawn out, by which it is made to descend in the form of an open figure of eight to be snipped by the curved knife. It is superfluous to say that this is the work of an instant. When the pattern is new or difficult, the order and position of the worsted threads is changed by a reader in a kind of rhyme. On a row being completed, the warp, in the shape of a cotton thread, dyed dark brown by the bark of the Swietenia febrifuga, is forced down by means of an iron-toothed comb, in form something like an adze. The whole is completed by cutting the worsted to its proper length by large scissors held steadily against the waft. Infant labour is employed and preferred in Warangal carpet-weaving, it being averred that their more limber finger-joints are best fitted for the finer parts of the work. Dried sprigs of tulsi (Ocimum sanctum) and bunches of Lepidagathis Indica are attached to the loom frames. The workmen say that these make their labour go on more cleverly. Twelve different worsteds are employed. The blue is produced from indigo; the yellows and the sulphur yellow from boiling the sulphur yellow in water impregnated with carbonate of soda, in which a little turmeric has been mixed. The deepest yellow is produced by dipping the same in the potash ley. The reds are all produced by lac dye dissolved by tamarind juice, with sulphate of alumina and potash as a mordant. The depth of colour depends in three cases upon the original black, brown, or white colour of the wool; in the fourth, on the length of time the last description of wool was allowed to remain in the dye. The greens are produced by immersion in indigo, and then in pulas or turmeric; their degrees also depend on the original colour of the wool. Bengal indigo is always preferred to the home manufactured by the worsted dyers. Cotton carpeting is prepared in the same way as the woollen. As a general rule, the lighter worsteds wear the longest. The red seems to render the wool brittle, and some destructive agent seems to be employed in preparing the wool. If the weavers would wash the wools thoroughly with soap, both before and after dyeing, the carpets would probably be far more durable.

At *Ellore* the wool is cleaned and spun. The former is a rather complicated process, but on its proper performance depends the possibility of afterwards spinning the thread without the hair starting out too much,—which is sure to be the case if very hot water is used,—and the thorough fixing of the dye. When the sheep is sheared, the wool contains a large amount of dirt and grease, sometimes as much as 50 per cent. of the whole weight, and this must be entirely removed before anything else can be done. Steeping in water, hot and cold, washing with soaps and various acids, fumigation, are the plans usually adopted; but the Ellore people keep the process a secret. After this the wool is thoroughly beaten out by filliping it with a line of gut stretched on a bow. This turns the matted, coarse substance cut from the sheep into a beautifully soft wool. The spinning is carried on in the ordinary manner of India. After the spinning comes the dyeing, which is not shown to strangers, and from that the thread is taken straight to the weavers. Ellore carpets are made on upright looms, the operators sitting on the ground, their legs in a hole or trench in front of the work,—not, as in the Gobelin tapestry, behind it. The warp thread is either of hemp, cotton, or wool. In carpets intended for Europe, hempen twine is invariably used; while for India, cotton is sometimes preferred. The woollen warp is mostly confined to the small rugs made up for native consumption. The woof, or cross thread that holds down each successive line of wool, is either hemp or cotton. The warp is always white, the weft frequently coloured. Each little tuft of wool is twisted round two threads of the warp, and thus, as it were, knotted. It is then cut off with a knife to the length of about $\frac{3}{4}$ths of an inch. When one line (horizontal) of the tuft has been completed, the weft is passed through and beaten firmly down on it by means of an iron comb. The whole line is then trimmed down to the proper length with a pair of scissors. And so the carpet proceeds, bit by bit, and line by line, till completed. Some patterns are far easier to work than others, and the value of the carpet varies accordingly. A good workman does $1\frac{1}{2}$ feet in breadth by 6 inches in length from 7 A.M. to 4 P.M. From two to three annas a day is about the sum on which a fair workman can reckon.

The *Indian cotton carpets* most commonly met with are blue, red, and white. Some few, made of cotton and silk for wealthy people, are extremely beautiful.

The *rugs* made in Bengal vary in length from 3 to $3\frac{1}{2}$ feet, their average width being $1\frac{3}{4}$ feet, and their value from 1 rupee to 1 rupee 10 annas. The rugs from Ellore, Tanjore, and Mysore are made of various sizes, and are valued from 2 to 4 rupees each. Those from Shikarpur and Khyrpur, as well as from Hyderabad (Sind), are of a lighter texture, but excellent workmanship; their width is generally uniform, but in length and consequent cost they vary from from 2 to 5 rupees each.

The employment of rugs throughout India is most extensive. It is impossible to form an estimate of the annual value of this manufacture, as only the small portion exported is entered in the official records, and as no steps have hitherto been taken to ascertain the local trade.

The finest articles of this description, however, are the *silk rugs* from Tanjore and Mysore, the blending of colours and workmanship being excellent. They are made of all sizes, even up to squares of ten feet; but, being too costly for

general adoption, this manufacture is very limited. Were the patterns and disposition of colour in the native articles better known in Europe, many useful lessons might be learned from them. Woollen carpets are rarely used by Hindus, and the manufacture is seemingly entirely confined to Mahomedans.

The *Shatranji* is a cotton carpet entirely made of cotton. They are used by every European or native throughout India; and the annual manufacture is consequently very considerable, especially in Bengal, where they form a large and important branch of inland trade. They are of all sizes, from that of the largest carpet to the smallest rug, but generally of one and the same pattern throughout India, the only difference being the colour. Blue and white and red and white stripes constitute the prevalent patterns; but, in some, one colour of darker and lighter hues is employed. In Meerut, Bareilly, and Patna, new patterns have of late been tried, but though preferred by the Europeans, are not so by natives, who like the striped patterns, because they wear better in daily use, and do not lose the freshness of colour by washing. The principal localities where shatranjis are manufactured are Agra, Bareilly, Patna, Shahabad, Birbhum, and Bardwan. Those manufactured at Agra are considered the best, and the value of its annual production is about £10,000. The small ones are valued from 3s. to 15s., and the larger ones (carpet size) from £1, 10s. to £4, the price in many cases being regulated by weight.

The *Shahabad cotton rugs* are almost invariably striped. They are cool and pleasant. The smaller kinds are used as quilts for beds. The manufacturers, called in this district Kalleeun Bap, are almost invariably Mahomedans. The two local seats of manufacture in Shahabad are Bubbooah and Sasseram. In the former place, from 10,000 to 12,000 rupees' worth are yearly manufactured and sold, and in the latter from 30,000 to 40,000 rupees.

Dhurri is the name of cotton carpets generally made for sale, and are of four kinds, 6 yards long and 2 yards broad, thick and strong, of any colour, and are sold at from 6 rupees to 6 rupees 8 annas. A small kind, used as quilts, weigh from two to three pounds each, and are $1\frac{1}{4}$ to $1\frac{1}{2}$ yards broad by about 2 yards long; they sell at from 14 annas to 1 rupee 8 annas each, according to thickness and quality, The hauzhassica is a name of the better kind of carpet, and often displays much taste in the arrangement of the striped colours. It is made of any size to fit any room, and is always sold by weight. The price varies, according to quality, from 1 rupee 4 annas to 1 rupee 12 annas, and sometimes as high as 2 rupees 4 annas per seer. It is sold in all the fairs, and in all the large cities around, such as Patna, Ghazipur, Daadnuggur, Gyah, etc. No merchant's or banker's shop or rich native's reception room is complete without these being spread. This is the kind generally used by Europeans for their drawing and public rooms. The small kind of carpet is made for use in zamindari and other small cutcherries, and is much used from its portability. It is from 3 to 4 yards long and from $1\frac{1}{2}$ to 2 yards broad, and sells at from 3 to 4 rupees each carpet. It is generally made from five colours, from which cause it obtains the name of dhurri panch rangha.

Galicha carpets, manufactured in Sasseram, are almost always woollen, of florid but neat patterns, in imitation of the Persian carpet. They are used to a considerable extent by the rich natives in their zananas, but by Europeans also. The size usually manufactured is 2 yards long by 1 yard broad, and they sell at from 2 rupees to 4 rupees 8 annas per carpet. The European carpet manufacturer could not compete with these as to price and actual value, as the wool costs but little in India, and the native dyes answer admirably for the purpose; while also the coarse local wools, which would not pay for exportation, answer for carpet work. The colours are harmonious, and there is but little doubt that it would pay any enterprising merchant to export these to Europe. The annual manufacture at present in Sasseram is about 10,000 to 12,000 rupees.

Another kind, in imitation of the above, but wholly of cotton, is also made; prices nearly the same. The patterns are pretty, but they rapidly become spoiled by dirt and dust. They are invariably made of only two colours, blue and white. Ornamental carpets of thread, with a woollen and sometimes with a silken pile, are made up in Multan, Peshawur, Amritsar, Bahawulpur, and Kashmir. Those of Multan are perhaps most celebrated. Those of Ellore and other parts of the Northern Circars are largely sold for use and for export.

The carpets from Cocanada are greatly admired; the ground is white. A floral scroll of blue, red, yellow, and brown divide them into regular geometrical spaces like a tesselated pavement; a flowery cone being inlaid in each white space, and the rows of cones thus formed are alternately coloured red, blue, yellow, and brown. The design is Greek in its simplicity; and in its warmth and glow of colour perfectly oriental, charming the attention, 'caught by each colour till the next is seen.'

India produces also *velvet carpets* embroidered with gold, at Benares and Murshidabad. Costly articles of this kind were contributed to the Great Exhibiton of London by the Queen. These rich fabrics are of fine velvet, embroidered with bullion gold. Maharaja Gulab Singh contributed to the Great Exhibition of 1851 a magnificent manufacture of pure silk, nearly an inch thick in the pile, showing to perfection the dyes and the harmonious arrangement of the native artists. In every square foot there were said to be contained ten thousand ties or knots of silk.

In the *colouring* of the carpets of India, full Indian red, broken by flowers or conventional leaves, in which orange predominates, forms a leading feature. A cool, low blue, a green of similar gravity of hue, and soft, creamy white, complete the palette of the Indian designer of these fabrics. Some of the British carpet-dealers had changes effected in this old Indian system. Some white in borders was actually bleached, and one or two garish combinations introduced. Colours have been intensified and made flatly uniform, instead of broken and slightly varying as the masses of red and other colours are left by the native weavers. Linen backs have been introduced to meet the orders of some of the British dealers, and complaints of the wearing qualities followed. Both English and French dealers have had changes, more or less important, introduced

into these oriental designs to suit the bad taste of their buyers,—in all such cases, with losses of the exquisite harmony of the native arrangements of form and colour.

Oriental colouring in textile fabrics seems to result from a gift to the various races that produce them. The native designers proceed in accordance with immemorial traditions, and with a certainty that resembles instinct. Of all artistic powers, that of colour, in its highest harmonies, is the most difficult to teach. Though general principles can be imparted by scientific rules, the power of colouring beautifully is undoubtedly one rarely attained. It seems to prevail in races as a special gift. It exists where the knowledge of form is unknown. It accompanies an unconscious sympathy with nature, and seems more allied with instinct than demonstrable by science. Many actually savage nations colour their cloths or wrappers or mats harmoniously, though absolutely devoid of social or mental cultivation. And, on the other hand, as nations have progressed in scientific attainments, the love of colour, in dress certainly, in other ways generally, is diminished. Europe may cultivate the study of colour, and understand its laws; but in textiles of all kinds, from carpets to gossamer muslins and gold and silver tissues, the traditional taste of oriental nations remains unattainable by Europeans. And of European nations those most old-fashioned, least changed from the rude ages of the past, retain the greatest enjoyment and feeling of colour.

If the civilised nations of Europe do not equal the less advanced and even the savage races in their appreciation of colours, they are even less happy in their application of designs: and in Cashmere and throughout India much injury has been occasioned to the manufacturers, alike to their skill and to their profits, by European purchasers inducing them to undertake designs from Europe. The deep tints of native Indian and oriental dyes generally are at once the aspiration and despair of artistic European dyers; and the beautiful elaboration in colour and design, as shown in the work of the weavers of Persia, Turkomania, Kirman, Cashmere, and British India, can only be injured by interference. The workmen know that for the coarser wool of the Panjab, Sind, Baluchistan, and British India, the fine designs of Persia, or the designs of the dense-piled carpets of Turkomania and Kirman, are equally unsuitable, and that only their own bold patterns can be with advantage used.—*Madras Exhib. Jur. Rep.; Dr. Watson's Report; Mr. J. Rohde, MSS.; Colonel C. Davidson in Report of Hyderabad Committee; Baron Clement A. de Bode; Bokhara and its Amir*, p. 224; *General Ed. Ferrier's Journal*, p. 26; *Sir George Birdwood, Memo.*, 29th Sept. 1879; *do. Handbook Paris Exhibition*, 1878; *Porter's Travels*, ii. pp. 167–201; *Die Persische Nadelmalerei Susandschird, ein Beitrag zur Entwicklungs-Geschichte der Tapisserie de Haute Lisse*, von Dr. Joseph Karabacek.

CARPILIUS, a genus of crabs of the E. Indies, the Cancer of Linnæus. C. convexus, *Edwards*, is a crab of the Red Sea; C. corallinus, *Leach*, and C. maculatus, *Leach*, the latter the blood-spotted crab, are both of Asiatic seas.

CARPINI. Johannes Carpini, a Franciscan friar, was sent, A.D. 1247, by Pope Clement IV. to the Tartar camp on the Volga. Carpini travelled through Bohemia, Silesia, and Poland, and on through the vast regions then known under the name of Comania, and now as the country of the Don Cossacks, watered by the Dneiper, the Don, the Volga, and the Yaik, until he at last came to the standing camp of 'Duke Bathy' (Batou, grandson of Chengiz Khan), which afterwards grew into the city of Sarai or Sara, on the Volga. From here he was sent on to the imperial court, where he arrived by way of Lake Balkash at the moment when Kuyuk was being elected to the Great Khanship of the Tartars, in succession to his father Octai or Okkodai Khan, son of Chengiz Khan. On his return journey, passing rapidly through the camps of 'Duke Bathy' and 'Duke Corrensa,' who guarded the Tartar frontier in Europe from the nations of the west, he reached Kiev in Russia within eight months of leaving the imperial court of Kuyuk Khan. He is the first traveller into Mongolia whose narrative we possess.

CARPINUS VIMINEA. *Wallich.* Hornbeam.

Shirash, ... BEAS.	Charkhre, . . . RAVI.
Cham khuruk, . PANJAB.	Imar, ... SUTLEJ.

This tree is found in Nepal and the Sutlej valley between Rampur and Sungnam, at an elevation of 5500 and 6000 feet. Wood esteemed by carpenters. C. cordata, C. erosa, C. laxiflora, and C. japonica, *Blume*, occur in Japan.—*Cleghorn, Panjab Report*, p. 64; *Stewart.*

CARPOBALSAMUM, an inferior quality of opobalsam, obtained by expression from the fruits of Balsamodendron Berryanum.—*Kunth.*

CARPODACUS ERYTHRINUS, a rare bird in the N.E. of Europe, is a common winter visitant over the greater part of India.

CARPOO COONGILLIUM. TEL. Black dammer.

CARPOORAWALLI. TEL. Lavandula carnosa.

CARPOORUM. TAM., TEL. Camphor.

CARPOO ULANDOO. TAM. Black variety of Phaseolus max.

CARPOPHAGA, a genus of birds of the family Columbidæ. C. luctuosa, a fine cream-coloured pigeon of Celebes; C. oceanica, one of the nutmeg pigeons; many of both sexes are furnished with a large, round, fleshy caruncle on the bill at the base of the forehead; this is said to be present during the breeding season only.—*Macgillivray, Voyage*, i. p. 244.

CARR, MAJOR M. W., of the Madras army, author of Telugu Proverbs. He perished with all in a steamer, in a cyclone on the W. coast of the Peninsula in the beginning of 1869.

CARRAGANA. Hwang-tsing, CHIN. Carrageen moss or Irish moss, Chondrus crispus, *Lngb.*, and C. mammillosus, *Grev.*, from the west of Ireland. Used for cattle-feeding and dietetic purposes.

CARRAY ELLOO. TAM. Guizotia oleifera.

CARRAY KEERAY. TAM. Webera tetrandra.

CARRIABOOLUM. TAM. Aloes.

CARRIAGE of goods and persons, in Southern and Eastern Asia, continues from remote ages of the most varied kind, being by conveyances, man, and quadrupeds. The sledge seems to have been the first kind of conveyance in use. A sledge is sculptured on the temple of Luxor at Thebes, resembling that in use by the

London brewers. And sledges are in common use by the Eskimo, the Laplanders, the northern Russians, and in some winters the people of Holland and Belgium; and in the sandy tracts north of Nellore, also in the sandy tracts of the Peninsula of India. All the earlier carts seem to have been fitted with a pole, and dragged by two animals yoked together. But in India at the present day, many bullocks and buffaloes are used singly, the yoke connecting the shafts being made to pass over the neck. A wheeled carriage or car appears to have been in use in Egypt from very early times. It is called a chariot in the Bible, and is shown in paintings and sculptures 4000 years old. Menu, who lived B.C. 1400, and Homer, in the 5th book of the Iliad, describe the portions of them, the spokes, axes, naves, felloes, wheels, tyres. Jabin king of Canaan had 900 chariots. David took 700 from the kings of Syria, and 1000 from the king of Zobah. Solomon had 1400; and his merchants supplied chariots from Egypt for 600 shekels, equal to £60. The prophet Nahum, who lived B.C. 713, alludes to the chariots of Nineveh, and carriages are figured in sculptures of Nineveh and Babylon in hunting and in war. The Assyrian chariots were larger than those of Egypt.

Chariots were used at the siege of Troy, and the Romans had chariots of two and four wheeled cars. B.C. 170, Emilius, the Roman consul, had 750 waggons in his train, bearing the spoils of Perseus, last king of Macedonia.

The Scythians are mentioned by Herodotus, B.C. 450, as having in use a rough two-wheeled covered platform cart, and the moveable cover was used as a tent.

Porus, when he met Alexander on the banks of the Indus river, had a number of elephants of large size, and several thousand chariots, each of which carried six persons.

The Persian chariot had scythes and swords projecting. On Alexander's return from India towards Persia, he travelled in a chariot drawn by eight horses. And after his death at Babylon, in order to take his body to Alexandria, a four-wheeled car, 8 feet long and 12 feet wide, was built, and dragged by 64 mules.

The *Hackery* of Hindustan, called garry by the people, is on two wheels, with a high axle-tree bed, and a long platform, frequently made by two bamboos which join in front and form the pole, to which two oxen are yoked; the whole length is united by smaller pieces of bamboo, tied together and nailed.

The wheels are often of stone or of solid wood cut from a single tree, or built up. The hackery for the rich has a domed roof; the passenger sits under the dome cross-legged, and the driver sits on the pole. It has wing guards on the wheels.

The *Eka* is a one-horse carriage, resembling an Irish car. It consists of a tray for the body, and has a canopy roof. The driver sits on the fore edge of the tray, and the passenger cross-legged behind him.

Shampong resembles the eka, but larger, and is usually employed for women.

Donga is in use in the Dekhan, and is a two-wheeled conveyance; one pony in shafts, and another pony outside.

Nibs is a palanquin on two wheels, drawn by bullocks.

The *Araba* of the Turks has its sides of lattice work to admit the air. The *Jutka* is similar to the eka. In India with the palanquin, etc., and in China and Japan with forms of the sedan chair, men have been employed as carriers from the most ancient times, but in India and China largely as bearers of burdens. The camel, the mule, the horse, the bullock, the buffalo, yak, and the donkey, have been employed in Egypt, Central and Southern Asia, from prehistoric times for riding, carriage, for burdens, and for ploughing. The hybrids between the female and male yak and the bull or cow carry from two to three maunds; they are sure-footed, hardy, and docile, and are used also for riding in the snows.

In the highest parts of the N.W. Himalaya, sheep and goats are most used. The sheep carry from 10 to 16 lbs., the goats from 12 to 24 lbs.; their day's journey is about five miles, to give them time to browse the pasture, which is their sole food. They are used to carry the borax from Tibet in packs (karbaj) slung over their backs.

During the march upon Kābul, Yakub Khan made over to the British transport service sixty-two magnificent hill ponies, capable of carrying four maunds each=336 lbs. Camels rarely cover the ground at a greater speed than one and a half to two miles an hour, consequently in an enemy's country the troops must be continually halted in order not to leave their baggage in the rear unprotected. The men are thus, even over the shortest marches, kept under arms all day; and when anything over fifteen miles has to be done, the camp cannot be formed until darkness has set in. Mules or ponies keep up with the troops, and the line does not extend to so great a length. Even the longest marches can be performed in the earlier part of the day. The kafilas that come down every year to India in immense numbers, march for two days—perhaps at the rate of 20 to 30 miles—and halt for one good day's grazing. See Camel.

CARRION CROW, Corvus corone of Europe, Afghanistan, Japan (apud *Temminck*), is replaced in India by C. culminatus.

CARRIVEMBU MARAM. TAM. Garuga pinnata, *Roxb.*

CARROT, Daucus carota.

Jazar, Istuflin, . . ARAB.	Staphulinos, GR. of DIOS.
Hu-lo-peh, . . . CHIN.	Gajur, ... HIND.
Hung-lo-peh, . . ,,	Carota, ... IT.
Carotte, ... FR.	Zirduk, ... PERS.
Möhre, Gelbe, Kübe, GER.	Zanahoria hortense, . SP.

The red and yellow carrots are cultivated all over India as a vegetable. The hispid fruit forms the basis of the vermilion pad used by the Chinese as their ordinary red pigment for stamping purposes. Its fruits are recommended in chronic diarrhœa.

CARRUWA PUTTAY. TAM. Cinnamon.

CARTER, HENRY JOHN, M.D., a medical officer of the Bombay army, a large contributor to current literature in the Tr. Med. Phys. Soc., Bombay, No. 8; Medical Gazette, 1839; Jour. Bomb. As. Soc. Ann. and Mag. He wrote on the Prevalence of Intermittent Fever among the troops at Hyderabad in Sind during the autumn of 1846; Beriberi among the Marines of the Indian Navy; Rupture of the Heart; Case of Poisoning by Opium, and Passage of Mud into the Bronchi in Drowning; Medical History of the

Central Schools of Bombay, 1852; Dracunculus in the Island of Bombay; Medico-legal Cases; Colours of the Tapetum depending on Structure, not Colouring Matter; Medical Anatomy of Culex pipiens, Common Mosquito; Animality of the Freshwater Sponge; Description of the Freshwater Sponges in the tanks of the Islands of Bombay; On the Red Colouring Matter of the Salt-pans in the Island of Bombay; On the Form and Structure of Operculina Arabica; Zoosperms in Spongilla; Development of Gonida (?) from the Cell-contents of the Characeæ, with Observations on the Circulatory Movement of the Mucus; On the Conjugation of Three Species of Diatomeæ, with Remarks on Amphiphora; Abstract of Notes on the Organization of the Freshwater Infusoria of the Island of Bombay; On the Development of the Root-cell and its Nucleus in Chara verticillata; Observations on the Alluvium, with Figures of Eocene Fossils about Hyderabad in Sind; Report on the Copper Ore and Lithographic Limestone on the S.E. Coast of Arabia; Geology of Muscat and of the S.E. Coast of Arabia; On the Organization of the Foraminifera and their Fossil Remains in the Poorbunder Limestone of Kattyawar, etc.; Geology of the Island of Bombay; Pleiocene Deposits on the Shores of the Arabian Sea; Descriptions of some of the Larger Forms of Fossil Foraminifera in Sind; Description of Orbitolites Malabarica; Structure of Fossil Alveolina; Notes on the Gurrah of the S.E. Coast of Arabia; On the Great Mahrah Tribe of ditto, with Vocabulary of their Language; Description of the Frankincense Tree of Arabia, with Remarks on the Misplacement of Ptolemy's Sibanophorous Region; Geography of the S.E. Coast of Arabia, Modern and Ancient; Description of the Ruins of El Bellad on the S.E. Coast of Arabia.—*Trans. Geog. Soc. Bomb.* vii. p. 225; *Jour. Royal Geog. Soc.* xvi. part ii. p. 187.

CARTHAGE was built B.C. 813 or 814. The Carthaginians were a Semitic race. Their descendants are supposed to be the Moors who occupy the north of Africa; lowlanders, traders, and dwellers in cities; little idle men who grow fat from indolence; avaricious, perfidious, cowardly, cringing, and insolent. See Semitic Races.

CARTHAMUS OXYACANTHA. *Bieb.*

Kantiari, Karar, . HIND.	Poli, Polian, . . . HIND.
Kandiara, . . . ,,	Khareza, ... ,,

Abundant in many of the more arid tracts of the Panjab. The seeds are eaten parched, either alone or with wheat, or are ground and mixed with wheaten flour for bread, as also are those of C. (or Onobroma) Persicus. The oil extracted from the seeds is burned in lamps, used in food, and medicinally.—*J. L. Stewart, M.D.*

CARTHAMUS TINCTORIUS. Safflower.

Crocus Indicus, *Rumph.*

Usfar, ... ARAB.	Kamalottara, . . SANSK.
Kajireh, ... BENG.	Kusumbha, . . . ,,
Hsoo, ... BURM.	Sendurkum, . . TAM.
Kortom, ... EGYPT.	Agnisikha, ... TEL.
Bastard saffron, . ENG.	Kusumba chettu, . . ,,
Kusum, ... HIND.	

The safflower is grown very abundantly all over India, Burma, and China, and is very largely used in dyeing. The plant is propagated by seed sown in drills at 1½ feet distance from each other. The young plants appear in about a month, and after the second month are hoed and thinned, each plant being left a foot from the other. The richer the land, the larger the proportion of colouring matter afforded by the flower. On the opening of the flowerets, they are rapidly gathered without being allowed to expand fully. They are then dried in the shade with great care. The produce of Paterghauta and Belispore is considered, in the London market, as the best that is exported from India. The Dacca safflower ranks next to that of China, which is reputed to be of a superior quality. Safflower is widely grown on the banks of the Irawadi and Salwin. Its flowers furnish the best yellow dye in the country, and, mixed with other ingredients, they are used to dye red, and to give a variety of tints, and in dyeing pink and scarlet.

This plant yields six or seven distinct shades of red, the palest pink or piyazi gulabi (pink), gulabi surkh (rose colour), kulfi or gul-i-shaftalu (deep-red). In combination with harsinghar flowers (Nyctanthes arbor-tristis), it yields soneri or golden orange, narangi, deep orange, and sharbati, salmon-colour; and with turmeric (haldi, zard chob), it gives a splendid scarlet, gul-i-anar, and other tints; again, if combined with indigo, Prussian blue, etc., a series of beautiful purples, known as lajwardi, uda, nafarmani, sosani, kasni (a delicate mauve), falsai, kokai, and the deep-purple baingni. All these tints are more or less beautiful, but scarcely one of them will stand washing.

The yellow principle is worthless as a dye. It is soluble in water, is removed by washing, and thrown away as the first step in the preparation of the valuable red product. The red dye is an acid resinous substance of superb colour, insoluble in water and in acid solutions, little soluble in alcohol, and not at all in ether. It is dissolved freely by aqueous alkaline solutions, which it neutralizes. Its salts (carthamates) are crystalizable, and quite colourless; acids precipitate the carthamic acids from solutions of these salts. To obtain it on a large scale, after the separation of the yellow matter, the dried flowers are treated by a solution of carbonate of soda, and lemon juice added; the carthamic acid precipitate is collected by subsidence, washed, and carefully dried at a gentle heat. The most lovely tints are imparted by this dye to silk and cotton; rouge is a mixture of the dry carthamic acid and finely powdered talc. The pink saucers used for giving a flesh tint to silk are prepared from this dye, with a small portion of soda. 8 oz. of the prepared petals and 2 oz. carbonate of soda are acted on by 2 gallons of water. 4 lbs. of prepared chalk are added, and the colour precipitated upon this by citric or tartaric acid. The Chinese card-rouge is a carthamate of soda, colourless when rubbed on, but by the salt being decomposed by the acetic acid secreted by the skin itself, the carthamic acid separates in the most perfect rosy tint which can be imagined. The seeds yield abundance of fixed oil, which is used as an external application in paralytic affections, and for bad ulcers; and small seeds are reckoned by the Vytians amongst their laxative medicines. The dye of the 'Kong-wha,' a variety of safflower or Carthamus tinctorius which grows in China, is held in high esteem by the Chinese, and is used in dying the red and scarlet silks and crapes which are so common in the country, and so much and

justly admired by foreigners of every nation. Large quantities are annually produced in the Che-kiang province near Ningpo.—*Powell's Handbook*, i. p. 457; *Ains. Mat. Ind.* p. 195; *O'Shaughnessy*, p. 411; *Drs. Mason, M'Clelland.*

CARTICA or Kartika, in Hindu astronomy the seventh Hindu solar month, when the sun is in the sign Tula, answering to the Tamil Arpesi. In the southern parts of the Peninsula the Tamil month Cartica is the eighth of the solar year. Lastly, Cartica is also the eighth lunar month of the luni-solar year. This month is peculiarly sacred to Lakshmi, the goddess of prosperity, the Juno Moneta of the Romans. The 13th is called the Dhunterus, or thirteenth day of wealth, when gold and silver coin are worshipped, as the representatives of the goddess, by her votaries of all classes, but especially by the mercantile classes. On the 14th all anoint with oil, and make libations thereof to Yama, the judge of departed spirits. Worship (puja) is performed to the lamp, which represents the god of the lower regions, and is thence called Yamadipa, the lamp of Yama; and on this day partial illuminations take place.—*Tod; Warren; Kala Sanhita; Cole, Myth. Hind.* p. 379.

CARUM CARUI. *Linn.* Caraway.

C. gracile, *Bth.*	C. nigrum, *Royle.*
Curwiya, ... ARAB.	Gunyun, HIND. of LAD.
Carvi, ... FR., IT.	Umbu, ,, PANJ.
Jira siyah, ... HIND.	

Carum carui and C. gracile, if distinct, both grow in profusion in many of the more arid tracts on the Sutlej, Chenab, etc., in Kashmir, and in Western Tibet, from 9000 to 14,500 feet.—*Dr. J. L. Stewart.*

CARVING.

Sculpture, gravure, . . FR.	Scultore, ... IT.
Schnitzen, Vorschneiden, GER.	Escultura, ... SP.

Carving in wood, horn, and ivory must have been practised in India from very early times, for the idols which the people worship, and for calico-printing, for which they have long used wood-blocks. They are fond of carving on many of their ordinary utensils, as spinning-wheels, etc. Their skill is shown in carving the blackwood and ebony furnitures of Bombay and Madras, especially in the elegance of the patterns of the backs of the chairs and sofas, in the sideboards and book-cases. Carvings in ivory of different parts of India are much to be admired, whether for the size or the minuteness, for the elaborateness of detail, or for the truth of representation. Among these the ivory carvings of Berhampore are conspicuous. A set of chessmen from India, at the Exhibition of 1851, carved from the drawings in Layard's 'Nineveh,' were excellent representations of what could only have been seen in the above work, and showed that they are capable of doing new things when required; their representations of an elephant and other animals were true to nature. The carvings in the same material in a state chair sent from Travancore were greatly admired; and for the truth of representation on a minute scale, where an elephant was enclosed in the shell of a pea, chouries or fly-flappers from Calicut, where the ivory or sandal-wood was cut into long hair-like threads, were also specimens of their mechanical skill. Their skill in wood-carving is conspicuously displayed in the elaborate details of the sandal-wood boxes from the Malabar coast, and is also shown in the beauty of the figures and buildings in the pith-like stems of the marsh-plant called shola, the Æschynomene aspera. In the latter, all the elaborate detail of the richly ornamented Hindu architecture of the south of India is carefullly brought out. For this work only two tools seem to be employed,—one a large and heavy knife, and one with a fine sharp cutting edge. Besides these, cocoanut shells and gourds are carved and made into cups, vases, and snuff-boxes; also the kernel of the cocoanut is variously cut, for making garlands for state occasions. The natives of India also display skill and neatness, as well as habitual taste, in their work-boxes, etc., of ivory, horn, or porcupine-quill, ebony, and sandal-wood, their fans and umbrellas, chouries, and khus-khus or other baskets, hookah-snakes, imitation fruits and flowers, toys and puzzles. The skill is remarkable with which the unyielding substance of the hard, thick chank shell is converted into necklaces for men and into bracelets for women. The manufacture of shell bracelets is one of the indigenous arts of Bengal, in which the Sankari caste at Dacca excel. The chanks of which they are made are the large species of Turbinella, from six to seven inches long, and of a pure white colour. They are imported into Calcutta from Ramnad and South India, opposite to Ceylon, and from the Maldive Islands. The ivory for the Chinese carvers reaches China principally from Cochin-China and Africa, via Bombay, and always finds a ready sale at Canton; the largest and best tusks weigh from 16 to 25 pounds each, decreasing to five or six pounds. The cuttings and fragments also form an article of trade, as the workmen can employ the smallest pieces. Bones and horns, especially the long horns of buffaloes, are in China worked into handles, buttons, etc. Rhinoceros' horns are brought from Burma, from Sumatra, and from Africa through Bombay; they are highly valued by the Chinese, from a notion that cups made from them sweat whenever a poisonous mixture is poured into them. A perfect horn sometimes sells as high as 300 dollars; but those that come from Africa do not usually rate above 30 or 40 dollars each. The principal use of these horns is in medicine and for amulets, for only one good cup can be carved from the end of each horn; and consequently the parings and fragments are all preserved. The hard teeth of the walrus, lamantin, and other cetaceous animals, also form articles of import into China from the Pacific, under the designation of sea-horse teeth; they weigh one or two pounds a piece, and the ivory is nearly as compact, though not so white, as that of the elephant. The delicate carving of Chinese workmen is well known, and has often been described; many specimens of it are annually sent abroad. Few products of their skill are more remarkable than the balls, containing ten or twelve spheres cut out one within another; but the manner of cutting them is simple. A piece of ivory or wood is first made perfectly globular, and then several conical holes are bored into it in such a manner that their apices all meet at the centre, which is usually hollowed out an inch or less after the holes are bored. A long crooked tool is then inserted in one of the conical holes, so

bent at the end and stoppered on the shaft that it cuts the ivory at the same distance from the surface when its edge is applied to the insides of the cone. By successively cutting a little on the insides of each conical hole, their incisures meet, and a sphericle is at last detached, which is now turned over and its faces one after another brought opposite the largest hole and firmly secured by wedges in the other holes, while its surfaces are smoothed and carved. When the central sphere is done, a similar knife, somewhat larger, is again introduced into the holes, and another sphere detached and smoothed in the same way, and then another, until the whole are completed, each being polished and carved before the next outer one is commenced. It has been supposed by some that these curious toys were made of hemispheres nicely luted together, and they have been boiled in oil for hours in order to separate them and solve the mystery of their construction. Fans and card-cases are carved of wood, ivory, and mother-of-pearl in alto-relievo, with an elaborateness which shows the great skill and patience of the workman, and at the same time his bad taste in drawing, the figures, houses, trees, and other objects being grouped in violation of all propriety and perspective. Beautiful ornaments are made by carving roots of plants, branches, gnarled knots, etc., into fantastic groups of birds or animals, the artist taking advantage of the natural form of his materials. Models of pagodas, boats, and houses are also entirely constructed of ivory, even to representing the ornamental roofs, the men working at the oar, and women looking from the balconies. Baskets of elegant shape are woven from ivory splinths; and the shopmen at Canton exhibit a variety of seals, paper-knives, chessmen, counters, combs, etc., exceeding in finish and delicacy the same kind of work found anywhere else in the world. The most elaborate coat of arms, or complicated cypher, will also be imitated by these skilful carvers. The national taste prefers this style of carving on plane surfaces; it is seen on the walls of houses and granite slabs of fences, the woodwork of boats and shops, and on articles of furniture. Some of it is pretty; but the disproportion and cramped position of the figures detract from its beauty. Their porcelain is good. The ivory carvings, ebony and other hardwood ornaments, and the bronzes, are all exquisitely worked; the value attached to them in England varying from £4 to £5. Burmese carpenters carve in a rough but bold style, and find employment principally in carving for the exteriors of monasteries.—*Williams' Middle Kingdom*, ii. pp. 141, 408; *Yule's Embassy*, p. 59; *Hodgson's Nagasaki.*

CARWAR or Sedashigarh, a sheltered seaport on the western coast of the Peninsula of India.

CARYOCAR BUTYROSUM.

C. nuciferum. | Pekea butyrosa.

The souaria, sawarrow, or surwha tree of Guiana and Demerara. It yields the sawarrow nut. It might be brought to India with benefit to the country.

CARYODAPHNE DENSIFLORA. *Blume.* Kiteja of JAVA. A tree sixty to eighty feet high; leaves gratefully aromatic, used in infusion like tea against spasms of the bowels, and in puerperal convulsions.—*O'Shaughnessy*, p. 547.

CARYOPHYLLUS AROMATICUS. *Linn.*

Eugenia caryophyllata, *Thunb.*

Karanfal, ... ARAB.	Bunga-lawang, . . MAHR.
La-nyen-Pwen, . . BURM.	Bunga-chanke, . MALAY.
Tkeng-hia, . . . CHIN.	Gaunedi, . . MOLUCCAS.
Ting-hiang, . . . ,,	Mykek, ... PERS.
Clove tree, Cloves, . ENG.	Lavanga, . . . SANSK.
Clou de girofle, . . . FR.	Krabu gaha, . . SINGH.
Kurphullon, ... GR.	Warrala, ... ,,
Long, Lavang, . . HIND.	Lavangam, . TAM., TEL.

Unexpanded Flower-buds. Mother Cloves; Cloves.

Dried Berries. Clous de girofle, FR.

This small tree of the Moluccas grows in Amboyna and Ternate, but is cultivated in the Malay Peninsula, the south of India, Mauritius, Bourbon, Cayenne. It is an elegant evergreen about 18 ft. high, and has a smooth grey bark. The best cloves are obtained from the Moluccas; they are unexpanded flower-buds, and three pounds weight of cloves contain about 5000 flowers. They are used as a spice, and the valuable oil obtained by distilling them is used in medicine. — *Royle; O'Shaughnessy; Voigt.*

CARYOTA HORRIDA. *Gardn., Moon's Cat.*

Areca horrida, *Thw., Hooker.* Katu kittul, SINGH.

A tree of Caraccas, introduced into Ceylon and into the Calcutta Gardens. In Ceylon it often rises to a height of fifty feet, and has a coating of thorns for about six or eight feet from the ground, each about an inch in length, and so densely covering the stem, that the bark is barely visible.—*Voigt; Thwaites.*

CARYOTA URENS. *Linn.* Malabar sago palm.

Ban khajur, . . . BENG.	Nibong, ... MALAY.
Ramguoah? . . . ,,	Shunda pana, . MALEAL.
Burra flawan? . . ,,	Nepera, Kittul, . SINGH.
Yels kae?. . . . CAN.	Ootali panna, . . TAM.
Bhyni, Mear? . . ,,	Konda panna, . . ,,
Ghat palm, . . . ENG.	Erim-pannah, . . ,,
Bastard sago palm, ,,	Chirugu, ... TEL.
Jagari palm, . . . ,,	Konda jiligu, . . ,,
Ram-guoah? . . HIND.	Jirugu, ... ,,
Berli, ... MAHR.	Salopa, ... URIA.

This very ornamental palm grows in Ceylon and in Malabar, Canara, Sunda, on the Godavery, in Ganjam, Gumsur, Assam, Sumatra, and Borneo. It grows to a height of forty feet, with a ringed, tall, and slender stem of more than a foot in diameter. It is found on the sea-shore, and ascends the mountains of Sikkim to the height of 5000 feet. Its outer wood (outside the pith) is nearly as hard as flint. Where it grows in abundance, it is one of the most useful of trees. The root is hollowed for the buckets used in irrigation; and the trunk, when hollowed, by freeing it from the inner pith, forms a convenient and economical water conduit. In Ceylon, Sumatra, and Borneo, it is used for rafters, reepers, window bars, posts, etc., but is little durable, rarely lasting above three or four years. Its pith or farinaceous part is filled with starch granules equal to the best sago, which are extracted by the people, and made into bread or pottage. Its spathes yield a toddy or palm wine, Koondel panai kallu, TAM.; and during the hot season a single tree will yield at the rate of a hundred pints in the 24 hours. This is used as an intoxicating liquor, also as yeast in baking bread, and is converted into the spirit called Bhyni arrack, and into sugar or the jagari called Koondel panai vellum, TAM. Its cabbage is preferred to that of the cocoanut. Its leaves are very large, measur-

ing 18 or 20 feet in length, and from 10 to 12 across; from their fibre, the kittul fibre of commerce, ropes of great strength, brushes, brooms, caps, and similar articles are manufactured; the woolly material found on the petioles is used as oakum for caulking ships. In Ceylon the black fibre from the leaf-stalks is manufactured into rope of great strength and durability, and is used for tying wild elephants. The Rodyahs, a forest race among the Kandyans, make this rope generally with considerable skill. The fibre is much used by the natives for making fishing lines and bowstrings; is very strong, and resists water for some time, but is liable to snap if suddenly bent or knotted. It resembles black horse-hair, and might be employed similarly. Dr. Gibson says it is one of the most useful trees in the country; and he had heard that the farm of this tree, throughout the single district of Yellapore in Soopah, yielded Rs. 30,000 per annum.—*Drs. Wight, Gibson, Roxb., Royle, Hooker, Marsden, and Ainslie; Mr. Mendis; Captain Macdonald; M. E. J. R.; Seeman; Mr. Low; Mr. Ondatjee, Veg. Prod. of Ceylon.*

CAS. HIND. Saccharum spontaneum.

CASA-CASA. TAM., TEL. Poppy seed.

CASA CHITTY, of Ceylon, author of the Tamil Plutarch, containing a history of the lives of the poets of Southern India in a chronological arrangement.

CASA-ELLE. TAM. Leaves of Memecylon tinctorium.

CASANDI. HIND. Cassia sophora.

CASARA-KAIA. TEL. Cucumis tuberosus; C. canabina.

CASARCA, a genus of swimming birds of India; there are several species. In C. cana, *Gm.*, the under tail-coverts are paler, and the black on either side of them at base of C. rutila, is, in C. cana, replaced by dusky, minutely freckled with whitish. C. rutila, the Brahmany goose, is met with above Sukkur. The male is a fine-looking bird, and measures about 29 inches; the general colour of the plumage is rufous, with brilliant green on the wing-coverts. It is shy and wary. See Chakwa.

CASEARIA CANZIALA. *Wall.*

Samyda canziala, *Buch.* | Ana vinga, . . MALEAL.

A large tree growing in Assam and Bengal, very bitter. Its leaves are used in baths, and the pulp of its fruit as a diuretic. The Casearia genus is of the order Samydaceæ. The species are found in the Himalaya, S. India, Assam, Ceylon, Penang. Voigt (p. 78) mentions six species, shrubs or small trees of N. India; and Thwaites mentions two moderate-sized trees of Ceylon,—C. coriacea and C. championi.

Casearia pentandra, tha-byai-ywet-kya, BURMESE, found in the Pegu district, but scarce. Timber strong and close-grained, adapted for fancy work and cabinetmaking.—*Dr. M'Clelland.*

Casearia tomentosa, *Roxb., D. C.*, chilah, chilla, HINDUSTANI, a small tree of Kangra, the Panjab, Jaffna, and Sigre. It is not uncommon in the Siwalik region at from 2000 to 3000 feet, up to near the Indus. The timber is whitish, soft, and brittle, and is only used for small woodwork by natives; but is said to furnish good fuel. In some places the fruit is used for poisoning fish.

Casearia elliptica, bhogara, MAHR., klaare maram, TAM., in Coimbatore, a large shrub. On the Bombay side it is a small tree, not uncommon near the ghats. The wood is smooth, fine-grained, and yellow-coloured, but from its small size can only serve as an ornamental wood.—*Drs. Wight, J. L. Stewart, and Gibson.*

Casearia esculenta. *Roxb.*

Jiru kaneli, . . MALEAL. | Konda pragara, . . TEL.
Konda junguru, . . TEL. |

A large shrub, growing in the mountains of the Northern Circars. Its leaves are eaten by the people, and its roots are employed by the hill people as a purgative.—*Useful Plants.*

Casearia ovata, *Roxb.*, Peda-kal-mesura, TELUGU, is a large tree of the Godavery; has wood of a light colour, hard, does not warp, and is worthy of attention. Fruit used to poison fish. —*Captains Beddome, Macdonald.*

Casearia varians. *Thw.*

C. coriacea, *Thw.* | C. championi, *Thw.*

This is a lofty tree, very common in all the Western Ghat forests and in Ceylon, and it grows to a very large size in the dense moist forests at 2000 to 3000 feet elevation. C. coriacea, *Thw.*, a form with very coriaceous leaves, is very common on the higher ranges of the Animally, 6000 to 7000 feet elevation, and on the Ceylon mountains at the higher altitudes. In drying, the leaves turn very black on the upper side.—*Thwaites*, p. 19; *Beddome, Fl. Sylv.* part xviii. p. 208.

Casearia Zeylanica. *Thw.*

C. ovata, *Willd.?* | Wal-wareka, . . SINGH.

A middle-sized tree of the hotter parts of Ceylon, very common up to an elevation of 1500 feet.—*Thw. En. Pl. Ceylon.*

CASGAI, a wandering tribe in the south of Persia, between Shiraz and Darab.

CASH or Kas, in the old Madras currency, a small coin of which 10 = 1 doodie, now valued as 2 pice, and 80 cash going to a fanam; 45 fanams being equal to 1 star pagoda. According to the old Madras system, accounts were kept in star pagodas, fanams, and kas.

8 kas = 1 fanam
336 ,, = 42 (silver) fanams = 1 pagoda.

The E.I. Company reckoned 12 fanams to the rupee, and three and a half rupees to the pagoda. But the bazar exchange fluctuated between 35 and 45 silver fanams per pagoda; fanams were also coined in a base gold.

Copper 1, 5, 10, and 20 kas pieces were coined in England, by contract, for Madras, so lately as 1797. The 20 kas was also called 'dodo' and falus. The star pagoda weighed 52·56 grains, and was nineteen one-fifth carats fine. It was therefore intrinsically worth 7s. 5¼d. sterling, but it was commonly valued at 8s. Many varieties of the pagoda used to circulate on the Coromandel coast, but since 1833 they have been only obtainable when sought for.

In 1811 a coinage from Spanish dollars took place, consisting of double rupees, rupees, halves, and quarters; and pieces one, two, three and five fanams; the rupee weighed 186·7 grains. A silver coinage of half and quarter pagodas, of dollar fineness, also then took place; the half pagoda weighed 326·73 grains troy, and was equal to 1¾ arcot rupees. By a proclamation of 7th January 1818, the silver rupee of 180 grains was constituted the standard coin, and all accounts and public engagements were ordered to be converted at the exchange of 350 rupees per 100 pagodas.

The proportion between the old and new currency then became 3½ rupees per pagoda, and in copper 75 kas old currency equals 14 paisa new currency.

Kas may be a corruption of the Sanskrit word Karsha, which is mentioned in Colebrooke's Essay on Indian Weights, as the same with the word pan. A karsha, or 80 raktika (rati) of copper, is called a pana or karsha-pana. It is now the eightieth part of a pan; but the simple word is all that can be identified as having survived the changes of system.

In Britain, 'cash' has come to mean ready money, also copper or silver money. In India it is still, along with the cowrie, used to indicate a small sum.

CASH. CHIN. A Chinese coin about eight to a halfpenny. In 1872, 1700 cash were exchanged for a tael of silver, and nearly four tael go to a pound sterling. In China, a cash of iron is the 5320th part of a dollar, and it is a saying, 'For as many beads make the necklace, so many cash make a cobang,' a gold coin equal to four dollars and a third.—*Edken.*

CASH, the ancestors of the Chasdim or Chalybes of the mountainous territory in Central Armenia, a little to the north of Erzerum. The Sabæan followers of Cash are to be distinguished from those descendants of Shem who at a later period occupied part of the mountains of Assyria. See Chaldæa.

CASH BALANCES, a financial term of the Government of India for the balances in their several treasuries. They have ranged between thirteen and twenty-four kror of rupees in the years 1857 to 1880; but anything below thirteen kror is considered unsafe.

CASHCUTTEE. —? Gambier.

CASHEF or Kasheb, of the Mahomedans of Kashmir, the grandfather of Kasyapa, who drained the valley. See Kashmir.

CASHEW NUT TREE, Anacardium occidentale, yields several useful products. One edible part is the swollen, pear-shaped stalk (peduncle) which supports the nut. The kernel also is eatable when roasted.

Cashew Apple Oil is powerfully vesicating; and it is obtained from the pericarp of the cashew apple. It resembles in its properties the acrid oil obtained from the marking nut, Semecarpus anacardium.

Cashew Gum. The trunk and branches, on being wounded during the ascent of the sap, yield a transparent gum similar in appearance to gum-arabic, for which it is a good substitute. This gum is sub-astringent, and is particularly adapted for use where the depredations of insects require to be guarded against.

Cashew Nut.

Hidjili badam, . . BENG.	Jambu-monat, . . MAL.
Catsjoenooten, . . DUT.	Nozes d'acaju, . . PORT.
Noix d'acajou, . . . FR.	Nueces d'acaju, . . . SP.
Akajunusse, . . . GER.	Mundri Kotte, . . TAM.
Caju, . . . GUJ., HIND.	Munta mamidi vittu, TEL.
Acaju, ... IT.	

Cashew nuts are kidney-shaped, attached to the under part of the fruit; they are articles of food, and an ingredient in chocolate.

Cashew Nut Oil.

Kaju ka tel, . . . HIND.	Munta mamidi nuna, TEL.
Mundri cottay yennai, TAM.	

A light yellow, sweet-tasted, and edible oil obtained from the nut of this tree by roasting. It is in every respect equal, if not indeed superior, to either olive or almond oil. It is very seldom prepared, the nuts being used as a table fruit.—*M. E. J. R.* See Gum; Oil; Resin.

CASHGAR, Khoten, Turfan, and Yarkand, according to Lassen, the old original inhabitants of these places, and of the adjacent highlands, are the Tajak, who speak Persian, and are all agriculturists. The Swedish chronicles bring the Swedes from Cashgar, and the affinity between the Saxon language and Kapchak is great.—*Bunsen; Tod.* See Kashgar.

CASHMERE. The Cashmere territory at present comprehends Jammu, Cashmere, Kishtwar, Zangskar, Ladakh, and Balti. A chronicle exists which was composed in A.D. 1125, but gives a general historical account of Cashmere from B.C. 1182. The Abissares chief, who with rich presents conciliated Alexander as he approached the Indus, is supposed to have ruled about Cashmere. The rajas of Cashmere of the line of Kuru in the Lunar race, were worshippers of the Naga or Snake. The early chronology of Cashmere is full of doubts, though Professor Wilson, Captain Troyer, and Major Cunningham all coincide in regard to the proper period of the initial date of the Naga dynasty. The line is taken from the raja Tarangini, which commences with an account of the desiccation of the valley by Kasyapa muni, supposed to allude to the Deluge. Cashmere was colonized by Kasyapa B.C. 2666. There were many dynasties of Cashmere—kings of the Kaurava race, 1266 years, with one of whom, Gonerda, authentic history commenced in B.C. 2448. Lava, in 1709 B.C., was the Loo of Mahomedan historians.

Surendra, B.C. 1600, was contemporary of Bahman of Persia.
The Gonerdiya dynasty, 1013 years, or 378 years after adjustment.
The Aditya dynasty, 192 years.
The Gonerdiya line restored, 592 years, or 433 adjusted.
The Naga or Karkota dynasty, 260 years 5 months.
The Utpal dynasty, 84 years 5 months.
The Bhota dynasty.
The Mahomedan kings.

Cashmere was annexed to the Moghul empire under Akbar in 1586 A.D., but it has since been ruled from Afghanistan by the Durani and Barakzai chiefs; was taken from them in 1819 by Ranjit Singh, and is now held by a Dogra Rajput, chief of Jammu. After the Sutlej campaign, the treaty of Lahore, dated 9th March 1846, left the British Government in possession of the country, hill and plain, between the rivers Beas and Sutlej, and of the hill country between the Beas and the Indus, including the provinces of Cashmere and Hazara. The British Government conferred on raja Gulab Singh, territories on the hills, and recognised his independence. Gulab Singh began life as a horseman in a troop commanded by jemadar Khooshal Singh, then the favourite chamberlain of Ranjit Singh. He soon raised himself to an independent command, in which he distinguished himself by making prisoner Agur Khan, chief of Rajaori. For this service the principality of Jammu was conferred on his family, and Gulab Singh took up his residence in Jammu, whence he soon extended his authority over his Rajput neighbours, and eventually into Ladakh. He took an important part in the negotiations which followed the battle of Sobraon. A

separate treaty (No. cxxiv.) was concluded with him at Amritsar on 16th March 1846, which put him in possession of all the hill country and its dependencies between the Indus and the Ravi, including Chamba, and excluding Lahoul, on payment of 75 lakhs of rupees, and in exchange for the Cis-Ravi portion of Chamba. By a subsequent arrangement in 1847, Chamba came again entirely under the British Government. In 1857, maharaja Gulab Singh died, and was succeeded by his son, Runbir Singh, to whom the right of adoption was guaranteed to the maharaja by a sunnud.

The general level of the valley of Cashmere is about 5500 feet above the sea, but at the Waler lake and gardens of Srinuggur is only 5146 feet, in lat. 34° 46′ and long. 74° 48′.

Cashmere has always been subject to earthquakes. The great bulk of the people profess Mahomedanism; but they are of Aryan descent, of the Hindu stock, and all classes are remarkable for their physical symmetry. The chief town, Srinuggur, on both banks of the Jhelum, has 40,000 people. Islamabad, on the Jhelum, is a seat of the shawl manufacture. The fruits which attain maturity are the apple, pear, quince, peach, apricot, plum, almond, pomegranate, mulberry, walnut, hazel nut, pistachio, and melon. The 'gilas' cherry is indigenous, and is cultivated in orchards. The bullace, Prunus insititia, is found nowhere else in a wild state. The vine is extensively cultivated. In 1878-79 the British Indian trade with Cashmere amounted to Rs. 81,61,169, viz. imports, Rs. 55,85,369, and exports, Rs. 25,75,800.—*Elphin. Caubul*, p. 506; *Prinsep's Antiquities, by Thomas; Cleghorn, Panjab Report*, p. 171; *Aitcheson's Treaties, etc.*

CASHMERE, a very beautiful woollen fabric, formerly manufactured solely in the kingdom of Cashmere, but now in other towns, in the form of shawls, coats, scarfs. The manufacture of Cashmere shawls was long peculiar to that province. Formerly the shawls were exquisitely woven, with unrivalled elegance and chasteness of design, softness and finish in quality, arrangement of colours and use of dyes, which the finest Paisley and French shawls did not approach. The exquisite shawls of Cashmere become rarer and rarer every year, and their place has been usurped by hand-embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Panjab and in Dehli, of late years, workmen have commenced to embroider Cashmere cloths and net with floss silk and braid, but solely for sale to Europeans, who wear them as tunics, jackets, scarfs, and the like. In the hand-worked Cashmere shawls, as also in the Dehli work, wooden needles of hard wood are used, slightly charred, with a hole in the centre of the needle to receive the yarn. Cashmere weavers have settled at Amritsar and Jellalpur and other places, and have flourished. The great Panjab mart for Cashmere is Amritsar. The largest import is of pashmina goods, consisting of shawls, needle-worked goods (amlikar), embroidered chogas, etc., and plain pashmina cloth.—*M. E. J. R.; Dr. Watson.* See Shawls; Wool.

CASI, the Hindu name of Benares, a city which lies in 25° 18′ 31″ of N. lat., and according to Hindu geography, 4° 37′ E. of Lanca. See Benares.

CASPIAN SEA, a large salt-water inland sea of Central Asia, lying between lat. 36° 55′ and 47° 30′ N., and long. 46° 48′ and 55° 25′ E., 730 miles long, 150 to 270 miles broad, with an area of 140,000 square miles. The chief affluents are the Atrak, Gurgan, Kizl-Ozan, Kuma, Kur-Terek, Ural, and Volga; but there are nearly a hundred torrents besides. It has no outlets and no tides. It has valuable fisheries of sturgeon and other large fish; sterlet, porpoise, perch. It has twice been surveyed, and once declared to be 81·4 feet below the Black Sea, but at another time only 38½ feet. It is known to the Mahomedans as the Daria-i-Kulzum, also Daria-i-Hasleta Khan, and Daria Khizr, and by the Armenians as the Sūf, by the Georgians Sgwa, and by the Russians Gualenskoi. According to Strabo (lib. xi.), all the tribes east of the Caspian were called Scythic. The Dahæ were next the sea; the Massa-getæ and Sacæ more eastward; but every tribe had a particular name. All were nomadic; but of these nomades the best known are the Asi, the Pasiani, Tachari, Saccarandi, who took Bactria from the Greeks. The Sacæ made irruptions in Asia, similar to those of the Cimmerians, and possessed themselves of Bactria and the best district of Armenia, called after them Sacasenæ.

The whole of the N. part of the barren highlands on the E. coast is inhabited by Kirghiz Kazzaks, that to the S. by the Turkoman and Khivali, all of them in tents, carrying on the coasting trade. About 80 ships, called shootes (Razchiva, Aslam), trade from port to port. The waters give employment to about 10,000 fishermen; yield abundance of fish, classed as *red fish*, which includes the beluga, sevringa, and sturgeon, yielding isinglass, and made into caviare; *white fish*, such as the salmon trout, bastard beluga, sterlet, carp or sazan, soudak, and silure; *the third class* have the general names chistia and riba or kooaya. The sturgeon fishery alone yields 2,000,000 roubles annually. The take in 1828 was 43,033 sturgeons, 653,164 sevringa, 23,069 beluga, also 8335 soudak, and 98,584 seals. Canals connect this sea with the Baltic.

The first attempt to open a trade route from the Caspian eastward was made by Antony Jenkinson, Queen Elizabeth's envoy to Shah Tamasp of Persia. In 1557 he travelled through Russia to Bokhara, returning by the Caspian and the Volga in 1560. From the king of Shirvan he obtained leave to establish a factory at that place. In 1579 Christopher Burroughs traded in a ship of his own building across the Caspian to Baku, but the ship got stranded in the ice, and his cargo of raw silk was carried in a boat to Astracan. After 160 years, in 1738, Mr. John Elton, who had been employed by the Russians on the Orenburg frontier, sailed from Astracan with a cargo of goods for the Persian market. He reached Enzeli, the port of Resht, in May 1739, and, proceeding to Resht itself, exchanged his English broadcloth for raw silk. He got leave to trade in Persia, and to plant a factory at Meshed, with a branch at Resht. Returning to Persia with a large cargo of broadcloth, he entered the service of Nadir Shah, and undertook to build for him a fleet capable of protecting the Persian shores of the Caspian. The *Averse*, carrying twenty three-pounders, was the first-fruits of Elton's energy and resourcefulness. But Russian jealousy brought

the new-born English trade in the Caspian to an untimely end in 1746. Two English vessels had to be sold at a great loss to Russian merchants in Astracan, and soon afterwards Elton himself was murdered in Ghilan during the anarchy which followed on the death of Nadir Shah in 1747. Among those who had embarked in the Caspian trade, was Jonas Hanway, who fell on one occasion into the hands of the Kajar chief, Muhammad Husain, ancestor of the present Shah of Persia. He escaped with the loss of his property in Astrabad, and obtained from Nadir Shah an order for the payment of all his losses. But Hanway soon went home, to write a charming account of his travels and a life of Nadir Shah. By the treaty of Gulistan between Russia and Persia in 1813, no Persian man-of-war was thenceforth allowed to navigate the Caspian.

CASSA-CASSA. TEL. Poppy-seed.

CASSAREEP, the concentrated juice of the bitter cassava, forms the basis of the West India dish pepper-pot. Meat placed in it is preserved longer than by any other process of cooking.

CASSAVA. The sweet cassava is Manihot aipi, *Pohl.* The bitter cassava, or tapioca plant, is M. utilissima, *Pohl.*

Cassava flour or meal, from which Cassava bread is made, is obtained from the M. aipi, the sweet Cassava, the Jatropha manihot, *Linn.*, by grating the root, expressing the juice by pressure, and then drying the residual cake and pounding. It is called Moussache by the French.

Cassava starch, called also Tapioca, is prepared from the starch of M. utilissima, the bitter Cassava, by washing and granulating on hot plates, by which the concretions are formed, as seen in commerce.—*Hogg; Birdwood; Von Mueller.*

CASSAWA OIL of Moulmein. Out of this oil dammer is made, and a kind of torch, used by the poor classes instead of a lamp.—*Local Committee.*

CASSIA, a genus of plants belonging to the natural order Fabaceæ of Lindley; 24 species belong to the East Indies, and 35 have been grown near Calcutta. Important products are obtained from species of this genus. Dr. Royle was unable to distinguish the three kinds of senna from C. elongata, C. lanceolata, and C. acutifolia, and these were all included by him in his C. officinalis.

CASSIA ABSUS. *Linn.*

Senna absus, *Roxb. Fl. Ind.*

Hub-us-Soudan, . ARAB.	Chusmigah, . . . PERS.
Kushmi zurk, . . ,,	Choun, ... SIND.
Chychm, . . . EGYPT.	Avarai pattai, . . TAM.
Akakalis, . . . GR.	Chukuddi patta, . TEL.
Chaksoo (seed), . HIND.	Bu-tora, ... SING.
Chusmak, . . . PERS.	

This small biennial or triennial shrub is extremely common; the powdered seeds are used as an application in cases of chronic ophthalmia.—*Royle.*

CASSIA ACUTIFOLIA. *Delille, Esen., Eberm.*

C. lanceolata, *Forsk.*

Bombay senna.	Suna mukhi, . . HIND.

This grows in Arabia and N. Africa. Dr. Royle remarks that C. elongata, C. lanceolata, and this plant seem the same. Dr. O'Shaughnessy observes that this species furnishes the bulk of the senna consumed for medicinal purposes in Europe, and called Tinnevelly and Alexandrian. It is much adulterated with the leaves of Cynanchum arghel, Tephrosia apollinea, and Coriaria myrtifolia.

CASSIA ALATA. *Linn, W. and A., W. I.*

Senna alata, *Roxb., Royle.* | C. herpetica, *Jacq.*
C. bracteata, *Linn.*

Sin bo me-dza-li, . BURM.	G'ling-gang, . . MALAY.
Mai za lee gyee, . ,,	Pako g'ling-gang, . ,,
Velaiti agati, . . DUK.	Dwipagustia, . SANSK.
Ringworm shrub, . ENG.	Simi agati, . . . TAM.
Winged cassia, . ,,	Sima avisi, . . . TEL.
Dáo mardan, . . HIND.	Metta tamara, . . ,,

It is a stunted shrub, pretty only when in gaudy yellow flower. The fresh leaves, bruised and mixed with lime-juice, are valuable in ringworm. The fresh leaves, bruised and rubbed upon the eruption, in many cases remove it. The whole plant is used by the Tamils as a remedy in venereal, in poisoned bites, and as a general tonic. An ointment prepared from its fresh leaves is almost a specific in ringworm.—*Beng. Phar.*

CASSIA ANGUSTIFOLIA, *Vahl.*, of N. Africa and S.W. Asia, perennial, but also cultivated. Yields the Mecca, the Bombay, and some of the Tinnevelly senna.—*Mueller.*

CASSIA AURICULATA. *L., Roxb., W. and A.*

Senna auriculata, *Roxb.*

Tangayree, . . . CAN.	Talopodo, . . SANSK.
Matura tea tree, ENG. ??	Ranna wara, . SINGH.
Tarwar, ... HIND.	Avarai maram, . . TAM.
Mayhari, . . . SANSK.	Tangedu chettu, . TEL.

Grows abundantly in the sterile tracts of the Madras Presidency, and in all parts of the Dekhan. In China the bark is used for tanning, and the stems to make native tooth-brushes; with the bark a soft and durable leather may be turned out. It is perhaps the best of the indigenous astringents of Southern India for this purpose. All parts of the plant have much astringency, and seem to possess no other property. In the south of Ceylon its leaves are infused as a substitute for tea. In China it is eaten as a vegetable. Its twigs are held in the hand, or applied to the head, for the coolness they impart.—*O'Sh.* p. 309.

CASSIA BERRIES, or Dalchini berries, are produced in the Nuggur districts of Mysore from the same plant as the cassia buds. The berries are an article of trade in the Nuggur division of Mysore.—*Dr. J. Kirkpatrick; Rohde, MSS.*

CASSIA BICAPSULARIS. *Linn.*

Senna bicapsularis, *Roxb.* | Six-leaved cassia, . ENG.

A shrub of the West Indies and South America, domesticated in India.

CASSIA BUDS.

Kwei-tsze, . . . CHIN.	Flos lauri cassiæ, . LAT.
Kasielblumen, . . DUT.	Flores de cassia, . PORT.
Nagkessur, . . . GUJ.	Sirnaga-pu, . . . TAM.
Tejput-ka-phul, . HIND.	Nagesh-alu, . . . TEL.

Cassia buds are the immature fruits of a species of cassia or Cinnamomum, a native of Cochin-China; and an inferior kind of cassia buds, known as Lavunga-pu, is found in Malabar. The genera or species that afford it are as yet undetermined. The cassia buds of China, Yueh-Kwei-tsze, are said to be the immature flowers of Cinnamomum Malabathrum and of C. aromaticum. They are collected in Kiang-nan and Cheh-kiang and Kwang-si, and are used as a spice. They are packed with the bark, and exported to India and Europe. Cassia buds are now being largely exported from the western coast of India. It is a spice growing in favour, but still less known than it deserves.—*Simmonds; M. E. J. R.; Cleghorn.*

CASSIA ELONGATA. *Lam., Lisane.*

C. lanceolata, *Royle.* | C. senna, *Roxb., H. B.*
C. officinalis, *Gærtn., Roxb.* | Senna officinalis, *R. Fl. Ind.*
Suna mukhi, . . ARAB., HIND.

This senna plant, or Tinnevelly senna, is found in many parts of India; and the general opinion is that the plant is indigenous, but others believe it to be only naturalized, and are of opinion that this is identical with the Cassia lanceolata of Forskal. Dr. Royle cultivated this plant at Saharunpur, Dr. Gibson near Poona, Dr. Wight near Madras, Mr. Hughes near Tinnevelly, and Dr. Burns noticed it near Kaira. The plants in these situations yield a drug quite equal in value to the best senna. Dr. Royle remarks that C. elongata, C. lanceolata, and C. acutifolia seem the same.

The senna of commerce is obtained from several plants, viz. :—

1. Cassia officinalis, called Bombay senna, also Suna mukhi.

Cassia lanceolata, *Forskal.* | Sennæ Meccæ Lohajæ,
C. medica, „ | *Forskal.*

Cultivated in Arabia and Northern India.

The three following plants, *a*, *b*, *c*, seem the same, viz. :—

(*a*) Cassia elongata, Indian senna, Tinnevelly senna.

Cassia lanceolata, *Royle.* | Cassia officinalis, *Gærtn.*
Sona-pat, . . . BENG. | Nelapoona, . . . TAM.
Suna mukhi, Nilaveri, ... TAM. | Nela tangedu, . . „

Cultivated by Dr. Royle at Saharunpur, Dr. Gibson near Poona, Dr. Wight near Madras, Mr. Hughes near Tinnevelly, and noticed by Dr. Burns near Kaira.

(*b*) Cassia lanceolata, *Auctor*, Alexandrian senna.
C. acutifolia, *Heyne, Nees, Eber.*

This grows in the valley of the desert south of Syene.

(*c*) Cassia acutifolia, *Delille, Esen., Eberm.*, Bombay senna. Grows in Arabia and Africa.

2. Cassia ovata, *Merat.*

Cassia Æthiopica, *Guibourt.* | Senna of Tripoli.
Sene de Tripoli.

Grows in Nubia and Fezzan.

3. Cassia Forskalii.

C. lanceolata, *Forsk., Lind.*, | C. ligustrina, *Batka.*
Suna, . . ARAB.

Grows in the valley of Fatme.

4. Cassia obovata, *Colladon*, *O'Sh.* p. 306.

CASSIA FLORIDA. *Vahl., W. and A.*
Senna Sumatrana, *Roxb. Fl. Ind.* ii. p. 347.

May-za-lee, . . . BURM. | Manje konne, . . TAM.
Waa, ... SINGH.

This middling-sized tree is common in a wild state in the jungles quite at the south of the Madras Presidency and in Ceylon, also as a planted tree in avenues, topes, gardens, etc. It is of rapid growth, and ornamental. The trunk is pretty straight, and covered with olive-coloured bark. The wood is of a yellowish-brown colour, sometimes beautifully marked with irregular black streaks, close-grained, hard, and durable, but not stiff; works kindly, with a smooth surface, and stands a good polish. A cubic foot unseasoned weighs 68 to 70 lbs., and when seasoned, 58 lbs.; and its specific gravity is ·928. It is well adapted for furniture, but seems to be little known or used in the Madras Presidency. In Burma it is used for mallets, helves, and walking-sticks. In Ceylon it is principally used for fuel for the locomotives; and it is said to have as good caloric powers as any wood known in the island.—*Drs. Brandis and Mason; Colonel Beddome, Fl. Sylv.*

CASSIA FORSKALII.

C. lanceolata, *Lind.* | C. ligustrina, *Batka.*
Suna, . . ARAB.

Grows in the valley of Fatme.

CASSIA GLAUCA. *L., Lam., W. and A.*

C. Surattensis, *Burm.* | C. cuneophylla, *Koen.*
C. sulphurea, *De Cand.* | Senna arborea, *Van Rheede, Roxb.*
C. arborescens, *Vahl.*
Wellia tagera, . MALEAL. | Kondatantepu chettu, TEL.

A small tree with large sulphur-yellow flowers; grows in Burma, Coromandel, and Malabar coasts. Its bark, mixed with sugar and water, is given in diabetes; and its bark and leaves, mixed with cumin seed, sugar and milk, in virulent gonorrhœa.

CASSIA LANCEOLATA. *Royle.* Alexandrian senna.

C. elongata, *Lam., Lisane.* | C. acutifolia, *Heyne, Nees, Eberm.*
Suna, ... ARAB. | Nilaveri, ... TAM.
Sona-pat, . . . BENG. | Nelapoona, . . . „
Suna mukhi, . . HIND. | Nela Tangedu, . . TEL.

This grows in the valleys of the desert south of Syene. But Dr. Royle remarks that C. acutifolia, C. elongata, and this seem the same, and he describes them all as Cassia officinalis.

CASSIA LEAVES, Kwei-yeh of China, are obtained from Cinnamomum nitidum, C. iners, C. tamala, and other species. These were formerly esteemed as sudorific and stomachic medicines, and sent from China to Europe under the names of Folia malabathri or Tamalapathri, and are said to be still used in China and Ceylon, along with the twigs (Kwei Chi, also Liu Kwei of the CHINESE), in distillation, to form an oil resembling that of cloves, and known in the market as Oleum malabathri or Oleum cinnamomi foliorum. The Chinese bruise the leaves of the cinnamon tree, and use them along with warm water to wash their long black hair.—*Smith.*

CASSIA LIGNEA. Cassia bark.

Selikeh, ... ARAB. | Kahu-legi, . . MALAY.
Ngu-si, ... BURM. | Havanga, . . MALEAL.
Kwei-pi, ... CHIN. | Singrowla, . . NEPAL.
Moedercaneel, . . DUT. | Cassia lenhosa, . PORT.
Hout-Kassie, . . „ | Twacha?. . . . SANSK.
Casse en bois, . . . FR. | Tamala patra, . . „
Kassien rinde, . . GER. | Mukalla, ... SINGH.
Dalchini; Tej, . . HIND. | Dawul Kurundu, . „
Kidda; Kirramon, HEB. | Cassia lenosa, . . . SP.
Cassiglina, ... IT. | Lawanga pattai, . TAM.
Kayu manis china, MALAY. | „ patta, . TEL.

Cassia, an aromatic bark, is mentioned in Exodus xxx. 24, Ps. xlv. 8, and Ezek. xxvii. 19, under the words kiddah and ketsioth. Dr. Wight was of opinion that coarse barks of the cinnamon tree, which could not be passed as true cinnamon, are classed as cassia. The Chinese cassia is from Cinnamon aromaticum, *Nees ab Esenb.*, and C. Zeylanicum. Dr. Royle (p. 542) concurs as to the Chinese cassia being one of the producing plants, but adds that there are several distinct sources. At present this bark is produced in Java, on the Malabar coast, in the south of China, and in Cochin-China. Pereira's Materia Medica says—

'1. *China Cassia-lignea*, sometimes called China cinnamon, is the best kind. It is usually imported from Singapore, rarely from Canton direct. Mr. Reeves says vast quantities of both cassia buds and cassia-lignea are annually brought to Canton

from the province of Kwang-si, whose principal city (Kwei-sin-tu), literally the city of the forest (or grove) of cassia trees, derives its name from the forests of cassia around it.

'The Chinese themselves use a much thicker bark (which they call Gan Kwei-pi), unfit for the European market, but they esteem it so highly as to pay nearly ten dollars per pound for it. A very fine quality is occasionally met with, and commands the enormous price of 100 dollars per catty (one pound and three-quarters). A specimen of it furnished by Mr. Reeves is straight, semi-cylindrical, eleven inches long, rather more than an inch wide, and about one-sixth or one-eighth of an inch thick. Externally it is warted, and covered with crustaceous lichens. Internally it is deep brown; its odour and flavour are those of cassia. Mr. Reeves also mentioned that the best cassia-lignea is cut in the third or fourth moon, the second sort in the sixth or seventh moon.

'2. *Malabar Cassia-lignea* is brought from Bombay; it is thicker and coarser than that of China, and is more subject to foul-packing; hence each bundle requires a separate inspection. It may, perhaps, be coarse cinnamon, for Dr. Wight states that the bark of the older branches of the genuine cinnamon plant is exported from the Malabar coast as cassia.

'3. *Manilla Cassia-lignea* is usually sold in bond for continental consumption. He had received a sample of bark ticketed "Cassia vera from Manilla," the epidermis from which was imperfectly removed.

'4. *Mauritius Cassia-lignea* is occasionally met with.'

The Kwei-pi, Juh-Kwei, Kwan-Kwei, and Tung-Kwei of China are the products of species of Cinnamomum. The Juh-Kwei, or fleshy cassia, is exceedingly pungent and spicy, and its price is quadruple that of the Kwei-pi, or skinny cassia.—*Royle*, p. 542; *Harris, Nat. Hist. of Bible; Hassall's Food and its Adulterations; Smith.*

CASSIA OBOVATA. *Merat.*

Cassia Æthiopica, *Guibourt.* | Senna of Tripoli. Sene de Tripoli.

Grows in Nubia and Fezzan; one of the species yielding the senna of commerce.

CASSIA OBTUSA. *Roxb., W. and A., W. Ic.*

Cassia obovata, *Wall.* | Senna obtusa, *Roxb.*
C. Burmanni, *Wall., Wight.* | Nela tangedu, . . TEL.

It is indigenous in Mysore, Egypt, Suez, Nubia, and Central Africa. The leaves furnish the Aleppo and Italian drug. C. obtusa is common on the dry uncultivated lands of Mysore. Aleppo senna has obovate very blunt leaflets and curved pods, with a very slight covering of down. The flowers are pale yellow.—*O'Shaughnessy*, p. 307.

CASSIA OBTUSIFOLIA.

Chakowar, . . . HIND. | Jangli-powar, . . HIND.

According to Dr. Irvine (Gen. Med. Top. p. 131), the seed of this plant is used in medicine. The plant is scarce about Ajmir; is prescribed to cleanse the blood, in an entire state. When the seeds are pounded and then swallowed, vomiting is produced. The leaves of the young plant are eaten as a vegetable; are also applied in itch cases. It is very common in the Dekhan. Goats and sheep are fond of the seed; one seer of the seed costs one pice.—*Irvine.*

CASSIA OCCIDENTALIS. *L., W. and A.*

Senna occidentalis, *Roxb.* | Cassia fœtida, *Roxb.*
Cassia sophora, *Wall.*

Ka lau, ... BURM. | Peya veri, . . . TAM.
Paya vera, . . . MAL. | Kashanda, Kasinda, TEL.

Common in Bengal; smell very offensive, used in cutaneous maladies, and also aperient. Roxburgh gives it no native name. Mr. Mason has occasionally noticed it in Tenasserim, in native cultivation for medicinal uses. It was originally introduced into India from the West Indies.—*Mason; O'Sh.* p. 309.

CASSIA OFFICINALIS. *Gœrtn., Royle.*

C. lanceolata, *Forsk., Royle.* | C. elongata, *Lem., Lisane.*
C. medica, *Royle.* | C. lanceolata, *Royle.*
Sennæ medicæ Lohajæ, *Royle.* | C. senna, *Roxb., H. Buch.*
Senna officinalis, *Roxb.* | C. acutifolia, *Heyne, Nees, Eberm., Delille, Esen.*

Dr. Royle remarks that C. elongata, C. lanceolata, and C. acutifolia seem the same plants. He describes C. officinalis as cultivated in Arabia and Northern India, and, with the C. acutifolia, known in commerce as Bombay senna, Suna mukhi. The C. elongata, known as Tinnevelly senna, was cultivated at Saharunpur, Poona, near Madras, near Tinnevelly and Kaira, and C. lanceolata as growing in the valleys of the desert south of Syene, and known as the Alexandrian senna. See Cassia.

CASSIA OIL, volatile oil of cassia bark.

Tuj-ka-tel, . . . HIND. | Kulfa-ka-tel of MALABAR.

Cassia bark yields a pale yellow volatile oil, the finer kind of which differs but little in its properties from that of cinnamon, for which it is generally substituted; it has a specific gravity of 1·071 (1·095). The best is manufactured in China, where the wood, bark, leaves, and oil are all in request. The cassia oil is rated at 150 dollars per pikul; and the trade in this article reached about 250,000 dollars (Simmonds, p. 396). When pure, its pale wine-yellow colour does not deepen with age. It has in a remarkable degree the cassia odour and taste. Cassia oil is imported into Bombay from China; and in Surat the oil is expressed from both China and Malabar cassia. The latter kind, which is of a dirty-brown colour, is chiefly exported to the Persian and Arabian Gulfs, Zanzibar, etc., under the name of Koolfa-ka-tel.—*Faulkner.*

CASSIA ROXBURGHII. *D. C., W. and A.*

C. emarginata, *Roxb.* | Ratu-waa, . . SINGH.

This is a small or middling-sized tree, very common in a wild state in the South Arcot, Trichinopoly, Tanjore, and Tinnevelly districts. It is extensively planted in gardens for ornamental purposes, and is to be seen in most compounds at Madras. When in flower it is exceedingly beautiful; it is also wild in Ceylon. The wood is close-grained, hard, and durable, works smoothly, and stands a good polish. When fresh it is deep rose-coloured, but eventually turns reddish-brown. A cubic foot unseasoned weighs 78·80 lbs., and when seasoned 63 lbs.; and its specific gravity is 1·008. It is well adapted for articles of turnery, such as naves of wheels and handles of instruments.—*Beddome, Fl. Sylv.* p. 180.

CASSIA SOPHORA. *Linn., W. and A.*

C. esculenta, *Roxb. in E. I. M.* | C. Coromandeliana, *Jacq.*
C. purpurea, ,, ,, | C. sophoroides, *Collad.*
C. torosa, *Cav.* | Senna sophora, *Roxb.*
C. Indica, *Poir.* | S. esculenta, *Roxb., Rheede.*

Kalkasunda,	Beng.	Sourna mayharie,	Sans.
Kalkashinda,	,,	Punaveri,	Tam.
Round-podded cassia,	Eng.	Kasamardakamu,	Tel.
Brihatchitra,	Hind.	Paidi tangedu,	,,
Ponam tagera,	Maleal.	Nuti kasinda,	,,

Grows in Bengal, Assam, Ceylon, Malay Peninsula, Peninsula of India, and Moluccas. Its leaves are eaten in curries; bruised, powdered, and mixed with honey, are applied to ringworm and ulcers. The bark is given in infusion in diabetes.—*R. Brown.*

CASSIA SUMATRANA. *M'Clelland.*

Ma-za-lee,	Burm.	Kyee,	Burm. of Moulmein.
Bombay blackwood,	Eng.	Arremene,	Singh.

This tree grows in the central province of Ceylon, where a cubic foot of its wood weighs 57 lbs., and it is said to last 50 years. It is there used for furniture and house-building. It is plentiful throughout the Hlaine, Pegu, and Tounghoo forests, and is very plentiful especially on the Mazalee Choung, the name of which is derived from this tree. It is used in house-building. It affords a very strong wood like ebony.—*M'Clelland; Mr. Mendis; Cal. Cat.* 1862.

CASSIA TORA. *Linn.* Oval-leaved fetid cassia.

Cassia obtusifolia, *Burm., Ind.*	Senna tora, *Roxb.*
C. fœtida, *Salisb.*	Cassia tagara, *Lam., not Linn.*
C. gallinaria, *Collad.*	Senna toroides, *Roxb.*

Kulkul,	Arab.	Tagara,	Maleal.
Dan-ky-wai,	Burm.	Prabunatha,	Sansk.
Kiueh-ming,	Chin.	Tukariini,	Tam.
Ts'au-kiueh-ming,	,,	Tagashai; Tagaray,	,,
Chakunda,	Hind.	Tantepu chettu,	Tel.

The seeds—Kiueh-ming-tsz, . . Chin.

Common all over the plains of India, and, in Tenasserim, it is one of the most abundant weeds. Its leaves are fetid, mucilaginous, and gently aperient. They are much used for adulterating senna, and in various external applications. The seeds, ground with sour butter-milk, are used with excellent effect in itchy eruptions; and they are used in preparing a blue dye, generally fixed by lime-water. The root, rubbed to a pulp with lime-juice, has almost specific powers in the cure of ringworm.—*O'Shaugh.* p. 309; *Roxb.* ii. 340.

CASSIS, a genus of shells; many species occur in the E. Indies. C. rufa, the great red shield shell of the Maldives, is brought as tribute to Ceylon, and is re-exported to Italy for the manufacture of cameos.—*Tennent's Ceylon.*

CASSOWARY BIRD. See Casuarius; Emu.

CASSYTA FILIFORMIS. *Linn., Roxb.*

Calodium Cochin-Chinense, *Lour.*

Akash bulli,	Beng.	Kottan elle,	Tam.
Akash-wail,	Bombay.	Antara valli tige,	Tel.
Kottan ka paat,	Dukh.	Nulu tiga, Pachi tige,	,,
Akatsja bulli,	Maleal.	Pane tiga,	,,

The leaves are put into butter-milk as seasoners, and are chiefly in use amongst the Brahmans in the southern parts of the Peninsula.—*Ainslie.*

CASTACALA. Sansk. A division of time equal to the $\frac{1}{3750}$th part of a vicala.—*Warren.*

CASTANEA, a genus of plants of the natural order Corylaceæ,—C. Chinensis, C. Indica, C. Roxburghii, C. tribuloides, and C. vesca inhabiting the colder parts of S.E. Asia. Dr. Mason says an indigenous chestnut tree grows in Burma on the uplands, which yields abundantly, and whose fruit is sold in the bazar; but they will not compare with the French chestnuts, nor even with the American chincapin. Two species are cultivated on the China hills. One somewhat like the Spanish, produces fruit quite equal, if not superior, to Spanish chestnut. The other is a delicious little kind, bearing fruit about the size and form of the common hazel-nut. Large quantities of both kinds were procured by Fortune, and sent on to India in Ward's cases, and many hundreds of plants reached India. The Chinese chestnut may now be considered naturalized on the hills of India, and in a few years will no doubt make its appearance in the markets amongst other fruits.—*Fortune's Residence; Mason; Voigt.*

CASTANEA INDICA. *Roxb.* Theet khya, Burmese. A tree of Nepal and the Himalaya, of Chittagong, Khassya, Rangoon, Pegu, and Tounghoo. The edible nut, Nikiri, Hind., is compared to indifferent filberts; the wood is red, and equivalent to mahogany.—*Drs. Royle*, p. 345, *M'Cl.*, *Mason*, *Voigt*, p. 276, *O'Sh.* p. 607.

CASTANEA MARTABANICA. *Mason.*

Theet khya; Zi-tha,	Burm.	Norne of	Tavoy.

This tree of Moulmein and Martaban grows all down to the sea-shore of Tenasserim. The fruit is eaten like chestnuts.—*Mason; Cal. Cat. Ex.*

CASTANEA TRIBULOIDES. *Lindley.* Wet-theet-kya, Burmese. A tree of the Nepal and Khassya hills, and of Burma.

CASTANOSPERMUM AUSTRALE. Moreton Bay chestnut. Has been introduced into India from Australia. It is of rapid growth; rises to 70 to 100 feet high. Its wood is used for cask staves. It is indigenous in Moreton Bay. Some of its pods are 10 inches long and 8 round. They contain several seeds, in size and colour resembling horse-chestnuts, but in flavour between a Spanish chestnut and a fresh-opened bean, with a slight degree of bitterness. The natives roast them and soak them in water, to prepare them for food.—*J. Backhouse, Visit to Moreton Bay, Australia.*

CASTE is a term obtained from the English cast, and that from the Portuguese or Spanish Casta, a breed, race, lineage, or class. It is applied to the separate sections of the Hindu races, who now usually employ the word Jat or Zat, meaning birth or descent, though the Sanskrit term Varna, meaning colour, has been in use from the most ancient times till now. Caste is the first institution of Hindu society which forces itself upon the attention of the stranger. Bunsen says that the system of caste seems to have become completely formed B.C. 3000, during the formation of the kingdom of Puru; and, he adds, was in full force when the Code of Menu was composed. In the Vedic hymns nothing appears of a priesthood, properly so called. In some, Brahmans officiate, but are evidently subject to the Kshatriya, as chaplains to the noblemen. The allusion to castes is very vague, as when the five classes of beings are mentioned, which may mean the four castes of Aryans and a fifth of the barbarians. But there is one hymn in the Veda, known as the Purusha Sakta, which represents the Brahman as superior, though it does not correspond with the legend on that subject in its later form. It is given in Dr. Muir's Sanskrit Texts (p. 7), and is a mystical description of existences from original being, under the similitude of a sacrifice or as a mental sacrifice.

Sir Henry Elliot says that about the 6th and 7th centuries the divisions of castes were secular, not religious. In former times, he says, the four classes existed equally amongst the Buddhists

and Hindus of India, as they do at this day amongst the Buddhists of Ceylon, and amongst the Jains of the Peninsula, in whose temples even Brahman priests may be found officiating.

A minute division of labour is a very marked feature in Hindu civilisation. Every employment is apportioned to a separate class. This minuteness of appointment is generally the result of a very far advanced stage of society, but seems to have obtained among the Hindus from very early times.

In ancient Hindu writings, four great divisions are recognised,—the Brahman, or learned; the Kshatriya, or warrior; the Vaisya, or merchant; and the Sudra, or labourer,—all others being M'hlecha. But in practice, at the present day, the minute differences of race, of native country, of avocation, and of religion, are sufficient to form differences of castes, in most of which no man may lawfully eat with any individual of any other caste, or partake of food cooked by him, or marry into another caste family; but he may be his friend, his master, his servant, his partner. As a rule, it may be said that the Aryan or 'twice-born' castes adhere most closely to the ethnical principle of division; the 'once-born' or distinctly non-Aryan to the same principle, but profoundly modified by the concurrent principle of employment; while the mixed progeny of the two are almost entirely classified in modern times according to their occupation.

The Brahmans are popularly divided into ten great septs, according to their locality,—five on the north, and five on the south of the Vindhya range. But the minor distinctions are innumerable. Thus the first of the five northern septs, the Saraswata, in the Panjab, consist of 469 classes. Mr. Sherring enumerates 1886 separate Brahmanical tribes.

Their sectarian religious views are now also sources of separation. In the physiological worship of the Hindus, for instance, while two classes of sectarians, the Saiva and the Lingaet, worship the form of the lingam, another set of sectarians, the Sakta, worship the yoni, in accordance with the doctrine of the Tantras. The Sakta are divided into two classes, the Dakshinachari, or right-hand Sakta, and the Vama chara, or left-hand Sakta. The right-hand worship is public, and addressed to the goddesses usually adored, but especially to the forms of Durga, Bhawani, and Parvati, also to Lakshmi and Maha Lakshmi, and others. But in the worship of the left-hand divisions, the Tantraka impersonations of Durga as Deva, Kali, Syama, etc., or a living woman representing the Sakta, the worship is private, and said to be impure, and is said to have the most numerous followers. The Vira Saiva, who are known as the Jangam, also as the Lingaet or Linghadari, from always wearing the lingam, and who are very numerous in the Canarese-speaking tract, ought not, according to the tenets of their sect, to have any caste distinctions; but they are the most bigoted of all the Hindu sects, and their caste distinctions are those of trade and avocation, and are rigidly adhered to. Among the Jains, whose religion consists principally in the practice of austerities, and in avoiding to destroy life, caste restrictions are not prescribed; nevertheless they too retain the practice of caste divisions, and the Sarawak practise many usages common to other Hindus.

The distinction of right and left hand castes is peculiar to the south of India. It is supposed by Professor Wilson to be of modern origin, and to have been introduced at Conjeveram as a part of civil policy to divide the people and destroy their power. But Sir Walter Elliot is of opinion that the separation into right and left hand castes had its origin in the violent conversion of the ancient races from Buddhism to Hinduism; and he has been shown a figure of Buddha, which the artisan caste worship. At present they appear to worship Visvakarma, but the bulk seem to recognise Siva as their supreme deity. They all bury their dead, and in a sitting posture, like that of Buddha, sitting, with the head of the corpse close to the surface, and looking to the north; and their dislike to Brahmans is intense. In Southern India, the goldsmiths strenuously resisted the rule of the Brahmans, and for ages claimed to be the true spiritual guides, styling themselves Acharyas, 'religious teachers,' and wearing the sacred thread. The Dattas, a sept of the Kayasth or writer caste, formally renounced the position assigned to them in the Brahmanical classification of Hindu society. They claimed to rank next to the Brahmans, and thus above all the other castes. They failed; but a native author states that one of their body, within the memory of men still living, maintained his title, and wore the sacred thread of the pure 'twice-born.' In the Peninsula, caste had certainly nothing to do with religion, but related solely to race. Amongst the Tamilian people the right and left hand sections appear. The Idan-kai or Idan-gai are the left-hand caste, and the Valan-gai are the right-hand caste; and, according to Professor Wilson, the names and appellations of Right-hand castes vary in different parts of peninsular India, but are usually supposed to be eighteen in number. He names them—

1. Banijaga or trader.
2. Okhaliga or cultivator.
3. Jotiphana or oil-maker, employing one bullock.
4. Rangajiva, dyer or calico printer.
5. Ladaru, Mahomedan traders and artificers.
6. Gujerati, bankers from Gujerat.
7. Komati, merchant shopkeepers of the Vaisya.
8. Jaina.
9. Kurubar, shepherds.
10. Kumhar, potters.
11. Agasa, washermen.
12. Besta, fishermen employed as palanquin-bearers.
13. Padma Shalaysa, weaver.
14. Naindu, a barber.
15. Upparanu, a tank-digger.
16. Chitragara, a painter.
17. Golla, a cowherd.
18. Wallia, or Pareyan, or Paria, who is the champion for the right-hand caste, as is the Madaga or Sakoli for the left-hand caste.

The Left-hand castes—

Edagai; Edagai kula; Eddayai, . . . KARN.	Idangai; Idam; Idakai, TAM.

1. Panchala or artisans.
   - *a.* Kammaramu, blacksmiths.
   - *b.* Badage, carpenters.
   - *c.* Kansagar, braziers.
   - *d.* Kallurtiga, stone-cutters.
   - *e.* Akasale, goldsmiths.
2. Berisethi, traders.
3. Devangada, weavers.
4. Ganigar, oil-makers.
5. Gollur, money-carriers.
6. Paliwan and Palawan, cultivators.
7. Beda, hunter, fowlers.
8. Madiga, tanners, curriers, and shoemakers.

The right and the left hand sections are known in the Bellary district as the Davachary and Dowanga. Their enmity has been a constant source of anxiety to the police of the Madras districts.

The artisans intermarry and eat together, and all wear the zonar. They claim to be a prior Brahman race,—and learned Europeans recognise their claim. The intermarriages of castes in ancient times, and the descendants of illegitimate children, have been known as mixed castes, the Varna sankra, to whom Menu allotted suitable avocations. The ancient marriage code recognised as lawful, unions of men of higher castes with females from any of the lower ones, and their offspring had a quite different social status from the progeny of illicit concubinage. In bygone times, individuals and even races have been raised to castes of higher rank, and others have been lowered. There have been occasions of rulers of the Dekhan and of Hindustan raising great numbers to the rank of Brahmans, others to the rank of Kshatriya; and many of the races now ranked as Sudra Hindus have been comparatively recent converts. Other instances are known of Brahmans as individuals and clans being degraded. In Bengal, the Ahir, Kunbi, Lohar, Mali, Tumboli, Kumar, Hajam, and Kahar are considered unclean. The Veluthaden of Travancore are said to be descendants of a Brahman who was seen to wash and starch a friend's cloth, and was in consequence thrown out of caste. Cloths washed by them are, however, received into pagodas. The ancestors of the Urila parisha Musinmar of Travancore, who accepted gifts of land from Parasu Rama; the ancestors of another subdivision, who countenanced the murder of Bhutarya Pandi Perumal, a sovereign of Malabar; and the ancestors of the villagers of Panniyur, who offered insult to the idol Varaha, an object of worship of other Brahmans,—all of these have lost their castes; and although claiming still to be Brahmans, they cannot associate on equal terms, cannot eat nor intermarry with other Brahmans. There are religious mendicants who accept alms only from certain castes. The caste ideas of ceremonial uncleanness are very peculiar. A Hindu visitor to a European house changes all his clothes, and uses the secretions of the cow on his return home from the visit; or, on being visited by a European, has the floor spread with fresh cow-dung. Every workman is clean in his own trade; but no Hindu will use any article of earthenware which a M'hlecha has polluted by his touch; all earthen vessels are immediately broken, and brass or copper utensils are scoured with sand to free them from impurity. There are places where water is given to the natives as they walk along the road. Small brass pots are kept for the caste people, but there is no pot kept for the Pariah. So, if a Pariah wish to quench his thirst at some of these water pandals, a long hollow bamboo is provided, one end of which the thirsty man holds. Water is then poured down the tube, and he has to catch the water in his mouth after it leaves the tube. He is not allowed to put his lips close to the bamboo, for fear of defilement.

If a Jain come into contact with an outcaste, he, like the Hindu, touches fire or water to purify himself; if he have occasion to receive anything from a Pariah, he causes the Pariah to set it down on the ground, and purifies it with fire or water before he takes it up. Even shepherds and Koli incur pollution by touching the Dher race, which they remove in a similar manner. In the course of evidence before a criminal court in Gujerat, in August 1853, a Koli said, 'The shepherds Bhugwen and Rodo came to me, and said they had both touched Dhers, and become impure, and asked me to give them fire. I took a lighted coal out of my hookah, and each of them touched his forehead with it. I threw it down, and they then took my hookah and smoked.' In other words, they were then purified, otherwise he could not have given them his hookah. This is a very ancient Asiatic purificatory rite. Isaiah (vii. 5, 6, and 7) says: 'Woe is me, . . . I am a man of unclean lips. . . . Then flew one of the seraphims unto me, having a live coal in his hand, . . . and he laid it upon my mouth, and said, Lo! this hath touched thy lips, and thine iniquity is taken away, and thy sin purged.' If a Sudra Hindu ask a drink of a Brahman, it will be given in a brass vessel, but from a distance, the Brahman stretching forwards and placing the pot between. It is returned similarly, but before receiving it back, water is poured over to purify it. No one of the helot races can enter the house of a Hindu, but he will stand at a distance and shout out his message. These are all illustrations of the usual operation of caste in India, which has held its own in the religious, social, and political changes of 3000 years. Since railways and steamboats have been running, and the educational system of the British has equalized all classes, much of the dread of caste defilement has disappeared, but it is still the prominent feature in everyday Hindu life.

All the great Hindu reformers have proclaimed the brotherhood of man, and have denounced castes, but their followers are only free amongst themselves.

A line in the Mahabharat is—

'Na Visesho'sti varnānām;
Brāhman idam jagat,
Brahmanā pūrva srishtam hi;
Karmabhir varnatām gatam:'

'There is no distinction of castes; the whole of this world is Brahmanical, as originally created by Brahma. It is only in consequence of men's actions that it has come into a state of caste divisions.'—*Growse*, p. 502; *Forbes' Rasamala, or Hindu Annals; Wilson's Glossary; Sir H. Elliot's Supplementary Glossary; Sir Walter Elliot in Ethnological Society's Journal.*

CASTILLOA ELASTICA and C. Markhamiana of S. America, introduced into India in 1876 by Mr. Cross and Mr. Markham, are valuable caoutchouc plants.—*Peruv. Bark.*

CASTING OF METALS in S.E. Asia is very largely practised, and the processes are of great simplicity. The workmen generally prepare a model in wax, which is embedded in moist clays, which, after being dried in the sun, is heated in the fire, the wax run out, and the metal run in. A much better plan, where accuracy is required, as in casting a brass nut or box for a large screw, is to cast the model in lead, and, having bedded it in clay, it may, when the mould is dry, be melted and run out, and the metal run in. Wax models allow the moulds to shrink in drying, and the thread of a screw-box so formed of course does not correspond. In Manbhum, much ingenuity

is displayed in the mode of casting articles of this kind in hollow network, etc. A core is made of plastic clay, all carefully shaped to the internal form of the fish or other object to be imitated. This core is then baked and indurated. On this, the pattern designed to be represented is formed with clean beeswax. This done, and the wax having cooled, it becomes tolerably hard. Soft clay is moulded over all. The whole is then baked, the heating indurating the outer coating of clay, but softening the wax, which all runs out of the mould, leaving empty the space occupied by it. The mould being sufficiently dried, the molten brass is then poured into the empty space, and, when cool, the clay is broken away, when the figured casting is seen. These are untouched after the casting, excepting on the smooth and flat surfaces, which are roughly filed.—*Mr. Rohde, MSS.; Cal. Cat. Ex.* 1862.

CASTOR.

Ashbutchegan,	Arab.	Castora zibetto,	It.
Bivergeil,	Dut.	Jabat,	Malay.
Hai-kau-shin,	Chin.	Dedes, Kasturi, Rase,	,,
Castoreum,	Fr., Lat.	Castoreo,	Port., Sp.
Bibergeil,	Ger.	Babuwaja struga,	Rus.
Gond-badustar,	Hind.	Kasturi, Munai,	Tam.

A concrete substance obtained from two small glands in the beaver, Castor fiber, of both sexes. 'The glands' consist of two oval pyreform sacs of unequal size, which open into the preputial groove by two large orifices. Those of the adult animal are at least three inches in length, sometimes five. Those of the female are somewhat less developed. In the living animal the castoreum is an almost fluid unctuous substance of a strong penetrating and even fetid odour; when dried, the sacs have a dark-brown colour and wrinkled appearance. Both American and Russian castoreum are known to commerce, and are imported into India. In Eastern medicine, castoreum is supposed to affect especially the uterus, and is given also in hysteria and apoplexy; it was formerly used in European practice. A kind of castor is also obtained from the civet cat in the Archipelago. Hai-kau-shin, the Chinese name, means sea-dog kidney, and the kidney of a dog is often substituted. — *O'Sh.* p. 614; *Smith; Moquin Tandon.*

CASTOR and POLLUX. Their representatives in the Hindu mythology are the Aswini Kumara. See Aswin; Hindu; Saraswati.

CASTOR-OIL.

Zeit ul khurwa,	Arab.	Linga jarak,	Jav.
Ky et taut shi,	Burm.	Miniak jarak,	Malay.
Pi-ma,	Chin.	Roghan bed-anjir,	Pers.
Huile du Ricin,	Fr.	Ricinsoel,	Sp.
Rizinus ohl,	Ger.	Chittamanak yennai,	Tam.
Arrandi-ka-tel,	Hind.	Chitta amudam,	Tel.
Olio di Ricino,	It.		

Castor-oil is obtained by expression from the seeds of the Ricinus communis or Palma christi, which grows in all the warmer countries of the world. It is often described as 'cold-drawn castor-oil,' which is understood to express that the oil has been obtained without the aid of heat; and hot-drawn castor-oil, when the seed is subjected to slight dry heat, and then pressed; but it may be doubted if any of the castor-oils of commerce are ever expressed from the seeds without prior dry, or subsequent water, heating. There are, however, two varieties of the castor-oil plant grown in India, the large and the small, and the mode of obtaining their respective oils may perhaps vary in different districts. One mode of obtaining the oil is to separate the seeds from the husks by children throwing them against a wall, then to bruise them by tying them up and beating them in a grass mat. In this state they are put into a boiler and boiled until all the oil is separated, which floats at the top, and the refuse sinks to the bottom; it is then skimmed off, and put away for use. The purest oil is said to be obtained by crushing the seeds in horse-hair bags by the action of heavy iron beaters; as the oil oozes out, it is caught in troughs, and conveyed to receivers, whence it is bottled for use. Castor-oil is used medicinally, also for lamps in the East Indies; and the Chinese are said to have some mode of depriving it of its medicinal properties, so as to render it suitable for culinary purposes. The plant is very extensively propagated by the Karens, to obtain the seeds to mix with their dyes, and fix their colours. The oil obtained from the large-seeded variety is sometimes drawn cold, and its straw-coloured specimens are scarcely distinguishable in quality from the oil of the small-seeded variety. It is, however, more usually extracted by heat, and forms the common lamp-oil of the bazar. The roasting process gives it a deeper red colour and an empyreumatic odour. The price of this oil varies in different parts of the country from Rs. 1.10.0 to Rs. 3.13.6 per maund of 25 lbs. As with other coloured substances, filtering and light soon decolorize the coloured castor-oil. The best filtering material is animal charcoal, and the sun's rays finally remove all shade of colour.

Castor-oil seeds, Pi-ma-tsz, Chinese, crushed, are applied externally in Chinese medicine in a great multitude of diseases.—*Rohde, MSS.; Cal. Cat. Ex.* 1862.

CASTRO. Don Juan de Castro, captain in the fleet, and author of the history, of Don Stephano de Gama, which in 1540 sailed from Goa to Suez, with the intention of burning the Turkish galleys there.

CASTURI-MUNJIL. Tam. Curcuma zedoaria.

CASUARIA POMANDRA, Tha-byai-ywet-kya, Burmese, is found in the Pegu districts, but scarce. Timber strong and close-grained. Wood white-coloured, adapted for fancy work and cabinet-making.—*M'Clelland.*

CASUARINA. Several species of this genus of trees grow in India, — distyla, equisetifolia, modiflora, muricata, and torulosa, and in Australia, as C. Decaisneana, C. quadrivalvis or Australian oak, C. torulosa or forest oak, C. paludosa or swamp oak or fir, and C. suberosa or cork-bark oak, from the peculiar appearance of its bark. Others, as the C. distyla, C. Fraseriana, C. glauca, are from their resemblance also called firs. The Madagascar name is Filaof. The wood of some species is extremely hard, and used by the Pacific islanders for war-clubs. Whilst every other kind of vegetable and meat was eaten with the fingers, cannibal food was touched only with forks, generally made of the wood of the Nokonoko (Casuarina equisetifolia, *Forks.*) or the vesi (Afzetia bijuga, *A. Gray*), bearing curious, often obscene names, and having three or four long prongs. The reason given for this deviation from the general mode of eating was a widely-spread belief, that fingers which have touched bokola are

apt to generate cutaneous diseases when coming in contact with the tender skin of children.

Kayu aru, the C. littorea, is often termed a bastard pine, and as such gave name to the Isle of Pines discovered by Captain Cook. By the Malays it is usually called Kayu chamara, from the resemblance of its branches to the ornamental cow-tails of Upper India. It delights in a low sandy soil, and is ever the first that springs up from land relinquished by the sea. In Australia there occur about eight species. — *G. Bennett; Von Mueller; Galton's Vacation Tourists*, p. 268.

CASUARINA EQUISETIFOLIA. *Forst.*

Sarv ka jhar, . . DEK.	Arau tree, ANGLO-MALAY.
Beef-wood, . . . ENG.	Iron-wood of the S. SEA IS.
Fir tree, . . . ,,	Chouk maram, . . TAM.
Filaof of MADAGASCAR.	Serva chettu, . . TEL.

This tree was introduced into India about the beginning of the nineteenth century, and grows freely, ripening its seed in great abundance. In general appearance it much resembles the larch fir. It grows in 10 years to the height of about 30 feet, generally very straight, and, where the main shoot is broken or lopped off, throws out secondary shoots readily, which are usually erect. It thrives best in sandy tracts along the sea-shore. The wood is very hard, is reddish in colour, and in density and appearance it somewhat resembles Trincomalee. It bears a great strain, is well adapted for posts, and is said to bear submersion in water very well. The bark contains tannin, and a brown dye was extracted from it by M. Jules l'Epiné of Pondicherry. It is a favourite avenue tree, and, if kept stunted, forms a beautiful hedge. It has been very extensively planted in various parts of the Madras Presidency, on the coast and inland, but the larva of a large species of Acheta has caused much injury to plantations near Madras. It appeared suddenly in September 1867. The larvæ burrow in the sand in subterranean passages, and during the night emerge from the sand and crawl up the young trees, generally biting off the young shoots. The wood is burned in Tahiti to produce a ley for soap.—*M. E. J. R.*

CASUARINA MURICATA. *Roxb.* Fir tree.

C. littorea, *Rumph.*	C. littoralis, *Salisb.*
H'ten-roo, . . . BURM.	Hari, ... HIND.?
Tinian pine; Beef-wood.	Kayu aru, . . . MALAY.

This is grown in all parts of the Dekhan, where it was introduced about 1830. It is a native of Chittagong, is the only species indigenous to the Tenasserim coast, and has been diffused over Bengal. In Tenasserim, it is found only in the loose sandy soil of the seaboard, and never inland. In general outline it resembles the pine, but it is of a more slender figure, and more elegant in appearance. Growing eighty feet high, and spreading out, without a leaf of covering; its numerous fine-knotted branchlets, mantled with brilliant green, and hanging in drooping bunches, or floating out lightly upon the breeze like long skeins of green silk, adorn it with the most graceful drapery, and make it one of the most desirable trees for embellishing a Tenasserim park. Trunk 3½ feet in circumference 4 feet above the ground. The wood is very hard and durable; and the Tahitians in their war days chose it for the manufacture of their ingeniously carved war-clubs; hence they termed it the club-wood. They also fashioned fishing-hooks from its roots. It is imported into the United States in considerable quantities, for various purposes where a hard, heavy wood is required. The natives of Tenasserim call it by the same name as the pine. —*Drs. Roxb.* iii. p. 59; *Riddell and Mason.*

CASUARIUS, the cassowary, a genus of great birds belonging to the section Struthionidæ. Three species are known,—C. galeatus, a native of Ceram, C. Australia, inhabiting the Cape York district of Australia, and C. Bennettii, whose domicile is New Britain. The Malay name is Suwari, from which the European one is taken.

Casuarius galeatus inhabits the island of Ceram only, and, like the cockatoos, crown pigeons, and birds of paradise, was made known to the inhabitants of the west through the Malay and Javanese, who have immemorially carried on a trade with the country of the Papuans. It is a stout, strong bird, standing five or six feet high, and covered with long hair-like feathers. Its head has a large horny casque or helmet.

Casuarius Bennettii, *Gould*, is the cassowary of the island of New Britain, near to New Guinea, where it is called Mooruk. The height of the bird is three feet to the top of the back, and five feet when standing erect. Its colour is rufous, mixed with black on the back and hinder portions of the body, and raven black about the neck and breast. The loose wavy skin of the neck is beautifully coloured with iridescent tints of bluish purple, pink, and an occasional shady green, quite different from the red and purple caruncles of the Casuarius galeatus. The feet and legs, which are very large and strong, are of a pale ash colour. This bird also differs from the C. galeatus in having a horny plate instead of a helmet-like protuberance on the top of the head; which callous plate has the character of and resembles mother-of-pearl darkened with black-lead. The form of the bill differs considerably from that of the emu, Dromaius Novæ Hollandiæ, being narrower, larger, and more curved, and in having a black or leathery case at the base. Behind the plate of the head is a small tuft of black hair-like feathers, which are continued in greater or lesser abundance over most parts of the neck. The egg is about the same size as that of the emu, and is of a dirty pale yellowish-green colour. The bird appeared to Dr. Bennett to approximate more nearly to the emu than to the cassowary, and to form the link between these species. In its bearing and style of walking it resembles the former, throwing the head forward, and only becoming perfectly erect when running; it also very much resembles the apteryx in its body, in the style of the motion, and in its attitudes. Its bill presents a great deal the character of that of a rail; it utters a peculiar chirping whistling sound, but also a loud one resembling that of the word Mooruk, whence, no doubt, is derived its native name. The male is selfish and easily irritated. It kicks always in front, its legs sometimes reaching as high as a man's waist.

Casuarius galeatus, *Gould*, the helmeted cassowary of Ceram, is so called from the horny helmet which surmounts the head. Its rudimentary wings consist of five long bristles like blunt porcupine quills. It runs swiftly with a bounding motion. It feeds on fruits, birds' eggs, insects, crustacea, and tender herbage. It is a stout and strong bird, standing five or six feet high, and covered with long, coarse black hair-like feathers.

The head has a large horny casque or helmet, with bright blue and red colours on the bare skin of the neck. These birds wander about in the vast mountain forests that cover the island of Ceram. The female lays three to five large and beautifully shagreened green eggs, on a bed of leaves. The male and female sit alternately on the eggs for about a month.

Dromaius Novæ Hollanditæ rises to a height of seven feet. It lives on fruits, eggs, and small animals.—*Crawfurd's Dictionary*, p. 84; *London Athenæum*, Dec. 12, 1857, p. 1551; *Wallace*, ii. p. 86; *Dr. Bennett in a letter dated Sydney, 10th Sept.* 1857; *G. Bennett*, p. 260.

CASVINI, the name in history of Zacaria ibn Mahomed bin Mahomed al-Kousi al-Kazvini. He wrote the Ajaib-al-Makhlukat, or the Wonders of Creation, in the Arabic tongue. It treats of natural history, of the qualities of animals, vegetables, and minerals, as also of waters, aerial spirits, fairies, genii, and talismans; but all with a view to confute the Jewish rabbins. His work is much esteemed by Mahomedans. It has been translated out of Arabic into the Turkish language, and also into Persian. There seems to have been another Casvini, who is the person meant by Abd-al-Latif, author of the book called Lubb at Tawarikh. He is cited by Golius in his Notes on Alfargani, pp. 4, 5, 6, and 22.—*History of Genghiz Can*, p. 418.

CAT, puss, pussy-cat, kitt of the Arabs.

Billi, ...	HIND.	Si-mi, ...	SOKPA.
Min-khyeng, . .	KAMI.	Pone, ...	TAM.
Maida, ...	PERS.	Pilli, ...	TEL.

Cats are found throughout the south and east of Asia. The name of the wild cat in many languages seems to be related to puss. The Persian is Puschak; Afghan, Pischik. Even the Kurd keeps his Psiq, the Lithuanian is attached to his domestic Piije, and the Turk has a kindly feeling for the Puschik. They are mentioned in a Sanskrit writing 2000 years old, and there are figures of them on the monuments of Egypt of a much prior age. Mummy cats have been identified with the Felis chaus, and with F. caligulata, F. bubastes, both still found in Egypt, wild and domesticated. No mention of the cat occurs in the Bible, or in any Assyrian record. Even in India Professor Max Müller is quoted as saying that it was but recently known as a domestic animal. Its Sanskrit name is Mârjâra, from a root meaning to clean, from the creature's habit of licking herself at her toilet. Her mousing habits were well known to the Romans, and even to the Etruscans, as shown by antique gems and even wall-paintings. The mouse-killer domesticated among the Greeks, called γαλῆ, described by Aristotle, has been shown by Professor Rolleston to have been our white-breasted martin (Martes foina). The γαλῆ ἀγρία or ἴκτις was a polecat, a foumart, larger, and a great lover of honey as well as a killer of birds. Pallas, Temminck, and Blyth believe that the domestic cats are descendants of several wild species which readily intermingle. F. sylvestris is wild in Scotland. F. lybica is the wild cat of Algiers; in S. Africa, F. caffra is wild. In India are four wild species, of which F. chaus has a lynx-like tail. F. ornata or torquata occurs at Hansi, and F. manul in Central Asia. In the Isle of Man cats are tailless, and have long hind legs. The domestic Creole cat of Antigua is small, with an elongated head, and that of Paraguay, also small, has a lanky body. In the Malay Archipelago, Siam, Pegu, and Burma, all the cats have truncated tails with a joint at the end. In China a breed has drooping ears. The long silky-furred Angora cats are annually brought to India for sale from Afghanistan, with caravans of camels, even so far as Calcutta. These animals are currently known as 'Persian cats;' but Mountstuart Elphinstone remarks that 'they are exported in great numbers from Afghanistan, but are not numerous in Persia, whence seldom or never exported.' Lieut. Irwin also notices that 'they are bred in Kābul and some parts of Turkestan, and very improperly called "Persian," for very few are found in Persia, and not any exported. The Kabulis call this cat baruk or burak, and they encourage the growth of its long hair by washing it with soap and combing it.' It is supposed to be the descendant of the F. manul of middle Asia. It breeds freely with Indian cats. There is a wild cat in Borneo. In Australia there was no feline animal, no apes, monkeys, cats, tigers, wolves, bears, or hyenas; no deer or antelopes, sheep or oxen; and no elephant, horse, squirrel, or rabbit; but it has marsupials only, kangaroos, opossums, and the duck-billed platypus. In Europe, cats play a considerable part in folk-lore; they appear and disappear unexpectedly, they haunt the paths of the night, and they are the only friends of old women with a repute for necromancy. Whittington, so long the hero of a favourite nursery-tale of England, is rivalled by the story of the Florentine Messer Ansaldo degli Ormanni. In a letter of Conte Lorenzo Magalotti in the Scelta di Lettere Familiari, published by Nardini, London 1802 (p. 139), are described his two cats, 'due bellissimi gatti, un maschio, una femmina,' which soon relieved the king of an island (Canaria), on which he had been cast by a violent tempest, from the plague of mice, and he was recompensed 'con richissimo doni.'—*Earl*, p. 233; *Darwin's Animals and Plants; Sair-ul-Balad in Ouseley's Tr.* i. 171.

CATABENI, an ancient mercantile race, who made Okelis their seaport. See Okelis.

CATALAPTA BUNGEI. *Smith.* Ts'in, Hia, CHIN. A large timber tree of China. Its wood is used for chessmen, chess tables, and weighing-scale frames. Formerly in China its leaves were worn as an ornament at the beginning of autumn. C. syringifolia, *Sims*, a timber tree of Japan, of Ohio, and the Mississippi. Its wood used similarly to that of C. bungei.—*Smith.*

CATALLI-KAI. TAM. Capparis horrida.

CATAMARAN. ANGLO-TAM. The Kattay maray of the Tamil people. A boat-shaped raft on which the natives of the Coromandel coast, for fishing, etc., cross the surf that continuously washes their shores. It is composed of three logs of wood pointed in front, made still more prow-form by wedge-like sharpened timber, and widening to the stern. The catamaran rides lightly on the sea, and rises to an ordinary surf, but is overwhelmed and tossed and rolled about by a great breaker, and the natives usually dive away to avoid the advancing angry mass of water. See Boat.

CATAPA. MALEAL. Terminalia catappa.

CATARACTS. Of these there are several in India. Where the river Shirhawti falls into the Gulf of Arabia it is about one-fourth of a mile in width, and in the rainy season some thirty feet in depth. This immense body of water rushes

down a rocky slope for 300 feet at an angle of 45°, at the bottom of which it makes a perpendicular plunge of 850 feet into a black and dismal abyss, with noise like the loudest thunder. The whole descent is therefore 1150 feet, or several times that of Niagara; but the volume of water in the latter is somewhat larger than in the former. The principal cataracts or waterfalls in India are near Simorri, in Rohilkhand; at Gokak, on the Gutpurba; on the Gairsuppa, where from top of fall to surface of basin is 888 feet, and the depth of basin is 300 feet=1188 feet, and from 300 to 600 feet across during the rains; Yena, in Mahabaleshwar, 600 feet; Cauvery, 370 and 460 feet; cataracts of Subunreka, Chutia Nagpur, and Hurrori Ghat,—the falls 15, 20, and 400 feet respectively, about 500 feet across crest.—*Cur. of Sc.; Buist's Cat.*

CATCALEJI or Catcaranja. HIND. Guilandina bonduc.

CATECHU, Terra japonica, cutch.

Shia-dza, ...	BURM.	Katchu, ...	GER.
Sha-si, ...	,,	Kuth; Cutch, . .	GUJ.
Cutt, ...	CAN.	Katha; Khair, . .	HIND.
Wu-tie-ni, . . .	CHIN.	Catecu, ...	IT.
Wu-tieh-ni, . . .	,,	Kachu (of Acacia),	MALAY.
Hai-rh-cha, . . .	,,	Gambia (of Uncaria),	,,
Rh-ch'a, Yang-cha,	,,	Catch, ...	PORT.
Cachou, ...	FR.	Kash katti, . . .	TAM.

Several astringent extracts prepared from the woods, barks, and fruits of various plants are known as catechu, cutch, terra, terra japonica, and gambier. They form articles of commerce, and are employed in tanning and dyeing. That called kut or kutch by the natives of the East, and *cutch* and *terra japonica* in commerce, is an extract prepared by cutting into chips the inner brown-coloured wood of the Acacia catechu, and making a decoction, which is afterwards evaporated to a proper consistence. The extract from the Uncaria gambier is also known in the market as cutch, as also is the extract from the nuts of the Areca catechu. At the Madras Exhibition of 1855, catechu was seen in the form of—1. Circular flat cakes from Travancore, covered on both sides with paddy husks. 2. Large flat cakes from the Northern Division, varying in colour from brick dust to dull yellow. 3. Round balls of a dark brown colour, the size of a small orange, from Mangalore, where a large manufacture takes place. These sorts appeared to vary only in shape. The manufacturers from the Acacia catechu work in Burma, Canara, the western Dekhan, Behar, and Northern India. They move to different parts of the country in different seasons, erect temporary huts in the jungles, and, selecting trees fit for their purpose, cut the inner wood into small chips. These they put into small earthen pots, which are arrayed in a double row along a fireplace built of mud; water is then poured in until the whole are covered. After a considerable portion has boiled away, the clear liquor is strained into one of the neighbouring pots, and a fresh supply of material is put into the first, and the operation repeated until the extract in the general receiver is of sufficient consistence to be poured into clay moulds, which are generally of a quadrangular form. Before the extract is quite dry, it is placed in cloths, strewed over with the ashes of cow-dung, cut into small lumps, and again exposed to the sun. This catechu is usually of a blood-red colour, and is considered there to be of the best quality. Catechu has long been employed in India for tanning skins. Its tanning properties are stated to be so great that skins are tanned by it in five days; but the leather is light, spongy, permeable to water, and of a dark reddish-fawn colour. The light-coloured variety of catechu produces a softer leather than that tanned with cutch. Catechu produces but little of the deposit of bloom which is yielded by oak-bark, valonia, and divi. A pound of catechu is said to be sufficient for the production of about a pound of leather. Bombay catechu or cutch is the richer in tannin; it is of a dark brownish-red colour, internally as well as externally, and of sp. gr. 1·38. Bengal catechu or terra is of a light-brown colour internally; its sp. gr. is 1·28. It has also been used in India to give a brown dye to cotton, and has been very extensively employed in the calico-printing works of Britain. The salts of copper, with sal-ammoniac, cause catechu to yield a bronze colour, which is very permanent. The proto-muriate of tin produces with it a yellowish-brown. A fine deep bronze hue is also produced from catechu by the perchloride of tin, with an addition of nitrate of copper. Acetate of alumina gives a brown, and nitrate of iron a dark-brown. For dyeing a golden coffee-brown, catechu has entirely superseded madder, one pound of it being equivalent to six pounds of that root.

A catechu prepared from the nuts of the Areca catechu is used solely as a masticatory. The nuts, however, yield two astringent preparations, both of which are known as catechu, and both of a very inferior quality. The preparations are respectively called, in Tamil, Katha kambu and Kash katti; in Telugu, Kansi; and in the Dekhan, Khrab katha and Acha katha. Katha kambu is chewed with the betel leaf; the latter, Kash katti, is used medicinally. For preparing this substance, the nuts are taken as they come from the tree, and boiled for some hours in an iron vessel. They are then taken out, and the remaining water is inspissated by continual boiling. This process furnishes kassu, or the most astringent terra japonica. After the nuts are dried, they are put into a fresh quantity of water and boiled again; and this water being inspissated, like the former, yields the best or dearest kind of catechu. Sir H. Davy, in analyzing the dark and pale catechu, or the Bombay and Bengal, as they were called, obtained in 200 parts from

	Tannin.	Extract.	Mucilage.	Insol. residuum.
Dark catechu,	109	68	13	10
Pale do.	97	73	16	14

When of good quality, catechu is a more powerful astringent than kino. Catechu is much used in medicine as an astringent and tonic, being usually given in combination with aromatic and earthy substances.—*Simmonds; Malcom's Tr.* i. 187; *M'Clell. Repts.; Mad. Exh. Jur. Rep.; O'Sh. Disp.* p. 302; *Royle; Mat. Med.* p. 351; *Faulk.; Kerr, Med. Obs. and Inquiries*, v.; *Hamil. Mysore*, iii. See Acacia catechu; Areca catechu; Uncaria gambier.

CATERPILLAR. Uskul, ARAB.; Chasil, Heb. Some Ceylon caterpillars sting. A greenish one, that occupies the Thespesia populnea (Suriya, Singh), at a certain stage in its growth descends by a silken thread, and hurries away. The moth of this is supposed to be a Bombyx, near Cnetho-

campa, *Stephens*. Another, short, broad, and pale green, with fleshy spines, that feeds on the Carissa jasminiflora, and stings with fury, is of the moth Necœra lepida, *Cramer* (the Limacodes graciosa, *West*). The larvæ of the genus Adolia are hairy, and sting with virulence. Many exactly resemble in tint the leaves they feed upon. Others are like little brown twigs; and many are so strangely marked or humped, that when motionless they can hardly be taken to be living creatures at all.—*Tennent's Ceylon*. See Insects; Larva.

CATGUT, in Hindi, rohda, of various qualities, is in general use in India for bowstrings, the strings of musical instruments. A kind of rope somewhat resembling catgut is made by the chucklers or tanners of the sinews of animals. It answers tolerably for lathe bands, drill bow-strings, etc. Catgut is imported from Herat into the Panjab.

CATHA EDULIS. *Forskal.* Khat, ARAB. The Abyssinian tea, one of the Celastraceæ, grows in Arabia, where its leaves are eaten green, and are supposed to give such increased wakefulness that a man could watch all night. The Arabs carry a twig about with them as an antidote against plague infections. Playfair says it is much used by the inhabitants, furnishing a drug which forms a pleasurable excitant. The leaves and tender shoots, when chewed, are said to produce hilarity of spirits and an agreeable state of wakefulness.—*Playfair's Aden; Hogg.*

CATHARTOCARPUS FISTULA. *Pers.*

Cassia fistula, *Linn.*

Bukbur, ... ARAB.	Pykassie, . . . DUT.
Banner lati-gach'h, BENG.	Pudding pipe tree, ENG.
Sondali; Sonalu, ,,	Purging cassia, . ,,
Gnoo-shwoay, . . BURM.	Casse fistulense, . FR.
Gnoo gyee, . . . ,,	Purgir cassie, . . GER.
Kakae; Cunari, . CAN.	Gurmalla, . . . GUJ.
Chang-kwo-tsz-shu, CHIN.	Amultas; Bhawa, HIND.

Its Product.

Hwai-hwa-tsing, . CHIN.	Cassia purgante, . PORT.
Polpa di Cassia, . . IT.	Suvarnuka, . . SANSK.
Dranguli; Tung-guli, JAV.	Ahilla, . . . SINGH.
Cassia pulpa, . . LAT.	Konne; Sarakonne, TAM.
Bawa; Baya, . . MAHR.	Suvarnamu; Beyla, TEL.
Mentus, . . . MALEAL.	Sunari, ... URIA.
Khyar-i-Chembir, . PERS.	

The genus belongs to the Fabaceæ. This is a tree from twenty to forty feet high, met with up to 4000 feet elevation all over Southern Asia, with a girth of three or four feet, and the height to the first branch ten to fifteen feet. It is uncommonly beautiful when in flower, few trees surpassing it in the elegance of its numerous long pendulous racemes of large bright yellow flowers, intermixed with the young lively green foliage. It bears a striking resemblance to the laburnum. It varies in size in different localities,—in Coimbatore being too small for useful timber, but in Malabar it attains sufficient size to be adapted for the spars of native vessels. The wood weighs 66 lbs. to the cubic foot, is close-grained, red-coloured, heavy, brittle, and of moderate strength; in Coimbatore used for tom-toms. In Ganjam and Gumsur, where it is tolerably common, it is made into ploughshares and rice-pounders. It is common on the hills and plains of Pegu, where it is used for bows, axles of carts, etc. It has long cylindrical pods, from nine inches to two feet in length, internally divided into partitions, each with a flat seed, surrounded by a soft pulp. Two pounds weight of the fruit yield eight ounces of the concrete pulp, which forms an article of commerce. Its bark is used in tanning. The bark of the root is a strong purge.—*Drs. Wight, Gibson, Irvine, Roxb.* ii. p. 333, *Stewart, Thompson, and Brandis; Mr. Rohde; Powell.*

CATHARTOCARPUS JAVANICUS. *Pers.* The Cassia Javanica, or horse cassia, is a native of Java and the Moluccas, with legumes above two feet in length, containing a black cathartic pulp, used in India as a veterinary medicine.—*Eng. Cyc.*

CATHARTOCARPUS NODOSUS. *Roxb.*

Cassia nodosa, *Buch.* | Gnu-thei-ni, . . BURM.

Remarkable for its large pink-coloured flowers. It is highly esteemed in Bengal, and is found in the Tavoy forests.—*Mason; Voigt.*

CATHARTOCARPUS ROXBURGHII. *D.C.*

Cath. marginatus, *G. Don.* | Cassia marginata, *Roxb.*

A highly ornamental tree, in form much resembling the weeping ash. It is a native of Ceylon and of the south of India, frequent in the jungle between Trichinopoly and Dindigul, and is found in Indian gardens. The wood is hard, and handsomely marked.—*Roxb.* ii. p. 338.

CATHAY, a name of Western China.

CATHI or Catti, the Katheri of Diodorus Siculus, are supposed to be the race which so manfully opposed Alexander. They were then located about Multan, at this period occupied by the Langa race. A portion of them gave their name to Kattyawar, in the Saurashtra peninsula. The Cathi claim descent from the Balla, an additional proof of northern origin, and strengthening their right to the epithet of the bards, Lords of Multan and Tatta. At the time of Alexander's advance they were confined to the country near the Panjnad, and their own traditions fix their emigration from the south-east part of the valley of the Indus about the eighth century. Colonel Tod describes the genuine Cathi as of a fine manly form, open countenance, and independent gait. Captain M'Murdo says, a character possessed of more energy than a Cathi does not exist. With an athletic frame, their height often exceeds six feet. They have light hair and blue eyes, evidence of a Scythic origin. Burnes describes the Cathi (or Katti) as a tall, stout, and handsome race. They live in scattered villages, and move their houses from place to place, rearing immense herds of buffaloes and camels, but scarcely ever condescending to cultivate the soil. Their habits are likewise predatory.—*History of the Panjab*, i. pp. 38, 39; *Travels in Western India*, p. 306; *Tod's Rajasthan*, ii. p. 246.

CATODON, a genus of mammalia, one of the Cetacea. The species known are C. colneti, C. macrocephalus, C. polycyphus, and C. australis. The last is a sperm whale of the ocean near Australia. It is about 35 feet long.

CAT'S EYE.

Chashm-i-maidah, . PER.	Zmilaces, ... LAT.
Bel occhio, ... IT.	Zmilampis, ... ,,
Beli oculus, . . . LAT.	Mata-kuching, . MALAY.

The cat's eye gem is chiefly found in Ceylon, but also obtained from Quilon and Cochin, and in the neighbourhood of Madras; also in Burma. Cat's eye is not much valued in India. It is a transparent quartz full of minute fibres of asbestos, and is cut in a highly convex form. It is of a yellow hue, slightly tinged with green, and is often set in rings. In the Moulmein market a small one

may be purchased for two rupees, and one of ordinary size for five, while ten rupees is the highest price given for the best. Ceylon produces the finest cat's eyes in the world,—indeed, the only kind that is highly esteemed, and that bring a high price. The best specimens have been found in the granitic alluvion of Saffragam and Matura.

CAT-SKINS are used chiefly dyed, and sold as false sable. The fur of the wild cat is more esteemed than that of the domestic cat.—*Faulkner.*

CATTI-MUNDOO. Tel. Euphorbia catti-mundoo, a plant of the Northern Circars. Its sap is highly cohesive, and is used for fastening knives into handles, hence its name.

CATTLE, horned cattle.

Ἴαν, ...	Gr.	Gai Goru, . . .	Hind.
Faihu, .	Old High Ger.	Pecu, ...	It.
Faihu, ...	Ger.	Para, ...	Sansk.

This term is applied chiefly to domesticated bovine quadrupeds, oxen and buffaloes, but is often made to include sheep and goats. The gaur, Gavæus gaurus, the bison of sportsmen, still remains wild in all the large forests of India, as also does the gayal or mithun, Gavæus frontalis, in the hilly tracts to the east of the Brahmaputra and at the head of the valley of Assam. Likewise the buffalo, Bubalus arni, of the forests of the Peninsula, as also the yak, Poephagus grunniens, of the snowy Himalaya, continue wild; but the domestic buffalo is extensively used both for draught and as milch kine, and its milk is richer than that of the cow. The breed on the Neilgherries is very fine, resembling the wild buffalo; and many along the crests of the Western Ghats and other places are seen with white legs like the gaur. In the Himalaya, the domesticated yak, the Chaori gao, is much used in all the elevated tracts, both as milch cattle and for burden, and breeds freely with the common cattle. Its milk is very rich, and it is the best carriage for rugged hill work, as they can ford a rapid stony torrent in a way that no other animal dare attempt, and can scramble up and down rugged hills in a perfectly wonderful manner.

The taurine group of cattle comprise the zebu or humped domestic cattle, the taurus, humpless cattle with cylindrical horns, and Gavæus, humpless cattle with flattened horns, peculiar to S.E. Asia. Small herds of the zebu, in Mysore, Nellore, Oudh, Rohilkhand, Shahabad, and the Doab near Muzaffarnagar, have run wild.

Varieties of the humpless taurus cattle occur in almost every district. Nellore and the Kistna districts produce excellent milch cows, the best of which sell for Rs. 200 to 300, and they stand 15 to 17 hands high. As draught cattle a yoked couple draw 1500 to 2000 lbs. on a fair road. The Nellore breed in Cuddapah are tall, bulky, clumsy, flat-sided animals, but possess great strength.

The Mysore bullock is 12 to 15 hands, and is celebrated as draught cattle, and for their spirit and powers of endurance, and sell for Rs. 70 to 150 each, and Rs. 150 to 200 the pair. This breed furnishes cattle for the Madras gun-carriages and karkhana. The Salem cattle are of this breed. Draught cattle in India are chiefly bullocks, and they are driven from the horns, or by means of the reins led through the nose cartilage. Iago says in Othello, 'He will as tenderly be led by the nose as asses are,' indicating that in Shakespeare's time a similar mode prevailed of driving asses. The bulk of the farmers of India do not find it advantageous to be cattle-breeders, and fodder is not provided.

In the middle of the 19th century, a severe cattle plague carried off vast quantities of cattle in Europe, and shortly after a similar plague in India carried off great numbers. The characteristic symptoms were drooping, cold ears, hair standing on end, frequent weak pulse, running at the eyes and nose, scanty high-coloured urine and purging, terminating in a bloody flux. As the disease advanced the body became covered with pustules, the disease generally proving fatal in a few days; but when the membranes of the brain were affected, the animal died in a few hours with the symptoms of apoplexy.

The bullock and the cow are not of equal value in India. In the parts of the country where the one sex is particularly valuable, the other sex may be of small value. The excellence of the Marwar bullock for draught is proverbial, but we never hear of the Marwar cows' milk. The male of the Gujerat buffalo was esteemed of so little use, that in the early part of the 19th century they were for the greater part not even reared. The males of the Mahoor breed were said to be so fierce as to be useless except for reproduction.—*L.* The male buffalo of the Surat breed is of great size and weight. The milch buffalo of Surat is of great value. Lands bordering upon hills are of comparatively greater value to cattle grazers, over plain districts which are put under the plough. In these the working cattle fall off miserably in the three concluding months of the fair season. There is no grazing; and were it not for the purchased food they get in the house, they would die.

CATTRA-BANGHA. Sansk. Aristolochia bracteata.

CATTU. Maleal. Wild or uncultivated; hence

Cattu-Carua, Cinnamomum iners.
Cattu-Casturi, Abelmoscus moschatus.
Cattu-Elupa, Terminalia bellerica.
Cattu-Paeru, Phaseolus rostratus.
Cattu-Siragam, Vernonia anthelmintica.
Cattu-Tirpali, Chavica Roxburghii.

CATTY or Kati. Malay. In the Eastern Archipelago and China, a weight equal to 1⅓ lb. or 16 tale; 10 mace equal to one liang; 16 liang make one catty; 100 catty are equal to 1 pikul, 133⅓ lbs.—*Wils.*

CATU KAMRIGA RAKTA, dragon's blood.

CATURUS SPICIFLORUS. *Linn.*

Acalypha hispida. | Watta tali, . . Maleal.

A plant of Travancore; its flowers are given in diarrhœa in the form of decoction or as a conserve, and its leaves are beaten up with green tobacco leaf and infusion of rice, and applied to inveterate ulcers.

CAUA-THENTHI. Hind. Clitoria ternatea.

CAUBUL, a town in Afghanistan, in long. 69° 12′ E., and lat. 34° 7′ N. See Kābul.

CAUCASIAN, a term applied by ethnologists to a race of which the European is the type, also to a class of languages. In the Caucasian race, there is a fine forehead, high brow and nose, long beard, tall, lithe, powerful frame, and light colour of skin.

CAUCASUS. The main chain of the Caucasus crosses obliquely, from north-east to south-west, the great isthmus which lies between the Black Sea and the Caspian, separating Europe from Asia. The chain extends on a line of more than 1000

miles from the neighbourhood of Anapa, at the entrance of the Sea of Azof, almost in a straight line to Baku and the peninsula of Apscheron jutting out into the Caspian. The crest averages a height of about 11,000 feet. The valleys on both sides are steep and narrow, and the Terek pass, 7977 feet. The principal range boasts the gigantic Elburz, 17,746 feet, and Kasibeck, 16,546 feet. The heads of these two celebrated mountains are almost always obscured with clouds; and the snow-line on them is 11,000 feet, and cereals grow up to 7000 feet.

The whole of the Caucasian region consists of the old territories of Daghestan and Circassia, north of the main chain, and of the old kingdom of Georgia on the south, to which Russia added at various epochs the Armenian districts of Erivan, Elisavetpol, and Alexandropol, and more lately those of Kars and Batoum. The Caucasus is of importance to Russia as the channel through which her trade can be extended to all parts of Central and Southern Asia, her commercial enterprise rather outstripping than following close her territorial aggrandizement. The Caucasus is like a great wedge thrust between Persia and Asiatic Turkey. It is the highway which is to lead the merchandise as well as the arms of Russia to the shores of the Persian Gulf and the Indian Ocean, sooner than any of her roads or railroads across the Ural, *via* Perm or Orenburg,—sooner than her almost exclusive navigation of the Caspian Sea. The whole of the Caucasian regions is ruled by a Russian lieutenant, residing at Tiflis. It is divided into 12 governments or provinces, exclusive of Kars and Batoum. It has, in round numbers, an area of half a million square kilometres, with a population of 5,000,000. In Tiflis, the capital, out of 104,000 there are at least 20 races of men. Russians muster 30,823; but the Armenians outnumber them by 6787. Next come 22,152 Georgians of various tribes; and the rest is made up of Tartars, Persians, Turks, Jews, Assyrians, and Chaldæans, besides various mountain tribes deemed indigenous, the Ossets, Ingush, Aisors, Khefsurs, Lesghians, etc., with 2741 Poles, 2135 Germans, 257 French, 163 Italians, 52 English. With respect to creeds, 52,392 Russians and Georgians belong to the orthodox or Greco-Russian Church; 36,000 are Gregorian Armenians; 871 Armenian Catholics, with 3698other Roman Catholics; 2177 Lutherans, 1276 Jews, and 4338 Mahomedans. Petroleum, in enormous subterranean lakes and reservoirs, underlies the Caucasian region from sea to sea. It is largely found beneath the steppes both north and south of the mountain chain. At Baku, at its southern end, on the Caspian, naphtha bursts forth in copious springs, sending up tall liquid columns not unlike the geysers of Iceland.—*M'Gregor's Persia; Wheeler's Hist. of India; Porter's Travels*, i. p. 152.

CAULIFLOWER. Brassica oleracea, *var.* An excellent vegetable. In the Dekhan the seed should be sown at the latter end of August. Removing the plants occasionally, prevents their quick growth. In England the market gardeners seldom water cauliflowers, and once in four days is amply sufficient in the Dekhan; no injury will accrue even if watered less frequently. In India, white broccoli is often taken for the cauliflower. Broccoli, both red and white, should be cultivated in the same manner as cauliflower.—*Riddell.*

CAUTLEY, SIR PROBY THOS., K.C.B., entered the Bengal Artillery in 1819. He was employed in the field during the years 1820 and 1821, in the reduction of numerous forts in the kingdom of Oudh. In 1825 and 1826 he served at the siege of Bhartpur. He was subsequently employed as a civil engineer on the eastern Jumna Canal in the N.W. Provinces, and was the projector and the executor of the great Ganges Canal Works, which were opened 8th April 1854. He carried on extensive researches, in conjunction with Dr. Falconer, in the fossil remains in the Siwalik hills, and he presented to the British Museum an extensive collection of fossil mammalia from the Panjab. He wrote on a submerged city, 20 feet under ground, near Behut, in the Doab, Bl. As. Tr. 1834; On Fossil Quadrumana, ibid.; Use of Wells, etc., in Foundations, as practised in the Northern Doab; Structure of the Sevallick Hills; Notice of a Fossil Monkey from the Sevallick Hills; Coal and Lignite in the Himalayas; Description of Sivatherium giganticum, the Fossil Crocodile, Giraffe, Ghurial, Hippopotamus, Camel, Tiger, and Bear; Gold Washings in the Goomti River, in the Sevallick Hills, between the Jumna and Sutlej Rivers; On a New Species of Snake; Mastodonta dentetroites; Mastodons of Sevallicks; Manufacture of Tar in the Sevallick Hills; Panchukki or Corn Mill; Dam Sluices; Remarks on the Fortress of Aligurh; Caramssa Bridge. On leaving Calcutta for Europe, he was honoured with a salute from the batteries of Fort William, and was favourably noticed in the Government Gazette.—*Gleanings of Soc. Beng. As. S. Tr.* 1834; *Parlby's Military Repository*, Lond.; *Geol. Soc. Tr.* 1840.

CAUVERY, the Chaberos of Ptolemy, a river of the Peninsula of India, which rises in the mountains of Coorg, 50 miles from Mangalore, in lat. 12° 25′ N., and long. 75° 35′ E., and, after an easterly course of 472 miles, it disembogues into the Bay of Bengal, receiving the Magunmurchy, 40 miles; Bhawani, 120 miles; Noyel, 95 miles; Seringapatam, Trichinopoly, Tanjore, and Tranquebar are on its banks. It passes through and from Mysore to the coast; at Trichinopoly it forms the island of Srirangam; and a mound at Coiladdy prevents the rejunction of the two forks of the Cauvery and Colerun, and the stream is led into numerous large irrigating channels that are conducted all through Tanjore. The largest of these are the Vettar, the Vellar, and Arselar, all of which enter the Bay of Bengal. Navigable for craft through the low country during the inundation. A waterfall occurs in its course. It is deemed by the Hindus a sacred river, and is called by them the Dakshini Ganga, or Southern Ganges. At its source at Tala Kaveri and at Bhaga mandla, where it receives its first tributary, are ancient Hindu temples which are largely frequented by pilgrims in the Tulemasa (October to November).

The Cauvery drains an area of about 28,000 square miles. The area of its delta is 2760 square miles, and its irrigation system supplies about 835,208 acres, yielding a revenue of Rs. 35,30,336. Its delta has the largest area of artificial irrigation in the Madras Presidency. About 10 miles west of Trichinopoly, the Agunda Cauvery divides at the head of the island of Seringham into two branches, the Colerun and the Cauvery. Colonel Sim and

Sir Arthur Cotton, about 1834–6, constructed a weir across the Colerun, which has given great benefits to the people of Tanjore. The head of the Cauvery branch is 1950 feet wide, and the bed level is regulated by a dam. After a course of 16 or 17 miles, the Cauvery bifurcates into two principal streams, called the Cauvery and the Vennaur, which irrigate nearly equal areas, and which give off numerous branches, and regulating works have been constructed at all the bifurcations. Prior to British rule, the native princes had connected the Cauvery with the Colerun at the east end of the island of Srirangam, about 20 miles from the upper Colerun anicut, and across this channel they had constructed the Grand Anicut. In the northern delta, the whole of the distribution of water has been artificially carried out by canals, but in the Cauvery delta the principal distribution has been effected naturally by the numerous branches thrown off by the Cauvery and Vennaur. The chief work left to be done by the British was to render the water supply more reliable, and this was secured by the Upper Anicut in 1836, at an expenditure of Rs. 1,83,000.

CAUVERYPAK, a place midway between Conjeveram and Arcot. Clive gained a battle here in February 1752, and the place surrendered to him.

CAVA or Kava, also called Ava pepper, is from the Macropiper methysticum of the Pacific. Its root produces a stimulating liquor. See Ava.

CAVAGNARI. Major Sir Pierre Louis Napoleon Cavagnari, K.C.B., son of General Adolphe Cavagnari, of a noble Parmese family. He entered the service of the E. I. Company as 'direct cadet,' and served with the 1st Bengal Fusiliers in the Oudh campaign of 1858–59, also with the 3d Gurkhas throughout the Ambala campaign of 1863, and the Hazara campaign of 1868. He received the Victoria Cross, for the daring capture of a band of murderers in connection with the Swat Canal outrage in December 1876, near the English fort of Abazaie, where many workmen were killed. He accompanied Sir Neville Chamberlain on a mission to the Amir Sher Ali, and was in advance with a small body of the escort, when he was stopped by the Afghans at Ali Musjid, and compelled to turn back, an incident which was the immediate cause of the Second Afghan War. He accompanied General Sir Samuel Browne as Political Officer, and at the termination of the campaign was appointed Plenipotentiary, and in that capacity negotiated the peace with Yakub Khan at Gundamuk. He and all his guard were killed at Kābul, which led to the re-occupation of Kābul, Kandahar, and Ghazni.

CAVATUM PILLOO. TAM. Andropogon schœnanthus.

CAVE. Ghar, ARAB., PERS.; Koo, BURMESE. Chambered rocks occur in many parts of Afghanistan, also in a mountain S. of the Deo Hissar, near Singlah, and are probably of Buddhist origin. The small chambers were intended for the abode of the ascetics of the sect. There are some fine remains of this class in the upper valley of the Urgandab. At Karaftu, in the Suj Bolak district of Azarbijan, is a series of ancient caves. There are numerous chambered rocks at Bamian; and the Afridi tribe in the Khaibar pass live in chambered rocks.

CAVE TEMPLES and monasteries of India consist of stupendous excavations and monolithic structures, made for religious and monastic purposes. There are in India at least 1000 distinct caves. Some are opposite Prome in Burma; there are a few in the Madras Presidency; about 900 in the Bombay Presidency; several in the Hyderabad Dominions; also in Orissa, in Behar, in Malwa, in the valley of the Indus, among the mountains of Baluchistan, Afghanistan, and Bamian. In Western India alone, including the Nizam's dominions, there are at least thirty series of cave-temples which have been examined by Europeans. Cave inscriptions discovered are seventeen in number, viz. six about 15 miles from Gya, in Bahar, viz. three in the hill of Barabar, three in the hill of Nagarjuni, nine in the hill of Khandagiri, in Cuttack, and two in Ramgarh in Sirguja.

The *Cave Temples* in the southern part of India are classed by Mr. Fergusson into—

(*a*) The vihara or monastery caves, which consist of (1) natural caverns or caves slightly improved by art. These are the most ancient, and are found appropriated to religious purposes in Behar and Cuttack. Next (2) a verandah opening behind into cells for the abode of priests, as in Cuttack, and in the oldest vihara caves at Ajunta. The third (3) has an enlarged hall supported on pillars. The most splendid caves are those of Ajunta, though the Dherwara at Ellora is also fine, and there are some good specimens at Salsette and Junnar.

(*b*) Buddhist chaitya caves form the second class. These are the temples or churches of the series, and one or more of them are attached to every set of caves in Western India, though none exist on the eastern side. Unlike the vihara, all these caves have the same plan and arrangement, and the Karli cave is the most perfect in India. All these consist of an external porch or music gallery, an internal gallery over the entrance, a central aisle which may be called a nave, roofed by a plain waggon vault, and a semi-dome terminating the nave, under the centre of which always stands a dahgopa or chaitya. In the oldest temples, the dahgopa consists of a plain central drum, surmounted by a hemispherical dome crowned by a Tee, which supported the umbrella of state of wood or stone. These two classes comprehend all the Buddhist caves in India.

(*c*) The third class consists of Brahmanical caves properly so called. The finest specimens are at Ellora and Elephanta, though some good ones exist also on the island of Salsette, and at Mahabalipur. In form many of them are copies of and a good deal resemble the Buddhist vihara. But they have not been appropriated from the Buddhists, as the arrangement of the pillars and position of the sanctuary are different. They are never surrounded by cells, as all viharas are; and their walls are invariably covered or meant to be covered with sculpture, while the viharas are almost as invariably decorated by painting, except the sanctuary. The subjects of the sculpture of course always set the question at rest.

(*d*) The fourth class consists of rock-cut models of structural and Brahmanical temples. To this class belong the far-famed Kailas at Ellora, the Saivite temple at Dhumnar, and the Raths at Mahabalipur. This last is cut out of isolated blocks of granite, but the rest stand in pits.

The Indra Subha group at Ellora should perhaps form a fifth.

(*e*) The fifth or true Jaina caves occur at Khandagiri in Cuttack, and in the southern parts of India, but are few and insignificant. In the rock of Gwalior Fort there are cut in the rock a number of colossal figures, some 30 to 40 feet high, of one of the thirthankara, some sitting, some standing. Their dates are about the 10th or 12th century before Christ.

The greater number of the viharas seem to have been grouped around structural topes. Their façades are generally perfect. Nine-tenths occur in S.W. India, in the Bombay Presidency, with a group in Behar, another in Cuttack, one at Mahabalipur, and two or three in the Panjab and Afghanistan. Asoka, B.C. 250, excavated the first of these in Behar, at Rajagriha, and till the 8th century they continued to be excavated by Buddhists, Hindus, and Jains. It is in Behar that the oldest caves have been found, in the neighbourhood of Rajagriha, which was the capital of Bengal at the advent of Buddha; and one, a slightly improved natural cave, the Satapanni, is said to be that in front of which the first convocation was held B.C. 543.

The most interesting group is at Barabar, 16 miles N. of Gaya. An inscription on the Karna Chopa cave there, records its excavation in the 19th year of Asoka (B.C. 245). Another, called Sudama or Nigope, bears an inscription by Asoka in the 12th year of his reign. The Lomas Rishi is an interesting cave, as also is the Milkmaid's cave, which is probably the most modern, as it was excavated by Dasaratha, grandson of Asoka. Their dates appear to range from B.C. 260 to 200. The rock in which they are excavated is a hard, close-grained granite.

Chaitya halls have also been excavated in several of the rocks of Western India. The oldest of these has been excavated at Bhaja, four miles south of the great Karli cave in the Bhor Ghat. It is supposed to have been before the Christian era. Another group is to be seen at Bedsa, 10 or 11 miles south of Karli, which has two pillars with capitals, surmounted by horses and elephants, and more like the Persepolitan than any others in India. A third chaitya cave is at Nasik, and an inscription over its doorway states that it was the gift of a citizen of Nasik, in the reign of Krishna, one of the Andrabritya kings, who reigned just before the Christian era. Another inscription under the pillars states it to have been excavated in honour of Badrakaraka, supposed to have been the fifth king of the Sunga dynasty, B.C. 129.

Karli, on the road between Bombay and Poona, has the largest, finest, and most complete of the chaitya caves. Inscriptions ascribe its excavation to the Maharaja Bhuti or Deva Bhuti, who reigned B.C. 78.

There are four chaitya caves in the Ajunta group. The oldest and lowest down, No. 9, is 45 feet by 23 feet in width. The next, No. 10, higher up, is 94½ by 41¼ feet internally. A third is cave No. 19, and in it Buddha in all his attitudes is introduced everywhere. Hitherto in all sculptures mortal men and women had been absent, and Buddhism was a pure theism or atheism, but at the date of this cave Buddhism has become changed into an overwhelming idolatry.—*Fergusson*, p. 124.

The last chaitya of Ajunta (No. 26) was excavated about the year A.D. 600.

At Ellora, the celebrated Viswakarma cave is a chaitya. Its age also is about the year A.D. 600. It is 85 feet by 43 feet.

The Kenheri cave, on the island of Salsette, in Bombay harbour, is 88½ feet by 39 feet 10 inches, and was excavated about the early years of the 5th century, when Fa Hian was travelling in India. It is a literal and a coarse copy of the Karli cave.

At Dhumnar, about halfway between Kotah and Ujjain, are a series of about 60 or 70 caves, cut in coarse laterite conglomerate. One is a chaitya cella, in the midst of a vihara; its date probably is the 6th century A.D.

At Kholvi, not far from Dhumnar, is the most modern group of Buddhist caves in India. One called Arjun's house is a highly ornamented dagoba. Inside is a cross-legged seated figure of Buddha. The only excavation here is a chaitya hall 26 feet by 13 feet.

Some of the vihara were three or four storeys in height, and containing up to 1500 cells, as at Mahabalipur, 30 miles south of Madras, and at Nalanda, 7 miles north of the old capital of Rajagriha, and 34 miles south of Patna, at which, in the first century, Nagarjuna resided. In Hiwen Thsang's time 10,000 priests and neophytes resided here; religion and philosophy were taught from a hundred chairs, and that pilgrim resided there as a student for five years. He says there were thousands of viharas, but none equal to this. It was to Central India what Cluny and Clairvaux were to France in the middle ages. Some at least of the many viharas, as that cleared out by Captain Kittoe and Mr. Thomas, seem to have been destroyed by fire.

On the western side of India, viharas have been described at Ajunta, near Aurangabad, at Bagh on the Tapti, at Bedsa, Bhaja, Daraseo or Darasinha, Ellora, at Hazar Kotri in the Nizam's territories, at Junir, halfway between Nasik and Poona, and at Salsette. At Nasik are three great viharas, the oldest that of Nahapana, A.D. 100; next, Gautamiputra, A.D. 300; and the third, Yadnyasri, A.D. 400. They are a purely Buddhist group. The façades of the first and second are richly ornamented, and were formed during the rule of the Andhrabritya dynasty. At Ellora numerous viharas are attached to the great Viswakarma chaitya. The great vihara is known as the Dherwara, 110 feet by 70 feet. In the sanctuaries of most of these caves are figures of Buddha. In the Das Avatara the sculptures are all Brahmanical.

In the neighbourhood of Peshawur, there are monasteries at Jamalgiri, Takht-i-Bahi, Shah Dehri, and Sahri Balol. The sculptures and architecture are highly classical,—Ionic pillars, Corinthian capitals; and some antiquaries regard them as acquired from the Bactrian Greeks, while others attribute them to western influence after the age of Constantine. There are many figures of Buddha, and numerous other figures with nimbus or glories or circular discs at the backs of their heads; they are on the base of the altars or stupas, on the walls and in the cells.

The Brahmanical caves of India were excavated after those of the Buddhist and Jains. The more prominent are as follow:—

1. Saiva cave at Aihole, in the Kaladgi district, S. of Bijapur, A.D. 500 to 550.

2. Badami caves, one Saiva and two Vaishnava, A.D. 550–579.
3. Karusa caves, between Ausa and Kalyana in the Hyderabad territory, A.D. 500–700.
4. Amba Jogi Saiva cave near Mominabad and Bhamburde cave near Poona, A.D. 550–600.
5. Dhokeswar, between Junnar and Ahmadnaggur, A.D. 550–600.
6. Rameswara cave at Ellora.
7. Ravana ka Khai and Das Avatara at Ellora, A.D. 600–700.
8. Dumar Lena and Ellora caves, N. of Rameswara, A.D. 650–725.
9. Mahavallepur Ratha, S. of Madras, A.D. 650–700.
10. Undavalli, Vaishnava cave on the Krishna at Bezwara, A.D. 650–700.
11. Elephanta, Jogeswari, and Mandapeswari caves near Bombay, A.D. 725–775.
12. Patur in Bera, Rudreswara, near Ajunta, Patna in Kandesh, and caves near Satara, A.D. 700–800.
13. Kailasa monolithic Saiva temple at Ellora, A.D. 725–800.
14. Dhumnar Brahmanical caves, A.D. 750–800.

The *Behar caves* are in the neighbourhood of Rajagriha. The Milkmaid's cave and Brahman Girl's cave have inscriptions in the Lat character. They are of about 200 B.C., and are the most ancient caves of India. The Nagarjuni cave and Haft Khaneh or Satghur group are situated in the southern arm of the hill at some little distance from the Brahman Girl and Milkmaid's cave. Another group is the neighbouring Karna chapara and Lomas Rishi cave.

The caves of Udyagiri and Khandagiri hill, about 20 miles from Cuttack, and 5 from Bhuvaneswara, are next in antiquity to those of Behar. They are built on the hills of Udyagiri and Khandagiri. The former are Buddhist and the older; the latter, probably, are Jaina. Many of the inscriptions are in the Lat character, and this gives their age as anterior to the Christian era. The frieze sculpture in the Ganes gumpha is superior to any in India, and resembles that of the Sanchi tope at Bhilsa. In it there are no gods, no figures of different sizes, nor any extravagance. On the Buddhist caves here, there are no figures of Buddha, or any images. In a Jaina cave in Khandagiri, the twenty-four thirthankara, with their female energies, are sculptured.

The *Ajunta* are the most complete series of Buddhist caves in India, without any mixture of Brahmanism, and contain types of all the rest. They are in a ravine in the ghat south of the Tapti. At Bang, also in a ravine or small valley in the ghat, on the north side of the valley of the Tapti, are three ancient Buddhist caves.

Those of *Karli* are not so extensive as the Ajunta, but still purely Buddhistical, and containing the largest and finest chaitya cave in India. Karli is about halfway between Poona and Bombay on the right-hand side of the valley as you proceed towards the sea.

The *Salsette* or *Kenheri* caves in the island of Salsette are also purely Buddhist, but very inferior to the former. The Kenheri caves are excavated in a hill situated in the midst of an immense tract of forest country, and Mr. Fergusson supposed their date about the 9th and 10th century of the Christian era. The monastic system of the Buddhists has its finest illustration in the series of dormitories, chapels, halls, and temples at Kenheri.

Dhumnar, about 40 miles south-east from Nemuch, but close to Chundivassa, contains Buddhist caves with a Brahmanical rock temple behind.

The *Ellora* caves are excavated in a porphyritic greenstone or amygdaloid. The Kailas at Ellora is a wonderful work of art—is a small hill cut into a temple. The caves of Elephanta overlook the harbour of Bombay. The Elephanta caves are cut in a harder rock than those at Ellora. Those of Dhumnar and Ellora contain a strong admixture of Brahmanism, and those of Elephanta are entirely Brahmanical, though perhaps of the same age as those of Ellora.

The *Orissa cave temples* are in two isolated hills of sandstone rock, about 20 miles from Cuttack, and 5 from Bhuvaneswar. The oldest are in the hill called Udayagiri, the more modern in that portion called Khandagiri. They became Jaina about the 10th or 11th century, and at the close of the 18th century a Jaina temple was erected in Khandagiri hill. The oldest cave is called Hat'hi Gumpha. The Aswatama rock near by has on it a copy of Asoka's edicts; and there is another at Aska, near the N. end of the Chilka lake. They are supposed to have been excavated about the time of Asoka. Another natural cave is stated in an inscription to be that of Chulakarma; and others the Pawan Garbha, Jodev Garbha, the Ganesha, Ananta Garbha, and the Rani Gumpha. In the last-named the sculptures represent hunting scenes, fighting, dancing, drinking, and love-making. The sole emblems which can be regarded as Buddhistic are the swastika, the trisul, and shield.—*Fergusson*, pp. 105, 132, 143; *Fergusson and Burgess*, pp. 403, 484; *Cunningham's Archeological Report.*

CAVIARE.

Cavial; Caviar, . . FR.	Ikra, ... RUS.
Kaviar, ... GER.	Caviario, . . . IT., SP.
Caviale, ... IT.	

Caviare, a substance prepared in Russia, consisting of the salted roes of large fish. The best, which is made from the roe of the sturgeon caught in the Volga, in the neighbourhood of Astracan, appears to consist entirely of the eggs. It is packed in small kegs, and exported; but the inferior sort is made into the form of dry cakes. It is highly esteemed in Russia, and also forms an article of considerable export,—30,000 barrels having been exported from Astracan in a single season. The manufacture consists in separating the roe from its membranes, then washing in vinegar or white wine, and drying by spreading it out on a board in the air. Salt is then well rubbed in, and it is next put in a bag and the liquor pressed out. It is then packed in kegs for sale. During the three annual seasons of fasting in Russia, the consumption of caviare is very great, as it is also in Italy during the fasts of the church. It is eaten on bread, with oil and lemon juice or vinegar. Professor Rawlinson says caviare was known to the Greeks as Tarichos anta-kaion. The sturgeon of the Borysthenes, according to Herodotus, were called Antacæi.—*Tomlinson*, 354.

CAWA-ARANG. MALAY. A light brown or pale brown coloured wood of Penang, from a very large tree; used for furniture and ornamental work.—*Frith.* (Qu. Kayu arang.)

CAWNEE, from Kani, KARN., TAM., TEL. In Cuttack, a hand's-breadth. In the south of the Peninsula of India, a land measure. At Madras the standard cawnee is 24 manai or grounds, each

of 2400 square feet. The cawnee is therefore 57,600 square feet = 1·322 of an English acre. Another measurement, however, makes it somewhat less than an acre. The cawnee, in several districts in the Madras Presidency, is subdivided into 100ths; and in the re-survey of the southern districts of Madras, the decimal subdivision of the acre has been authorized.—*Wilson.*

CAWNPORE or Cawnpur, a large cantonment and town in the Allahabad division, situated on the right bank of the Ganges, in lat. 26° 28′ 15″ N., and long. 80° 23′ 45″ E., and 580 feet above the sea. Its civil population is about 112,000, and is 685 miles from Calcutta by rail. It gives its name to the district of Cawnpur in the N.W. Provinces of India, in the Doab, a great alluvial plain between the Ganges and the Jumna. The district is bounded on the N.E. by the Ganges, on the S.W. by the Jumna, on the N.W. by Etawa and Farrakhabad, and on the S.E. by Futtehpur, and extends between lat. 25° 55′ and 27° N., and long. 79° 34′ and 80° 37′ E. A small colony of Chinese settled in Cawnpur, and introduced a manufacture of leather, for which the town was long famous. During the mutiny of the Bengal army, on the 26th June 1857 Cawnpur capitulated to the rebels under Dandhu Punt Nana Rao, under promise of safe escort, but the garrison, under General Wheeler, were all destroyed; and on the 15th and 16th July, all their wives and children were destroyed and thrown into a dry well. In and above the well at the entrenchment, and in the well of the slaughter-house, lay the bones of no less than 420 civilians, military officers, and their wives, 400 private soldiers and their wives, and musicians, besides infants. If to these be added the Futtehghur party and those who perished outside the entrenchments, there were not less than a thousand Christians, the majority of whom were murdered in cold blood by order of Nana Rao. Seven Christian men, including Delafosse and Thomson, twelve women and six faithful natives, who entered the entrenchment, alone ultimately escaped. Nineteen Christians and five children, who remained in Cawnpur, escaped by aid of the natives, besides a few drummers. Nana Rao seems to have died in the forests of Nepal. Cawnpur was retaken by General Havelock on the 17th July 1857. On the 15th July General Havelock fought the battles of Aung and Pandu Nadi; on the next day took Cawnpur by storm; on the 17th and 18th recovered the city; and on the 19th took and destroyed Nana Rao's palace at Bit'hur. On the 27th November the Gwalior mutineers and others took possession, but Lord Clyde retook it next evening, and on the 6th December he routed them with great loss. The district was pacified after the fall of Kalpi in May 1858. The district is essentially Hindu. Of the total population, 1,156,055 in 1872, the Brahmans, Rajputs, and Banyas numbered 313,278 souls; the Kayasth, 15,169; the Ahir, 113,053; the Kurmi, 58,359; the Chamar, 122,932; the Mahomedans of the Sunni sect being only 64,797 souls.—*Imp. Gaz.*

CAYENNE PEPPER.

Filfil-ahmar, . . . ARAB.	Lall mirch, GUJ., HIND.
Tabia, ... BALI.	Peperone commune, IT.
Meneshena, . . . CAN.	Lombok, ... JAV.
Ta-tsiau-moh, . . CHIN.	Chabai; Chabe, MALAY.
Poivre d'Espagne, . FR.	Lombok; Lada mera, ,,
Spanischer Pfeffer, GER.	Lada china, . . . ,,
Filfil-i-surkh, . . . PERS.	Mallaghai, . . . TAM.
Brahu maricha, . SANSK.	Mirapa-kai, . . . TEL.
Gas-miris, . . . SINGH.	

The powder of the dried pods of different species of capsicum, used as a stimulating condiment. See Capsicum.

CAY-HAUNG. CHIN. Gossypium Indicum.

CAY-KHE. COCH.-CHIN. Millet. Cay-khoaica, Aristolochia Indica. Cay-me, tamarind. Cay-tan-yen, limes. Cay-vang-dee, sassafras.

CAYLEY, DR. HENRY, a Bengal medical officer who entered the service in January 1857. In May 1867 he went to Leh in Ladakh as Political Agent, in the territories of the Maharaja of Kashmir, to protect and encourage commercial intercourse through Ladakh between India and Central Asia, and watch political events in Central Asia and Eastern Turkestan.

CAZI, a Mahomedan judge, religious and civil.

CEDAR, the sarwat of Arabia, is a commercial term given to the woods of several distinct kinds of forest trees, the timbers of which are distinguished as red and white cedar, Barbadoes and Bermuda cedar, cedar of Lebanon, pencil cedar, bastard cedar, etc., some of them growing in America, some in Europe, and some in Asia. The cedar of Lebanon, so often noticed in Scripture, is usually supposed to be Pinus cedrus, called Cedrus Libanus, or cedar of Lebanon. The lofty deodara, a native of the Himalayas, with fragrant and almost imperishable wood, and often called the Indian cedar, has been sometimes referred to the genus Pinus, and sometimes to Abies, Cedrus, or Larix, with the specific name of deodara; and Dr. Hooker is of opinion that the deodar and the cedar of Lebanon are identical. The cedar wood of Scripture is supposed to be the sandarach tree, Thuja articulata. The woods of several of the conifera are called cedars. In India, the term bastard cedar is applied to the Guazama tomentosa; and the Hymenodictyon excelsum, Chickrassia tabularis, and Cedrela toona are all called cedars. In New South Wales the term white cedar is applied to Melia azaderach, and red cedar to that of Flindersia Australis. In China, a kind of cedar, probably a cypress, called Nan-mah, or southern wood, which resists time and insects, is considered peculiarly valuable, and is especially reserved for imperial use and buildings; and the cedar wood of Japan, according to Thunberg, is a species of cypress. The cedar of Guiana is the wood of Icica altissima. The white wood or white cedar of Jamaica is Bignonia leucoxylon. The word 'cedar,' in the United States, is applied to various genera of the pine family. The white cedar of the southern swamps is a cypress; the wood of Juniperus Virginiana is called red or pencil cedar, that of J. Bermudiana is called Bermuda cedar, and that of J. Barbadensis is called Barbadoes cedar, while the juniper of the north of Spain and south of France and of the Levant is from J. oxycedrus. The white cedar of North America, a less valuable wood than the red cedar, is yielded by Cupressus thyoides. The cedar of New Zealand is Hartighsea spectabilis. The cedar of the Amazon is from the Cedrela odorata of Von Martius. Under the term cedar, Colonel Frith described a reddish-coloured wood of Palghat, specific gravity 0·507, as a large tree, wood aromatic and used for furniture; and under the name of cedar-root he mentioned a very

aromatic wood, used for ornamental furniture in Palghat. These two are possibly from the Cedrela toona. The wood of the cedar of Lebanon, as now met with, is not in much esteem; but that of the Cedrus deodara of the Himalaya really possesses all the good qualities for which those of Lebanon were praised. Specimens of the wood of the Indian cedar, Cedrus deodara, and of the cypress, Cupressus torulosa, from the Himalayas, were shown by Dr. Royle at the Exhibition of 1851; the former has been introduced into England as a beautiful ornamental tree, but appears to promise well as a useful timber tree, as the wood works well and freely. The bastard cedar are woods of Cedrela toona, *Roxb.*, and of Guazama tomentosa, *Kunth;* and the Goa cedar is the Cupressus Lusitanica.—*Faulkner; Dr. Hooker; Holtzapfel; M'Culloch; Williams' Middle Kingdom*, p. 275; *Burton's City of the Salt Lake; Harris, Nat. Hist. of Bible.*

CEDED DISTRICTS, a territory under the Madras Presidency, in the centre of the Peninsula, now apportioned into the Bellary, Cuddapah, and Kurnool collectorates. This tract of country belonged to the Mysore sovereign Tipu, and after his death fell to the share of the Hyderabad state. Shortly afterwards, under the treaty of 1803, this share was ceded to the British on their undertaking to provide a subsidiary force of about ten thousand soldiers. Their numbers in 1868 did not exceed 5000, stationed at Secunderabad, six miles from Hyderabad, in the Dekhan. There is one large military cantonment at Bellary, and a sanatorium, 37 miles distant, at Ramandrug. The people of the districts are partly Canarese, partly Teling, the linguistic boundary being a little east and south of Bellary. The minerals are iron ore, lead, antimony, manganese, diamonds, alum, muriate of soda, natron or native soda, saltpetre, gun-flints, and marble. The same term is applied to the districts ceded in 1801 by the Nawab Vizir of Oudh, which now form the eastern portion of the N.W. Provinces, and include Allahabad, Azimghur, Farrakhabad, Etawa, Gorakhpur.—*Newbold.*

CEDRELACEÆ, the toon-tree tribe of plants, comprising the genera Cedrela, Chickrassia, Chloroxylon, Flindersia, Soymida, and Swietenia; several species of these grow in the East Indies. Besides the species of Cedrela below, Kurz names Cedrela multijuga of Pegu.

CEDRELA ODORATA. *Macfadyen.*

Ch'un-shu, Chu-pi, Hiang-ch'-un, Chun-pi, . . CHIN.

A timber tree of China; its wood resembles mahogany, and is used in cabinet work. The bark of the trunk and root and the fruit are used internally as an astringent. The tender spring leaves are eaten, and the silkworm is fed upon them, and also on the leaves of the ailanthus. The leaves are mixed with those of the catalpa, and made into a wash as a remedy for baldness, and they are taken internally as an antiscorbutic. The timber is particularly recommended for wainscoting rooms, and for chests and the inside work of clothes presses and drawers, from the circumstance that vermin are not known to breed in it, and for splitting into shingles to cover houses. They are very durable.—*Macfad.; Smith.*

CEDRELA SERRATA. *Royle.*

Hill toon, ... ENG.	Drava, Drawi, . . PANJ.
Tuni, ... HIND.	Drab, Dimri, . . ,,

This tree is found in most of the valleys of the N.W. Himalaya, in Kulu, Kanawar, the Murree Hills, Kangra, and Kaghan, from 4000 to 8000 feet above the sea, up to near the Indus. Its wood is often very red, and has a strong fetid smell when fresh; it is lighter and of more open texture than C. toona, for which it is often sold. It stands water well, is well suited for bridges, and is made into sieves. A cubic foot weighs 31 lbs.—*Dr. Cleghorn, Panj. Rept.; Stewart, Panj. Plants; Powell, Handbook.*

CEDRELA SINENSIS. *A. de Jussieu.* An elegant tree of Europe and China; wood like that of Cedrela toona, *Roxb.*, used for cigar boxes. —*Mueller.*

CEDRELA TOONA. *Roxb.* Toon.

C. hexandra, *Wall. in Roxb.*

Tunna, Toon, BENG., SANS.	Toon tree, . . . ENG.
Kooruk, . . . BOMBAY.	Toona, ... HIND.
Thit-ka-do, . . . BURM.	Kooruk, . . . MAHR.
Tunda, ... CAN.	Wunjooli maram? . TAM.
Sauola mara, . . ,,	Nandi, ... TEL.

This large and valuable tree grows at the foot of the Himalayas, and to the south, in Bengal and both Peninsulas of India, in varying abundance. Abundant 25 miles north-east of Trevandrum; is found in the Mysore and Salem jungles in large quantities; also along the crest of the ghats from Travancore to Goa. In Coimbatore it is a valuable timber tree of large size. In the raees of S. Konkan and Lower Canara, the tree is more common. It grows abundantly in some of the deep ravines in western Kandesh, and it grows in the ravines of the Konkan. At the Tambur river, in East Nepal, Dr. Hooker measured a toon tree (Cedrela) 30 feet in girth at five feet above the ground. The wood is a choice one for cabinet purposes, but is not used for any others, except for house beams when it is procurable in sufficient quantity. It is called bastard cedar from an aromatic resin exuding from it, resembling that of the American cedar. It is often sold in Madras under the general name of Chittagong wood, and is the most valuable of the woods known by that commercial name,—the true Chittagong wood, however, being Chicrassia tabularis. Cedrela toona has an erect trunk of great height and size, with smooth grey bark. The flowers are very numerous, small, white, and fragrant, like honey. The seeds are numerous, imbricated, winged. It seems probable that the trees known commercially as toon are at least different species; but the woods sold under this name are all red-coloured, of varying hues. The Gumsur Mahalimbo wood, said to be this tree, and to be tolerably common, is described as not liable to be attacked by insects, and is on that account used for making boxes, etc. The fruit and bark are used medicinally in fever and rheumatism. The bark is powerfully astringent, but not bitter; native physicians use it in conjunction with the powdered nut of the Cæsalpinia bonducella, an intense bitter. M. Nees von Esenbeck has published an account of some experiments on the bark, which indicated the existence of a resinous astringent, a brown astringent matter, and a gummy brown extractive matter resembling ulmine. The bark was used in Java by Blume in epidemic fevers, diarrhœa, and other complaints. Horsfield gave it in dysentery, but only in the last stage, when inflammatory symptoms had disappeared. Its flowers, in conjunction with

safflower, are used by the inhabitants of Mysore for dyeing the beautiful red colour called there Gul-i-nari. A cubic foot weighs 28–41 lbs.—*Drs. Roxburgh*, i. 635, *Hooker*, *Mason*, *Gibson*, *Cleghorn*, *Stewart*; *Beddome*; *Voigt*; *Powell*.

CEDRUS DEODARA. *Lambert.* Deodar.

Pinus deodara, *Roxb.*

Sacred Indian fir,	ENG.	Kelu,	HIMAL.
Himalayan cedar,	,,	Kilei, Killar,	,,
Devadara,	HIND.	Kelmung, Keling,	TIBET.

Cedrus deodara is a magnificent tree growing on the mountains of Kedar Kantha, Nepal, and Tibet, up to heights of 7000 and 12,000 feet; as also in the woods of Almorah, at Kullu, Kangra, and Kaghan. The resinous wood is very durable, lasting from 200 to 400 years. The tract in the Sutlej valley producing deodara lies between long. 77° 59′ and 78° 31′ E., and lat. 31° 23½′ and 31° 40′ N. (Panj. Rep. p. 4). The deodara is not abundant in Hazara (except in Kaghan), and is becoming scarce. Dr. Cleghorn only observed it on the north side of the Mochpura range, towards the Jhelum, and sparingly on Thandiani. Mr. Strong measured a deodara tree in the deodar forest at Nachar after felling, 122 feet long, the butt end girth 14 feet 6 inches, and the top 12 feet 4 inches; another standing about 150 feet high, girth at bottom 18 feet 4 inches. Some he measured 26 feet in girth. The average, taking the whole forest, is not less than 15 feet girth at bottom. The trees are full of turpentine. Cedrus deodara timber is very useful for railway purposes, and 12,000 tons were sent down the Chenab in one year. Deodara was abundant in Bussahir. In the territories of Mandi and Sukhet, and in the hill states of Koti Kamharsen, and Bagi, which overlook the Lower Sutlej, all the good deodar trees (Kelu) have of late years been removed from within three miles of the river; but the interior hills of Bussahir are extensively clothed with the finest deodara, particularly on the upper parts of the northern slopes, commencing at Nachar, and terminating near the Hangarang ridge, which forms the northern limit of this beautiful tree, and indeed of all arboreous vegetation, except birch and junipers. In travelling along the Hindustan and Tibet road, many cedars may be seen 20 feet in girth, and 100 to 130 feet in height. It is supposed to be identical with the cedar of Lebanon. Its wood is fragrant, of a reddish-yellow colour, highly resinous and inflammable; very durable; yields valuable timber, not subject to warp. The natives of the hills venerate the groves surrounding their temples and religiously conserve them, whilst to the State the wood is of the greatest importance for house and bridge building.—*Eng. Cyclop.*; *Cleg. Rept. on Panj.*; *Kulu and Kangra*, pp. 4 to 190; *Hook. Him. Journ.* ii. p. 41; *Hodgson's Nagasaki*, pp. 342–3; *Royle's Ill. Him. Bot.* p. 350; *Powell*; *Gamble*.

CEDRUS LIBANI. *Barr.* Cedar of Lebanon, a native of Lebanon and Taurus; attains to 60 or 100 feet in height. The largest in the latter part of the 19th century measured thirty feet in diameter, and covered a circumference of about 120 feet. Their number has gradually been diminishing. In 1550 Bellon reckoned 30. In 1600 only 24 remained. In 1650 only 23. In 1700, 16; and in 1800, 7; and these seven trees are perhaps the sole witnesses from biblical times. The cones of the deodara are identical with those of the cedar of Lebanon; the deodara has generally longer and more pale bluish leaves and weeping branches, but these characters seem to be unusually developed in English gardens; for several persons, well acquainted with the deodar at Simla, when asked to point it out in the Kew Gardens, have indicated the cedar of Lebanon, and when shown the deodar, declared that they never saw that plant in the Himalaya. C. Atlantica, *Manetti*, is the Atlas cedar.—*Hooker's Him. Journ.* p. 41.

CELASTRACEÆ, spindle trees. The English name is derived from the use made of its very compact wood. In India the genera of this order are Celastrus, Elæodendron, Euonymus, Kurrimia, and Microtropis, with the sub-orders Hippocratea and Trigonieæ. Celastrus spinosus, *Royle*, is a thorny shrub.

CELASTRUS EMARGINATUS. *Willde.* Chennee chintoo, TEL. This shrub, which grows on the Coromandel coast, makes good fences and fuel.—*Roxb.* i. 622.

CELASTRUS MONTANA. *Roxb.*

C. paniculatus, *Wight.*		C. Senegalensis, *Lam.*	
Malkanguni,	HIND.	Gaja Chinno,	TEL.
Kanguni,	MAHR.	Gi-changi,	,,
Danti chettu,	TEL.	Pedda danti,	,,

A scrubby, crooked shrub, found on the Coromandel coast and in barren hills, chiefly of the Dekhan. The wood, hard and durable, is sought after as a choice dunnage for roof tiles, said to last for forty years, a duration greatly exceeding that of any other dunnage material.—*Roxb.* i. 621; *Gibson*; *Voigt*; *Rohde*.

CELASTRUS PANICULATUS. *Willde.*

C. nutans, *Roxb.* C. Rothiana, *Schultes.*		Ceanothus paniculatus, *Heyne.* Scutia paniculata, *Don.*	
Staff tree,	ENG.	Bavungi,	TEL.
Malkanguni,	HIND.	Gundu meda,	,,
Valuluvy,	TAM.	Maneru,	,,
Mal kang kanni,	,,	Mai erikata,	,,
Mala-erikata,	TEL.	Maiyala erikat,	,,

A large scrambling shrub, grows in most parts of India. The red seeds are given to cattle, and are officinal, being considered hot, and administered for rheumatism. The leaves also are officinal; and a deep scarlet-coloured oil, obtained by expression from the seeds, is rubbed externally and given internally in rheumatism. The oleum nigrum, an empyreumatic black oily fluid, is obtained by the destructive distillation of the seeds, but it does not differ in any sensible degree from the empyreumatic products of the distillation of the common fixed oils, containing naphtha and other carburets of hydrogen. Large quantities would doubtless yield paraffin and creosote. The seeds have a hot biting taste; and the oleum nigrum obtained from them was at one time largely employed in Beriberi. In Ajmir the seed is imported from Marwar and Godwar; is there considered sudorific, and generally heating, and is swallowed whole in rheumatism. It is used in horse mesalihs.—*O'Sh.* p. 271; *Gen. Med. Top.* p. 146; *Dr. J. L. Stewart*; *Malcolmson*, p. 312; *Gamble*.

CELEBES is called by the natives Wugi. It is an island in the Eastern Archipelago. In configuration it has been compared to a star-fish, from which the radiating limbs on one side have been removed; and this very singular form also distinguishes Gilolo, an island not far distant from it to the eastward. Celebes occupies the centre of the tropical zone, and lies in the Molucca sea. It is

composed of four peninsulas, with an area of 3578 miles. Its coast presents a great number of bays, gulfs, and capes of eccentric outline. The surface is lofty, with considerable hills, and towards the north are several active volcanoes. Some of the mountains rise 7000 feet above the level of the sea, usually with round or flat tops. Along the borders of the sea are wide plains covered with verdure; and beautiful valleys, some of which enclose magnificent basins of limpid water, raised on a smooth plateau, encircled by a rim of low hills. Thick forests cover the hills and large tracts of the level country with oaks, maples, sycamores, cedars, teak trees, and the upas. Two southern prongs form the Gulf of Boni, which stretches three degrees northward into the centre of the island. Its entrance is about 80 miles wide, but narrows to 30 miles, till at its head it again expands to 45 miles. Celebes, on its eastern coast, is fronted by islands; and many islands are scattered over the bays of Tolo and Tominie, or Gunong Tella. Celebes, on its north coast, is in general high, bold land. Its extreme point is called Cape Coffin; and the whole of the islands that stretch from it to Menado Bay are sometimes called Banca islands. The tongue of land in the north of Celebes, known administratively under the name of the Dutch Residency of Menado, comprehends all the northern extent of the island, from the bay of Palos in the west to the cape of Taliabo in the east, and comprises the great bay or arm of the sea of Gunong Tella, which stretches in a westerly direction between the two peninsulas. The Residency of Menado includes under its jurisdiction the whole federative states of Minahassa; the small kingdom of the northern coast; also the very extensive districts in the west part of the peninsula, where Government exercise sway, besides the islands of Sangir and Talaut to the north, as well as the lesser island of the west coast and the large gulf of Tomini. In 1842 its population was estimated about 180,000 souls, exclusive of the Alfura race. In 1881 it was 379,795.

In the S.W. Peninsula, two languages are spoken, the Mangkasa or Mangkasara (which gives its name to the Netherland capital Macassar), and the Wugi or Bugi, which originally was more particularly limited to the coast of the Gulf of Boni. North of Macassar, in the most western part of the island, is another people, the Mandhar, who speak a third language. On the island of Buton, which may be regarded as a part of the Peninsula east of the Gulf of Boni, a fourth tongue is spoken. In the northern Peninsula are the people speaking the Gorontalo and the Menado languages (Bikmore, p. 97). Minahassa is in the northern extremity of Celebes. In the interior are a people whom the coast tribes call Turaju, who are said to be cannibals and head-hunters (Bikmore). Macassar is the most notorious place in the Eastern Archipelago for the Bugi people to run amok. It is in fact the national mode of committing suicide amongst the natives of Celebes, and is therefore the fashionable mode of escaping difficulties. Ten or twenty persons are sometimes killed and wounded at one of the amok. Stabbing and killing all he meets, the amok runner is at last overpowered, and dies in all the excitement of battle. It is a delirious intoxication, a temporary madness, absorbing every thought and action (Wallace, i. p. 174). Macassar men is a common name of the Bugi race. The Macassar people were taught Mahomedanism in the early part of the 16th century, but the Portuguese arrived A.D. 1525, and they embraced Christianity (Bikmore, p. 99). The Bugi are now the great navigators and traders and the most enterprising race of the Eastern Archipelago. In the beginning of the western monsoon they go in great numbers to the Aru islands, which is the principal rendezvous for the people of Ceram, Goram, the Ki islands, Tenimber, Baba, and the adjacent coast of New Guinea, a distance from Macassar of upwards of 1000 miles. They carry English calicoes, cotton goods of their own manufacture, Chinese gongs, and arrack; and the return cargoes are tortoiseshell, mother-of-pearl shell, pearls, birds of paradise, and trepang, the Malay term for all the kinds of holothuriæ or sea-cucumbers. Of trepang alone about 14,000 pikuls are yearly shipped from Macassar, of the value of 600,000 dollars, or £150,000. It is estimated that the annual value of goods carried by the Bugi to the Aru islands from Macassar alone is 80,000 dollars, or 200,000 guilders; and of those taken to the Aru group from other places, 20,000 dollars, or 50,000 guilders.—*Bikmore*, 101.

The people of Minahassa differ much from all the other people in the Archipelago. They are of a light brown or yellow tint, often approaching the fairness of a European, of a rather short stature, stout, and well made, of an open and pleasing countenance, with the usual long, straight, jet black hair of the Malays, but disfigured, as age advances, with projecting cheek-bones. The coast people, where there has been intermixture, are coarse; but in inland villages, where the race is pure, both men and women are remarkably handsome. They are quiet and gentle, submissive to authority, and are easily induced to learn and adopt the habits of civilised life; they seem capable of acquiring a considerable amount of intellectual education, and they are clever mechanics. Since 1822, from the introduction of coffee planting and a settled government, the people, though still speaking different tongues, have become the best clothed, best housed, best fed, and best educated in the Archipelago. Much of this has been due to the tractable nature of this people, for near Menado is a race called Bantek, strong, but intractable, who have hitherto resisted all efforts to improve them. Some of the less civilised tribes have semi-Papuan features and hair, while in some villages the true Celebes or Bugi physiognomy prevails. The plateau of Tondano is chiefly inhabited by people nearly as white as the Chinese, and with very pleasing semi-European features. The people of Siau and Sangir much resemble these, and Mr. Wallace believes them probably to be immigrants from some of the islands of north Polynesia. The Papuan type will represent the remnant of the aborigines. The languages contain a Celebes-Malay element and a Papuan element, along with some radical peculiarities derived from the Siau and Sangir islands further north, and therefore probably derived from the Philippine Islands.

Celebes has iron, tin, and copper. It has about 16 species of land mammals, and about 191 species of birds, 94 of which are peculiar to it. Professor Bikmore says (p. 378) gold in great quantities occurs over all the northern peninsula

from the Minahassa south to the isthmus of Palas. Livistonia rotundifolia is supposed by Mr. Wallace to be the fan-palm, and the people make water buckets and baskets of the leaf. Celebes has the Carpophaga luctuosa, a fine cream-coloured pigeon, also the Coracias Temminckii, and Phænicophaus callirhyncus, one of the finest known cuckoos. Its bill is of a brilliant yellow, red, and black. Ornithoptera remus, the largest and most beautiful of all the butterflies, is found in Celebes. Accipiter trinotatus, a beautiful hawk with elegant rows of large round white spots on the tail; Strix Rosenbergii and S. Javanica, the latter in all the islands up to Lombok. Phlegænas tristigmati is the ground dove of Celebes. The Maleo, or Megacephalon rubripes, deposits its eggs in the loose sand of the sea-beach, in holes just above high-water mark; the female lays one large egg, which she covers over and returns to the forest; but many birds lay in the same hole. A dozen eggs are often found together. One egg fills an ordinary teacup, from 4 to 4½ inches long, and 2¼ to 2½ wide. They are very good to eat, and much sought after. The hen-bird takes no further care of the eggs, which the young bird breaks through about the 13th day, and runs at once to the forest. Each hen lays six or eight eggs in a season of two or three months. Cittura cyanotes, the forest kingfisher. Meropogon Forsteni (Carpophaga Forsteni) is a fruit pigeon of North Celebes. Buceros cassidix, the great horn-bill of Celebes. Trichoglossus ornatus, a beautiful brush-tongued parrakeet. Corvus advena, a rare black and white crow. Anoa depressicornis (Sapi utan, MALAY) is the wild cow of Celebes; it is smaller than other wild cattle, and is found in the mountains. Cynopithecus nigrescens, the black baboon monkey. Tachyris zarinda, a rare butterfly, with cinnabar red wings. Idea tondana, a semi-transparent butterfly of Celebes. Papilio androcles, one of the largest and rarest of swallow-tailed butterflies. Cicindela heros and C. gloriosa also occur, the latter of a rich velvety green colour.—*Quarterly Review*, No. 222; *Bikmore's Travels*, pp. 101–378; *Crawfurd's Dictionary*, i. p. 243; *St. John's Indian Archipelago*, i. p. 351; *Wallace's Malay Archipelago; Horsburgh; Temminck, Coup d'Œil sur les Possessions Neerlandaises*, iii. p. 5; *Journ. Ind. Arch.* 1850, p. 764; *Jameson's Ed. Journ.* 1822, p. 402.

CELERY. Apium graveolens.

Kurufs, ...	ARAB.	Kin-tsai, ...	CHIN.
Ku'kin, ...	CHIN.	Ye-kin-tsai, ...	,,

Celery is a hardy biennial found wild in various parts of Europe, in the southern hemisphere, and in California, by the side of ditches near the sea, where the water is brackish. It is rank and coarse, but by cultivation it is transformed into a sweet and wholesome esculent. When the plants grow in moist ground they are poisonous. The cultivated plant grows best in a rich, well-drained soil. The process of excluding the light, by covering the stems with earth, also tends to render the poison, peculiar to the wild plant, inert. The seeds are sold in every Indian bazar, and used as stimulants by the native practitioners. The roots are also employed in medicine. The essential oil, dissolved in strong spirit, gives an essence a drop of which will communicate a strong and fine flavour of celery to a tureen of soup. Celeriac is a variety of celery, and managed similarly; root used for stews.—*Riddell; Jaffrey; O'Shaughnessy*, p. 357.

CELIBACY is the rule with all the Buddhist priesthood, with the gurus of most sects of Hindus, also with the men and women of the Manbhow sect; the Phoongyes, Talapoins, Lamas, and nuns of the Buddhists; the Jain priesthood also are celibates, as also since the 11th century all the priesthood of the Romish Christians. The Sherif families of Mecca affect marrying female slaves, thereby showing the intense pride which finds no Arab noble enough for them. Others take to wife Bedouin girls; their blood, therefore, is by no means pure. The worst feature of their system is the forced celibacy of their daughters: they are never married into any but Sherif families; consequently they often die in spinsterhood. The effects of this custom are most pernicious, for though celibacy exists in the East, it is by no means synonymous with chastity. Here it springs from a morbid sense of honour, and arose, it is popularly said, from an affront taken by a Sherif against his daughter's husband. But all Arabs condemn the practice. —*Burton's Mecca*, iii. p. 33.

CELOSIA ALBIDA. *Linn.*

Booroondie, . .	SANSK.	Gurugu kura, . . .	TEL.
Pannay keeray, .	TAM.		

This genus of plants is of the order Amarantaceæ. Roxburgh (i. pp. 678–9) mentions C. argentea, C. cernua, C. comosa, and C. cristata. C. cernua, drooping cockscomb, is cultivated as a flower.—*Irv.*

CELOSIA ARGENTEA. *Linn.*

Tsing-siang, . . .	CHIN.	Chil-chil, Sil, . .	HIND.
Ts'au Kiueh-ming,	,,	Salyara, ...	,,
White cockscomb, .	ENG.	Deo-koti, ...	,,
Safed murghkes, .	HIND.	Gurugu, ...	TEL.
Sarwari, Sar-pankha,	,,	Panche chettu, . .	,,

It grows all over China. It is a troublesome weed amongst flax, but the Chinese gather and eat it as a vegetable. Its black seeds are used internally as a medicine. A double variety is cultivated. The single variety, both white and pink, is very common in the rains in the cultivated fields of India, and cattle eat the plants, especially buffaloes.—*Genl. Med. Top.* p. 185; *Smith.*

CELOSIA CRISTATA. *Linn.* Var. *a.* rubra.

Kyet mouk, . .	BURM.	Taj i Khurus, . .	HIND.
Ki-kwan, . . .	CHIN.	Kanju, ...	,,
Crested cockscomb,	ENG.	Erra-kodi juttu tota	
Pila Murghkes, .	HIND.	kura, ...	TEL.
Lal Murghkes, . .	,,	Kodi juttu tota kura,	,,

Both white and yellow varieties are cultivated in gardens. The Hindi, Telugu, and Burman names signify cockscomb, like the English.—*Mason.*

CELSIA COROMANDELIANA. *Vahl.* Kukshima. A garden weed in India, growing in waste places in the Dekhan, on the banks of rivers, and near still waters. The inspissated juice of the leaves is given in dysentery, acting as a sedative and astringent.—*Drury.*

CELT implements of manufacture, agriculture, and for domestic purposes, used by ancient prehistoric races of the world. They have been discovered in Europe and India. Mr. Allan Hume, C.B., discovered many in Hindustan, and Colonel Meadows Taylor others at Lingasugur in the Raichore Doab. They are of flint or chalcedony. Mr. W. Theobold and Captain Fryer found celts or stone weapons in the country extending upwards of 200 miles east of the Toris river, and

accumulated at Karo in Kirwee. Dr. Mason found them in Burma almost identical with those found in Europe. The celt chipping or hewing stone, the thunderbolt, the coin de foudre, laierre de tonerre, the Til hugger steen of the Germans, may have been the moen sourons of Brittany, a hatchet, axe, chisel, adze, or wedge. They are numerous in the Channel Islands. Those found in the Karnatic are of fibrolite, those of the Swiss lakes are of jade. The natives of Kirwee have adorned some of the celts with a daub of red paint as Siva. Most of the Andamanese stone chips seem to be arrow-heads for shooting fish, or intended to be used with the fingers in dividing fish and flesh. Flint and chert chippings have been discovered at Kaleyzur, Jubbulpur, and Kutturea. Polished celts occur in Central India. Cores have been found near the Indus, and flakes and cores near Jubbulpur.

CELTIS, a genus of plants belonging to the Ulmaceæ. C. australis and C. Caucasica are the Batkar, HIND., of Kaghan. C. dysodoxylon, *Thw.*, the Guranda gass of the Singhalese, is a small tree which grows up to 5000 feet in the Central Provinces.—*Cleghorn's Report; Thw. Zeyl.* p. 267.

CELTIS AUSTRALIS, the lotus tree of N. Africa, S. Europe, and S. Asia, ascends the Himalaya to 9000 feet. It attains a height of 50 feet, and lives to a thousand years. Berries edible, wood hard and dense, suited for turnery and carving. The stem-wood is fine-grained, easily cleft, and of a splendid yellow tinge. The branch-wood is excellent for whip-sticks.—*Von Mueller.*

CELTIS CAUCASICA. *Willde.* Nettle tree.

Bigni, Bingu, . CHENAB.	Brimdu, Brumij, . KASH.
Kharg, Wattaman, ,,	Brimla, ... ,,
Batkarar, . . . JHELUM.	Takhum, Tago, TR.-IND.

Fruit—Kangal mirch, Indarba, HIND.

This fine tree is common, wild, from 2500 to 8500 feet in the Panjab Himalaya, and occurs in Trans-Indus down to 1500 feet; and Dr. Griffith says it is cultivated in Afghanistan. It attains 16½ feet in girth; and trees of seven or eight feet are not uncommon. Its timber is white, light, soft, weak, and subject to the attacks of insects. It is chiefly used for farmer's work, charcoal and fuel. Dr. Bellew mentions that in the Peshawur valley it is often made into charms to keep off the evil eye from man and beast, and Dr. Cleghorn states that its bark is used for sandals.—*Dr. Bellew; J. L. Stewart, M.D.*, p. 209; *Cleghorn.*

CELTIS ERIOCARPA, nettle tree, koo of the Panjab, is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 6000 feet. Bark used for making shoes.—*Cleghorn.*

CELTIS NEPALENSIS. *Planch.* Batkar, Tago, of the Trans-Indus and Panjab. Dr. Stewart found it in parts of the Jhelum basin and Trans-Indus at about 2500 to 3500 feet. The Pathans are said to use its tough wood for churn-sticks.—*Dr. J. L. Stewart.*

CELTIS ORIENTALIS. *L.* Indian nettle tree.

Sponia orientalis, *Commers.*

Tubunna, Chakan, BENG.	Gadda nelli, . . . TEL.
Mallam toddali, MALEAL.	Urn kanija nalika, . ,,
Karak, . . . PANJ.	

A tree which is pretty common all over India, and in Kullu is planted in avenues. Dr. Buchanan Hamilton says the under bark of this tree, like that of the West India kind, consisting of numerous reticulated fibres, forms a kind of natural cloth, used by the Garo (Lin. Trans. xvii. p. 209) as a kind of rug. The Garo make several such cloths of different colours from various barks. The Garo who come to the plains, generally buy some small ends of cloths from the Bengalis, to attend the hauts (fairs) in, not as clothing to protect them from wind and weather.—*Roxb.* ii. 65; *Royle, Fib. Pl.* 317; *Cleghorn; Kullu*, 80.

CELTIS TRINERVIA. *Roxb.* iii. 65. C. Roxburghii, *Planchon.* This good-sized tree grows in Eastern Bengal, is met with on the Eastern Ghats of the Madras Presidency, Golconda hills near Vizagapatam, at 3000 feet elevation; also on the Bombay Ghats.

CELTIS WIGHTII. *Wight, Ic.* Not uncommon in the hot, drier parts of Ceylon.—*Th. Zeyl.*

CEMENT.

Chuna, ... HIND.	Smalto, ... IT.
Mortel, Kitt, Band, GER.	Chunambu, . . . TAM.

Lime, septariæ, dolomite, magnesite, gypsum, and other substances are used in manufacturing cements. The shell lime of Sooloorpett is a pure carbonate of lime. The kankar or nodular limestones of India are more durable, though not so white. Septariæ, or Parker's cement stones, accompany the strata of blue and white potter's clay and kaolin that are so common in the Madras Presidency. The best hydraulic septariæ occur at Awady near Madras, at Bangalore and Chingleput. A very fine hydraulic cement on the banks of the Godavery was extensively used in the construction of the Godavery and Kistna anicuts. A very good hydraulic limestone occurs along with the blue slate of Cuddapah, and the dolomites of the Ceded Districts and the Northern Circars make good cements. The magnesite of Salem, Bangalore, and Vizianagram acquires great hardness of surface, but is deficient in adhesiveness. It possesses some good hydraulic properties, but has disappointed the expectations at first formed of its usefulness.

The ordinary Indian cement is lime in its various forms; a cement capable of bearing a pressure of 650 to 1000 pounds and upwards is produced from ordinary kankar, combined with a certain proportion of pure limestone. *Kankar* is a limestone mostly nodular, always freshwater and recent,—in most cases in the act of being formed under our eyes. It is sometimes found in thick stratified beds like the travertine near Rome, and seems in this case to have been formed by calcareous springs; more generally it is met with in clay or alluvial soil, in the shape of small pieces from the size of peas or filberts to that of the hand. In the blue clay which stretches along the Indian shores it is found in vast abundance, generally assuming the most fantastic forms; indeed, it abounds in every rice field and open soil all over the country. The more recent varieties seem to be formed by the agency of the rains; when the earth abounds with vegetation, the tepid waters are charged with fixed air, and dissolve the lime prevailing in the soil everywhere around, the mineral being again thrown down as the advancing season dispels the excess of gas. It in this state absorbs the clayey matter around, and cements it into kankar. This is collected by the lime-burner, placed with firewood in small-sized conical kilns, and burnt in the usual way. It contains 72 of carbonate of lime, 15 of sand, and 11 of clay and oxide of iron. Mixed with half its weight of river sand, it makes an excellent mortar; burnt in pieces of a cubic

inch or so in size, and then powdered without slaking, it forms a first-rate water cement, setting in a few minutes, and becoming as hard as stone. At Poona the finer varieties of kankar are burnt with charcoal, in neat kilns 2½ feet high and in diameter at the base. These hold about a cubic foot of material, or about 36 lbs. of charcoal and kankar in equal parts. When burnt, it is slaked and then made up into bricks, which are sold in the bazar for the purpose of whitewashing. The finer kinds of lime and cement on the Coromandel coast are made from shells. A piece of ground about ten feet square is laid down even, and floored over with clay; an upright pole is placed at each end of this, and a sheet stretched out with back-stays spread between the poles, which are steadied with strings. On the floor a bed of shells and rice-chaff alternately, about ten inches thick and eight feet by six, is spread neatly out. Some firewood is placed along the windward side of this, and when the sea breeze sets in the wood is kindled. As the heat extends to leeward, and the shells become calcined, the lime-burners draw off the fore-parts of them with a stick, and so soon as they have cooled on the floor sufficiently to allow them to be handled, they are placed in a scoop basket, and the dirt and epidermis winnowed from them. The shells, now white and pearly, are next thrown into a small-sized vat partially filled with water; here they for some time boil from the effects of the heat and slaking. The whole in a short time settles down into a fine semi-fluid mass, which is taken out and slightly dried, and is now ready for use. A good hydraulic cement is formed of the blue clay of Madras and shell lime.

Bitumen or asphalte seems to have been employed as cement in Babylon. The works of salt and bitumen even yet around Hit, give a most singular appearance to the country; and the most learned geographers are of opinion that the town of Hit is the Is of Herodotus, whence the Babylonians drew the bitumen in which they set their bricks.

All over the East an exceedingly hard cement, which they use as mortar and to form the lining of baths and reservoirs, is made with equal parts of wood ashes, thoroughly sifted, and powdered lime, and by others with two parts of lime to one of ashes, but in either case these materials are well mixed. Water is then poured upon them, and they are well kneaded, after which the mass is beaten for six days by two men with large sticks, uninterruptedly, except at night; when it becomes a little solid on one side, it is turned over and beaten on the other, care being taken to moisten it occasionally, lest it should become too dry. When thus well mixed, it is folded and turned, and beaten again and again till the sixth day, when it is ready for use. In building, this cement is laid between the bricks, which are tightly pressed upon each other; for lining it is laid upon the surface that is to be covered, and spread with a flat and polished flint, for it must not be touched with the hand, as it would burn. Three layers are put on successively, and the third is washed over with oil, but of what kind is immaterial; when it is dry, nothing can equal the beauty and solidity of this cement, which is called 'sarooj.' There is another description, called 'sarooj maghrebi,' but it is not so much used; this is composed of one-third of hot lime, one of sifted sand, and one of pounded brick.—*Ferrier, Hist. of Afghan.* pp. 296–9; *Skinner's Overland Journey*, ii. p. 113; *Dr. Buist in Bombay Times.*

CENOBITA, a genus of hermit crabs in molluscs. C. clypeata, *Edws.*, Asiatic seas; C. rugosa, Indian Ocean; C. spinosa, Asiatic seas; C. perlata, South Seas.

CENSUS. A rough census of the population, called 'Khana-shumari,' was always made under the Indian princes. The dislike to a census in the East appears to arise from the necessity of mentioning their women, also a vague fear that Government is plotting some mischief against them, and a superstitious aversion to assist in rousing divine wrath by what they consider such a display of pride as that of numbering the people. Since the year 1867, the British Indian Government has had a census of several provinces, followed in 1871-72 and 1881 by a general census of all India. That of 1881 was estimated to cost twenty lakhs = £200,000.

CENTAUREA BEHMEN. *Linn.*

Behmen-abiad, . ARAB. | Suffaid behmen, . . BY.

Centaurea is a genus of ornamental flowering plants common in India. The flowers are fragrant, and of different shades of colour—purple, blue, yellow, white, red, brown, etc. C. atropurpurea is the sweet sultan. C. Behmen root is brought from Kābul, and is used in special diseases as a bitter tonic and purgative. The red kind, Behmen lal or Behmen surkh, is said by some to be the root of the Salvia hæmatoides.—*Powell*, i. 355.

CENTETES ILLIGER. *Smith.*

Wei; Wei-shu, . CHIN. | Ten-rec or Tend-rec, ENG.

Several species of this genus of mammals are said to occur in China. The bristles are made into brushes.—*Smith.*

CENTIPEDES are very common in the East Indies two to six inches long. They are generally supposed to be poisonous, but such is not the case.

CENTRAL ASIA is a term used differently by geographers, ethnologists, and politicians; by the last of these it is usually applied to the region intervening between Russia in Asia on the north, and Persia and Afghanistan on the south, and lying to the west of Chinese Tartary, its chief western boundary being the Caspian Sea. The Russians often restrict the term Central Asia to the second great division of the Central Asiatic highlands of their Asiatic possessions, which is mainly comprised within the Aralo-Caspian depression. The vast plateau of Central Asia proper has on its east the lofty table-land of the Bolor mountains, which form the western boundary of Chinese Turkestan and Dzungaria, and the river Irtish; the northern boundary is Western Siberia, and Afghanistan lies south-east. The northern half of Central Asia consists of the Kirghiz desert, which is mountainous and rugged on the east, and full of saline steppes on the west. In the midst of the southern half lies the Sea of Aral, on the western side of which, up to the Caspian Sea on the west, there stretches a broad tract of desert. But on its eastern side is a fertile tract, watered by the Syr Darya and Amu Darya, the Jaxartes and the Oxus, and it is in this fertile tract that the conquests of Russia were made between 1864 and 1868. After long years spent in fortifying posts, in 1864 Russia made a sudden irruption into the upper valley of the Jaxartes, and took three forts of Khokand, viz. Aoulietta, Turkestan,

and Chemkend. In the spring of 1865 the chief of Khokand fell in battle; and in June 1865 the city of Tashkend was stormed. On the 20th May 1866 they fought and won the battle of Irdjar against the Bokhariotes, and later in the year captured the forts of Oratepe and Juzak, within 40 miles of Samarcand. On the 13th May 1868 a great battle was fought under the walls of Samarcand, and the city surrendered; and later in the year Bokhara yielded (Fortnightly Review, July 1868). In these operations the Russians used only 2000 and 3000 men, and never had more than 15,000 in all Turkestan. Russian Turkestan has a population of two millions, viz. Bokhara, 1,000,000; Khokand, 900,000; Khiva (less the independent Turkoman tribes), 300,000. During the fifteen years, 1867 to 1882, that General Kaufman was governor-general of Turkestan, Russia became paramount in Khiva (1873), took Kuldja from the Chinese, and again restored it, and subdued the Tekke Turkoman. Kuldja was important to Russia so long as the advance upon India lay through Turkestan; but directly the line of aggression was shifted to the Trans-Caspian region, it was seen at once how relatively inferior any annexations in the direction of Kashgar were to those by way of Akhal and Merv. Russian rule in Turkestan is harsh, but it is far ahead of Chinese administration in Kashgar, particularly in the extreme respect and tolerance accorded to the Mahomedans in the exercise of their religion.

The south-eastern boundary line, along the Afghan frontier, was accurately laid down by agreement with the British Government in 1873. The south-western boundary line, along the Persian frontier, under agreement with the Persian Government in 1882, now runs from the south-east corner of the Caspian up the Atrek valley to Chat, at the junction of the Sumbar, thence eastwards along the water-parting to a point south-east of Askabad.

The Caspian Sea is the lowest part of the Aralo-Caspian depression, and all the streams of Central Asia ought to disembogue into the Caspian; but the river Emba alone reaches that outlet. All the rest run dry, like the Tajand, Murghab, Zar-afshan, Chui, Talas, and Sari, or else, like the Oxus and Jaxartes, become absorbed in the Aral.

The mountain ranges in this region comprise the Karakorum, Kouen Lun, Pamir, and Tian Shan. The Pamir forms the nucleus of the whole Central Asiatic highland system. Here converge the Hindu Kush and Himalaya from the south-west and south-east, the Kouen Lun from the east, the Tian Shan from the north-east; while the plateau itself merges westwards in the snowy highlands and ice-fields about the sources of the Zar-afshan, between the valleys of the Amu Darya (Oxus) and Syr Darya (Jaxartes). It consists of a vast plateau formation, some 30,000 square miles in extent, with a mean elevation of at least 15,000 feet, culminating in the east with the Tagharma, 25,500 feet. Northwards its limits are the Alai and Trans-Alai ranges, skirting the south side of Farghana (Khokand), and forming the water-parting between the valleys of the Syr Darya and Zar-afshan rivers. Its southern limits seem to be marked by the ridge connecting the Karakorum with the Hindu Kush, and forming the water-parting between the Upper Amu Darya and Indus basins.

The range seems to run north-west and south-east, between the Kashgartagh and the Karakorum, at a mean elevation of 20,000 feet, culminating in Mount Tagharma (Taghalma), 25,500 feet.

The Trans-Alai, seen by Kostenko in 1876, he describes as an alpine chain 10,000 to 12,000 feet high, forming the northern boundary of the Pamir, which stretches thence southwards, and which is crossed in every direction by ridges, all rising above the snow-line, and dividing it into a number of upland plains. The whole region is destitute of trees and shrubs, and even the grass grows only in isolated patches along the banks of the streams.

The great *Central Asiatic plateau* consists of several distinct sections, grouped round the central basin of the Tarim, which is little over 1600 feet above sea-level. South of it the land rises in successive stages from 3000 to 6000, 10,000, and 15,000 feet, the probable mean altitude of the Tibetan plateau. Above this vast table-land the intersecting ranges attain altitudes of from 20,000 to 25,000 feet, culminating in the southern scarp of the Himalaya, with peaks ranging from 26,000 to 29,000 feet. North of the Tarim basin, also, the land rises in terraces of 3000, 6000, and 15,000 feet, here culminating with the Tengri-Khan (25,000), central and highest point of the Tian Shan. Beyond the Tian Shan the ground again falls gradually to about 1500 feet in the Zangarian depression (Tian Shan Pe-lu), north of which it attains a height of 7000 or 8000 feet in the Kobdo plateau. This elevation is maintained in North Mongolia eastwards to the head waters of the Amur, but in the central parts of the Gobi desert stretches from Lob Nor at a mean height of about 3000 feet to the Khingan range. Lastly, the closed basin of the Koko Nor, between the Nan Shan and Burkhan Buddha ranges, stands at an altitude of not less than 10,500 feet above sea-level.

Central Asia has a hardy peasantry dwelling in the mountain region, with its vast upland downs well suited for summer pasture, partly descendants of the original inhabitants, and in part composed of the many races who have swept through the country. At the foot of the mountains, in tracts of surpassing fertility, Uzbak, Turk, Bokhariot, Kalmuk, Kirghiz, Kara-Kalpak, Tajak, Sart, Russians, Ouigur, Manchu, Chinese, Armenian, and Indians dwell in the well-watered plains. Beyond these, in every direction, are the pathless lands, which have been tenanted by pastoral nomades ever since the earth was peopled. They have dark complexions, and dark colour of hair. The Mongol race is represented by the Kalmuk, who have dark hair, olive complexions, oblique eyes, flat faces, high cheek-bones, thin lips, and flat noses. The remaining races, such as the Mongolo-Turk and those of Turko-Finnish extraction, present a strange admixture of types and shades of complexion. One remarks among them fair men, with a regular Roman nose. Generally speaking, however, in the physical appearance of these tribes, there is observable a mixture of the Caucasian race with the Mongolian.

Its people are from two distinct sources, viz. the

settled races, descendants of Semitic and Iranian conquerors from the south; and the races who have been occupying the country from prehistoric times, and are in their habits the same as they were 2000 years ago.

I. TURKI STOCK.

Uzbaks, viz. Kungrad, Naiman, Kipchak, Jalair, Andijani, in Bokhara, Farghana, and Khiva,	2,000,000
Kara Kalpak, viz. Baymakli, Khandelki, Achamayli, Ingakli, Shaku, and Ontoturuk, mainly on the south and south-east shores of the Aral,	50,000
Kirghiz-Kazak, viz. Great Horde (Ulu-Yuz), Middle Horde (Urta-Yuz), Little Horde Kachi-Yuz), Inner Horde (Bukeyeoskaya), in the steppes between Lake Balkash and Lower Volga,	2,750,000
Kara Kirghiz (Buruts), of Tian Shan and Pamir,	400,000
Turkomans, viz. Tekke, Goklan, Yomud; Sarik; Salor, Kara-Ali, Eli; Ersari, Chaudor of Ust-Urt, Khwarezm, Daman-i-Koh and left bank of Oxus,	600,000

II. IRANIC STOCK.

Tajak, Sart, Persians, in Khiva, Bokhara, and Farghana,	1,000,000

III. GALCHA STOCK.

Maghian, Kshtut, Falgar, Macha, Fang; Yagnaub and Karateghin in Farghana, Zar-afshan, Karateghim highlands and Upper Oxus valleys,	250,000

The Turko-Tartaric race stretches from the Polar Sea to the Hindu Kush, and from the interior of China to the shores of the Danube. Vambery divides the Turks who from east to west occupy this extent, into Burut, Kara-Kirghiz black, or pure Kirghiz, properly Kazak, Kara Kalpak, Turkoman, Uzbak. The name by which Vambery designates these people is Turko-Tartars, from amongst whom came the warrior peoples known in the west as the Hun, the Avar, the Utigur, the Kutrigur, and Khazar. But the manner of living, the customs and physical conditions as then described, of the Tartar tribes whose arms reached from the Jaxartes to the heart of Rome and Gaul, have much resemblance to those of the present inhabitants of Turkestan, and the people of Central Asia, particularly the nomade tribes, are in their social habits the same as they were two thousand years ago. In the tent of many a nomade chief a similar life is observable as that described by Priscus as prevailing at the court of the king of the Huns. Attila, Chengiz Khan, and Timur in historical characters resemble each other; and Vambery is of opinion that energy and good fortune could now almost produce on the banks of the Oxus and Jaxartes one of those warriors whose soldiers, like an avalanche carrying everything before it, would increase to hundreds of thousands, and would appear as a new example of God's scourge, if the powerful barriers of our civilisation, which has a great influence in the East, did not stop the way.

The *Turk*, wherever met with, is ever heavy and lethargic in his mind and body, but in his resolves firm and stedfast, not from principle, but from apathy and aversion to change. And it is from these characteristics that his appearance is earnest and solemn,—a profound seriousness, a marble, cold expression of countenance, with a great inclination to pomp and magnificence. An *Uzbak* or Turkoman has a proud bearing, as if possessed with a self-consciousness of greatness and power. The *Osmanli Turk's* love of independence is boundless. He considers himself born to rule, and that hunting and war alone are worthy of him, and husbandry is considered ignominious. In Central Asia, agriculture is exclusively in the hands of the Persian slaves, commerce and business with the Tajak, Hindu, and Jew. The Turk is intellectually the inferior of the Iranian and Semitic nations. This defect is noticed by other nations, who apply the terms Turkluk (Turkdom), Kabalik (coarseness), and Yogunluk (thickness), Sadeluk (simpleness); and with these qualities, as the Osmanli is easily taken in by the Armenian, Greek, and Arab, the Turk is as easily so by the Tajak and Hindu. In transactions the Turk are regarded as possessing more honesty, frankness, and confidence, plainness, simplicity, and uprightness. Compared with the Persians, the Turk is a faithful servant, attached soldier, and upright man. They are more brave, persevering, and love more to rule than any other Asiatic people. They are unpolished, wild, and uncultivated, but seldom cruel out of malice. They crave riches, but only to expend them. They exact much labour from their subordinates, but protect and deal liberally with them. The Turk is innately a nomade, and, like others, is distinguished for hospitality. The Burut is the wildest and most savage and most superstitious of them, but less malicious than the Kirghiz and Turkoman. The Burut has not wholly abandoned shamanism, and knows little of Islam.

The *Kazak Kirghiz* are less brave and warlike, though readily engaging in a pillaging expedition. They form the bulk of the Turkish nomades, and are for the most part devoted to a wandering life. In very few instances have they settled.

The *Kara Kalpak* are considered dull and foolish. They are even less warlike than the Kirghiz. They have seldom appeared as conquerors, and are even less employed as mercenaries. They are largely occupied as cattle-breeders, and they are active, benevolent, and faithful.

Many of the *Turkoman* dwell in a half-settled state along the left bank of the Oxus as far as Char Jui, and in Khiva. They are notorious amongst all the races of Central Asia as the most restless adventurers. Throughout the whole globe it would be difficult to find a second nation with such a restless spirit and untameable licentiousness as these children of the desert. To rob, to plunder, to make slaves, is to the Turkoman honourable. They are always poor, and are dirty and avaricious. Their country is the wildest and most savage, where even keeping a few cattle gives only a scanty income.

The *Uzbak* are honest, upright, with much Turkish open-heartedness, and are proud of their education, and represent all the best side of the natural character of the Turks.

The nomadic races of High Asia are so essentially predatory, that, according to Abul Ghazi (p. 106), they have a proverb, 'Atang yortin jan Chapsa'—If the enemy attack thy father's tent, join him and share the plunder. The people are chiefly gathered about the fertile tracts. Merv, destroyed in 1784 by the Amir of Bokhara, is now a mere collection of mud huts. Khiva, in 1874, had only 5000 inhabitants. Urganj is near it. Bokhara, in 1830, had 140,000 inhabitants, but in 1880 only 7000, of

whom two-thirds are Tajak; the loss of water from the Zar-afshan is the cause of its decay. Samarcand, on the other hand, has risen from 8000 in 1834 to 30,000 in 1880.

The double-humped camel belongs properly to high Central Asia south of the Gobi desert, and would even appear still to exist there in a state of nature. Its western boundary, where bred, seems to be among the Kazak (or Cossacks), north of Bokhara. Lieutenant Wood, of Sir A. Burnes' party, who explored the Oxus to its source in the Sir-i-Kol lake in Pamir, in Wakhan learned that it is bred only among the Kirghiz of Pamir and Khokand. Burnes remarks that the Bactrian camel, which has two humps, abounds in Turkestan; they are bred by the Kazak of the desert north of Bokhara. In its proper and more elevated habitat, this animal is employed together with the yak, as observed in an easterly direction by MM. Huc and Gabet.—*Porter's Travels*, i. p. 112; *Fortnightly Review*, 1868; *Dr. Jackson in Transactions of the Beng. As. Soc.* iii.; *Russians in Central Asia, Captain Valikhanof and M. Vemukof; Malcolm's Persia*, i. p. 20; *Staunton's Narrative; Vambery, Sketches in Central Asia*, pp. 283–312; *Vambery, Bokhara*, p. 247; *Asia, by Mr. Keane and Sir Richard Temple.*

CENTRAL INDIA is the designation for a geographical and political division of British India. It is a table-land of uneven surface, from 1500 to 2500 feet above the sea, bounded by the Aravalli mountains on the west, by those of the Vindhya on the south, supported on the east by a lower range in Bundelkhand, and sloping gradually on the north-east into the basin of the Ganges. It is a diversified but fertile tract. The Patar or plateau is about 700 miles long. Its breadth very various, greatest from Amjherra to Ajmir, 250 miles; from Mhow to Mokundurra, 150 miles; at Saugor and Dumoh, 75 miles; afterwards very narrow. It is highest towards S. and W.; average of Udaipur, 2000 feet; Malwa, 1500 to 2000; Bhopal, 2000; Bundelkhand, about 1000; Shahabad, 700; plain of Ajmir, 2000; Udaipur town, 24° 37′, 73° 49′, 2064. It slopes to N.E., the Banas river flowing in that direction; gradual fall also to the valley of the Chambal river, where it rises to Malwa; Mhow, 2019 feet; Dhar, 1908; Indore, 1998; crest of Jaum ghat, 2328; Ujjain, 1698; Adjygurh, 1340; Amjherra, 1890; Saugor, 1940; Rhotasgurh, 700; Sonar river, at source, 1900. From the Vindhya range the surface has a generally gradual but in some places abrupt descent, as at Mokundurra and the Bindyachal hills, where the rivers occasionally fall over the brow in cascades. Shahabad district is very rocky and uneven.

This region is ruled by about 131 princes and chiefs,—Rajput, Bhil, Mahomedan, Mahratta, and Brahman,—over subject races of non-Aryan, Scythic, Aryan, Arab, Afghan, and Persian and Moghul descent, over Hindus, Baghel, Bhil, Gond, Jat, Koli, Mair, Mena, Rajput, and cultivating tribes of Kunbi, Kurmi, and Mali. Their political relations with British India are superintended by the Central Indian Agency stationed at Indore, with subordinate agencies for Baghelkhand, the Bhil, Bhopal, Guna, Gwalior, Indore, and Western Malwa. The states and chiefships in Central India form a political, and are in a natural, division of British India, and include an area of 83,600 square miles, and a population of about eight millions.

The people of Rewa are indolent and untrustworthy, and they and the country generally are certainly far less civilised than the neighbouring state and people of Bundelkhand. The country and people vary greatly in their character. Nothing can be a greater contrast than the desolate wilds and jungles of the Western Satpura hills and parts of the country extending from them to the Vindhya, with their savage inhabitants, the Bhil tribes, who abhor field, or indeed any other manual labour, and the adjoining richly-cultivated plains of Malwa, extending, with occasional intervening tracts of hill and jungle, from the Mhye on the west to Bhilsa on the east, a stretch of close on 200 miles, and from the crest of the line of the Vindhya to Mundissore and Oomutwarra, a distance of from 100 to 120 miles, and populated by a thrifty agricultural people. This is succeeded by the more hilly and jungly land of Oomutwarra, Seronje, and Keechiwarra, with their scanty population. Northwards towards Gwalior, the country becomes more open, except on the wild border tracts of Kotah of Bundelkhand, till we come to the carefully cultivated plain of Gwalior, stretching for a distance of 140 miles between the Chambal, Pahooj, and Sind rivers. A vast portion of Bundelkhand is hilly and unproductive, forming the northern slope of the table-land of the Vindhya, but the scenery is strikingly grand (Ann. Ind. Adm. xi. p. 341). Raja Rama, Baghel, protected Humayun's wife, mother of the emperor Akbar. The Baghel are of the Solunki rajput race. The four Agnikula, or fire-born Rajput tribes, the Chauhan, Solunki, Powar or Pramar, and the Purihar, are now mainly found in the tract from Ujjain to Rewa, near Benares. And Mount Abu is asserted to have been the place of their miraculous birth or appearance.

Though widely different in other respects, there is one characteristic common to the Baghel of Rewa, the Bundela of Bundelkhand, and the Rajput of Gwalior and Malwa,—a dislike to labour or service away from their homes, so that they do not generally take an active part in the business of tilling the soil, such being, as a rule, left to servile classes. They are throughout the territory generally regarded as the local heads of society or of the village communities to which they belong, and many of them possess much influence amongst those around them as the representatives of the ancient families of the respective clans. In Malwa the principal trade marts are Indore, Bhopal, Ujjain, Mundissore, Rutlam, Dhar, Jowra, Augur, Nemuch, Shoojawulpur, and Bhilsa. Opium chiefly is sold in Rewa; its chief is of the Baghel race. Tin and copper are found in Udaipur.—*Treaties, Engagements, and Sunnuds; Tod's Rajasthan; Pioneer; Ann. Ind. Adm.* xi. pp. 312, 353.

CENTRAL PROVINCES form an administrative portion of British India, lying between lat. 17° 15′ and 24° 27′ N., and long. 76° and 85° 15′ E. During Lord Canning's rule, the provinces of Nagpur and of Saugor and Nerbadda were united under a Commissioner. They consist of perhaps the grandest plateau on the face of the globe, more than half of it covered by the densest jungle, where the wild beast finds its lair and the Gond savage a precarious subsistence. For revenue purposes it has been arranged into the four dis-

tricts of Nagpur, Jubbulpur, Nerbadda, and Ch'hattisgarh.

The Nagpur province and the Saugor and Nerbadda territories occupy almost all the old territorial division of Gondwana.

Saugor and Dumoh districts are on the Vindhyan table-land.

Mandla, Jubbulpur, Narsinghpur, Hoshungabad and part of Newar are in the Nerbadda valley.

Baitool, Chindwara, Seoni, and Balagahat are on the Satpura table-land.

Nagpur, Warda, Bhandara, and Chanda are on the Nagpur plain, in the valleys of the Warda and Wainganga.

Raipur and Bilaspur are on the Ch'hattisgarh plain, and Sumbulpore is in the valley of the Mahanadi.

Upper Godavery is on the left bank of that river.

The plateau is in the very centre of the Peninsula. From it, as from a focus, radiate great rivers. To the north flow the Son into the Ganges, the Cane, the Betwa, the Sind, and the Chambal into the Jumna. To the west are the Tapti and Nerbadda, and to the east the Wainganga, Warda, and Peinganga, which join the Godavery. What the Kuen Lun mountains are to the river system of Central Asia, and the Himalaya to Northern India, that is the Mahadeo range to the Dekhan. To the east of Bhandara and parts of the Chanda districts is an irregular expanse of water, the largest portion at Nawagan being 17 miles in circumference, with a depth in places of 90 feet, and many Hindu temples have been erected at the scenic spots. On this wide table-land there is soil of surpassing fertility; its woods are inexhaustible; and it has coal, iron, precious stones, and gold. Here all the emigrants of Great Britain for the next decade might settle and grow rich. The area is 112,912 square miles, of which 47,299 are unculturable, and in 1868 about half of the remainder was under cultivation. Between the Census of 1872 and 1881, the population increased in the districts from 8,173,824 to 9,838,791, an increase of 1,664,967; and in the Feudatory States from 1,049,710 to 1,709,720, an increase of 660,010; or a total increase of just twenty-five per cent.

The Native States are—

	Area. Sq. miles.	Pop. in 1872.		Area. Sq. miles.	Pop. in 1872.
Bamra,	1,988	53,613	Nandgaon,	..	..
Bastar,	13,062	78,856	Patna,	2,399	98,686
Chutia Nagpur, 15 mahals,	..	..	Rairagarh Bargarh,	1,486	63,304
Kanker,	639	43,542	Raira Khol,	832	12,660
Karond,	3,745	133,483	Sarangarh,	540	37,091
Kawarda,	887	75,462	Sonpur,	906	130,713
Khairagarh,	940	122,264	Sakti,	115	8,394
Khondka,	174	29,590			
Makrai,	215	13,648	Total,	28,834	1,049,710

In 1872 the non-Aryan tribes numbered 2,014,731, of whom 1,669,835 inhabited British territory. Most of the Gond chiefs have a Rajput ancestry mixed with aboriginal blood.

The *Satpura* plateau runs nearly east and west for 600 miles. It is the true barrier between Northern and Southern India, and is the line on which the settlers from Hindustan met the emigrants from the Dekhan and Maharashtra, each of them pressing the prior races into the great natural fastnesses of the mountain range. The Satpura mountain range, extending from Rajpiplah to Asirgarh, is a belt of mountainous country 40 or 50 miles in breadth, with an average height of 2000 feet.

In *Gondwana* there are now only two millions of aborigines, out of a total population of nine millions. The remaining seven millions almost amount to a microcosm of the people in India, and justice is administered in the Central Provinces in five different languages, viz. Urdu, Hindi, Mahratti, Uriya, and Telugu. In round numbers, the seven millions may be thus classified:—1½ millions speak Mahratti; 1½ do. speak Uriya; 4 do. speak Hindi.

Dr. W. W. Hunter gives the following as the languages peculiar to Central India:—

Ho (Kol).	Mundala.	Kolami.	Khond.
Kol (Singbhum).	Rajmahali.	Madi.	Savara.
Santali.	Gondi.	Madia.	Gadaba.
Bhumij.	Gayeti.	Kuri.	Yerukala.
Uraon.	Rutluk.	Keikadi.	Chentsu.
	Naikude.		

Kolarian tribes occupy the broad belt of hilly country that runs almost continuously across India from the Santal tracts to the Kurku settlements. The Santal in the east, and the Kurku in the west, speak a language substantially the same.

The Central Provinces Kolarian tribes are:

Bhil.	Byga.	Kol.	Nahur?
Bhilala.	Dhangar.	Kurku.	Aguria?
Bhunjiah.	Gudba.	Mahto.	Goli?
Bhumia.	Kawar.	Manji.	Soura?
Binjwar.			

The aboriginal Dravidian tribes are:

Gond.	Hulba.	Aguria?
Bhuttra Gond.	Khond.	Dhunwar?
Durweh ,,	Koi.	Nahur?
Maree ,,	Maria or Gotawar.	Punkah?

Other occupants of the Central Provinces are:

Lodhi.	Chamar.	Ooryah.	Mahratta.
Parwar.	Kunbi.	TilingKomati.	Jharia.
Kachi.	Relees.		

with a sprinkling of Rajputs, Brahmans, and Mahomedans in almost every district.

In the extreme west in Nimar are the Bhil.

From thence, going to the north-east, we find along the Satpura range the Kurku and Gond,—the Kurku belonging to the Kolarian family, and the Gond to the Dravidian.

The Kurku are not numerous, and are chiefly to be found in the hilly part of the Hushungabad, and the adjoining northern part of the Chindwara district. In these localities they meet with the Gond, and a few Kurku are also found in Baitool.

The Gond are numerous in the plateau district of Son and in the south of Jubbulpur, and they are found also in the hilly parts of Jubbulpur.

The Gond, Byga, and Kol form a large section of the population of Mandla, and the Gond and Byga are also in the hilly parts of Balaghat south of Mandla.

The Ooriya occupy entirely the Sumbulpore district.

The Khond dwell in the country surrounding the Ooriya in Sumbulpore and to the south.

The Hindu races are numerous in Raipur and Belaspur, but a number of Gonds are scattered about, and the Gond are numerous in the wild parts of Nagpur and Chanda, and on the Pranhita and Godavery river the Mahratta and Teling races meet.

The Mahrattas proper, consisting chiefly of Mahratta, Brahman, and Kunbi, scarcely exceed half a million in number, but, owing to the pro-

minent and powerful position so long occupied by them in the country, they have imposed their language and some of their customs on about twice their own number of menial and helot races, such as Dher and Mang, who, Mahratta in Nagpur, speakers of Hindi in the Nerbadda valley, only retain their individuality because they are too low in the scale for absorption. The Mahratta influence, however, did not penetrate much beyond the Nagpur plain, consisting of the lower valleys of the Wardha and Wainganga. To the south of this area the Teling races are intermingled with the settlers from the west, though not in large numbers. To the east Ch'hattisgarh is inhabited, after some fifteen centuries of Rajput ascendency, mainly by Hindu races, except in the remote eastern district of Sumbulpore, which by language belongs to Orissa. The Chamars of Ch'hattisgarh are Satnami sectarians, disciples of Ghasi Das.

The northern line of demarcation may be drawn along the southern crest of the Satpura range; for though a few Mahrattas are found on the table-land, there are probably more Hindi speakers below the ghats in the Nagpur plain, and the almost universal language of the three Satpura districts, Son, Chindwara, and Betul, is Hindi.

The older settlers are in many districts called Jharia (from Jhar, underwood, forest), and are much looser in their observances than later comers of the same caste, eating forbidden food, and worshipping strange gods. For some generations after their arrival, the northern importations generally kept up their home connection by marriage, fearing to ally themselves with degenerate brothers, who may have carried their carelessness in social matters so far as to permit mesalliances, and perhaps even to have contracted some taint of aboriginal blood. In the Hoshangabad district the Ghori (Mahomedan) kings of Malwa seem to have attained deification without distinction of persons, and a Hindu in difficulties would as soon invoke the Ghori Badshah as any other supernatural power. At Murmari, ten miles from Bhandara, the villagers worship at the tomb of an English lady, ignorant, and probably careless, of the object for which it was erected. Gujars are among the steadiest members of the community, and have a great deal too much property of their own to admit the idea of professional cattle-lifting as a possibility amongst civilised people. The Lodhi, mere agricultural drudges in Upper India, have attained some distinction as swashbucklers and marauders in the Nerbadda country, and some of their chiefs still retain all the popular respect due to families which have forgotten to live on their own industry. On the other hand, there are Rajput who have taken to banking.

Damoh has a population of 262,641 souls; there are a few Mahomedans who are cotton carders, weavers, and the like. There are upwards of sixty different castes or sects of Hindus, amongst whom as under:

Kurmi,	34,907	Brahman,	23,666
Lodhi,	31,980	Ahir,	15,281
Chamar,	28,401	Bania,	9,783
Gond,	26,724	Rajput,	9,187

The Lodhi came from Bundelkhand three centuries ago.

The Kurmi from the Doab about A.D. 1620. The Kurmi are a large class of cultivators in the eastern and central portions of Bengal, few in Dehli and in the Upper Doab. According to Sir Henry Elliot, under the different names of Kurmi, Kumbhi, Kunabi, Kumbhi, they extend throughout the greater part of Hindustan, Berar, and the Western Dekhan. They are famous as agriculturists, but frequently engage in other occupations. The Kurmi women, like the Jatni, assist the men in husbandry, and have passed into a proverb for industry:

'Bhalee jat koonbin kee, k'hoorpee hat'h
K'het nirawen apne pee ki sat'h.'

The Kurmi of the Hindustan provinces are said to have seven subdivisions, which are usually enumerated as K'hureebind, Puturya, G'horchurha, Jyswar, Canoujea, Kewut, and Jhooneya.

The Gond of Mandla have the Lamjina Shadi, in which the betrothed lad serves an apprenticeship for his future wife. A Gond girl, however, may exercise her own will and run off with a man, but it is quite allowable for her first cousin or the man whom she has deserted to abduct her from the man whom she has chosen. The Shadi Bandhoni is a compulsory marriage. In the Shadi Baitho a woman goes to a man's house. Widows re-marry either to a younger brother of their deceased husband, or to some other man.

To burn dead men is deemed the more honourable mode of disposing of the remains; women are always buried. When the father of a family dies, if well-to-do, they clothe the corpse in a new dress, and bury or burn the remains; his spirit is, however, supposed to dwell in the house till it be released, and till released, the spirit is the only object of worship in the house. After the funeral, a piece of turmeric and a pice are tied up in a cloth and suspended to one of the beams of the house. When the time comes to lay the spirit, the cloth is removed, and, with a portion of the flesh of a goat or a pig, is offered to the village deity; a feast is given to relatives, the elders, and the release is complete. Human sacrifices were made till after the middle of the 19th century at the temples of Kali at Lanji, and at the shrine of Danteswari in Bastar.

CEPHAELIS IPECACUANHA is a native of New Granada in Brazil; its emetic effects were known from time immemorial, and it received from the Portuguese the name of rais d'oro, or golden root. The father of the celebrated Helvetius established its utility, and was rewarded by Louis XIV. with a thousand louis-d'or.—*O'Sh.* p. 381.

CEPHALÆMIA OVIS or Œstrus ovis occurs in Europe and the East Indies; it lays its eggs in sheep's nostrils, and the worm from it occupies the frontal sinuses, and gives rise to fatal disease.

CEPHALOCROTON INDICUM. *Bedd.*

Adenochlæna Indica, *Bedd.*

A very common tree in the dense moist forests on the Animallays, Tinnevelly, and Travancore ghats, at 1500 to 4000 feet elevation, generally on the banks of streams, and also sparingly in Coorg and S. Canara. It is in flower and fruit at all seasons. Timber is said by the natives to be very good for building purposes.—*Beddome, Fl. Sylv.* p. 261.

CEPHALOPODA, a class of molluscous animals, comprising many recent and fossil genera and species. The fossil Cephalopoda of the cretaceous

rocks of Southern India are numerous about Ootatoor and Trichinopoly.

CEPHALOTAXUS DRUPACEA. *Siebold and Zuccarini.* A splendid yew tree of China and Japan, hardy, and rising to 60 feet. C. Fortunei, *Hooker*, is a variety. C. pedunculata occurs in China.—*Von Mueller.*

CERAMBYX VATICA, or Sal grub, burrows in the wood of that tree, and is sought for by the woodpeckers. See Insects.

CERAMIC MANUFACTURES. The manufacture of porcelain, earthenware, etc., is an art which has for hundreds of years been perfected by the Chinese and Japanese, and has also been acquired to some extent by the Asiatic races who have embraced Mahomedanism. But the Hindu races, though making many beautiful models in clays, have never finished off their work by costly glazing. Their action in this matter has been owing to their views as to ceremonial impurity, which necessitates the destruction of earthenware from many ideal pollutions; and as to break up or throw away valuable porcelain would be ruinous, they use largely copper and brass utensils, which can be purified by fire or water, and common unglazed clay-ware of little money value, which can be thrown away. Urns of elongated shapes have been discovered in ancient Chaldæa; and in British India, fine specimens of common earthenware, ancient funereal, domestic, and cooking vessels, are dug out of the old tombs in the districts of Coimbatore and South Arcot. This kind of pottery has been found in many parts of India in tombs usually arranged in circles, each tomb being built of six slabs of stone, and occasionally surmounted by large mounds of loose stones and earth. They have been thought to resemble the Druidical tombs of England, and are supposed to be of great antiquity, there being no records of them extant. The pottery found in them usually consists of tall narrow cinerary urns of 18 or 20 inches in length, with three or four clumsy feet four inches in length, and of a variety of round, oval, and flattened vessels of different shapes and sizes, some having apparently been used for cooking and others as drinking vessels. The tall urns usually contain burnt human bones, teeth, and ornaments of brass or copper; they are made of a coarse clay, which have not been finished with care. Some of the flattened oval and rounded vessels are made of a fine dense clay that has been carefully prepared; the surfaces are variously ornamented with wavy or crossed lines of red and yellow, carefully painted. The pottery appears also to have been smeared, and it resembles the potterie antique vernissée et lustrée figured by M. Brongniart. There is great purity of form in most of the vessels, which resemble the Etruscan in the precision of the curves and in the angles at which the different surfaces meet. The art of pottery appears to have deteriorated in India since these articles were made, and one branch of it, viz. the smearing or thin glazing on the surface, is rarely practised. Nearly all the porcelain used in India by Mahomedans and Christians is imported from China and Great Britain.

In *Egypt*, the pyramids of Abu Rowash, which may very well date from the so-called second dynasty of Manetho, are surrounded by heaps of broken vessels. Beside this, the pottery made at Thing Thao in China, in 2255 B.C., is modern. Scarabs made of earthenware, finely glazed with a turquoise colour, and bearing the names of such old kings as Cheops, Chephren, and others of the pyramid-building dynasties, are not at all uncommon. The potter's wheel is said to have been first used in Japan by a priest named Giyogi, a native of Idzumi, in 724 of the Christian era; and it is stated that the art of making pure porcelain was introduced into Japan about A.D. 1513.

The rarity of pottery all over *Europe* after the fall of the Western Empire is a curious fact. The practice of making encaustic tiles, which became one of the most beautiful of mediæval arts, betrays a revival; and by the beginning of the 8th century the Moorish wares of Spain had become famous. It is from an offshoot of the Moorish manufactories in the Balearic Islands that Majolica or Majorca ware gave its name to all kinds of glazed pottery. German stoneware, much of it very beautiful, reached perfection towards the end of the 16th century; but simultaneously the delicate Oiron pottery, or Henri II. ware, was begun by Hélène de Hangest, a widow of noble family, in her castle of Oiron. Only about sixty-seven specimens remain; but it has been deceptively imitated of late years.

M. Janvier asserts that the very first porcelain made in Europe was in Venice, there being in the archives a letter, dated 1470, from Uielmo da Bologna, that seems conclusively to prove this fact. This art was, however, lost, to be revived again in France about 1695. The porcelain was what is known as 'soft,'—that is, the materials from which the paste, or body, was mixed, were not thoroughly fused together. In 1709, Böttcher, a German, after repeated failures, succeeded in producing true hard paste at Meissen, near Dresden. It was not for nearly a century that hard paste penetrated to Great Britain; but in 1800, Josiah Spode created, or rather perfected, what was practically a new ware, the bone phosphate porcelain, the only kind now made in England. The English porcelain is of a soft creamy colour, very agreeable to the eye, and very suitable for decoration. Nearly all the ordinary kiln colours can be used on it, and beautiful wares of all kinds are made. In Britain, before the 18th century, pottery was rarely used; the people ate from wooden trenchers, and drank from horn cups, up to the earlier years of the 19th century.

Earthenware or Common Pottery.—There are three distinct branches of this manufacture in India, which, though similar in their manipulation, are different in their results. The most common kind is the red porous earthenware used for pots and cooking vessels, the black used for similar purposes, and the fine white which resembles some of the biscuit earthenware of Europe.

The *red porous earthenware* of India differs very materially in quality according to the locality from which the clay is selected; some are made of a common coarse earthy loam, which has very little tenacity, and yields a brittle kind of pottery, neither susceptible of much finish, nor of being glazed. Most of the pottery of India is of this description; it is made on a curious principle, which is unknown in other countries, but which has probably been followed for many centuries in India. The Indian potter's wheel is of the simplest kind. It is a horizontal fly-wheel, the frame of

wood, the rim heavily laden with clay, two or three feet in diameter, weight 60 to 80 pounds, and is put in motion by the potter's hand, assisted by a stick; once set spinning, it revolves for from five or seven minutes with a perfectly steady and nearly true motion. The mass of clay to be moulded is placed on the centre of the wheel, and the potter squats before it on the ground. This machine has doubtless several defects, but it answers its purpose perfectly. The vessels, which are mostly of a round form, are thrown thick in the neck and upper parts or sides. They are cut off the wheel, and left open in the bottom, with vertical sides; they are then allowed to harden a little in the necks, and as soon as they will bear to be handled, the sides are thinned out by beating with a flat mallet upon a rounded stone or very hard round piece of wood held inside the vessel, which is turned about and beaten till it is closed. This is a very tedious and unsatisfactory mode of working, and the only recommendation is, that it makes a thin, light vessel, but at a great sacrifice of time. From ten to twenty-eight of these is a good day's work, while a skilful European thrower will turn out 800 in the same time. Good samples of this quality of earthenware are made at Travancore from a fine smooth micaceous loam, and the general forms are good, though heavy. A finer description of this ware is made at Hyderabad, from a tough, smooth plastic clay, and the articles are remarkable for elegance of form and extreme lightness of throwing. Some of the vessels are ornamented with gold leaf and coloured lac varnishes; others are made in imitation of Beder ware; some are painted white on a red ground; a few glazed and coloured with a soft lead glaze, composed of 24 parts Moordar Sing or litharge, 3 parts Ghar ka pat'har, and 1 part copper. Sandoor, or the red oxide of lead, may be substituted for the litharge. The Ghar ka pat'har should be well burnt, slaked in cold water, and afterwards reduced to a fine powder, and mixed with the litharge. The copper is mixed with its weight of finely-powdered sulphur, and heated in a crucible till a green scale has formed on it; it is then finely powdered, and mixed with the Ghar ka pat'har and litharge. The whole is again heated, and reduced to a fine powder once more. A small quantity of this powder is well mixed with wheat starch, and kneaded well for some time; water is then added, and it is strained through a fine cloth, and the glaze is gently rubbed in with the hand, after which the pottery is baked. This process of glazing pottery is very similar to that practised in Italy, Germany, and some parts of England, where paving tiles, green flower-pots, and common red earthenware are manufactured. The Ghar ka pat'har is probably either white felspar or pegmatite, a variety of granite very abundant in Southern India, and composed of three parts felspar and about one part of quartz; but at the bangle works at Loonar lake the stone used is chalcedony. The clay which is employed is probably more refractory than the common red clays of India, most of which begin to lose their shape or to become spongy at the temperature for melting such glazes. The native furnace is simply an excavation in the ground of variable depth, in which the ware is placed layer by layer, with dry reeds, straw, etc., and all are burnt together. This rude system must of course give way to the European method, for the construction of all the superior kinds of vessels.

Black Earthenware in most instances is the red pottery blackened by the simple process of damping or checking the fire when it is beginning to decline, and thus throwing a great deal of smoke amongst the wares when the heat is not sufficiently intense to burn it off. A better and stronger kind of black earthenware is manufactured at Bangalore from a fine dense clay that contains both manganese and iron. This approaches the black stoneware of Egypt, and is strong and sonorous when struck.

White Earthenware.—Light and elegant goblets, butter pots and vases, are made at Arcot. This branch of the art is conducted with more care and cleanliness, attention being paid to the sifting of the materials and to the ornamenting and finishing of the articles. The material selected is a decaying white granite resembling the Cornish stone of England or the grauen of Germany. This is carefully washed and decanted to free it from sand or impurities; it is then allowed to subside, the water is poured off, and the soft clay is collected on a clean cloth and laid on a heap of white wood ashes to dry; a small percentage of alkali is thus absorbed through the cloth, and is incorporated through the mass by kneading. This decayed white granite is the true Kao-lin or porcelain earth of China and Europe. It is particularly abundant in India, and occurs in beds of enormous extent, and of every variety of colour. It possesses the valuable qualities of combining with a large percentage of silica, felspar, baryta, or other stony bodies, and of resisting the most intense heats; but in India it is employed alone, and produces a soft, brittle, porous ware, which is not susceptible of being well glazed. Numerous attempts have been made to glaze this description of pottery, but the glaze crazes or cracks all over the surface, and allows water to penetrate to the body. The reason is that the Kao-lins require flint, felspar, or stone to open them, and exposure to a long-continued and steady heat before they are thoroughly burnt in the biscuit state. They also require a hard fritt or porcelain glaze, which cannot be prepared without expensive machinery. The firing also involves a great consumption of fuel, as the heat must be kept up steadily for 40 or 60 hours.

In *China*, the districts of Ping-le and Kot-kow in the province of Kiang-si are the most noted for their plastic clays of all the eighteen provinces of China. Very excellent plastic clays are also found in Wy-chow, in the province of Ngan-huy; the clays are soft, smooth, and, with one exception, uniform in point of colour. The excepted clay alluded to is streaked or veined, and is preferred by many potters. Kin-tee-ching, a town near Ping-le and Kot-kow, from the most ancient times has been pre-eminent for its china-ware factories. The clays are classed as Kao-lin and Pe-tun-tse. The Pe-tun-tse is taken from the quarries to the pounding mills, and then thoroughly crushed in large mortars, by means of pestles moved by water-wheels. It is then thrown into a pond and well mixed with the water. The heavier parts fall to the bottom, but the cream-coloured liquid on the top is drawn off into another basin, where it is well stirred by labourers who walk about in it. The heavier parts that sink

to the bottom are re-pounded and treated as before. The cream-like liquid being allowed to stand, deposits its fine clay, which is formed in moulds into bricks called pak-tan, or white bricks.

The Kao-lin clay is similarly prepared, and the bricks of the two clays are separately powdered and washed, and then mixed and formed into a paste, which is ready to be formed into vessels on the wheel, or by means of knives, and hardened in the sun or in a drying chamber. They are glazed by dipping them in a fluid mixture. The painting of the porcelain is by different artists, who take respectively the landscapes, rivers, trees, butterflies, birds, human figures, and buildings, and are again fired. The designs traced upon their porcelain or china are very inferior, but the colours used by the artists who paint these designs are far superior to any European colouring. The greater part of the modern *Chinese* porcelain, so abundantly imported into Europe, is made at King-teu, near Kin-kiang, and is enamelled or painted elsewhere. *The yellow*, so much prized by connoisseurs, indicates that it formed part of the annual tribute paid by the pottery districts to the emperor.

In *Japan*, the porcelain of the small island of Anadji, in the province of Miodo, requires much skill for its production. The porcelain from the city of Arita, in the province of Saga, is the most important of all the manufactures of porcelain in Japan. Kaga ware is made in the province of Tshi-kawa, and is the best known of all the Japanese porcelain. It is often of the egg-shell quality in thinness, beautifully translucent, and almost invariably ornamented in red and gold, or red only. The Satsuma pottery is the most famous of all the Japanese manufacture. It is made in the department of Kagosina in various potteries belonging to the Daimio Satsuma. The body is very hard,—indeed, half porcelain,—of a soft greyish stone colour, pencilled, daintily coloured, and decorated with birds, insects, flowers. Nagasaki porcelain closely resembles Kaga ware in its delicate thinness and decoration. Porcelain ware of Seto (owari) in Japan is famed for its colours.—*Gray*, ii. p. 230; *Mad. Exh. Jur. Rep.* See Porcelain; Pottery.

CERAM ISLAND is the second in size of the Moluccas, having an estimated area of about 10,000 square miles. The mountains are from six to eight thousand feet in height, sending down innumerable streams to the sea. The sago palm is more abundant and productive than on any of the adjoining islands. Cloves and nutmegs grow wild. The people of Ceram approach nearer to the Papuan type than those of Gillolo. They are darker in colour, and a number of them have the frizzly Papuan hair; their features are harsh and prominent, and the women are far less engaging than those of the Malay race. The Papua or Alfuro, the predominant type in Ceram, gathers his frizzly hair into a flat circular knot over the left temple, and places cylinders of wood, as thick as one's fingers and coloured red at the ends, in the lobes of the ears. They go almost naked; but armlets and anklets of woven grass or of silver, with necklaces of beads or small fruits, complete their attire. The women have similar ornaments, but wear their hair loose. All are tall, with a dark brown skin, and well marked Papuan physiognomy (Wall. ii. 41). Of twenty-eight words of the language of Ceram, nine of the words are Malay, two Javanese, and seventeen are common to these two languages. Casuarius galeatus inhabits the island of Ceram only. It is a stout, strong bird, standing five or six feet high, and covered with long hair-like feathers. Its head has a large horny casque or helmet. The Ceram box manufacture has recently excited a degree of interest from the close resemblance it bears to the ornamental work of the North American Indians. A corresponding manufacture is met with in Borneo, with similar ornamental work of shells or wampum, but coarser.—*Bikmore*, p. 210.

CERAM LAUT. A cluster of islets are lying off the south-eastern extremity of the large island of Seran or Ceram. They produce tortoiseshell, mother-of-pearl shell, beche de mer, wild cinnamon, wild nutmegs, and birds of paradise. Ceram Laut is the most westerly and the largest of the range of small islands which extend 15 or 18 miles east and west. Ceram Laut means Ceram lying to seaward. The islands are low. Ceram Laut is the great place to which the Bugi carried the Papuan slaves stolen from New Guinea. Ceram Laut and Goram are seldom visited by Europeans. The natives of the Ceram Laut islands repair chiefly to the northern coast of Papua, or the island of New Guinea, from which they are distant only about a day's sail, to procure the various articles of produce we have mentioned, that part of this vast island being called by the Bugi, Papua Nothing. Mother-of-pearl shells are, however, procured by the Bugi themselves in greater quantities at the Aru islands.

CERASTIUM CORDIFOLIUM. *Roxb.* A herbaceous annual of Bengal. C. Indicum, *W. and A.*, is chickweed. C. dichotomum and C. vulgatum also occur.

CERASUS, a genus of plants of the natural order Amygdaleæ, which are arranged into the true cherries, the bird cherries, and the cherry laurels. Wallich and Roxburgh mentioned C. Nepalaisis of Nepal and Kamaon, C. puddum of the Himalaya, and C. triflora of China. Dr. Cleghorn mentions the Gilas, Kashmir cherry, as from one variety of cerasus, and Aru ballu, the Kābul cherry, as from another variety, both grown in gardens of the N.W. Himalaya. Griffith mentioned that there is in the Tenasserim Provinces one species of the almond tribe which abounds in prussic acid. C. capronia, the cherry tree of Europe, the Himalaya, Caucasus, etc., in Kashmir is called Aloo baloo. The kernel of this fruit contains the elements of hydrocyanic acid, and is accordingly much used for communicating its peculiar flavour to brandy and liqueurs. C. Japonica is a native of Japan, but long known in English gardens as the double dwarf almond. It is one of the most beautiful flowers that appear in the month of March. C. lauro-cerasus is the cherry laurel of Trebizond and Afghanistan, and is cultivated in Europe. The distilled water of the leaves is much used in Europe as a vehicle for opiates and other anodyne medicines, in doses up to one ounce.—*O'Sh.* p. 827. See Cinnamomum.

CERASUS CORNUTA. *Roxb.*

Prunus padus, *Linn.*

Bird cherry, . . ENG.	Jamuna, ... PANJ.
Himalaya bird cherry, „	Paras, . . . KAGHAN.

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 to

10,000 feet about Simla. It grows to a large size, and its wood is esteemed.—*Cleghorn, Panjab*, p. 65.

CERASUS PSEUDO-CERASUS, the Ying-tau or Chinese cherry, is met with in Kiang-nan, Hu-peh, and Honan; but there seem to be several varieties, some of which have been introduced into England. It has a bright red fruit.—*Smith.*

CERASUS PUDDUM. *Wallich.*

Prunus puddum, *Lindley.*

Common bird cherry, ENG. | Paddam, Pyah, . PANJ.
Wild cherry, ... ,, | Chumiari, Amulguch, ,,

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 3000 to 7000 feet. Occurs in Kaghan as far as the Indus; also in Kamaon. It is a sacred tree among the Hindus. The bark is called pudmak, and used in medicine by the natives, as it is also in America.—*Cleg. Panj.* pp. 65, 81.

CERASUS SERRULATA, the fine-toothed cherry, is a native of China. C. Nipalensis, *Ser.*, is a small tree of Nepal and Kamaon. C. triflora, *Wall.*, is a shrub of Nepal and China.

CERASUS VULGARIS, common cherry.

Prunus cerasus, *Linn.*

Yuh-li, ... CHIN. | Gilas, ... PANJ.

This grows in China; is found wild in the woods of Asia Minor, where it acquires a very large size. Dr. Royle considers the cherry to be wild in Kashmir.—*Eng. Cyc.* p. 826.

CERATONIA SILIQUA. *W.* Carob tree.

Khirnoob shamee, ARAB. | Locust bean, . . . ENG.
Nubtee, Kharnob, . ,, | Saint John's bread, ,,

The carob tree was introduced into the Saharunpur gardens, and has been tried at Madhopur and other places in the Panjab, as at Lahore, and succeeds fairly. A thick, pulpy, flat, brown, curved pod contains hard red seeds resembling those of the tamarind, embedded in red fibrous pulp. Used by the natives in coughs attended with much expectoration. The pods are used for food, both for men and horses, along the coasts of the Mediterranean, and are said to improve the voice of singers. The seed of this tree is the original of the carat of jewellers.—*Powell, Handbook*, i. p. 342; *Spry's Suggest.* p. 54; *Ainslie.*

CERATOPETALUM APETALUM, the coach-wood, leather-jacket, and light-wood of New Zealand and Australia, is abundant about the Illawara district. It grows to 45 and 50 feet high and 6 feet round. Its wood is soft, fine-grained, light, and has an agreeable fragrance. It is valued for cabinet work and coach-building, but will not bear exposure to wet. C. gummiferum, the Christmas tree, officer tree, and light-wood of Australian colonists, is used for decoration at Christmas times. It is wild near Sydney; grows straight to 15 or 30 feet in height.—*G. Bennett.*

CERATOPHORA STODDARTII, a lizard of the Kandyan hills, remarkable for having no external ear. It acquired its generic name from the curious horn-like process on the extremity of the nose. This horn, as it is found in mature males of ten inches in length, is five lines long, conical, pointed, and slightly curved up.—*Tennent.*

CERATOPTERINA, a group of fishes, in which occur—

Dicerobatis japonica, *M. and H.*, Japan.
D. eregoodoo, *Cant*, Indian seas.
D. Kuhlii, *M. and H.*, Indian Ocean, Archipelago.
Ceratoptera Ehrenbergii, *M. and H.*, Red Sea.

CERATOSTEMA. *Roxb.* A genus of plants. Roxburgh described C. vaccinacea, *Roxb.*, and C. variegata, *Roxb.*, the jalamoot of Bengal, both of them shrubs. The latter is a native of mountain forests near Chittagong, Sylhet, and on the Garo hills, where it blossoms during the cool season, when its numerous, most beautiful, large, variegated, rosy flowers are highly ornamental; the seed ripens in July.—*Roxb.* ii. p. 413.

CERBERA, a genus of plants belonging to the natural order Apocynaceæ. Dr. Roxburgh described C. fruticosa, C. odallam, *Gært.*, and C. maculatum, *Willde.* C. tanghin, the tanghin tree, was formerly used in Madagascar for the trial by ordeal. C. thevetia is a large shrub with leaves like the oleander, and bell-shaped yellow flowers. Its milk is poisonous, bark bitter and purgative, also said to be powerfully febrifuge, two grains being affirmed to be equal to a common dose of cinchona. According to Royle, perfectly naturalized in India.—*O'Sh.* p. 446; *Riddell.*

CERBERA MANGHAS. *Linn.*

C. lactaria, *Buch.* | C. quaternifolia, *Roxb.*
Kullooa, ... BURM. | Kaner zard, . . PERS.
Pili karbir, . . HIND. |

This tree grows in Pegu, Tenasserim, Tavoy, Penang, Singapore, Java, Moluccas, and the adjacent islands, in wet situations. Its fruit is used very extensively by the Burmese, to make an oil which they burn in their lamps and use to anoint their heads. The kernels are described as emetic and purgative. The leaves are said to be used in Java as a substitute for senna, and the bark is said to possess similar properties.—*Roxb.; Voigt; Mason; Eng. Cyc.*

CERBERA ODALLAM. *Gærtn.* Odallam tree.

Cerbera manghas, *Sims.* | Tanghinia odallam, *Don.*
Odallam, . . MALEAL. | Kat-arali, ... TAM.

Common on the western coast of India, Maldives, and Laccadives. Wood white and spongy. Nut narcotic and poisonous. The green fruit is employed to kill dogs.—*Roxb.* i. p. 692.

CERBURA, in the mythology of the Hindus, a varied-coloured dog, one of the dogs of Yama. He has a second dog, called Syama, or black. Cerbura is undoubtedly the Cerberus of the Greeks. Cerbura has other names, all meaning spotted, but it is also called Tri-sira or three-headed. See Yama.

CERCOTRICHAS, a genus of birds in India, known as bulbuls, C. erythropterus, C. Luzoniensis, C. macrourus. See Bulbul.

CEREAL GRAINS of several kinds are cultivated for food. The seeds of all the gramineæ, those of the darnel alone excepted, are capable by cultivation of becoming alimentary. The value of grains, generally speaking, is directly as the size of the caryopsis, and inversely as the thickness of the pericarp. When the grain abounds in perisperm, it is heavy; when the envelope is thick, the grain is, on the contrary, light, thus:—

100	seeds of	wheat	weighed	4·50 grains.
100	,,	barley	,,	3·85 ,,
100	,,	rye	,,	2·60 ,,
100	,,	oats	,,	2·50 ,,

The chemical composition of the grain influences materially the quality of the resulting bread. If the gluten be absent, no fermentation takes place in the dough; if the gluten be in excess, the bread is heavy and acid. Wheat flour may be considered the type of all that is suitable for alimentary

purposes, and in the degree of deviation from this standard consists the inferiority of the other grains. The grains or ears of nearly all the cereal grasses are subject to diseases resulting from attacks of parasitic fungi, animalculæ, and insects. The liability of the seeds of grasses to parasitic infection is explained by the large amount of nitrogenized matter contained in them, and to their softness of texture; and some of the diseases occasion the greatest injury to the agriculturist. Little is known as to the native countries of the cereal grains. The prevalence of particular grains in the earth's zones and continents, has resulted not alone from climate, but has been determined by the civilisation, industry, and traffic of the people, and often by historical events. Without cultivation, all the cereals degenerate. As they now exist, they seem to have been greatly improved from their natural state. Wheat has five, six, or seven distinct species, barley three, and oats two, three, or four. In the scuth and east of Asia, the following grains belonging to the grasses (Panicaceæ or Graminaceæ) are the more largely cultivated:—

Eleusine coracana, *Gært.*, ragi.
E. stricta, *Roxb.*, ,,
Hordeum distichon, *Linn.*, barley.
H. hexastichon, *Linn.*, common barley.
H. vulgare, *Linn.*, spring barley.
Oplismenus frumentaceus, *Roxb.*
Oryza sativa, *Linn.*, rice, black and red.
Panicum miliaceum, *Willde*, common millet.
P. miliare, *Lam.*
P. Italicum, *Linn.*, Italian millet.
P. Germanicum, *Linn.*, German millet.
Paspalum stoloniferum, *Linn.*
Penicillaria spicata, *Willde*, spiked millet.
Poa Abyssinica, *Aiton*, teff plant.
Sorghum bicolor, *Willde.*
S. cernuum, *Willde.*
S. saccharatum, *Pers.*
S. vulgare, *Pers.*, great millet.
Triticum vulgare, *Vieill.*, wheat.
var. (a) æstivum, two varieties.
,, (b) hybernum, ,, ,,
Zea mays, *Linn.*, maize.

	Sorghum vulgare.	Penicillaria spicata.	Zea mays.
Water,	11·95	11·8	13·5
Nitrogenous substance,	8·65	10·13	9·9
Dextrin,	3·82	..	..
Sugar,	1·46	..	..
Fat,	3·9	4·62	6·7
Starch,	70·83 with husks	71·4	..
Starch and dextrin,	..	..	64·5
Cellulose from bran,	..	..	4·0
Ash,	..	..	1·4

	Wheat. Flour.	Wheat. Bran.	Rice.	Panicum miliare.
Water,	14·0	10·3	14·0	12·22
Nitrogenous substance,	14·6	12·48	7·242	9·27
Dextrin,	..	..	..	9·13
Sugar,	..	..	0·390	1·80
Fat,	1·2	2·82	0·900	7·43
Starch,	59·7	22·62	75·918	49·04
Dextrin and sugar,	7·2	5·8	..	..
Cellulose from bran,	1·7	43·98	..	..
Salts,	1·6	2·52	..	..
Gum or dextrin,	..	..	1·570	..
Silica,	..	..	..	0·11

	Cicer arietinum.	Dolichos uniflorus.	Ervum lens.	Cajanus Indicus.
Water,	11·39	12·03	11·74	10·63
Nitrog. substance,	22·70	23·27	27·96	22·18
Fat,	3·76	2·20	1·47	1·95
Starch,	63·18	59·38	56·36	62·13
Mineral matter,	2·60	3·19	2·48	3·11

—*Hassall.*

CERES. The representative of Ceres, amongst the Hindus, is Lakshmi or Sri. Amongst the Rajputs, Gouri seems to be the analogue of Ceres, and on the festival of the Ahairea, or Muhurat ka Shikar, they hunt, slay, and eat the wild boar.

CEREUS, a genus of the Cactaceæ. About twenty species introduced into India. Many of the species produce beautiful flowers. The stems are angled and jointed; the blossoms open in the evening or during the night, and die away towards the morning. C. flagelliformis of S. America, which grows in Asia and Africa, is the creeping cereus; C. grandiflorus, *Mill*, is the night flowering cereus. C. hexagonus, *Linn.*; C. senilis, the old man's torch thistle; C. speciosissimus, C. triangularis, *Linn.*, and C. truncatus, occur.—*Voigt.*

CERIOPS CANDOLLEANA. *Arnot.* Chowree or Kirree, SIND. A tree of Sind. Wood used for building boats and barges; makes useful knees. The barks of Ceriops candolleana and Rhizophora mucronata are much used in Sind in tanning.

CERIOPS ROXBURGHIANUS. *Arnot.*
Rhizophora decandra, *R.* | Bruguira decandra, *Gr.*
Garan, ... BENG. | Ka-by-ain, . . . BURM.

Grows on all the coasts of tropical Asia. Wood dark reddish, hard, and durable; flowers large, white, and sweet-scented. The bark is used in India for dyeing.—*Voigt; Malcolm.*

CERIORNIS MELANOCEPHALA and C. satyra, Argus pheasants.

CERITHIADÆ, the Cerite family of molluscs, comprising several genera, mostly recent.

CERNE, the name given by the Portuguese to the island of Mauritius on its discovery. Subsequently, while in the possession of the French, it was called l'Ile de France, the Isle of France.

CEROPEGIA, a genus of plants of the nat. ord. Asclepiaceæ. They are creepers and trailing plants. C. Arnottiana, *Wight*, is the Oo-ta-lung of the Burmans. C. bulbosa, esculenta, lucida, juncea, Lushii, elegans, Stephanotis, stapeliæformis, and tuberosa occur in India. C. bulbosa, *Roxb.*, occurs in many places, and every part of it is eaten by the natives. Its roots are of the size of a small apple, and when fresh taste like a turnip. —*Roxb.*

CEROPEGIA ESCULENTA. *Edgeworth.* Galot, PANJ. In Multan its acid leaves and tubers are used as a vegetable.—*Dr. J. L. Stewart.*

CEROPEGIA JUNCEA. *Roxb.* A twining plant; grows all over India. It is succulent, with an agreeable acid taste, and is much eaten as a salad by the people.—*Mr. R. Brown.*

CEROPEGIA TUBEROSA. *Roxb.*
C. candelabrum, *R.*
Bach-chali-manda, Pulla manda, . . . TEL.

The word manda is applied to several species of ceropegia.—*Voigt.*

CEROSTERNA GLADIATOR, a longicorn beetle of India. It eats the bark of casuarina trees.

CEROXYLON ANDICOLA, or wax-palm, a native of the Andes of Columbia, of immense height, often attaining 150 to 180 feet in its length. From fissures in the trunk there flows spontaneously a kind of grey waxy subtance, containing two-thirds of resin and one-third of wax identical with that formed by the bee. Melted with a little suet, this wax makes excellent tapers. Its introduction into India merits attention.—C. australi, *Martins*, is of Juan Fernandez; C. Klopstockia, *Martins*, of Venezuela.—*O'Sh.* p. 641; *Von Mueller.*

CERRUS, the Ohee valayati of the Jullundhur Doab. It grows to the height of about 25 feet. Wood of the old tree brownish, soft, brittle, light. Not ordinarily used as a timber for large buildings, but employed by farmers in their buildings.

CERTHIA FAMILIARIS with C. Himalayana, etc.; and not unfrequently the exact European species inhabit India.

CERTHILAUDA DESERTORUM of Spain and N. Africa, inhabits Sind; and the Ammomanes Lusitania occurs in the deserts of N.W. India, being replaced further south by A. phœnicura.

CERUSE, white lead, carbonate of lead.

Fen-sih, ... CHIN.	Safeda, ... HIND.
Carbonate of lead, ENG.	Cerussa, . . . ITAL.

Used as white paint.

CERVIDÆ, a family of mammalia belonging to the tribe Ruminantia. They are remarkable for their fine horns, called antlers, which they shed annually, and the females of the reindeer, of all the family, possess horns normally. The sub-families of the family Cervidæ comprise the Cervinæ, or true stag, with the genus Cervus, and the Rusinæ, which includes the genera Rucervus, Rusa, Axis, and Cervulus. But the deer tribe of Southern and Eastern Asia have presented unusual difficulties to the scientific men of Europe. Indeed, Schinz (Nachtrage zum 2ten Bande) suggests that under the denomination Cervus muntjak six different species lie hid, viz.:

1. Cervus styloceros, *Schinz*, syn. C. muntjak, *Linn. apud Ogilby*, hab. Himalaya;
2. C. Ratwa, *Hodgson*, hab. Himalaya;
3. C. albipes, *F. Cuvier*, hab. India;
4. C. muntjak, *Raffles and Horsfield*, hab. Sumatra, Banka, Borneo, and Java;
5. C. Reevesii, *Ogilby*, hab. China;
6. C. Antisiensis, *Pucheran*, hab. Andes;

and the names applied by sportsmen are almost as varied as the synonyms of the scientific writers. In the genus Cervus of the sub-family Cervinæ, the horns of adults are typical, with two basal tines, a median tine, and the summit more or less branched. The red deer of Scotland is typical of this group; two species, outliers of Northern and Central Asia, occur in British India, one in the extreme N.W., and the other in the extreme N.E. corner of the province, and others in Eastern Asia. The name of the tribe is obtained from cervus, the stag.

(*a*) C. Wallichii, *Cuv.*, tailless deer of India.
C. pygragus, *Hardwicke.* | Kashmir Stag.

Red deer, . . . ENG.	Maral; Goo-koohi, PERS.
Bara Singha, . . HIND.	Gevezu, ... ,,
Jezrail, ... ,,	Giana, ... TIBET.

Occurs in Persia, Nepal, and the sal forests.

(*b*) C. affinis, Tibetan stag of Hodgson.

Sal forest stag, . . ENG.	Stroa, ... TIBET.
Sikkim stag, . . ,,	

Occurs in Tibet and the sal forests.

(*c*) C. sika, the sika of Japan, of a dark brown colour, with slender horns.

(*d*) Panolia acuticornis. *Gray.*

P. Eldii, *Gray.*	C. frontalis, *M'Clelland.*
Rusa lyratus, *Schinz.*	C. Eldii, *Cal. J. N. H.*
Cervus lyratus, *Schinz.*	
Sangnai, . . . HIND.	Sangrai, ... HIND.

Occurs in the Munipore valley and in the Malay Peninsula; is exceedingly wary.

(*e*) Rucervus duvaucelli, *Cuv.*

R. elaphoides, *Hodgson.*	C. elaphoides, *Hodgson.*
Cervus duvaucelli, *Cuv.*	
Bara Singha, . . HIND.	Buraya, ... HIND

Spotted deer of the Sunderbuns. It inhabits the eastern and northern skirts of Bengal and Hindustan, and the Sunderbuns. It inhabits reedy marshes and the islands of great rivers, never entering the mountains or forests. The tail is short, with no caudal disc and no heavy mane.

(*f*) Rusa equina, *Cuv.*, *Ham. Smith.*

Cervus rusa, *Raffles.*	Rusa equina, *Gray.*
C. equinus, *Cuv.*	R. hippelaphus.
C. hippelaphus, *Elliot, Cat.*	
Rusa etam of the people of Sumatra.	Samboo deer of Bennett.
	Sambur of the Mahrattas.
Rusa etam, . . MALAY.	Sambara, . . . SANSK.
Rusa kumbang, . ,,	Eland or elk of Dutch
Kumbang, . . ,,	sportsmen.

It inhabits the Dekhan, S. Mahratta country, Sumatra, Borneo, and Banka. It is of a pale brown colour. Considering the similarity of colours and size of C. equinus, hippelaphus, and Aristotelis, Mr. Elliot is probably right in considering all three as varieties of the great Indian stag, described by Aristotle under the designation of Hippelaphus; and C. Peronii, *Cuv.* (Cerf du Timor), may probably be added as a fourth variety.

(*g*) Rusa hippelaphus, *Cuv.*

Cervus hippelaphus, *Cuv.*	Rusa Moluccensis of *Gray, Smith.*
C. Timorensis, *Müller.*	
C. Moluccensis of *Quoy* and *Gaim.*	
Sambur of India.	Hippelaphe of F. Cuv.
Mijangan Banjoa, Malay of Java.	Cerf d'eau of Duvaucell.
	Rusa of Java and Sumatra.
Cerf noir du Bengal of Cuv.	Roussaitan ,,

It inhabits the great forests of India, Bengal, Sumatra, and Java. It is about the size of the common stag. In winter is of a greyish-brown, and in summer it is of a brighter and more golden brown. The croup is pale yellow, and the tail is brown, terminated by rather long hair, which is rough and hard; and all about the head and neck and cheeks grows long, like a mane and beard.

(*h*) Rusa Aristotelis, *Cuv.*, *Gray*, *Samber.*

Cervus Aristotelis, *Cuv.*	C. heterocerus, *Hodgson.*
C. hippelaphus, *Ogilby.*	C. Bengalensis, *Schinz.*
C. unicolor, *H. Smith.*	
Jarai; Jerrow, . HIND.	Daim noir de Bengal of
Cerf de Coromand. of Cuv.	Duvaucell.
	Samboo deer of Bennett.

It inhabits the great forests of India. It is not gregarious, and ruts and drops its horns in spring. Mr. Hodgson describes four varieties of this deer.

(*i*) Rusa dimorphe, spotted rusa.

Gower, ... HIND.	Gever, ... HIND.

Occupy the sal forests of India. Colour of a red brown.

(*j*) Rusa Peronii, the smaller rusa; inhabits Timor, Lombok, Bawian, and Ternate.

(*k*) Rusa Philippinus.
Cervus Marianus, *Cuv.*

The Philippine rusa.	Cerf de Philippines of Desmarest.

(*l*) Rusa lepida, the Sundevall rusa, a native of Java, scarcely as large as a roebuck.

(*m*) Axis maculatus, *Ham. Smith, Gray.*

Axis plinius, *Erxleben apud Gmelin.*	Cervus nudipalpebra, *Ogilby.*
Cervus axis, *Elliot.*	*Black var.*
C. pseudaxis, *Gervois.*	Axis major, A. medius,
Axis maculatus.	A. minor, *Hodgson.*
Rusa bunga, Malay of Peninsula.	Thou langna of the Terai.
	Hog-deer.
Spotted deer of India.	Spotted hog-deer of Hodgson.
Chitra, ... SANSK.	
Chital deer of Hodgson and Elliot.	

Inhabits India, the Malay Peninsula. In size and form it resembles the fallow-deer, and at the shoulder its height is two feet six or seven inches. The ground colour of the skin is at all times a rich fawn spotted with white, but is nearly black along the back and snow-white below. It has a white longitudinal line on the flanks. It lives near water in the jungles; feeds at night. It is timid, indolent, and gentle; is easily domesticated, and propagates in captivity. It is the spotted deer of Indian sportsmen. The skin and horns of this graceful deer are articles of commerce. In the years 1851 to 1855 Liverpool imported about 700 skins and 20,000 horns a year. They are not so generally distributed as the sambur, but in many districts are far more plentiful. They go in herds of from six to sixty. So many as six have been killed by one gun during the brief cool stalking hours of the morning and evening. A. porcinus, *Cuv.*, is the hog-deer of Jerdon.

Cervus muntjak, *Zimm.* Cervulus aureus, *Jer.*

Kankuri, . . . CAN.	Bekra, ... MAHR.
Jungli Bakra, . . DUKH.	

This animal does not seem to differ in any respect from the kijang of the Eastern Islands. A young male of this species is of a deep chestnut colour, which becomes browner as the animal grows older. It obtains its Canarese name from its habit of frequenting the kans or natural forest gardens.

(*n*) Hyelaphus porcinus, *Sundev.*

Cervus porcinus, *Zimmer.*	Var. Axis niger, *Dr. F. B. Ham.*
C. hippelaphus var. 3, *Cuv.*	
Para, ... HIND.	Porcine deer of Pennant.
Parha, ... ,,	Sugoria, . . . HIND.
Khar, ... ,,	Shgoria, . . . ,,
Laghuna, . . . ,,	Brown porcine axis of Hodgson.
Hog-deer, . . . ENG.	

Inhabits Ceylon, India, and Assam. Its legs are shorter than those of the axis; it has no black dorsal streak, and no white streak on the haunches. Horns generally short, with short snags. They live in herds on the plains, and do not ascend mountains.

Cervus pumilis of H. Smith is supposed to be a variety, and Cervus dodur of Royle is supposed to be a distinct species.

(*o*) Cervulus vaginalis, *Bodd., Gray.*

Cervus muntjac., *Zimm.*	Cervus plicatus, *Foster.*
Prox. ,, *Zimm. & Sundev.*	
Rib-faced deer of Pennant.	Kidang of the Javanese.
Chevreuil des Indes of Allamand.	Kijang of the Sumatrans.
The Rae of Europeans in Borneo.	Muntjak of the Sundanese.

It inhabits Sumatra, Banka, Borneo, and Java. Its height at the shoulders is about 2 feet 2 inches. On its face are two rough raised folds of skin, marking it with the letter V, the point below; colour, reddish brown or a light brown; belly and front of thighs, pure white. In Java it occupies districts with long grass, and the Saccharum (Holcus) spicatum (allang-allang, JAV.), and Phyllanthus emblica are its favourite food; but Hibiscus, Grewia, Urena, and other malvaceous plants are eaten by it. It is impatient of confinement. The points of its horns are turned forwards; it is about the size of the antelope, which, with the exception of the horns, it resembles in general appearance.—*Low's Sarawak*, p. 76.

(*p*) Styloceros muntjac., *H. Smith.*

Cervus muntjac., *Zimm., Horsf., Sykes, Elliot, Boddært, Schreber, Marsden, Desmarest, Linn.*

Cervus vaginalis, *Foddært.*	Cervus Philippinus, *Smith.*
C. moschatus, *Blainville.*	C. albipes, *F. Cuv.*
C. sub-cornutus ,,	C. ratwa, *Hodgson.*
C. moschus, *Desmarest.*	Muntjacus vaginalis, *Gray.*
C. aureus, *Ham. Smith.*	
Chevreuil des Indes of Allamand.	Kidang, . . . MALAY.

It inhabits the Malay Peninsula, Java, Sumatra, Banka, Borneo, Tenasserim, Nepal, Assam, Bengal, S. Mahratta country, Dekhan.

(*q*) Cervulus moschatus, *De Blain.*

Cervus muntjac., *Sykes, Elliot.*	Cervus Ratwa, *Hodgs.*
C. moschus, *Desmarest.*	Prox. Ratwa of Sundevall.
Styloceros ratwa, *Hodgs.*	P. Albipes of Wagner.
Barking deer of Nepal.	Bekra Mahr. of Elliot.
Ratwa, ... HIND.	Rib-faced deer of Pennant.
Kaher, ... ,,	Jungle sheep.
Baiker of Mahrattas.	

Inhabits India, living in forests in the mountains. It is of a bright reddish yellow colour, with the chin and gullet whitish. The hair is not ringed as in Cervulus Reevesii; six or eight live together. Horns of male fall in May; the females have bristly tufts ending in a knot instead of a horn.

(*r*) Tragulus kanchil, *Gray.*

Moschus palandok, *Marsden.*	Moschus kanchil, *Raffles.*
	M. fulviventer, *Gray.*
Javan musk, . . . ENG.	Kanchil, . . . MALAY.
Chrevrotain de Java, FR., of Buffon and Gray.	Palandok, . . ,,

Inhabits Malay Peninsula, Penang, Lancavay Islands, Sumatra, and Java. The largest adult measures from nose to root of tail 1 foot 6½ in.

(*s*) Tragulus Javanicus, *Pallas.*

Moschus Javanicus, *Gmelin, Pallas apud Raffles.*	Moschus Napu, *F. Cuv.*
Moschus Indicus, *Gmelin.*	Cervus Javanicus.
Oshek Napu, MALAY.	

Inhabits the Malay Peninsula, Sumatra, Java, and Borneo.

(*t*) *Cervulus Reevesii*, Chinese muntjak. A native of China. C. vaginalis, C. moschatus, and C. Reevesii breed together.

(*u*) *Cervulus Pygargus.*

Cervus Pygargus, *Pallas.*

Ahu, ... PERS.	Tailless deer of Pennant and Shaw.
Siaga, . . . TARTAR.	
Tailless roe of Pennant.	Dikajakosa, . . RUSS.

A native of Central Asia.

(*v*) Næmorrhedus Sumatrensis, *Ham. Smith.*

Antilope Sumatranus, *Pennant and Raffles.*	Antilope intus-capularus, *Lichtenstein apud Schinz.*
Kambing utan, . MALAY.	Cambtan of F. Cuv.

Numerous on the Malay Peninsula, but frequents the steepest hilly localities; is shy and active, and exceedingly difficult to obtain.—*Journ. As. Soc. Bengal; Eng. Cyc.; Horsfield and Moore, Cat. E. I. Museum; Jerdon.*

CESAR FREDERICH, a merchant of Venice of the sixteenth century, who wrote of Tenasserim.

CESARIAN ERA of Antioch was established there in celebration of Cæsar's victory at Pharsalia, A.A.C. 47.

CESTRACCION PHILIPPII, the Port Jackson shark or dogfish, usually 3 to 4 feet long.—*Bennett.*

CETACEA, an order of mammals which live in the ocean. Amongst them are the whales, the largest of creatures now existing; also the dolphins, the porpoises, and the dugong. They have fin-like anterior extremities, the posterior extremities being absent, or rather their place supplied by a large horizontal caudal fin or tail. They have no hair on their skin, have no outer ear, and the

bones of the neck are so compressed as to leave the animal without the appearance of a neck. Some of them eat plants, or are phytophagous; some are zoophagous, or animal-eaters. Seven new species of cetaceans have recently been described from the Bay of Bengal, six of the family Delphinidæ, the seventh belonging to the sperm whales Physeteridæ, to be called Physeter (Euphysetes) simus. Professor Owen described the following species from collections made mostly near Vizagapatam by Sir Walter Elliot,—Delphinus fusiformis, D. godama, D. lentiginosus, D. maculiventer, and D. pomeegra; also Phocæna brevirostris, and Physeter simus. The Cetacea are divided by naturalists into two great families, the Balænidæ or whales, the Delphinidæ or porpoises.

Whales.

(*a*) Balæna mysticetus, the Right Whale.

B. Grænlandica, *Linnæus.*	B. Rondolettii, *Willoughby.*
B. vulgaris, *Brisson.*	
Right whale, . . ENG.	*Var. a.* Nord kapper whale.
Whalebone whale, . ,,	Nord caper whale.
Greenland whale, . ,,	*Var. b.* Rock-nosed whale.

According to Lesson, inhabits all the seas of the globe.

(*b*) Balæna marginata, *Gray*, the western Australasian whale, has very long and slender baleen, with a rather broad black edge on the outer or straight side.

(*c*) Balæna australis, *Des Moulins.*

B. antarctica, *Lesson.*

Right whale of South Sea whalers.	Common black whale of Sir James Ross.
Southern whalebone whale of Nunn.	

Inhabits the South Seas; and multitudes were seen by Sir James Ross in very high latitudes. It is of a uniform black colour.

(*d*) Balæna Japonica, the Japan whale, is an inhabitant of the coasts of Japan, which it visits periodically. Its head is covered with barnacles.

(*e*) Balæna antarctica.

B. antipodarum, *Gray.*

New Zealand whale. | Tuku Peru, New Zealand.

Inhabits the New Zealand ocean.

Finners.

(*f*) Balænoptera Indica, *Blyth*, is the Indian fin whale. B. boops, *L.*, the great rorqual, and B. musculus, *L.*, the lesser rorqual, are both found in European seas.

(*g*) Megaptera kuzira, the kuzira. It inhabits the Japanese seas.

(*h*) Physalis Iwasi, the Japan finner. It is very rare. In 1760, one 25 feet long was cast ashore at Kii.

(*i*) Physalis antarcticus, *Gray*, inhabits the New Zealand seas.

(*j*) Physalis Braziliensis, Bahia finner, was brought from Bahia.

(*k*) Physalis australis, the southern finner, inhabits the seas of the Falkland Islands.

Sperm Whales, Physeteridæ.

(*l*) Catodon macrocephalus, northern sperm whale.

Physeter macrocephalus, *Linn.*	P. trumpo, *Bonnaterre.*
P. gibbus, *Schreber.*	Catodon trumpo, *Gerrard.*
	Cetus macrocephalus, *Oken.*

Its principal food are the sepiadæ or cuttle-fish, but it swallows small fishes.

(*m*) Catodon Colneti, the Mexican sperm whale, is an inhabitant of the North Pacific, the South Seas, and the equatorial oceans.

(*n*) Catodon polycyphus, South Sea sperm whale. The cachalot or sperm whale inhabits the Southern Ocean.

(*o*) Catodon kogia, *Gray*, taken near the Cape of Good Hope. It has a short head, and is supposed to be the young of C. polycyphus.

(*p*) Beluga Kingii, has been taken off the coasts of Australia, where it represents the white whale B. catodon, Catodon macrocephalus.

(*q*) Physeter simus, *Owen;* Euphyseles simus, a new species.

(*r*) Globiocephalus Indicus, *Blyth*, the Indian Ca'ing whale. In 1852 a shoal (schule or school of sailors) was carried by a current into the salt water lake near Calcutta.

Delphinæ, Dolphins.

(*a*) Neomeris phocænoides, *Gray.*

Delphinus melas, *Ternus.*

A dolphin of the Indian Ocean.

(*b*) Phocæna communis.

Phocæna Rondolettii, *Will.* | Delphinus phocæna, *Linn.*

Common porpoise, or porpesso.

(*c*) Grampus sakamata, *Schlegel.*

Sakam kuzira, . . JAPAN.

Found off the coast of Japan.

(*d*) Grampus Sieboldii.

Naiso gata, . . JAPAN.

A native of the coasts of Japan.

(*e*) Grampus macrorhynchus, black fish of the South Sea whalers; it inhabits the South Seas.

(*f*) Delphinapterus Peronii, right whale porpoise of whalers. It is found on the Brazil bank, off the coasts of New Guinea, and the higher southern latitudes. It lives in large shoals, and its flesh is esteemed a delicacy. It is black; but the beak, the pectoral fins, and under part of the body are white.

(*g*) *Delphinus.* — Seafaring people call the species of this genus bottle-nose, bottle-head, flounder-head, grampus, porpoise, porpesse, or porpus, sometimes even whale, and give the name of dolphin to the Coryphæna, a scomberoid fish which changes colour when dying. There are several species of Delphinus:—

(*h*) Delphinus Heavisidii, the hastated dolphin, inhabits the South Sea and Cape of Good Hope.

(*i*) Delphinus obscurus, the dusky dolphin, inhabits the Southern Ocean and Cape of Good Hope.

(*j*) Delphinus abusalam inhabits the Red Sea.

(*k*) Delphinus eutropia inhabits the Pacific Ocean and Chili.

(*l*) Delphinus Novæ Zealandiæ, the New Zealand dolphin, inhabits New Zealand and Cape Gable.

(*m*) Delphinus Forsteri, Forster's dolphin, inhabits the Pacific Ocean between New Caledonia and Norfolk Island.

(*n*) Delphinus sao inhabits Madagascar.

(*o*) Delphinus longirostris, the Cape dolphin, inhabits the seas about the Cape of Good Hope and the Southern Ocean.

(*p*) Delphinus perniger, *Elliot, Blyth*, the black dolphin, Bay of Bengal.

(*q*) Delphinus plumbeus, *Dussumier*, the plumbeans dolphin of the Malabar coast.

(*r*) Steno attenuatus, *Gray.*

(*s*) Steno Malayanus.

Delphinus plumbeus, *Dussumier, Cuv.*	Delphinus Malayanus, *Lesson apud Cuv.*
Parampuan, LAUT, MALAY.	Dolphin ventre roux of Paris Museum.

Inhabits the Malabar coast and coasts of Penang. It is numerous, and rather heavy in its movements, but is rarely captured, except by chance in the stake-nets. It eats small fishes, Clupea and Glyphisidon cœlestinus, *Cuv.*

(*t*) Steno frontatus inhabits the Indian Ocean and the Pacific.

(*u*) Platanista Gangetica.

D. rostratus, *Shaw.*	Delphinus Shawensis, *Blainville.*
Platanista, . . . Pliny.	Sou-sou, ... INDIA.
Dauphine du Gange, T. Cuv.	Susa, ... Buffon.

Inhabits the Ganges and Irawadi.

(*v*) Platanista Indi, *Blyth*, the porpoise of the Indus, larger and more robust than P. Gangetica.

(*w*) Halicore dugong.

Trichechus dugong, *Gmel.*	Dugungus Indicus, *Ham.*
Indian Dugong, . ENG.	Le dugong des Indes, FR.

Inhabits the shallows of the Indian Ocean and about Ceylon, where the water is not more than two or three fathoms deep. It does not appear to frequent the land or the fresh water. Its flesh is delicate. The dugong was noticed as occurring in Ceylon by the early Arab sailors, by Megasthenes (Fragm. lix.) and Ælian, and subsequently by the Portuguese. It is this creature which has given rise to the tales about mermaids which have till the present day occupied the world, and doubtless had their origin in the tales of the Arab sailors. They are phytophagous or plant-eaters.

CETONIIDÆ, or rose chafers, a family of the Coleoptera. These and Buprestidæ, or metallic beetles, are the largest and most brilliant of the Coleoptera.

CETRARIA ISLANDICA. *Ach.* Iceland moss. It is chemically allied to starch; it swells in water, and when boiled becomes gelatinous.

CEYLON is called by the Hindus, Lanka. Sinhala-diva, its local name, was corrupted into Serendiva or Serendip by the Arabian mariners; and it is still known amongst Indian Mahomedans by the last name. The Arabs, however, in addition to Serendip, call it also Sinkhul. To the ancients it was known as Tam-ba-pani, from which came the name Taprobane used by Milton when he wrote of—

> 'The Asia kings and Parthian among these:
> From India and the golden Chersonese,
> And utmost Indian isle Taprobane,
> Dusk faces with white silken turbans wreathed.'

The chronicles of the island extend in an unbroken series to 543 B.C. From the Honourable George Turnour's epitome of the sovereigns of Ceylon, it is observed that authentic history commenced with Vijaya, B.C. 543; and the last king of Kandy was Sri Vikrama Raja Singha, who was, in 1798, deposed by the British, and died in captivity at Vellore on the 30th January 1832. Mr. Turnour gives the following fixed points in the chronological history of Ceylon events:—

B.C. 543. The landing of Vijaya, in the year of Buddha's death.
,, 307. The mission from Dharm Asoka to establish Buddhism in Ceylon.
,, 104. Conquest of Ceylon by the Malabars.
,, 90. Founding of Abhayagiri by Wala Gaurbahu.
A.D. 209. Date of the Vaituliya heresy, in Vaivahara's reign.
,, 252. Revival of ditto in the reign of Golu Abhaa.
,, 301. Death of Maha Sen.
,, 545. Another revival of the Vaituliya heresy, in Ambakira's reign.
,, 838. Origin of the Vijra Waadiya heresy, in Mitwella Sen's reign.
,, 1153. Accession of Prakrama Bahu.
,, 1200. Accession of Sahasa Mallawa.
,, 1266. Accession of Pandita Prakrama, Bahu III.
,, 1347. Accession of Bhuwanika, Bahu IV.

The first authentic account of Ceylon or Taprobane is given by Onesiculus, the Macedonian admiral, who lived B.C. 329 or 330. Diodorus Siculus, B.C. 44, gives an account of it; Strabo also mentions it; and Dionysius, who flourished A.D. 36, confirms former accounts, and alludes to its elephants. Sinbad also speaks of it in a volume, perhaps a compilation and in part a romance, as does Abdoor Razak; and still more recently Ribeiro also gives a notice of it.

In the reign of Claudius Cæsar, a Roman publican, who farmed the custom duties of the Red Sea, was driven from Arabia by storms on to Ceylon, where he found a flourishing kingdom and an enlightened sovereign, whom he persuaded to send an embasy of four envoys to Rome, by way of the Red Sea, for the purpose of negotiating a commercial treaty. Ceylon is famed in the literature of India as the scene of Rama's exploits, and as a place to which Asoka sent a mission. In A.D. 1153, a Singhalese monarch fitted out a fleet of five hundred ships to resent an insult offered to his ambassador. Ceylon seems to have been subjected to frequent inroads from Southern India, immediately before and after Christ. Ceylon was occupied by the Portuguese in 1596, was taken possession of by the Dutch in 1658. In 1782 the British took possession of Trincomalee, but Admiral Suffrein recaptured it. In August 1795 the British again took Trincomalee, and in February 1796 they took Colombo, but in 1803 and 1804 they met with reverses. In 1814–15 General Brownrigg invaded Kandy, and on the 2d March 1815 the British assumed the sovereignty of the lowlands. But a serious outbreak occurred in 1817, which occupied the troops for a year, and in 1818 the king of Kandy was taken prisoner to Vellore, where he died in 1832.

The island lies between lat. 5° 55′ and 9° 51′ N., and long. 79° 41′ 40″ and 81° 54′ 50″ E. Its extreme length from north to south, from Point Palmyra to Dondera Head, is 271½ miles; its greatest width 157½ miles, from Colombo on the west coast to Sangeman Kande on the east; and its area, including its dependent islands, 25,742 square miles, or about 1-6th smaller than Ireland. Its circumference is about 900 miles, giving a superficial area of nearly 24,000 square miles.

The mountain system in the south has an area of 4212 miles, and the following are the most remarkable heights:—

Piduratalla galla (8305), 8280 ft.	Adam's Peak (7120), 7420 ft.
Kirrigal potta, . 7810 ,,	Nammune kulle, 6740 ,,
Totapella, . . . 7720 ,,	Plain of Neueraellia, 6210 ,,

Like the Peninsula of India, it has a belt of low land of varying breadth, consisting of tertiary strata, running round its coast. Numerous lagoons exist on the east coast, at Nilla veeli, Baticaloa, etc. Adam's Bridge, between Ceylon and Ramnad,

consists of several ledges of conglomerate and sandstone, hard at the surface, and growing coarse and soft as it descends, till it rests on a bank of sand, apparently accumulated by the influence of the currents at the change of the monsoons. The Mahavelli Ganga river has its source near Adam's Peak, and, after a course of 200 miles, enters the Bay of Bengal at Trincomalee. The Kalani Ganga and Kalu Ganga are on the western coast, and the Walaway Ganga on the south-east. A rich and well-watered plain runs between Colombo and Galle, covered with cocoanut, bread-fruit, and jack-fruit trees.

The census of 1871 showed the total population to be 2,406,000, in the proportion of 1,286,000 males and 1,120,000 females. Pure Singhalese, 1,670,000; Tamils, about 542,000; Moormen (of Arab descent), 160,000; these three classes making up 2,372,000, leaving only 34,000 for all other races. Malays (Mahomedans by religion as well as the Moormen) make up 6800; all other pure Asiatic or African races—including Afghan, Armenian, Bengali, Burmese, Kafir, Chinese, Mahratta, Parsee, Rajput, Sikh—comprise a few thousands more; and European descendants of the Dutch, Portuguese, English, etc., make up not more than 10,000; while pure Europeans, including English, Scotch, Irish, and a few Germans, French, etc., number, exclusive of the military, about 4500.

The numbers of the religious denominations of the inhabitants of Ceylon may be thus stated:—Buddhist, 1,520,575; Saivite, 564,414; Roman Catholic, 182,613; Mahomedan, 171,542; Episcopal Protestant, 24,756; Wesleyan, 6071; Presbyterian, 3101; Baptist, 1478. Of the entire population, one in 723 is insane, one in 160 is deaf and dumb, and one in 357 is blind.

The Tamils of Ceylon belong to the same race as the Tamils of Southern India, and have been on the island for centuries, chiefly in the N.E. portion of the island; and the two towns to which they chiefly resort are Jaffna and Trincomalee. Their main occupation is agricultural. Tamil coolie labourers come over in large numbers from the continent during the coffee season.

The *Singhalese* proper range themselves under the heads of Kandians, low-country Singhalese, and Rhodia. The Kandians inhabit the hill country, and are a hardy, robust race, never till recently intermingling with their low-country brethren. Their language is made up of three component parts,—Elu (or Singhalese pure), the Pali, and the Sanskrit. They possess an extensive literature, and their religion is Buddhism. The low-country Singhalese are Buddhists, Roman Catholics, or Protestants. Among the Kandians, and them only, a form of polyandry is prevalent, and the wife has the possession of all brothers. The children call the eldest brother father. A man can bring in another, not a relation, to have joint marital rights with himself; indeed, the first husband can so introduce as many as the wife will consent to receive as husbands. In Kandy, in the Beena marriage, the husband goes to reside in the wife's house, and the woman shares the family inheritance with her brothers. The husband, in this marriage, can be dismissed summarily by the family of the wife. In the Deega, a more respectable form of marriage, the wife leaves her own house for that of her husband, forfeits all claim on the property of her parents, but acquires some claim on that of her husband, and the wife cannot obtain divorce, unless with the full consent of the husband. Divorces are constantly sought for by women on trivial pretences. A child born within nine months of the divorce, must be maintained by the husband. Sirr (Ceylon) says the principal castes are four, viz. the Surya Vansa or Royal race, which has two divisions, viz. Goe Wansa, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the government servants, and (2) the Nille Makareya, or shepherds, form the second division of the Surya.

Brachmana Wansa, descendants of Brahmans.
Wiepa Wansa, cultivators and shepherds.
Shoodra Wansa has 60 subdivisions.

The *Rhodia* race is regarded as unclean; very numerous; forbidden to approach a temple, or any of the higher castes.

The *Gataroo* is an outcaste race.

Burgher is the name applied to those of mixed European and native origin. One race in Ceylon wear their hair, which is long and luxuriant, dressed like a woman's, with one or two very large tortoiseshell combs fastened in it, which, to a European eye, imparts a peculiarly unmanly look to the wearer. The dress of women differs little from that of men, but they mostly wear a kind of bodice with long sleeves. An aversion to carrying the lightest burden prevails in Ceylon, and the poorest tradesman or servant generally employs a coolie to carry a bundle which a European gentleman would take in his hand.

The vegetable productions of Ceylon are coffee, cinnamon, coir, sugar, rice, tobacco, cotton, cocoa, areca nuts, cocoanuts, cardamoms, pepper, rice, arrowroot, maize, manioca, arrack, cocoanut oil, essential oils of cinnamon, citronella, and lemon grass, dye-wood, ebony and other furniture woods. The sugar-cane was brought to Ceylon from the Mauritius by a merchant of Colombo about 1832. European settlers have largely engaged in coffee planting. This latterly became less remunerative, and tea, cacao, cinchona, and the Liberian coffee were introduced. At the end of 1880, about 5400 acres were under cacao. In 1880 the export of cinchona bark was 1,161,989 lbs., valued at Rs. 12,00,000. The mineral and animal products are precious stones, pearls, ivory, and chank shells. Precious stones are found in the flat country around Ballansgodde, S.E. of Ratnapura, on the western plains between Adam's Peak and the sea; at Neueraellia, in Oovah, at Kandy, at Matelle in the Central Provinces, and at Ruanelle near Colombo, at Matura, and in the beds of the rivers eastward towards the ancient Mahagam; but the chief gem district is in the plains at the foot of the stupendous hills of Saffragam. The ruby, amethyst, topaz, sapphire, and cinnamon stone, are found in great abundance, but not emeralds. Spinell, chrysoberyl and corundum are also found. Sapphires, red, purple, yellow, blue, white, and star-stone, are met with at Matura and Saffragam, and rubies and sapphires in the neighbourhood of Avisavelli, and on the Neuraelliapatam. The corundum of Battagamana is frequently found in large six-sided prisms, and is commonly of a brown colour, from which it is called by the natives Curundu galle, cinnamon stone; occasionally it is to be met with

partially or entirely covered with a black crust, which is merely the stone with an unusual proportion of iron. In the beds of the rivers south and east of the mountain chain in Ceylon, the sands are so rich in comminuted fragments of mica, quartz, sapphire, ruby, and jacinth, as in some places to be used by lapidaries in polishing the softer stones, and sawing elephants' grinders into plates. Dr. Gygax considered the original matrix of these rubies to be a stratum of decomposed grey granite at Ylima Pohura on the south-eastern decline of the Pettigalle Kanda. Corundum is very plentiful at Battagamana, on the banks of the river Agiri Kandura. The great bulk of the gems, however, come from Ratnapura, which means the city of gems. Ceylon affords all the varieties of quartz, as rock-crystal, amethyst, rose-quartz, cat's eye, and prase. Rock-crystal occurs in abundance, both massive and crystallized, of various colours, good quality, and in large masses. Amethyst also is pretty abundant; very beautiful specimens are found in the alluvion, derived from the decomposition of gneiss and granite rock, in Saffragam and the Seven Korles. Adularia is very abundant in some parts of the interior, particularly in the neighbourhood of Kandy, where it is occasionally the predominating ingredient of the rock. Ceylon produces the finest cat's eyes in the world,—indeed, the only kind that is highly esteemed, and that bring a high price. The best specimens have been found in the granitic alluvion of Saffragam and Matura. Prase is of rare occurrence amongst the pebbles on the shore of Trincomalee. Belonging to the schorl family are topaz and schorl. The topaz commonly passes under the name of the 'white or water sapphire.' It is generally white, or bluish or yellowish white; it is commonly much waterworn, perfect crystals of it being very rare. It occurs in many places in the alluvion of granitic rock.

The zircon family is richer in Ceylon than in any other part of the world. It is found in the districts of Matura and Saffragam, and is most abundant in the former. Matura diamond is the name applied to its finest varieties by the dealers in gems. Besides the two well-established species, common zircon and hyacinth, there is a third, massive, opaque, and uncrystallized, and of a dark brown colour. Specimens of it from Saffragam weigh two or three ounces. The yellow varieties of zircon are sold by the natives as a peculiar kind of topaz,—the green as tourmalines, the hyacinth red as inferior rubies, and the very light grey as imperfect diamonds. All the varieties are found in the beds of rivers, or in alluvial ground, which, both in Saffragam and Matura, is of the same kind.

For the ruby, Ceylon has been long celebrated. Four species of it, viz. spinell, sapphire, corundum, and chrysoberyl occur. In gneiss or granitic rock, spinell is comparatively rare.

Ceylon has many animals—elephants, buffaloes, elk, spotted deer, the red or paddy field deer, mouse deer, the hog, bear, leopards, hares, black partridge, red-legged partridge, pea-fowl, jungle-fowl, quail, snipe, ducks, widgeon, teal, golden and other kinds of plover, a great variety of pigeons, innumerable snakes, and the crocodile; but it is free of the tiger, wolf, hyæna, and cheeta. Elephants are now only found in the thickly wooded forests. In one mode of snaring them, called 'atmaddo,' or hand snaring, ropes of hide, with a noose, are slipped by the hunters over the hind foot of the animal, and immediately fastened to a tree; the animal, moving on, stumbles and falls, on which other hunters immediately twist other ropes about the legs in a figure of 8, and a shed is erected for its protection until sufficiently tamed to be removed. The solitary, must, or rogue elephant is called horaalia in Ceylon. The height of a full-grown Ceylon elephant varies from 8½ to 10 feet. The tusks vary in length from 3 to 7 feet, and their weights range from 30 to 120 lbs.; but 60 or 70 lbs. are the average. Upwards of 320 species of birds have been indicated by Dr. Templeton, Dr. Kelaart, and Mr. Layard. Of the fish, the Cybium guttatum, one of the scomberoid fishes, known to Europeans as the seir fish, is the best; but mackerel, carp, mullet, red and striped perches and a sardine (Sardinella Neohowii) are used.—*Prod. F. Zeyl.; Tennent's Ceylon; Forbes' Ceylon; Baker's Rifle; Cunningham, Anc. Geog. of India; Yule, Cathay*, i. p. clxxvi.; *Madras Mail*, Jan. 31, 1873; *Times*, Dec. 27, 1873; *Davy's Travels in Ceylon*. See Architecture.

CEYLON MOSS, edible seaweed.

Gracillaria lichenoides, *Greville*.
Fucus lichenoides, *Turner*.
F. amylaceus, *O'Shaughnessy*.

Shih-wha-tsai, . CHIN. | Mousse de Ceylon, . FR.

A small and delicate fucus, well known for the amylaceous property it possesses, and the large proportion of true starch it furnishes. The fronds are filiform; the filaments much branched, and of a light purple colour. It grows abundantly in Ceylon, in the large backwater which extends between Putlam and Calpentyn. It is collected by the natives principally during the south-west monsoon, when it becomes separated by the agitation of the water. The moss is spread on mats, and dried in the sun for two or three days. It is then washed several times in fresh water, and again exposed to the sun, which bleaches it; after which it is collected in heaps for exportation. 100 grains weight yielded the following proportions:—

Vegetable jelly, .	54·50	Gum, ...	4·00
True starch, . .	15·00	Sulphate and phosphate of lime, . .	1·00
Ligneous fibre, . .	18·00		
Sulphate and muriate of soda, . .	6·50	Total, .	99·00

with a trace of wax and iron. For a decoction, take two drachms ground to fine powder, water one quart; boil for twenty minutes, and strain through muslin. By increasing the proportion of the ground moss to half an ounce, the filtered solution on cooling becomes a firm jelly, which, when flavoured by cinnamon or lemon-peel, sugar, and a little wine, is an excellent article of light food for sick children and convalescents.—*Beng. Phar.* p. 276.

Plocaria candida and Sphæro coccus lichenoides, *Grev.*, also furnish Ceylon moss.

CH. The soft sound of the English ch, as in charm, cheese, chintz, is usually attained in French by tch and in German by tsch. Many of the inhabitants of the south and west of India cannot pronounce the ch, and invariably substitute the s. Thus the noted Pindari leader Cheetoo was called in the Dekhani, Setoo. Again, with many of the tribes of the Indian desert, the s is alike a stumbling-block, which causes many singular mistakes, when Jeysulmir, the 'hill of Jeysul,' becomes Jehulmir. —*Tod's Rajasthan*, i. p. 102.

CHA. HIND., PORT. Tea; also, in Chinese, the camellia.

CHA. TIB. The common fowl, generally small in Tibet. In Sikkim, fowls are remarkably large.

CHA. TIB. Bos frontalis.

CHA-AB, Chab, Kaab, or, following the Persian pronunciation, Tsiab, an Arab tribe who occupy the lower part of Mesopotamia. They are a tall, martial race, strong-limbed and muscular, active and healthy. At Baron de Bode's visit they extended on the north as far as the territories of Shushter and Ram Hormuz, eastwards to Behbehan; and, including Hindiyan in their possessions, they spread south along the head of the Persian Gulf; on the west they do not extend beyond Haniza. They became known to the British in the latter part of the eighteenth century, in consequence of their piratical exploits on the Persian Gulf, and their having captured some British vessels sailing in those latitudes. — *De Bode*, ii. pp. 110–122.

CHABAI. MALAY. Species of capsicum; Chabai Java, Chavica Roxburghii, long pepper; Chabai of Lombok, Capsicum frutescens; Chabai sabrang, a species of capsicum.

CHABANAH. HIND. The name given to all parched cereals and pulses,—from Chabna, HIND., to chew,—because eaten alone.

CHABAQ. HIND. Salicornia bracteata? also root of the black pepper vine.

CHABERIS of Ptolemy, the river Cauvery.

CHABUK. HIND. A whip; hence Chabuk-sowar, a jockey, literally a whip-rider.

CHABUK CHURI. HIND. Hiptage madablota.

CHABUTRA. HIND. A raised platform, a dais or terrace; a flat masonry platform or edging to a well, etc., for sitting on.

CHACH is the name of the great plain to the east of the Indus, immediately opposite to Ohind, which may have been named after the Brahman dynasty of Ohind, as the Banar plain was named after raja Banar. The Brahman dynasty of Sind was also established by a Chach in A.D. 641; and this date corresponds with the period of the expulsion of the Brahman dynasty from Chichito, or Jajhoti, by the Chandels of Khajura. Several places on the Indus are named after the Chach dynasty,—Chachpur, Chachar, Chachgaon, Chachi. Chach was a Brahman who usurped the kingdom of the Rai dynasty of Sind. He was a contemporary of the Shahram or Shahrear, and he is supposed to have invented the game of chess. He seems to have reigned about A.H. 2, and to have been succeeded by his brother. The Rai dynasty had ruled from Kashmir and Kanouj to Makran and the port of Dabal on the shores of the sea of Oman, and from Surat to Kandahar and the Suliman range. The commencement of this dynasty has not been ascertained, but in the time of Rai Diwaij the capital was Alor. He was a powerful chief, who contracted alliances with the rulers of India. He was succeeded by his son, Rai Siharas I. Rai Sihasi was the celebrated son of Rai Siharas, and the next was Siharas II., who reigned 42 years, and was killed in battle. After Sahasi II., a Brahaman dynasty succeeded. Their reign seems to have extended to 137 years, and to A.D. 479.— *Elliot; Cunningham's Ancient Geog. of India*, p. 55.

CHACHEON or Chachiyon. HIND. Rhododendron arboreum.

CHACH-NAMAH, also called the Tarikh-i Hind-o-Sind, is a Persian translation from an old Arabic history, made about A.D. 1216 (A.H. 613) by Mahomed, then residing at Uch in Sind. The ancient Arabic seems to have been written before A.D. 753. It is largely drawn upon by Nizam-ud-din, Ferishta, Mir Masum, and others. The Chachnamah Persian work is descriptive of the Arab conquest of Sind. The Arab occupation of Sind was only temporary. On their retreat, the territory reverted to the rule of native princes, and was practically independent until its absorption into the Moghul empire during the reign of Akbar, in A.D. 1592, for the successes of Mahmud of Ghazni made no permanent impression on them. —*Elliot's Hist. of India*, p. 9.

CHACHRI. HIND. Myrsine Africana.

CHACHUNDI or Chichundi. HIND. The shrew or musk rat, species of Sorex. S. cærulescens, S. Indicus, and many others.

CHACKLER. ANGLO-TAM. A tanner, a shoemaker; properly, Chakkili.

CHACRA. HIND. A wheel, a circle, a cycle of years; a weapon of a circular form often placed in the hands of the Hindu gods. Rasi chacra, the zodiac. Varahaspati chacra, the cycle of 60 years. Nachatra chacra, the sphere of the fixed stars. Prachacra, an epicycle on which the degrees of precessional variation are counted. Chacradhari, or wielder of the discus, the most ancient weapon of the Indo-Getic race. A name of Krishna.—*Warren, Kala Sanhita.*

CHADACHEY. TAM.? A small tree of Palghat; wood of a light-brown colour, used for buildings and carts.—*Colonel Frith.*

CHADACULA. TAM., TEL. Dammer, resin; Vateria Indica.

CHADAR. HIND. A sheet, a dam, a sheet of sheet iron, a scarf. Phul ki chādar, a flower sheet spread on graves.

CHADARGHAT, the site of the Residency of Hyderabad, on the left bank of the Musa river, which is there dammed. It has been irregularly built over, but contains many Christian families, and many wealthy Hindu and Mahomedan residents, bankers, and merchants.

CHADUR KUL, a lake 110 miles N.W. by N. of Kashgar, 11,300 feet above the sea. It was visited by Captain Trotter in 1873.

CHÆROPHYLLUM SATIVUM. *Lam.*
Anthriscus cerefolium, *Hoffmann.*

The chervil, a good culinary herb.— *Von Mueller.*

CHÆTODON. This genus belongs to the Squamipennes, which includes the Chætodons and other curious fishes, as the coachmen, the horsemen, and others.

Chætodon araneus, the Gal handak, a singular and much-admired fish, about 3 inches long; has a delicate and white flesh, greatly esteemed.

Chætodon prætextatus, *Cantor.* Like other species of this and the neighbouring genera, the present expires immediately when removed from its element. It appears to be allied to C. reticulatus and C. lunula, *Cuv.* and *Val.*

Chætodon rostrata, the beaked and rostrated Chætodon of the fresh-water rivers of India, when it sees a fly alighting on any of the plants which overhang the shallow water, approaches the place cautiously, till directly beneath the object of its attack. Then, placing itself in an oblique direction, with its mouth and eyes beneath the surface, it remains a moment

immoveable, and, taking aim like a first-rate rifleman, darts at the insect a drop of water from its tubular snout, but without showing its mouth above the surface, from which only the drop seems to rise, and that with such effect, that though at the distance of four, five, or six feet, it very seldom fails to bring its prey into the water. Another small East Indian fish, the Toxotes jaculator, catches its food by a similar dexterous display of archery. Mr. Hommel, governor of the hospital at Batavia, first noticed the habits of the Chætodon rostrata.—*Wood's Zoography; Cantor.*

CHAGA, also Chaga-laga. TEL. Sanseviera Zeylanica, *Roscoe.*

CHAGDA or Chackradah is an abyss said, in Hindu fable, to have been made by the chariot-wheel of Bhagirath. The legend points to an antiquity which is not borne out by any old vestiges or ancient population. The place is at best a mart, or outlet, for the agricultural produce of the neighbouring districts, being crowded with warehouses.—*Trs. of a Hindoo.*

CHAGHTAI, a Turki race to which Baber belonged. He spoke and wrote in Chaghtai Turki, which continued in use at the court of Dehli until a late period. There were two races, two languages, and two religious sects at that court, —the nobles of Iran and Turan, Persia, and Turkestan, the former of the Shiah persuasion, who spoke Persian, the latter Sunni Mahomedans, who spoke Turki; and in the latter days of the empire the contentions between the two races were a source of its weakness. Tod says (Rajasthan, i. pp. 6, 60, 322) Chaghtai are the Sakatai of the Hindu Puranas, from Sakadwipa, changed by the Greeks to Scythia. The political limits of the great Getic nation in the time of Cyrus, six centuries before Christ, were little circumscribed on the rise of Timur. At this period (A.D. 1330) the kingdom of Chaghtai was bounded on the west by the Dhasht-i-Kapchak, and on the south by the Jaxartes or Jihon, on which river the Getic khan, like Tomyris, had his capital. Kojend, Tashkand, Ootrar, Cyropolis, and the most northern of the Alexandria cities were within the bounds of Chaghtai. D'Ohsson names thirty Chaghtarides on the throne of Transoxiana from 1222 to 1362. As the Chaghtai dynasty drew to its close in Eastern Turkestan, the priestly element began to increase. In 1678, Galdan Khan, sovereign of the Eleuth or Kalmuk tribes of Dzungaria, established the khojahs of the White Mountain. But, after a century of dissensions, in 1757 the Chinese brought the Turkestan states under their rule. Were we to contrast the literary acquirements of the Chaghtai princes with those of their contemporaries of Europe, the balance of lore would be found on the side of the Asiatics, even though Elizabeth and Henry IV. of France were in the scale. Amongst the princes from the Jaxartes are historians, poets, astronomers, founders of systems of government and religion, warriors, and great captains, who claim our respect and admiration.—*Tod's Rajasthan*, i. pp. 6, 60, 322; *Ferrier's Afghans*, p. 423; *Vambery*, pp. 157–159.

CHAGOS ARCHIPELAGO, a group of islands belonging to Great Britain, and a dependency of the Mauritius, about 250 miles S. by W. from the southernmost of the Maldive islands. They are rented in kind to persons of French extraction; the population, 554 in number, chiefly Negro. Pigs are abundant, and poultry plentiful. They were surveyed in 1786 by Lieutenant Archibald Blair, and in 1837 by Captain Moresby. Diego Garcia, called Great Chagos island, extends from lat. 7° 13½′ to 7° 26½′ S., and its centre is in long. 72° 24′ E. The Great Chagos bank occupies the centre of the Archipelago. The other islands are the Six Islands or Egmont islands, Danger island, Eagle island, the Three Brothers, Nelson island, Peros Banhos, and Solomon islands. The Chagos, Laccadive, and Maldive Archipelago are groups of atolls and madreporic reefs, low coral islands, densely clothed with cocoanut trees. The Maldives have upwards of 1000 islands and reefs. The Laccadives are seventeen in number. The Chagos group has some ordinary atolls, some annular reefs rising to the surface, but without any islands on them, and some atoll-formed banks either quite or nearly submerged. The Chagos bank is a half-drowned atoll.—*Darwin.*

CHAGUL. HIND. A leather vessel for carrying water on a journey.

CHAGUL-BANTI. BENG. Dæmia extensa, *Brown.* Chagul khuri, Ipomæa pes-capræ, *Swiet.* Chagul nudi, Sphæranthus hirtus, *Burm.* Chagul patee, Cynanchum pauciflorum, *R. Brown.*

CHAH. PERS. A well. Hence chahi, belonging to a well, or lands irrigated from wells. Many places have this as a distinctive appellation.

CHAHAL. PERS. Forty. Hence Chahlum, the forty days of uncleanness after childbirth.

Chahal Dakhtar, a halting-place in the valley of the Murghab, 60 miles N. of Herat on the left bank of the Khushk river; has a shrine to the memory of 40 virgins who were carried off by Turkomans.

Chahal Minar. See Kermanshah.

Chahal Situn, a palace at Ashraf in Persian Mazandaran, built by Shah Abbas. It has a beautiful enclosed garden. Here Shah Abbas in 1627 received Sir Dodmore Colt, the English ambas-ador.

Chahal Situn, a palace at Isfahan, in the middle of an immense square (Morier).

Chahal Situn, Lithinos pyrgos, the stone tower in Mount Meru.

Chahal-Wasti, or captain of forty, amongst the Nasiri, a nomade race who occupy the Tohti and Hotuki countries in summer, and the Daman or skirts of the Suliman range in winter. In their migrations, they appoint a chahal-wasti, or captain of forty, and a director-general. See Afghan; Nasiri.

Chahal Tan is a cave on the Kābul road, between Chardeh and the city of Kābul, accessible only by a narrow aperture. It is believed that if a person enter it he will be unable to squeeze himself out, unless pure and free from sin. It is therefore not much visited (MacGregor, pp. 212–13). Masson says (ii. p. 85) there are many places of pilgrimage (ziarat) called Chahal tan, and that Kābul has one near Argandi.

Chahal Tan is the loftest mountain in Baluchistan, its highest peak being 12,000 feet. It forms the western boundary of the valley of Quetta or Shawl.—*Pottinger; Postans; Masson; Cook; MacGregor*, p. 110, iv. p. 3.

CHAH-BACHA. HIND. A small masonry tank, used by soap-boilers.

CHAHIL or Chahira, a Rajput tribe in Hissar, of which the greater part is now converted to

Mahomedanism. There are a few in the Hissar district and on the borders of Bikanir. Though Mahomedans, they nevertheless retain charge of the tomb of Goga Chauhan, a Hindu prince now esteemed a saint.—*Elliot; Wilson.*

CHAHONG? A tree of Akyab; grows to a moderate size, and is plentiful in Ramree and Sandoway districts. Used in house-building. (Qu. Is this Cordia myxa?)—*Cal. Cat.* 1862.

CHAHUMAN, the Chauhan Rajput tribe.

CHAI. ARAB. Tea.

CHAIA. MALEAL. Oldenlandia umbellata.

CHAIBAR. Many of the Arabian tribes had been converted by the Jews who fled from the destruction of Jerusalem by Titus. Chaibar was their principal city in Arabia; it was taken by Mahomed A.D. 623-7. Chaibar was in the neighbourhood of Medina; they were removed into Syria by Omar. Hira also was the residence of a Christian prince, who had reigned there 600 years before he was conquered by the Mahomedans.

CHAILE. HIND.? A tree of Chutia Nagpur, furnishing a hard, white, grey timber.—*Cal. Cat.*

CHAIN, low caste races in N. India.

CHAINA. HIND. Panica pilotum.

CHAINHAR of Hazara, Nussiessya hypoleuca.

CHAISHUSHA, one of the Menu. See Menu.

CHAIT, a Hindu month (March—April), commences when the sun enters into Pisces.

CHAIT of Sikkim (borrowed from Tibet) is a square pedestal, surmounted with a hemisphere, the convex end down, and terminated with a cone, crescent, and disc. These are erected as tombs to lamas, and in memory of illustrious people, and are venerated accordingly, the people always passing them from right to left, often repeating the invocation, 'Om mani Padmi hom.'—*Journal of the Asiatic Society of Bengal*, No. 29, p. 427.

CHAITANYA, a Hindu religious reformer. He was born A.D. 1485. His father was a Brahman, who had come from Srihatta, Sylhet, or Tibet, and settled at Nadiya, where Chaitanya was born. In his early youth he married the daughter of a celebrated saint; but in 1509, when twenty-four years of age, he seems to have abandoned the world and domestic life, and, after long journeying, repaired to Cuttack in Orissa, where for twelve years he laboured to extend the worship of Jagannath at Puri, and devoted the rest of his life to the propagation of his views, aided by Adwaitanand and Nityanand, two men of domestic habits. The age in which he was born had been preceded by one of great religious reforms and innovations. There had been Ramananda, who had revived the anti-caste movement; and Kabir, who set aside alike the Hindu Shasters and the Koran, and preached a universal religion. In Bengal, Buddhism had maintained its supremacy up to the 10th century. On the accession of the Sena princes, Saivism gained the ascendency, and predominated in the land. Under coalition with Saktaism, the worship of the emblems of the energy of man and the fruitfulness of woman, it had degenerated to the very licentious creed of the Tantro-Shastras, which culminated in the worst forms of libertinism about the time of Chaitanya. Two thousand years before, a greater reformer had viewed with disgust and a relenting heart the bloody rites and sacrifices of the Vedic Yagya, and to reform the abuses Buddha had promulgated the doctrine of non-cruelty to animals. In like manner, the bacchanalian orgies of the Tantrika, and their worship of a nudely exposed female, had provoked the abhorrence of Chaitanya, and roused his energy to remove the deep blots upon the national character. He commenced his labours by holding meetings of his immediate friends at the house of Sri Bhasa. His labours lasted through six years, when he entrusted his disciple Nityananda to propagate his views; and it is to Nityananda that the origin of the Gosai is owing. Chaitanya was brought up in the faith of a Vaishnava, but his opinion took a great tinge from the doctrines of his two immediate predecessors. From his early childhood Chaitanya gave signs of an eccentric disposition, but he possessed a very superior intellect, and the purest morals. He had also a very affectionate heart, and simple, winning manners. From 1509, when Chaitanya, styled Nemi, formally renounced the world by embracing the life of an ascetic, he wandered from place to place, travelled to Gour, proceeded to Benares, visited Vindraban and Puri, teaching his sentimental theology, making numerous converts, and devoting all his energy, time, and life to the fulfilment of his mission. His peregrinations lasted for six years, at the end of which he returned to Nilachal near Jagannath, and, settling there, passed twelve years in an uninterrupted worship of that divinity. He became afflicted with epileptic seizures, which received the name of Pran Pralap. While still in the prime of life, however, he was afflicted with hallucinations and beatific visions, and in that state of mental derangement he disappeared in A.D. 1527, supposed to have drowned himself at Nilachal or Cuttack, where he had resided, adding energy and repute to the worship of Jaganath.

It was a main part of Chaitanya's doctrine to abolish all caste distinctions amongst his followers, and that they should bestow implicit faith with incessant devotion, which he termed Bhakti. All persons of all castes and occupations are admitted to the sect, from the conviction that all are alike capable of feeling the sentiments of faith and devotion. His doctrine was essentially the worship of Krishna as an incarnation or avatar of Vishnu; and his sect worship Krishna as Parmatma, or Supreme Spirit, prior to all worlds, and alike the cause and substance of creation. In his capacity of creator, preserver, and destroyer, he is Brahma, Vishnu, and Siva; and in the endless divisions of his substance or energy, he is all that ever was or will be. Besides these manifestations of himself, he has, for various purposes, assumed specific shapes as incarnations or avatars,—as ansa or portions, as ansana or portions of portions, and so on ad infinitum. His principal appearance, and in fact his actual sensible manifestation, was as Krishna, and in this capacity the sect believe he again was present as Chaitanya, who is worshipped as the deity, as are the other forms of the same god, particularly as Gopal the cowherd, or Gopi Nath, the lord of the milkmaids of Vindraban (Bindraban), as his Lila or spirit. His disciples form the largest sect in British India, numbering nine or ten millions, and to be found in every village of Bengal. The date of his birth has also been given as A.D. 1479, also 1485 and 1486, and those of his death 1527 and 1534, at Nilachal or Cuttack.

All castes are admitted into Chaitanya's fraternity, and, once admitted, are associated with

on equal terms by all the brethren. His predecessors, Ramanand and Kabir, had taken low caste men for their disciples. But he scrupled not to permit even Mahomedans to enter his fold; and two of his most eminent followers, Rupa and Sonatun, were originally Mahomedans, ministers in the court of Gour.

The Gosai marry; most of the Banya of Bengal follow their tenets, but their doctrines are held in little esteem. They are regarded as gurus or teachers, and no scandal has arisen from them. The Gosai observe none of the Hindu festivals except those of Krishna; but the anniversaries of the deaths of their founders are observed as such. They do not, says Mr. Ward, reject the mythology, or the ceremonies of the Hindus, but they believe that those of Hari (Krishna) only are necessary. On the nights of their festivals, the initiating invocation, or some sectarian exclamations, may be heard resounding through the streets of Calcutta: Hari, Krishna; Hari, Krishna; Krishna, Krishna; Hari Hari; Hari, Ram; Hari, Ram; Ram, Ram, Hari, Hari.—*Calcutta Rev.; Cole, Myth. Hind.* 240.

CHAITANYA-CHANDRODAYA, the Rise of the Moon of Chaitanya, a drama in ten acts, by Kani-karna-pura.—*Dowson.*

CHAITI, spring or Rabi harvest. The guddi padva ceremony, or flying of paper kites, is held as the new year, on the new moon of Chaitra, about the 5th April.

CHAITRYA, written variously Kshatriya, Chetri. Amongst the Aryan Hindus the Chaitrya was a warrior branch taking social rank after the Hindu Brahmans. Menu, writing of their duties, says: 'To defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification, are in a few words the duties of a Chaitrya.' How this soldier branch broke up is extremely obscure; but it is generally supposed that none of the races now in India can trace their lineage to that tribe of Aryans, though some of the Rajput families doubtless belong to them. Their quarrels amongst themselves seem to have led to their own destruction. There seem to have been two branches of the Chaitrya tribe, the Solar, who traced up to Ikshwaku, and the Lunar, who traced up to Budha, who married Ila or Ella, daughter of Ikshwaku. These martial Chaitrya do not appear to have adopted Brahmanism readily; and the Brahmans, to overcome them, consecrated by fire on Mount Abu a warrior body, who still remain, and are known as the four Agnicula Rajput tribes. A common spelling of the word is Kshatriya.—*Warren's Kala Sanhita; Tod's Rajasthan*, i. p. 37. See Hindu; Suryavansa.

CHAITYA. SANSK. From Chit, a funeral pile, a heap. Any sacred object worshipped by the Buddhists, as a tree, an altar, a temple, as well as any monument raised on the site of a funeral pile, as a mound or pillar; and is probably applicable both to the Buddhist chodten, or offering to the deity, and the dungten, a bone or relic receptacle, but is used by the Jains and Buddhists to indicate a temple containing a chaitya. In Nepal and Tibet, and in Buddhist Sanskrit literature, the word is applied to the model of a stupa placed in the temples, and to which the term dhagoba has been applied. These chaityas or dhagobas are an essential feature of chapels or temples constructed solely for purposes of worship, and to which the term chaitya caves has been proposed to be applied. The later forms have a pradakshana, or passage for circumambulation. The stupa or chaitya of Indian Buddhism are supposed to have been erected subsequent to the cave temples and viharas or monasteries. The chaitya of the Buddhists is the ch'hatra of the Brahmans. One chaitya at Sanchi is structural, but all the others known, in number 20 or 30, are cut in the rock. Seemingly the aisle which surrounded the apse could be lighted from the exterior. The ancient stupa were originally meant as receptacles of either the Buddhas, or the Bodhisattwas and the kings who encouraged the propagation of the Buddhist faith. The chodten or chorten of Tibet are similar to the stupa. They consist of a cylindrical vase, and have a cupola over them. They serve as relic repositories, remains of revered lamas, sacred writings. But they are principally offering receptacles, and no Tibetan passes by without depositing some offering or oblation.—*Hardy's Eastern Monachism*, p. 43; *Cunningham's Bhilsa Topes; Ferg. and Burg. Cave Temples of India.*

CHAJ. HIND. A winnowing basket.

CHAJJAN, a fibre recently come into use at Lahore, owing to the rise in the price of other fibres. It can be purchased in Lahore at from £8 to £10 a ton.

CHAK, a portion of land divided off, an arrondissement.

CHAK of Sutlej, Hordeum hexastichon.

CHAK. BENG. Chowk, HIND. A market-place or square.

CHAK or Jag, Bhot occupants of the central part of northern Tibet. Mr. Hodgson supposed them a mixed people, engaged in predatory pursuits.

CHAK, a circle or marked-off plot; a wheel of a cart; any wheel; a potter's wheel.

CHAK or Chuk. HIND. An extract, very sour, eaten in Ajmir to give appetite and promote digestion. It is probably the extract of chuka or sorrel. One tola is sold for one anna.—*Gen. Med. Top.* p. 132.

CHAKAN, also Chakan tubunna. BENG. Celtis orientalis.

CHAKAR. HIND. A servant; hence Chākari, service; generally, however, duplicated, as noukri chakri.—*Elliot.* Chakaran, in Bengal, land set apart to provide funds for the village office-bearers.

CHAKH. CIS-SUTLEJ. A pan for receiving sugar-cane juice when boiled.

CHAKIYARA, in Malabar, a class of out-caste Brahmans.—*Wilson.*

CHAKKAN, also Chakkala. HIND. An oil-press.

CHAKKI. HIND. A small mill.

CHAKKILI. TAM., MAL. A currier, a tanner; shoemaker, the village shoemaker, known to Europeans as a chuckler. The Chakkili is one of the non-Aryan races of India.—*Wilson.*

CHAKLA. BENG., HIND. A large division of a country, comprehending several parganas. Shah Jahan, about A.D. 1772, divided Bengal into 13 chakla. The chakladar is the superintendent of a province.

CHAKLA. HIND. A stone slab for grinding on; also a pastry roller and board.

CHAKMAK. HIND. Flint. In Tamil, chaki-muki kallu.

CHAKOLTI. HIND.? A light, pale, yellow-coloured wood, not strong. Plentiful in the

Santal jungles from Ranibahal to Nonihaut for 35 miles. Furniture, tables, palkis, venetians, and doors are made from this wood.—*Cal. Engineer's Journal*, July 1860.

CHAKOOLYA. BENG. Hemionitis cordifolia.

CHAKOONDA. BENG. Cassia tora.

CHAKOON SEEDS, seeds of Cordia myxa. An ointment prepared from them is an excellent application for ringworm.

CHAKOR or Atash khor. HIND., PERS. The Cacabis chukor of Jerdon. The birds are fabled by the natives to be enamoured of the moon, and at full moon to eat fire. The two Persian words mean fire-eater. The chakor is an extremely common bird in all parts of the valley of the Indus, and throughout Tibet. In winter, when the hills are covered with snow, they are to be found in great numbers close to the rivers, even in the immediate neighbourhood of the villages; in general, when approached, they lie close among the crevices of the stones. Dr. Thomson was invited by the thannadar of Iskardo to be present at a hunting party which he had arranged for the capture of the chakor, by surrounding a spot of ground in which these birds are numerous with a ring of men, who, approaching from all directions, gradually form a dense circle of perhaps a hundred yards in diameter. When the partridges are disturbed by a horseman in this enclosure, they can only fly towards the living wall by which they are surrounded. Loud shouts and the beating of drums and waving of caps and cloaks turn them back, and they are driven from side to side, till at last, exhausted with fatigue, and stupid from the noise and confusion, they sink to the ground and allow themselves to be caught by hand. The scene was a very striking one. The spot selected was a deep dell, full of rocks, but without trees. The sport, however, did not seem so successful as usual, six or eight birds only being captured. —*Thomson's Travels in Western Himalaya*, p. 2.

CHAKOR SURK and Chakor kandla. HIND. Kinds of imported iron.

CHAKOTR, also Chakotra. HIND. Citrus decumana, *Linn.*, the shaddock or pumello.

CHAKOWAR, also Jangli-powar. HIND. Cassia obtusifolia.

CHAKRA. HIND. The discus of the god Vishnu, resembling a wheel or quoit; a sort of missile weapon, whirled round the middle finger, and used as a weapon of war. The chakra, in Hinduism, is mythologically described as a circular mass of fire, darting flame in all directions, which, thrown by the gods, slays the wicked, and then returns to the hand from which it issued. The Sikh Akali used to have several of them on their conical caps. They fly with great rapidity, and strike hard, but with most uncertain aim. They are expensive, and are almost useless weapons. See Hindu; Kasambi; Namam; Siva; Vishnu.

CHAKRA, in Buddhism, is the emblem of the Buddhist law.

CHAKRA, or district of Kuru-Kshetra, is also called Dharm-Kshetra, or the 'holy land,' which is Hiwen Thsang's 'champ du bonheur.' In his time the circle of pilgrimage was limited to 200 li, equivalent to 20 kos.—*Cunningham's India*, p. 332.

CHAKRA. HIND. A small coin; a country cart, a hackery.

CHAKRA-KELI ARITI or Aritiel. TEL. Musa paradisiaca, *L.*; a small delicate kind of plantain. Perhaps Chakra should be read Sakkara, 'sweet.'

CHAKRAM. SANSK. A wheel. It is now sacred to Vishnu. Chakrankam, a brass stamp; the discus of Vishnu stamped hot on his followers' arm. Chakrastambha, a pillar supporting a chakra.

CHAKRA VAKA. SANSK. Ruddy goose; the birds are supposed to be separated through the night. See Chakwa; Casarca rutila.

CHAKRAVARTA. SANSK. A paramount sovereign, an emperor. Literally, one on whom the discus of Vishnu abides. A few sovereigns in ancient times laid claim to this title, but it is now heard of only as the tribal name of a Brahman family in Bengal, under the altered form of Chuckerbutty. In Buddhism it means a universal emperor, endowed with supernatural powers; but it was in use long prior to the advancement of Buddhism. The Empress Victoria is a Chakravarti.—*Hardy's Eastern Monachism*, p. 435.

CHAKRAVARTI KURA. TEL. Chenopodium album, *Linn.* The words mean 'emperor vegetable.' Sansk. syn. Vastuka.

CHAKRI. BEN. Chakrikudu, TEL. An oilman.

CHAKTI. HIND. A disc or flat circular piece of steel, also a disc of leather used on the axle-boxes of carriage wheels.

CHAKWAEN, a small class of Rajputs in Ghazipur.—*Wilson.*

CHAKWAND. HIND. A weed which grows common in mango groves in the N.W. Provinces, and used as a pot herb.

CHAL. HIND. Manners, customs, commonly duplicated into Chāl Chaln, or use and wont. The chal of the Hindu, like the mores of the Romans, or costumi of modern Italy, is significant alike of the mental and external habit. In the moral point of view, it is the path chalked out for him by the sages of antiquity; in the personal, it is that which custom has rendered immutable. Kya boora chal chalta,—In what a bad path does he march! says the moralist. Bap, Dada, chal chora,—He abandoned the usages of his ancestors, says the stickler for custom. Nek-chal, good, and bad-chal, bad habits.—*Tod's Rajasthan.*

CHALA. HIND. Cicer arietinum.

CHALA CARNA, written Chila cārna. This Hindu astronomical term means the true distance of a planet from the earth, in contradistinction to its mean distance, or the radius of the Cacsha or deferent. See Cārna.

CHALAI of Kaghan, Juniperus excelsa; J. arborea, pencil cedar. See Charai.

CHALAN. HIND. A permit, any invoice; a pass, a list. Chalaoni, current coin.—*Elliot.*

CHALAN BIL, a large marsh in the Rajshahi district of Bengal, about 21 miles long and 10 miles broad. It is said to give rise to outbreaks of cholera.—*Imp. Gaz.*

CHALAPACHCAHI. TEL. Indigofera enneaphylla, *L.*

CHALAR. HIND. The Persian wheel of a common well transferred to the bank of a canal, margin of a jhil, or high bank of a river.

CHALAVADI. KARN. A low caste of S. India; also in Mysore, the servant of a Linga merchant, carrying a large ladle with chain and bell on his shoulders. In Telingana, a Sudra who goes from house to house to give notice of a death.

CHALAVA MIRIALU. TEL. Cubebs.

CHALCEDONY, a quartzose mineral found at Cambay and in many parts of India.

CHAL-CHAHRA. HIND. Parmelia Kamtschadalis, and other species of lichens.

CHALCOPHAPS INDICUS. *L.* Called by the Singhalese Neela cobeya. A bird of Ceylon, strikingly elegant both in shape and colour; has a pleasing note.

CHALDÆA is derived by Pococke from Kula, a tribe, and Deva, a god or Brahman. Professor Rawlinson indicates Chaldæa as a part of the great Mesopotamia plain, bordering the Persian Gulf on the south, with Arabia on its west, and the limit between Lower and Upper Mesopotamia on the north. Chaldæa seems to have been divided into a northern portion, from Hit to Babylon, and a southern portion, from Niffer to the shores of the Persian Gulf. In each of these there seems to have been a tetrarchy, viz. Babel, Erech, Accad, and Calneh, in the land of Shinar (Genesis x. 10), and Hur or Huruk, Nipur, and Larsa or Laraucha, which seem to be the scriptural Ur of the Chaldees, Erech, Calneh, and Ellasar. The northern tetrarchy was Babel or Babylon, Borsippa, Cutha, and Sippara, the last the Sepharvaim of Scripture. The discovery by Sir Henry Rawlinson of the Eponym Canon of Nineveh was the means of placing the chronology of Assyria, from the early part of the 8th century B.C. until the middle of the 7th, on a firm and accurate basis. The recovery of the state records from the treasury of Babylon, in 1875, by the discovery of the series of inscriptions known as the Egibi tablets, gave a clear guide for the chronological arrangement of the rulers of Babylon, from the accession of Nebuchadnezzar in B.C. 605 until the reign of Darius Hystaspes. The gap in the chain of chronological documents from B.C. 640 until the rise of the Babylonian empire, has been filled up by the discovery, in the treasury at Sippara, of a series of contracts and fiscal documents dated in the reigns of Samassumukin and Kindalanu, Chaldæan kings, whose reigns are to be identified with those of Saosduchinius and Kiniladanus of the Canon of Ptolemy.

The first dynasties transmitted by Berosus, which are confirmed by the Canon Inscription, are rather to be regarded as marking epochs in national life and development than royal lines. The antediluvian period was the great mythic age. It was, in fact, the reign of the gods, similar to the first of the dynasties of the Egyptian empire; and it was regarded as the dawn-age of Chaldæan social and religious life, and each caste in Babylonian society placed its mythic founder in this period before the flood. Separated from this dynasty by the 'waters of the Deluge,' was the second period in Chaldæan history—the heroic age, the period of the ethnic myths. Chaldæan history proper begins with the Median conquest, an event which, guided by the Canon Inscription, cannot be placed earlier than the 20th century before the Christian era; but long prior to this, civilisation had made great progress in the city kingdoms of Chaldæa. In the marshland of Chaldæa, the region called in the Deluge legend, the 'land at the mouth of the rivers,' the most ancient traditions of Chaldæan civilisation were located. The dwelling of the translated Xisuthrus was there; and from the shores of the Persian Gulf rose the Annedotus Oannes, the Chaldæan Dagon, who first instructed men in the elements of civilisation, in the rudiments of art, science, and letters, and laid the germs of the civilisation which in after time bore such rich fruit in the schools of Babylon and Nineveh. This district, the cradle of western Asiatic culture, was the seat of three of the most ancient cities of the Chaldæan empire. In the immediate neighbourhood of the Shat-el-Hie, which leaves the Tigris at Kut Amareh, and enters the Euphrates near Gounmerek, after a winding south-westerly course through marshes of the Afadj district, are to be found, on the north bank, the mounds of Warka and Niffer, which mark the sites of the ruins of Erech and Kalneh, cities of Nimrud; and M. de Sarzec brought to light the ruins of another city contemporaneous with the cities of the mighty hunter's kingdom. On the west bank of the Euphrates, at Tel Mughier and at Rata, are the ruins of cities closely connected with Semitic and Biblical traditions, the former being the site of Ur, the birthplace of Abraham, while Chaldæan tradition locates the 'garden of Eden,' with its sacred tree, in the city of Eridhu, whose position corresponds with the modern town of Rata. Therefore both tradition and the historic records of Chaldæa point to this region of southern Chaldæa, the Sumir of the inscriptions, the Shinar of the Bible, as the cradle of the learning and wisdom of Chaldæa.

The inscriptions of Sennacherib and Assur Banipal and the lines of sculptured bas-reliefs show that these marshlands were the dwelling-places of a race distinct from the Assyrians and Babylonians, and who bore many traces of being relics of the aboriginal population. During the explorations of Sir Henry Rawlinson and Mr. Loftus in these regions, some few inscriptions and bronze implements were obtained from a mound called Tel Ho, on the Shat-el-Hie, near to the marshy shores of the Wasut lake or pool. By his exploration in this mound, M. de Sarzec has brought to light the ruins of an important edifice, either a palace or temple, which dates from the earliest days of Chaldæan monumental history, and whose builder was contemporary with Likbagas or Urukh, the Orchamus of the classics, the builder-king of Ur. In the ruins of this edifice were discovered numerous valuable monuments, statues of priests and kings, cut out of hard porphyry, granite, and diorite, while there were numerous others in terra cotta and marble, as well as some valuable specimens of the primitive bronze-founder's work. This ancient city is Sergulla, a name which means the 'city of the great light;' and it was one of the chief seats of Chaldæan fire-worship. So impenetrable are the marshes of the Afádj, and so little subject to external influence, that the name which more than 40 centuries ago denoted the Chaldæan Pyropolis, is still extant in the Arabicised form of Zerghul, as the local name of the region in which Tel Ho is situate. From the monuments we are able to trace two types of people, whose features are transmitted to us with extreme fidelity by the primitive sculptors. The first is a beardless type, with a head, as far as we can judge from the statue, of a brachycephalic type, but with distinctly orthognathous features, and therefore with no tendency to the African Negro type. The features, as judged from the finely-carved head discovered by M. de Sarzec,

are distinctly of the Mongoloid type, and of the Ugro-Finnic branch. This first type, again, bears a remarkable resemblance to the Elamite and Sassanian people as figured on the sculptures from Nineveh; and this ethnic similarity receives additional support from the philological agreement which is found to exist between the language of these inscriptions and those of the Turanian tribes of Elam and Media. The head found by M. de Sarzec represents the figure as wearing a close-fitting cap bound round with a decorated turban, a type of head-dress worn by the Elamites in the time of Sennacherib and his successors, and by the Tartar tribes of Central Asia. The second type of features preserved to us, is that of a bearded race with a more Caucasian type of features, with long straight hair. The type is somewhat difficult to recognise, but it is certainly distinct from the first or from the Semitic Assyrian.

Thus, in the very earliest dawn of Chaldæan history, we find people of a distinctly Mongoloid or Turanian type in the oldest cities of the empire, with inscriptions written in an agglutinative dialect, and in a script bearing, as M. Terrien de la Couperie has shown, a curious resemblance in its commonest ideographs to the script first propagated by the Hundred Families of the Celestial Empire. An ingenious attempt has recently been made to assign a Chaldæan origin to Chinese. In 1842, M. Pauthier attempted to prove the identity of the Egyptian and Chinese system of figure-writing.

The discovery of bronze figures and implements in the excavations, the former bearing inscriptions of Gudea and of other early primitive kings, show that at a very early period metallurgy had reached a considerably advanced stage among the settlers in these low, marshy regions. The city of Sergulla was, as the great fire-city, also the earliest seat of the workers in metals, who from this primitive centre supplied the surrounding cities with weapons or statues for their temples and shrines.

The elaborate network of canals which thread the plains, rendered the internal communication of Chaldæa of a highly perfect character. On the banks of these ancient canals we find the most ancient cities of the empire; and the flow of commercial intercourse which made Babylonia the chief of merchant-land, was greatly stimulated by this excellent system of trade intercourse. The Shat-el-Hie, through which the fleet of Sennacherib was navigated in its expedition against the tribes on the shores of the Persian Gulf, was the grand junction canal of Southern Chaldæa; while the Yussifieh canal, which crosses the upper plain of Chaldæa some 20 miles below Baghdad, was the chief artery of Upper Chaldæa or the province of Akkad. The mound of Abu Hubba marks the site of the ancient city of Sippara, the Chaldæan Heliopolis, one of the dual cities of Sepharvaim. Bit Parra, the chief fane of the sun-god in Sippara, was not only the dwelling-place of the patron deity of the city, but was also the chief law court and chancery of the district, and the centre to which flowed all the commercial and fiscal transactions of the province of Akkad, or Northern Chaldæa. The excavators at Abu Hubba penetrated into the Bit Nizirti, or treasury of the temple, and within it were found stored over ten thousand inscribed tablets relating to the commercial and fiscal life of Babylonia. The bronze figures of priests in the British Museum, and the statue of the mother goddess, bearing an inscribed legend of Kurdurmabug, are both examples of the founders' art and product of the forges of Zerghul.

Astronomy seems to have originated with them. They invented and employed a saros, or restitution period of 18½ years. They latterly chose the heavenly bodies as types of the divine attributes, and in later times made them objects of adoration, particularly revering planets. They were acquainted with the precession of the equinoxes, making use of a tropical year of 365 days 5 hours 49 minutes 11 seconds (only 25 seconds too great), and a sidereal year of 653 days 6 hours and 11 minutes. They knew the art of dialling. By the saros period they were able to calculate and predict lunar eclipses, and the days on which the sun's eclipses might be expected. This period is still used by astronomers. The great centre of Chaldæan mathematic learning was the city of Larsa, from the library of which came the tables of square and cube roots. It is therefore very interesting to find upon some of the tablets from this ancient city, rudely-drawn plans or geometrical figures. These tablets seem to point to a school of geometry as in existence in this ancient seat of Chaldæan learning. There are already in the British Museum fragments of tablets which have come from Babylon, Calah, and Nineveh, which show that divination by geometrical figures was in use among the primitive magicians of Chaldæa.

The first metrical weight was determined by the Euphrates; for the Babylonian talent, which they originated with the minæ and shekel, corresponded exactly with a Babylonian cubic foot of water at the mean temperature of that country. The talent, minæ, and shekel became the monetary standard of Western Asia. They divided the circle into 360 degrees, and these again into 60 fractions. Their figures reached to a hundred; yet they also had special signs for 60, or a sossos, as well as for the saros or square of the sossos, and they invented the positional value of figures.

In the Chaldæan mythology—

Il or Ra—Ra is Chaldee, Il is Semitic; from Il is El, Elohim, Allah—is God.
Ana, God, the Supreme.
Anata, the female of Ana, the power of Ana.
Beltis, wife of Bel Nimrud, in Chaldee called also Mulita or Enutes. In Assyria she was called Bilta or Bilta Nipruta, and Bit Ana.
Hoa or Hea, god of life, the third deity of the triad. He is god of knowledge, the king of rivers, and came from the sea to teach the Babylonians. His emblems are a wedge, a serpent.
Div Kina, wife of Hoa.
Sin or Hurki, the first god of the second triad in the moon deity.
San or Sansi, the sun-god; in Semitic Shamus; also probably Parra, perhaps the Ph ra or Pi ra of the Egyptians.
Ai, Gula, or Ananit, the female power of San. She presides over life and over fecundity. Her emblem was an eight or a six rayed star.
Vul or Iva, the god of the atmosphere, is the third deity of the second triad, moon, sun, and atmosphere—the rain-giver.
Bar, Nin or Ninip, the fish god; lord or master; the analogue of Hercules. His emblem the man-bull.
Bel Merodach, the planet Jupiter.
Zir Banit, wife of Bel Merodach.

Nergal, the planet Mars; emblem, the man-lion.
Ishtar or Nana, the planet Venus, the Phœnician Astarte, the Hebrew Ashtoreth; in Babylonia called Nana, seemingly Nanæa of Maccabees i. 13-15, and the Nani of the modern Syrians. She had many appellations.
Nebo, the planet Mercury.
Varamit or Urmit, wife of Nebo.

—*London Times*, 25th May 1882; *Proctor, Saturn and its System*, London 1865; *Rawlinson; Bunsen; Yule's Cathay*, i. p. 54; *Layard's Nineveh*, i. p. 266. See Babylonia.

CHALDEE, an Aramaic dialect, differing but slightly from the proper Syriac. Ezra iv. 8 to vi. 8 and vii. 12–26; Daniel ii. 4 to vii. 28, and Jeremiah x. 10, are written in the so-called Chaldee. There is also a Chaldee gloss in Genesis xxvi. 47. The Babylonian language in the time of Nebuchadnezzar was very close to Hebrew. The Chaldee language may have been that of Terah; but the possibility of the language of Abraham remaining in its original state during the 216 years that he and his family resided in Canaan, and the 430 years that the Hebrews abode in Egypt, and the 400 years from the exodus to David, is untenable.—*Layard, Nineveh*, i. p. 266; *Rawlinson.*

CHALDEE or Kuldi, a race usually called Nestorian Christians, but they do not acknowledge the correctness of the designation. Matran Hanna, the Syrian patriarch at Mosul, gave Mr. Rich the names of the following tribes of this people, whom he called Nestorian Christians,—The Tiyari, Tkoob, Jelooi, Liweeni, Beerwaree, Nerooi. There are both Mahomedans and Christians of the Nerooi and Beerwaree tribes; the others are all Nestorians. There are four villages of Nestorians near Amadia, called Gheranmoosi, who wear felt hats. The Tiyari are an independent Christian tribe of the Chaldee people, who are much dreaded by all the Mahomedans. These Christian tribes are geographically within the limits of the territory of Hakkari.—*Rich's Kurdistan*, i. p. 156.

CHALI. HIND. Amphicome arguta.

CHALIA. SINGH. A race in Ceylon who cultivated the cinnamon tree; Peelers. This caste form the majority of the rural population near Galle in Ceylon. They came originally from the coast of India as weavers or embroiderers.—*Tennant.*

CHALICIDES, a family of lizards, which, like the seps-lizards, are very long and serpent-like. There is a species with five toes in the East Indies, the Lacerta seps of Linnæus.—*Eng. Cyc.* p. 921.

CHALIS-SATUN. HIND. Literally forty pillars; a pavilion built by Akbar, attached to the palace at Allahabad. See Chahl.

CHALITA. HIND. Dillenia speciosa.

CHALK. Carbonate of lime.

Tyn-abyaz,	ARAB.	Capur engris,	MALAY.
Myæ-bew,	BURM.	Gil-i-safid,	PERS.
Hwa-fen,	CHIN.	Creda,	PORT.
Peh-tu-fen,	,,	Mjel,	RUS.
Vilaiti chunna,	DUK.	Din-so-phang,	SIAM.
Craie,	FR.	Ratta-hunu,	SINGH.
Kreide,	GER.	Greda,	SP.
Kurru,	GUJ.	Sima chunambu,	TAM.
Kharri matti,	HIND.	Sima sunnam,	TEL.
Creta,	IT.		

This is said to be found in the Dhone taluk of Kurnool, but it is generally imported from England. When prepared it is called whiting. Other preparations are used in the arts and in medicine. Black chalk, used in the arts, is a dark-coloured clay.—*Royle; Faulkner; Ainslie; Smith.*

CHAL KUMRA. HIND. Benincasa cerifera.

CHALLA. HIND. A thumb ring, and a great toe ring.

CHALLA GADDA. TEL. Asparagus adscendens, *Roxb.*; A. racemosus. Challa Gummudu, Gmelina parvifolia. Challa means butter-milk. Churning-sticks are made from this shrub.

CHALLAMBRAM, a town in the South Arcot district of Madras, famed for its pagodas.

CHALLA MUNTA. TEL. Fluggea leucopyrus, *Willd.*

CHALM-CHI. HIND. A wash-hand brass basin.

CHALO-DHONA. URIA. Erythrina Indica.

CHALODRA. HIND. Eleusine coracana.

CHALON. HIND. Populus ciliata.

CHALUKYA, also called Salunki, a race known as one of the four tribes of Agnicula Rajputs, the other three being the Chauhan, the Pramara, and the Purihara. The Chalukya claim to have been princes of Sooru on the Ganges. They are divided into sixteen branches, viz.:

Bhagela.—Raja of Baghelcund (capital Bandugurh), Raos of Pitapur, Theraud, and Adaluj, etc.
Birpura.—Rao of Lunawara.
Behila.—Kulianpur in Mewar, styled Rao, but serving the chief of Solumbra.
Bhurta and the Kalacha.—In Baru, Tekra, and Chahir, in Jeysulmir.
Langaha.—Mahomedans about Multan.
Togru.—Mahomedans on the Punjnud.
Briku.—Mahomedans on the Punjnud.
Surki.—In Dekhan.
Sirwureah.—Girnar in Saurashtra.
Raoka.—Thoda in Jeypore.
Ranikia.—Daisoori in Mewar.
Kharura.—Allote and Jawura in Malwa.
Tantia.—Chandbhur; Sakunbari.
Almetcha.—No land.
Kulamor.—Gujerat.

The Chalukya once held sway in Gujerat, Kandesh, Kaliani, and Warangal.

This is the oldest ruling race of which we find satisfactory mention made in the records of the Dekhan. The inscriptions collected by Sir W. Elliot relate to four dynasties of princes, reigning over the greater portion of that part of India now denominated the Dakshina or Dekhan, but at that time Kuntala-desa.

The Pallava were the dominant race in the Dekhan previous to the arrival of the Chalukya. In the reign of Trilochana Pallava, an invading army, headed by Jaya Sinha, surnamed Vijayaditya, of the Chalukya Kula, crossed the Nerbadda, but failed to secure a permanent footing, and he seems to have been killed. His queen gave birth to a posthumous son, in the house of a Brahman named Vishnu Somayaji. The son was called Raja Sinha, but afterwards assumed the royal titles of Rana Raga and Vishnu Vard'hana. He successfully renewed the contest with the Pallava, and married a princess of that race. A copper sasanam of his son and successor Pulakesi, bearing date S.S. 411 or A.D. 489, is in the British Museum. From Raja Sinha's first conquest, the whole period of their rule would be about seven centuries. Raja Sinha's great-grandson, Kirtti Varma, had two sons, one of whom ruled in Kalyan, the other in Telingana, after conquering Vengipuram, the capital of Vengidesam.

The Kalyan branch was subverted for a time in the end of the 9th or beginning of the 10th century, and the emigrant prince or his son succeeded by marriage, in A.D. 931, to the throne of Anhalwara Pattan in Gujerat, which his descendants occupied with great glory until A.D. 1145. But in A.D. 973 the dynasty of Kalyan was restored in the person of Tailapa Deva, and ruled with greater splendour than before, till its extinction in A.D. 1189 by Bijjala Deva, the founder of the Kalab'huria dynasty.

The branch in Telingana fixed their capital at Rajamahendri, the modern Rajamundry. They appear to have effected their entrance into Telingana Balaghat by the conquest of Vengi in the 6th century, and, after several changes, the dominion passed by marriage to Rajendra Chola, then the dominant sovereign of Southern India, in whose person the power of the Chola dynasty reached its height. The following were the rulers of the Chalukya dynasty of Kalyan:—

Jaya Sinha Vijayaditya I.
Raja Sinha, Rana Raga, Vishnu Vardhana.
Vijayaditya II.
Pulakesi, A.D. 489.
Kirtti Varma I.
Mangalisa.
Satyasraya began to reign 609.
Amara.
Aditya.
Vikramaditya I.
Vinayaditya, Yuddha Malla began to reign A.D. 680.
Vijayaditya III. began to reign A.D. 695.
Vikramaditya II. began to reign 733.
Kirtti Varma II.
Kirtti Varma III., cousin of last, 799.
Tailapa.
Bhima Raja.
Ayya or Kirtti Varma IV.
Vijayaditya IV.
Taila Bhupa II., or Vikramaditya III., in A.D. 973 restored the monarchy, which had been some time usurped by the Ratta Kula. He died A.D. 997.
Satasraya II., Irivi Bhujanga Deva, A.D. 997.
Vikramaditya V. began to reign about A.D. 1008?
Jaya Sinha Deva, Jagadika Malla, about A.D. 1018?
Someswara Deva I., Trailokya Malla, Ahawa Malla, about A.D. 1040.
Someswara Deva II., Bhuneka Malla, A.D. 1099, expelled by his brother.
Vikramaditya V., Kali Vikrama, Tribhuvana Malla, in A.D. 1076.
Someswara Deva III., Bhuloka Malla, A.D. 1127.
Jagadeka Malla, A.D. 1138.
Tailapa Deva III., Traileka Malla, A.D. 1150.
Someswara Deva IV., Tribhuvana Malla, A.D. 1182; dethroned by Bijjala Deva of the Kalabhuria line.

The style and titles of the Chalukya of Kalyani were Chalukya Kula, Manavyasa Gotra; Hariti putra; whose royal power was the gift of Kausika, nourished by the seven mothers, worshipping Swami Mahasena; having the boar signet (lanchhana), the gift of Bhagavan Narayana.

Their insignia of royalty consisted of the

Swetāta Patra, the white canopy.
Sanka, the conch (chank) shell.
Pancha Maha Sabda, the martial drum.
Hala Kétana, the plough ensign.
D'hakka, the drum.
Varaha lanch'hana, the boar signet.
Mayura Pinch'ha, the peacock fan.
Kunta, the spear or mace.
Sinhasana, the throne.
Makara toranam, the royal arch.
Kanaka-dandam, the golden sceptre.

Their boar ensign was the most celebrated, and was the symbol invariably represented on their money and on their seals, sometimes, in the latter, accompanied by the conch shell, the drum, the peacock fan, or a lotus, an elephant goad (ankus), candelabra, a seat or stool, the swastika cross ┼, and latterly a sword. It was from the boar on the Chalukya coin that the people of the Peninsula of India give the name 'Varaha' to the pagoda, varaha mudra, or boar stamped.

Chalukya dynasty of Rajmahendri:

1. Vishnu Vardhana II., or Kubja Vishnu Vardhana; conquered Vengi, A.D. 605.
2. Jaya Sinha I.
3. Indra Raja, his brother.
4. Vishnu Vardhana III.
5. Manga Yuva Raja.
6. Jaya Sinha II., } bro's.
7. Kokkili, } bro's.
8. Vishnu Vardhana IV. } bro's.
9. Vijayaditya I.
10. Vishnu Vardhana V.
11. Narendra Mriga Raja.
12. Vishnu Vardhana VI., or Koli Vishnu Vardhana.
13. Vijayaditya II., or Guna Gunanka Vijayaditya; conquered Kalinga.
14. Chalukya Bhima I., his brother.
15. Vijayaditya III., or Kollabhiganda Vijaya.
16. Amma Raja I.
17. Vijayaditya IV., or Kandagachita Vijaya.
18. Talapa, usurper.
19. Vikramaditya V., the son of a brother of Amma Raja I.
20. Yuddha Malla.
21. Raja Bhima II.
22. Amma Raja II.
23. Dhanarnava. Interregnum of 27 years.
24. Kirtti Varma, son of Dhanarnava.
25. Vimaladitya, his bro'r.
26. Raja Raja Narendra.
27. Rajendra Chola.
28. Vikrama Deva Kulothinga Chola.
29. Raja Raja Chola, viceroy for one year.
30. Vira Deva Kulothinga Chola, or Saptama Vishnu Vardhana, viceroy from A.D. 1079 to 1135.

The country fell under the sway of Warangal. The family spread southwards into what is now known as Mysore, where they were afterwards the parent stem of the Hoisala Bellala dynasty of Dwara-samudra. They seem to have been of the Jaina faith, but to have subsequently adopted the Vaishnava and Saiva forms of Hinduism. A ruined temple at Buchropully, near Hyderabad, and temples at Hammoncondah, near Warangal, are in a style of architecture followed during Chalukya supremacy. At Warangal also are four pillars, Kirti-Stambha, which were set up by Pratupa Rudra, who had also erected the great temple at Hammoncondah.—*Thomas' Prinsep's Antiquities; Sir W. Elliot, M. L. S. J.*, 1858; *Elphinstone; Fergusson, Architecture*, pp. 389, 731; *Tod's Rajasthan*, pp. 80–97. See Hoisala Bellala.

CHALUN of Kotgarh. Populus ciliata.

CHALUNDAR. Hind. Iris Nepalensis.

CHALYBEATES. There is no one district in which they have been found more frequently than another, unless the outer ranges of the Himalaya; the wells in the Neilgherries are said often to have a trace of iron. None of the Indian chalybeates are thermal; and none of those known, except that at the beautiful spot Nagconda, appear to be strong ones; there are many undescribed chalybeates in the Himalayas. One at Chumba may prove of value.

CHAMA. Tel. Colocasia antiquorum.

CHAMA, a genus of the mollusca. C. albida, C. asperella, C. echinulata, C. gigas, C. graphoides, C. gryphoides, and C. unicornis occur in India. C. gryphoides (C. gigas, *Linn.*) is famous for its enormous size. Individuals have been known to weigh above 300 lbs. The byssus by which it adheres to rocks is so tough, that in order to procure the shell it must be cut with an axe. The animal may be eaten, but its flesh is very tough. One of the valves is sometimes used as a font for baptism in the country churches of Europe. The species are confined to the warmer seas, the Mediterranean being the locality of the lowest temperature where any of them have been hitherto found.—*Eng. Cyc.* p. 931.

CHAMÆLEO VULGARIS, the chameleon.

C. calcaratus, *Merrem.*	C. Parisiensis, *Laurent.*
C. carinatus, ,,	C. Zeylandicus, ,,
C. subcroceus, ,,	C. Mexicanus, ,,
C. mutabilis, *Meyer.*	C. zebra, *Bory.*
C. cinereus, *Aldrovandus.*	L. chameleon, *Linn.*

It is a native of the East Indies, and is the species which is most frequently taken to England. Ch. bifurcus, cucullatus, lateralis, Parsonii, rhinoceratus, and verrucosus are natives of Madagascar, Pardalis of Bourbon, and Tiaris of the Seychelles.—*Eng. Cyc.* p. 937. See Chameleon.

CHAMÆROPS, a genus of Asiatic palms, some species of which furnish useful products. C. excelsa produces the So-e of China, a brown fibre surrounding its trunk, very strong, and employed by the Chinese in many domestic purposes, as for bed bottoms, and used by all the population for ropes and cables for their junks; it grows in northern and central China, and in Japan. The hairy covering of this fan-palm and of Livistonia Chinensis are utilized in Japan for fixing lime plaster to buildings.—*Mueller; Seeman.*

CHAMÆROPS FORTUNEI, *Hooker*, Tsung-lu, and Ping-lu, CHINESE, is a palm of the south of China, and as far north as Yang-tsze, growing upwards of 30 feet high. The fibrous integument is annually removed, and steeped in water to separate the wiry fibre. The bark can be used as splints; also made into matting, combined with fibre. Fans are made of the leaves; and the young flower-buds are eaten, similarly to bamboo sprouts, *Smith.* It stands great cold.

CHAMÆROPS HUMILIS, or Palmetto, occurs from the south of Spain and Portugal eastward, along both shores of the Mediterranean to Asia Minor, often covering extensive tracts of sterile, sandy, or stony ground, and the trunk rarely rising, excepting where protected, more than 1 to 3 feet above the surface. The heart is sold as food in the Algerian markets; the leaves are used in matting, for plaited work, for baskets, brooms, mats, and cordage, and paper and pasteboard.—*Royle, Fib. Pl.* p. 95.

CHAMÆROPS KHASIANA. *Griffiths.* The fan-palm ('Pakha,' KHAS.) grows on the cliffs near Mamloo, on the Khassya hills. It may be seen on looking over the edge of the plateau, its long curved trunk rising out of the naked rocks, but its site is generally inaccessible; while near it grows the Saxifragis ciliaris of English gardens, a common plant in the N.W. Himalaya, but extremely scarce in Sikkim and the Khassya mountains. Ch. Khasiana is very closely allied to, if not identical with, Ch. Martiana of Nepal, which ascends to 8000 feet in the Western Himalaya, where it is annually covered with snow; it is not found in Sikkim.—*Hooker, Him. Jour.* ii. p. 280; *Mueller.*

CHAMÆROPS MARTIANA, *Wall., Griffiths.* Trunk 20 to 50 feet high, and is a noble object. It grows at Bunipa in the valley of Nipal, at an elevation of about 5000 feet above the level of the sea. Newar name, Tuggu.

CHAMÆROPS RITCHIANA. *Griffiths.*

Peer putta, . . . HIND.	Kilu; Kaliun, PUSHTU.
Maizurrye, Pis, PUSHTU.	Pfees, ... SIND.

Grows in masses below 5000 feet on the barren hills and passes leading up into the table-lands of Baluchistan and Afghanistan. Its leaf-bud or cabbage is eaten. The red mossy-looking rete from the axils of the leaves, with saltpetre, is used for tinder. Its leaves, p'furah or phurra, are fabricated into baskets, fans, brushes, sieves, shoes, sandals, pouches, platters, and ropes for water-wheels. Large quantities of the stones of the fruit (which, Trans-Indus, ripens about July) are exported from Gwadur to Muscat, *en route* to Mecca, to be manufactured into rosaries for the pilgrims.—*Stewart, Panj. Pl.* p. 243; *Seeman.*

CHA-MAHI-DAR, properly Che-mahi-dar. HIND. Farm servants, hired for six months.

CHAMAINDOO-POO. TAM. Camomile; Anthemis nobilis, *Linn.*

CHAMAKHRI. HIND. Michelia champaca.

CHAMAK PATHAR. HIND. Oxide of iron, magnetic iron ore. Chamak, 'glancing.'

CHAMALU. TEL. Oplismenus frumentaceus.

CHAMANTI. TEL. Applied indifferently to all the cultivated kinds of chrysanthemum.

CHAMAR, a scattered race in India. In Northern India, the Chamar race is generally said to be subdivided into seven sections, Jatooa, Kaean, Kooril, Jyswara, Jhoosea, Azimgurhea or Birherea, and Koree or Korchamra, who do not eat together nor intermarry. The Jatooa are chiefly in the north-west, Delhi, Rohilkhand, and the Upper and part of the Central Doabs. The Kaean are in Bundelkhand and Saugor. The Kooril occupy the greater part of the Central and Lower Doabs. The Jyswara meet them in the neighbourhood of Allahabad, and extend through Jounpur, Mirzapur, and Benares, to the neighbourhood of Sydpur Bhitree, where they are met by the Jhoosea, who occupy Ghazipur and Behar. The Azimgurhea have their seats in Azimgurh and Gorakhpur; and the Kori or Korchamra in Oudh. The last are generally engaged in the occupation of weaving. Others are mentioned besides these, as the Jatlote of Rohilkhand, the Ahurwar, Sukurwar, and Dohur of Central Doab; but as these latter avow some connection with the Kuril, they may perhaps be included in that tribe. In Behar we meet also with subdivisions of Gureya, Magahi, Dukshinia, Canoujea, as well as the Jhoosea and Jyswara above mentioned, —all tending to show that the division into seven clans is imaginary.

The Dohur are mentioned in Steele's Summary, p. 128, as existing in the Dekhan along with Kutni (cobblers) and Duphgurs (Dubgar, maker of oil-bottles); but he does not include them amongst Chamars, of whom he enumerates the following classes: Sultunger, Marat'he, Paradosh, Purdesi, Huralbhutel, Dubali, Woje, Chour.

Chamars are a dark race, and a fair Chamar is said to be as rare an object as a black Brahman.

Kurea Brahman gor Chamar.
In ke sat'h na ootriye par.

That is, 'Go not in the same boat with a black Brahman or a white Chamar, both objects being considered of evil omen.' Many of the Chamar of the Central Provinces have joined the reformed Sat-nami sect. The Chamar of Hindustan, in respect to members and avocations, are in the same position as the Pariahs, Chakkili, Mhar, Mhang, Hollar races of the south of the Peninsula, where the designations of tanners and leather-workers are—

Sanigar, Madiga, . CAN.	Chakkili, ... TAM.
Madaru, Madigaru, COORG.	Madiga, Madira,
Chamar, ... HIND.	Madgolu, . . . TEL.
Mhang, ... MAHR.	

The Mang or Mhang are scattered through all the north-western parts of the Indian Peninsula, in the Bombay Presidency, in Gujerat, Kandesh, the Konkan, and Kolhapur.

Tanners and leather-workers are perhaps the most humble of all the settled races in the south of India. There they dwell outside the walls of the villages. They are deemed wholly unclean. They are tanners, workers in raw hides and leather, shoe and harness makers, messengers, scavengers, and executioners. They are never horse-keepers, and only a very few have ever been known to have the ability to read or write. The race, as a rule, are of a dark, black hue, short in stature, and of very slender frame; lower limbs particularly slight, and calf and foot delicate. They still eat creatures that most races regard as unclean, and likewise eat animals which die of disease. In rural villages they perform the lowest menial offices, such as messengers and scavengers, and are paid by portions of the crops and some small privileges, but are not permitted to reside within the village walls. The Madaru and Madigaru of Coorg are predial slaves, and seem identical with this race. The Madaru make baskets. In Northern India and in Bengal the Chamar race are workers in hides and leather, tanners, and shoe and harness makers, and there form the great bulk of the labourers, taking the place of the Dher and Pariah of the Peninsula. There are many sections of leather-workers throughout the Hyderabad country, and in Berar they serve as scavenger, guide, watchman, and executioner. Their signature mark is a knife. They are part of the Baluth, and, like the Pariah, are the predial slaves of the village. The Pendi Mang are athletæ. The Mhang worship the leather ropes which they make. They also make cakes, which they place in the ground, and over it five stones and a lamp, and worship these. They also worship the spirits of departed men who have led evil lives. They claim the right to have for food cattle and camels and horses that die of disease, but in some villages this is disputed by the Dher or Pariah; and in the village of Dangopura, in 1866 and 1867, this point was for twenty months under litigation, the ultimate decision being in favour of the Dher. In the Northern Dekhan are the sections Mang Garoro, Hollar Mang, Dekhan Mang. The Mang Garoro are also styled 'Pharasti' or migrants, as they have no settled abode, but move from place to place begging; their men and women assume other clothes, and smear their foreheads with the red kuku, a mixture of turmeric and safflower. They also are conjurors and sleight-of-hand adepts, from which they have their name Garori. The men also beat the drum.

The Bandela and Kuillar Chamar is a tanner and shoemaker; Mahratta Chamar, a shoemaker; Pardesi Chamar, a cobbler; Mang Chamar, who makes sandals; Mahomedan Chamar, who is a bookbinder; Katai Chamar, who make shoes and sandals, and labour in the fields at seed and harvest times. The Katai are identical in personal appearance with the Chuckler (chakkili) of the very south of India.

The Chamar of Aurangabad worship Mariamma and Sitla. They marry when under age amongst themselves, proceeding on foot to the goddess Sitla, whose shrine they circumambulate five times. The expense is about a hundred rupees. They speak Hindi. They burn their dead; but some very intelligent men at Aurangabad did not know that anything followed death.

In the great isolated plain of Ch'hattisgarh, where the jungle has not even yet been thoroughly mastered by man, the Chamar, who make up some twelve per cent. of the population, are nearly all cultivators. The creed adopted by them is the 'Satnami' or 'Rai Dasi,' a branch of one of the most celebrated dissenting movements in Indian religious history. No images are allowed; it is not even lawful to approach the Supreme Being by external forms of worship, except the morning and evening invocation of his pure name (Satnam), but believers are enjoined to keep him constantly in their minds, and to show their religion by charity. Even if the creed be weak as a moral support, it is strong as a social bond; and, no longer weighed down by a sense of inferiority, the Satnami hold together, and resist all attempts from other castes to re-assert their traditional domination over them. They are good and loyal subjects; and when they have grown out of a certain instability and improvidence, which are the natural result of their long depressed condition, they will become valuable members of the community.—*Rost, Edition of Wilson's Essays on the Religion of the Hindus*, i. p. 113 (1862).

CHAMAR. HIND. Ehretia aspera.

CHAMARA, Chawri, or Chowr. HIND. A whisk, made sometimes of peacock's feathers, sometimes from the tail of the yak, sometimes of the shavings of sandal-wood, of horse hair, or of grass, and used for the purpose of driving away flies, mosquitoes, and other insects. They are usually seen in the hands of the attendants of the Hindu gods. The chamara or chawri from the white bushy tail of the Tibet cow, was, in ancient India, fixed on a gold or ornamented shaft, between the ears of the horse, like the plume of the war-horse of chivalry; the banner or banneret, with the device of the chief, rose at the back of the car; sometimes several little triangular flags were mounted on its sides. 'The waving chawri on the steed's broad brow points backwards motionless as a picture.'—*Coleman*, p. 376; *Hindu Theatre*, i. p. 199.

CHAMARFO of Spiti, a deep red earth used in dyeing.

CHAMAR GAUR, a division of the Gaur Rajputs, the highest class, although from their name liable to the suspicion of intercourse with Chamars. They claim for themselves the designation Chaun-har-Gaur, from a Raja named Chaun-har, or sometimes Chiman-Gaur, from a Muni called Chiman.—*Wilson.*

CHAMARI. MAHR. Premna integrifolia.

CHAMAR LENA, Jaina caves near Nasik.

CHAMATEE-PATEE. BENG. Papyrus dehiscens.

CHAMAYEN, a small section of the Gujar tribe in Panipat Bangar.—*Wilson.*

CHAMB. HIND.? Land that receives the drainage of higher lands, generally a heavy blackish clay.

CHAMBA is a state in the Himalaya ruled by a Rajput dynasty. It is within the government of the Panjab. It lies north of the Kangra district, between lat. 32° 10′ 30″ and 33° 13′ N., and long. 75° 49′ and 77° 3′ 30″ E., with an area of

3216 square miles, and a population of 140,000, composed of Rajputs and Gaddi. The district includes the mountain valleys of all the sources of the Ravi, and a portion of the upper valley of the Chenab, between Lahul and Kishtwar. It has Kulu on its east; in the N.W. it is separated from Jamu by a chain of mountains, through which the Padri pass leads from Jamu to Chamba, elevated 11,000 feet. The Sach pass, elevated 14,800 feet, leads over the range in the north, dividing Chamba from Kishtwar. In 1847 a sunnud was given to Raja Siree Singh, assigning the Chamba territory to him and to his male heirs. In 1854 the sanatorium of Dalhousie, in the Chamba territory, was made over to the British by the raja, and a sunnud was given to the raja conferring on him the right of adoption. Its ancient capital was Varmapura, or Barmawar, on the Budhil river, where many fine temples, and a brazen bull of life size, still exist to attest the wealth and piety of its early rulers.—*Cunningham, Ancient Geo. of India*, p. 141; *Aitcheson's Treaties; Hooker f. et Th.* p. 204.

CHAMBA, an idol of the Tibetans.

CHAMBA. HIND. Michelia champaca; also Prinsepia utilis, Jasminum grandiflorum, and J. officinale.

CHAMBA-GADDI, a race who occupy the Kangra valley, near the Chamba range of hills. They call themselves Rajputs, and may always be known by their peculiar conical caps, with lappets to turn down over their ears, like an English travelling cap. They are shorter and stouter and stronger than their neighbours, are sharp and able, and impose upon their less knowing neighbours. Most of the witch-finders are Chamba-gaddi. When Europeans first visited the Kangra valley, they would drink or eat from their hands, and had very slight notions of caste, but since their intercourse with the people of the plain they have become as bigoted as any Hindus.

CHAMBAI. MALAY. Chavica seriboo.

CHAMBAL, a tributary of the river Jumna (Jamuna), which it joins 40 miles below Etawa town as a great river. It rises in Malwa about eight or nine miles S.W. of the cantonment of Mhow, 2019 feet above the sea. — *Imperial Gazetteer.*

CHAMBAL. HIND. Ranunculus arvensis.

CHAMBATT. HIND. Kæmpferia rotunda.

CHAMBELI. HIND. Jasminum grandiflorum.

CHAMBOGUM. TAM. The most beautiful tree in appearance on the coast of Malabar; it has a very close-grained wood, and throws out rather a pleasant smell when cut. It is generally found in the forests of Travancore of about 18 inches in diameter, and from 20 to 25 feet long. It produces a small round fruit, which the natives use medicinally.—*Edye, M. and C.*

CHAMBOOLEE. DUKH. Bauhinia Vahlii.

CHAMBRA. HIND. Artemisia Indica.

CHAMELEON, a genus of a family of reptiles of the section Squamata and order Sauria. There is but one genus, the Chameleo, or chameleon, the thinsemeth of the Hebrews, of which there is one species in India, C. Zeylanicus, *Lour.*, of Ceylon and India. There are twenty-one in Madagascar, bifurcus, cucullatus, nasutus, Parsonii, rhinoceratus, and verrucosus; C. tiaris occurs in the Seychelles, and C. pardalis in Bourbon. The E. Indian species, C. Zeylanicus, has many synonyms.

CHAM GADILI. BENG. Cynopterus marginatus, *Jerdon.*

CHAM HARAIL. TIBETO-CHINESE. A sacred dance of the Buddhists; a masquerade of Hindu gods going in procession, after a model employed at Yung-ho-Kung in Pekin; it lasts two days.—*Edken.*

CHAMI. TEL. Premna spicigera, *Linn.*

CHAMIARI. HIND. Prunus puddum.

CHAMKAT. HIND. Desmodium tiliæfolium.

CHAMKHARAK. HIND. Carpinus viminea.

CHAMLOO, one of the seven Kazzilbash tribes. See Kazzilbash.

CHAMMA. TEL. Canavalia gladiata.

CHAMMA. HIND. Salix alba.

CHAMMARI. PERS. A grateful dish, made by boiling dried apricots to a consistence, with butter, seasoned with spices.—*Masson*, ii. p. 69.

CHAMNO, Khem, and Renpu, three Assyrian deities of Semitic extraction. See Ken.

CHAMOIS LEATHER.

Chamois, ... FR.	Camoscio, ... IT.
Samischleder, . . GER.	Semschanui, Koshi, RUS.

A prepared skin of the chamois, or of the common goat, kid, or sheep. It is of a yellow colour, soft and pliant, and used for cleaning silver plate.

CHAMOMILE, Anthemis nobilis.

Babunuj, ... ARAB.	Babune phul, . . HIND.
Kan-kiuh-hwa, . . CHIN.	,, gao, . . . PERS.
Ku-kiuh-hwa, . . ,,	Chamendapu, . . TAM.

The flowers of the Anthemis nobilis. An aromatic herb, leaves used in garnishing; the flowers infused as bitters, and in fomentations. Of easy culture, raised from seed; held in estimation both in domestic and scientific medicine.

CHA-MORERI, a lake in Ladakh, 15 miles long and 2½ miles broad, 15,000 feet above the sea. It is surrounded by mountains, some of which rise to 5000 feet from the water's edge.

CHAMPA, a province in the peninsula of Cambodia. Before its subjugation by the Cochin-Chinese, it was a considerable state, under a chief, who lived at Phanrye, lat. 11° 10′ N. In the 15th century an intercourse subsisted with the Malays and Javanese, and about the middle of the 15th century the queen of the principal sovereign of Java was a Champa princess. The people are called Loye or Loi in the Anam language, and profess a kind of Hinduism resembling the worship of Buddha or the Jains. Tradition ascribes to ancient Champa sovereignty over all the neighbouring kingdoms to the frontiers of Pegu and China.—*Mouhot's Travels*, i. 223; *Yule, Cathay*, i. p. 104; *Crawfurd, Embassy to Siam; Dict. Ind. Islands.*

CHAMPA, also Champaka. HIND. Michelia champaca. The flower is one of five with which the Hindu Kama, the god of love, ornaments his arrow. When Vasant'ha, the personified spring-time, is preparing the bow and shafts for his friend,

'He bends the luscious cane, and twists the string
With bees, how sweet! but oh! how keen their sting!
He with five flowerets tips the ruthless darts,
Which through five senses strikes enraptured hearts
Strong Chumpa, rich in odorous gold;
Warm Amer, nursed in heavenly mould;
Dry Nag-Kesur, in silver smiling;
Hot Kittikum, our sense beguiling;
And last, to kindle fierce the scorching flame,
Love-shaft which gods bright Bela name.'

CHAMPA CHASTI, a Hindu festival in the west of India, held about the 2d December, on the 6th of Margha shirsh-shud. It is held wherever there is a shrine of Kandoba, as at Jijuri in the Dekhan.

CHAMPAGNE, a deservedly-esteemed wine, named from the province of France producing it. There are two distinct classes of this wine, viz. white and red, each either still or sparkling; but there is a great variety in the flavour of the produce of different vineyards.

CHAMPAH, a tree which grows on the summit of the lofty hills north of Khatmandu; measures in girth 11 feet.—*Smith's Nepal.*

CHAMPA-KALI. HIND. Necklace.

CHAMPA KULA. BENG. Musa sapientum.

CHAMPA-NUTEYA (var. Lal). BENG. Amarantus polygamus, *Linn.*

CHAMPARAN, a district in Bengal, bounded on the north by Nepal, and at its side are the Gandak and the Baghmati rivers. Population in 1872, 1,440,815 souls, viz. 974,451 Hindus, 199,237 Mahomedans, 21,450 Tharu. The aborigines numbered 31,203 souls. The Tharu are an honest, industrious, Indo-Chinese race, inhabiting the malarious Terai. They utilize the hill streams for rice culture. The Maghya Dom, about 800 souls, are a nomade tribe, inveterate thieves; the Dosadh are 69,958, and the Chamar 89,061. The Hindu and other races are—

Brahman, . . .	65,315	Kurmi, ...	77,641
Babhan or military Brahmans, . .	49,288	Nuniya, ...	35,102
Rajputs, ...	69,578	Artisan, ...	141,140
Goala, ...	133,413	Fishing boatmen, .	62,757
Koeri, ...	82,074	Mahomedans, . .	199,237

The Bettia raja is a Babhan. The Nuniya are salt-makers.—*Imp. Gaz.*

CHAMPA-ZARD-RANG. HIND. Amongst dyers, a yellow colour like the champa flower.

CHAMPHUNG, a rude tribe in Munnipur, of about 30 or 40 families, near the source of the Irawadi. See India.

CHAMPIRI KATTA. TEL. Broom grass.

CHAMPLOONG. MALAY. A timber tree of the Archipelago, used as a furniture material at Bawean.

CHAMPU, in Hindu literature, a style of composition, a mixture of prose and verse.—*Ward*, iv.

CHAMRA. HIND. Skins, hides, leather, parchment.

CHAMRESH, also Sunbar. HIND. Rhododendron campanulatum.

CHAMROR. HIND. Ehretia aspera.

CHAMULI. HIND. Michelia champaca.

CHAMUNA. HIND. The edible bulbs of Cyperus bulbosus and allied species.

CHAMUNDA, in Hindu mythology, as related in the Durga Mahatmya, an emanation of the goddess Durga, springing from her forehead to encounter the demons Chanda and Munda, detached to seize Durga by the sovereign of the Daitya. Sumbha having slain the demons, she bore their heads to her parent goddess, who told her that, having slain Chanda and Munda, she should thenceforth be known on earth as Chamunda. She is also termed Kali from her black colour, and Karala or Karalavadana from her hideous countenance (Hind. Theat. ii. p. 57). It is to this goddess that all human sacrifices are made by Hindus. One of the ancient Hindu dramatists, Bhava Bhutta, who flourished in the 8th century, in his drama of Malati and Madhava, has made powerful use of the Aghora in a scene in the temple of Chamunda, where the heroine of the play is decoyed in order to be sacrificed to the dread goddess Chamunda or Kali. The disciple of Aghora Ghanta, the high priest who is to perform the horrible rite, by name Kalapa Kundala, is interrupted in his invocation to Chamunda by the hero Madhava, who thus describes the scene (Act V. scene 1):—

'Now wake the terrors of the place, beset
With crowding and malignant fiends. The flames
From funeral pyres scarce lend their sullen light,
Clogged with their fleshly prey, to dissipate
The fearful gloom that hems them round.
Well, be it so. I seek, and must address them.
. . . . . .
How the noise,
High, shrill, and indistinct, of chattering sprites,
Communicative, fills the charnel ground.
Strange forms, like foxes, flit across the sky;
From the red hair of their lank bodies darts
The meteor blaze, or from their mouths that stretch
From ear to ear, thick-set with numerous fangs,
Or eyes, or beards, or brows, the radiance streams.
And now I see the goblin host: each stalks
On legs like palm-trees, a gaunt skeleton,
Whose fleshless bones are bound by starting sinews,
And scantly cased in black and shrivelled skin,
Like tall and withered trees by lightning scathed,
They move, and as amidst their sapless trunks
The mighty serpent curls, so in each mouth,
Wide yawning, lolls the vast blood-dripping tongue.
They mark my coming, and the half-chewed morsel
Falls to the howling wolf;—and now they fly.'

The belief in the horrible practices of the Aghori priesthood is thus proved to have existed at a very remote period, and doubtless refers to those more ancient and revolting rites which belonged to the aboriginal superstitions of India, antecedent to the Aryan-Hindu invasion and conquest of the country. The worshippers of Sakti of Siva, under the terrific forms of Chamunda, Chinnamustaka, and Kali, are called Kerari, and represent the Aghora Ghanta and Kapalika. The word Chamunda, according to Ward, is from Charū, good, and Mundu, a head. She is said to be identical with the goddess Randi.—*The People of India, by J. F. Watson and John William Kaye; Leyden, Asiatic Researches*, ix. p. 203.

CHAMUNDIBETTA, or hill of Chamundi, is a precipitous hill 2 miles S.E. of the fort of Mysore. It is 3489 feet above the sea. There is on its summit a temple at which human sacrifices were made until the time of Hyder Ali. Half-way up the flight of stairs is a well-executed colossal figure of Nandi in a recumbent attitude, hewn out of the solid rock.—*Imp. Gaz.*

CHAMUTI. HIND. Michelia champaca. Tulipa stellata.

CHAMY. CAN. Panicum miliaceum.

CHAMYARI. HIND. Of Murree hills, Cerasus puddum, Prunus puddum; bird cherry.

CHANA, also Chanaka. HIND. Cicer arietinum; also species of Vicia.

CHANAKYA, a Brahman of the city of Takkasila, who lived B.C. 330, the early friend and subsequent counsellor of Chandragupta. The drama of Mudra Rakshasa, attributed to Visakhadetta, is founded on the story of Chanakya, who is celebrated as a statesman and writer on politics. It was he who plotted against Mahapadma, the last of the Nanda dynasty, and placed Chandra-

gupta on the throne. His name is also written Chanaki, and he is called Kantilya.

CHANAKYA SLOKA, moral couplets from the ancient Sanskrit books, taught to Hindu boys in the village schools. Dr. Haeberlin, an erudite German long resident in Bengal, printed a collection of these Chanakya couplets. Several were very pretty; some were original and quaint; and a few were positively indecent.

CHANAMBU-PARATI, the Maleala name of a servile caste in Anjengo, employed apparently as domestic servants.—*Wilson.*

CHANAMIA. HIND. A tribe of Chandrabansi Rajputs in Jonpur and Gorakhpur.—*Wilson.*

CHANAMU. BENG. Crotalaria juncea.

CHANAN. MALEAL. A tribe who extract the sap from the palmyra tree.—*Wilson.* Plural, Shanar.

CHANAPPAN. TAM., MAL. A weaver of coarse cloth for sacks, of hempen cords, from Sana, hemp.—*Wilson.*

CHANAR. HIND. Platanus orientalis.

CHANARPISI resembles the game of Pachisi, but is more simple and more easily learned. For chanarpisi the board is divided into 25 squares. —*Burton's Scinde*, p. 294.

CHANAURI. HIND. Aralia Cachemirica.

CHANAY KALANGU. MALEAL. Tacca pinnatifida.

CHANCHALI KURA. TEL. Achyranthes alternifolia, *R.* i. 674; Digera muricata, *Mart.*

CHANCHARU. KAR. According to Wilson, a savage tribe tenanting the forests in the south of India. Probably the Chanchawar, Chansuar, or Chanchor is intended.

CHAN-CHOW. CHIN. Dioscorea batatas.

CHANCHY KOLI, a Koli race from Junaghur in Kattyawar, settled as farmers in Bombay.

CHANCIO. GUJ. A tribe inhabiting Gujerat, Kach, and Sind, and wearing a large long pointed turban; a pirate, a sea-robber.—*Wilson.*

CHAND. HIND. The moon. Chandni, silver, moonshine, an awning. Chandni chowk, the market-place.—*W.*

CHAND, a famed heroic Hindu poet of India; author of the Prithivi Raj Chohan Rasa, containing an account of the Prithivi Raja, a Chauhan Rajput, the last Hindu prince of Dehli. It has many books, of which the Khanouj Khand contains the history of Sanjogata Jye-Chand, who celebrated the Aswa Medha sacrifice in token of assumption of empire. It is written in an archaic form of Hindu. See Jye-Chand; Prithivi; Sanjogota.

CHANDA, a district in the Nagpur division of the Central Provinces, lying between lat. 19° 7′ and 20° 51′ N., and long. 78° 51′ and 80° 51′ E., 120 miles long and 130 broad, with an area about 9700 square miles. The siege and storm of Chanda occurred 20th May 1818. The Wainganga flows through its centre. Chanda is two miles to the north of the Warda river; the mean height of the plain surrounding the town is 761 feet. The level of the Godavery is 525 feet; and coal has been found in its vicinity in abundance. The deposit at Chanda occupies 150 square miles. In Chanda and Berar, the beds in the group of rocks in which the coal occurs (known to Indian geologists as the Barakur group), exhibit very great variation both in thickness and quality within short distances. They are often of great thickness locally, but thin out and nearly disappear. The population in 1872 was 534,431:—

Gond,	91,438	Mana,	24,937
Brahmans,	5,963	Mali,	28,995
Kunbi,	81,902	Teli,	25,537

with Kandh, Kurku, Maria, Baiga. The Gonds dwell chiefly east of the Wainganga and the Pranhita, the Telingas along the east centre and south, and the Mahrattas in the northern and western parganas west of the Wainganga. The races of the Chanda district that are believed to be aboriginal are—(1) The Gond, Pardhan, and Halba, of the Gond type; (2) Kohri and Mana, of the Kohri type. The first are famous for the construction of tanks, the second as agriculturists. (3) The Golkar and Gowari, of the Gauli type.

CHANDA. HIND. Convolvulus Dianæ.

CHANDABUNGA, a Santal deity.

CHANDAL. HIND. Antiaris innoxia.

CHANDALA. HIND. In Hinduism, any low caste man. The word is Sanskrit from Chanda, furious, and Ala, to go. According to Dr. Hunter, the Chandala were of the same stock, and formed their name from the same root, as the aboriginal races of Northern India at the present day. The Chandala, as their personal appearance, habits, and occupations are described by ancient writers, were evidently a prior race, who before the advance of the Aryans had been reduced by the non-Aryans into a helot people, and have long since merged as serfs into the Hindu population. The whole nomenclature of the helot castes among the mixed Hindus, both in ancient and modern times, is derived, he says, from the aborigines; thus he indicates the Mali, gardeners and landless husbandmen, who take their name from the tribal term Mali, man. The Dom, Dam, and Dumi; the Kharwar, the Kheroar, or ancient Santal, and the present Kheria of Central India. The Chaura serfs of the Panjab, descendants of the Chaura military out-castes of the Mahabharata. The Coolee or Kuli all over India, and the Hadi, a helot race of Bengal. In Apastamba we find no mention of the mixed castes which come so prominently forward in the Institutes of Menu. The Chandalas and other out-castes who have become degraded by crime are mentioned, and it is declared to be sinful to touch, speak, or look at them. In Gautama's Sutras, intercourse between the castes is recognised, and a name and status allotted to the offspring. Gautama therefore stands between Apastamba and Menu. Chandalia is a tribe of the Bhangi, who might also be termed Chandala.

CHANDAN. HIND. Juniperus excelsa, J. arborea; pencil cedar; Dhupri of Kamaon.

CHANDANA. HIND. Sandal-wood. Santalum album, *Linn.*; in Telugu, Chandanapu chettu. This is the white or true sandal, which grows in Mysore and Canara; the Rakta Chandana is the red sanders wood (Pterocarpus santalinus). The Santalum (or Syrium) myrtifolium grows in the Northern Circars, which Dr. Roxburgh considered a strongly-marked variety of the Malabar sandal-tree. The attractive nature of the sandal-tree is described in the sloka, 'Round the stem of the Chandana dwell serpents, on its top birds, on its branches monkeys, on its flowers bees,—so the riches of a good man are beneficial to all.'—*Fl. Ind.* ii. 454; *Hind. Theat.* ii. p. 96.

CHANDANAVATA, an ancient name of Baroda.

CHANDANA-VIBHUTI. See Tripundra.

CHANDANAYATRA or Chandanotsava. SANSK. The ceremony of offering sandal paste or other perfume to an idol.—*Wilson.*

CHANDA-NAYIKA. SANSK. From Chanda, furious, and Nayika, a female attendant on Durga.

CHANDAN-HAR, also Chandarmah, and Chand-bina, HIND., are articles of female jewellery.

CHANDARNAGAR or Chandernagore, a French settlement on the banks of the Hoogly river, in lat. 22° 50′ 40″ N., and long. 88° 24′ 50″ E. Its population in 1877 was 22,539. It was reduced by the fire from the ships of Admiral Watson on the 23d March 1757, while then under the governorship of M. Law. The place became a French settlement in 1673.

CHANDA SAHIB, a relative and son-in-law of Ali Dost. In the early part of the 18th century, from 1732 till his death in 1752, he threw himself, on the support of the French under Dupleix, against the British and Muhammad Ali. He was an able leader, and, when occupying Seringham, Law, anxious for his safety, treated with Monaji for his escape; but Monaji, on getting possession of Chanda Sahib, kept him prisoner for several years in the fort of Tanjore, and ultimately put him to death. He was humane, generous, and brave.

CHAND BIBI, also known as Chand Sultana, wife of Ali Adal Shah of Bijapur, one of the most distinguished women that have ever appeared in India. When the emperor Akbar sent an expedition into the Dekhan, there were four parties in the field supporting claimants to the throne of Ahmadnaggur, and this princess was acting as regent for her infant nephew, Bahadur Nizam Shah. She appealed successfully to the belligerents to unite against the Moghuls. Nehang, an Abyssinian, cut his way into Ahmadnaggur while the Moghuls were in the act of investing the place, and the other two joined the Bijapur army then marching against the Moghuls. Prince Murad pressed the siege; two mines were rendered useless by the countermines of the besieged; a third mine created a wide breach, and Chand Bibi rushed to defend it, in full armour, and a naked sword in her hand, and a veil over her face, and, after an obstinate continuance of the assault, the Moghuls withdrew in the evening, and they were afterwards bought off with the cession of Berar (February 1596, A.H. 1004). The Moghuls had not long withdrawn, when Muhammad Khan, whom Chand Bibi had appointed her prime minister, plotted against her authority, and called in the aid of Prince Murad. An indecisive battle was fought on the banks of the Godavery, and Akbar sent Abul Fazl, and subsequently he himself left the Panjab in 1598, and reached the Dekhan before the middle of 1599, and sent forward Prince Danial and the Khan-i-Khanan to invest Ahmadnaggur; and Chand Bibi was negotiating a peace with them, when her mutinous soldiery burst into the female apartments, and put her to death. In a few days the Moghuls stormed the fort, and gave no quarter to the fighting men. Chand Bibi is the favourite heroine of the Dekhan, and is the subject of many fabulous stories, which even Khafi Khan and Kazi Shahab-ud-Din perpetuate.—*Elphin.* pp. 459–460.

CHANDEL, , a Rajput tribe spread through the N.W. Provinces. They have many divisions, and are supposed to have come from Muhoba in Bundelkhand. They claim to be of the Lunar race, and they give their name to the Chandeli or Chanderi district. There are four subdivisions of them in the Lower Doab, who suffix to their names the regal terms Rao, Rawat, Rao, and Rana.—*Elliot; Wh. H. of I.*

CHANDELI. HIND. A very fine cotton fabric made at Chanderi, on the left bank of the Betwa, from the cotton of Amraoti. Great care is bestowed in the preparation of the thread, which is prepared so fine as even to sell for its weight in silver. The weavers work in a dark underground room, of which the walls are kept damp to prevent dust flying about.—*Elliot.*

CHANDESWARA, who lived about A.D. 1314, is the author of the law-book Vivada Ratnakara.

CHANDESWARI, in the Tamil country, the prototype of Durga or Kali.

CHANDI, the last day of the month Asoj, ushers in the Hindu winter (sard rit). On this day nothing but white vestments and silver (chandi) ornaments are worn, in honour of Chandra, who gives his name to the

> 'Pale and common drudge
> 'Tween man and man.'

An intercalary month is the mode followed by Hindus to adjust the annual seasons, their ordinary calculations being by lunar months, and such are called lunar. On the Asoj there is a procession of all the Rajput chiefs to the Chougan, and on their return a full court is held in the great hall, which breaks up with 'obeisance to the lamp' (jote ka moojra), whose light each reverences. When the candles are lit at home on this day, every Rajput, from the prince to the owner of a 'skin (charsa) of land,' seated on a white linen cloth, should worship his tutelary divinity, and feed the priests with sugar and milk.—*Tod's Rajasthan.*

CHANDIA, a Baluch tribe, some of whom are found in the Dehra Ghazi Ghan district.—*MacG.*

CHANDI-MANDAPA, chapels in private dwellings in Bengal. Chapels face either the west or the south, never the east nor the north.

CHANDIPAT or Chandipatha, also called Devi-Mahatmya, a Sanskrit poem of 700 verses, forming an episode of the Markandeya Purana. It celebrates Durga's victories over the Asuras, and is daily read in the temples of that goddess. Chanda was a name of the goddess Durga.—*Dowson.*

CHANDLA. HIND. A small wafer-shaped gold or silver ornament worn by Hindu women on the forehead between the eyes; also the painted mark made by women on their forehead. The Ratnamala says, 'Dressed in sixteen garments, a woman without a Chandla does not appear beautiful.'

CHANDNEE. HIND. Calonyction Roxburghii.

CHANDNEY CHOWK, or Silver Street of Dehli, is a name that has become common to the principal avenue in all the great cities of Northern India. In Calcutta, however, the street of that name is not inhabited by bankers or goldsmiths, but by stable-keepers.—*Tr. of Hind.* ii. p. 278.

CHANDNI. HIND. Silver; a white cloth spread on a carpet; a canopy.

CHANDNI, or Chandi. HIND. The practice amongst Brahmans, Charans, and others, of

wounding or killing themselves, in order to extort alms or payment.—*Wilson.* See Chandi.

CHANDO, a caste of toddy-drawers in Ceylon.

CHANDOO, the extract of opium which is employed in opium-smoking, called by the Chinese Yen-kau and Shuh-yen. The opium, as exported from Calcutta, is in boxes containing forty balls, each of the size of a 32 lb. cannon shot. These balls are enclosed in a husk of compressed poppy leaves, and contain a certain quantity of moist opium inside, but which in this state is unfit for smoking, for which it is prepared by four processes, in the following manner:—About three or four o'clock in the morning, fires are lighted, and, as the *first* process, a ball is divided into two equal halves by one man, who scoops out with his fingers the soft part inside, and throws it into an earthen dish; frequently during the operation moistening and washing his hands in another vessel, the water of which is carefully preserved, into which also is thrown the hardened poppy leaf husks, when all the removable opium is obtained.

In the *second* operation, the husks are boiled until all their adhering opium is dissolved, strained through a double filter of cloth and China paper. The strained fluids are then mixed with the opium that was scooped out in the first operation, and boiled down in a large iron pot to the consistence of treacle. The refuse is dried and sold to Chinese, who adulterate good opium with it; and the filter paper is used by the Chinese as an external application in affections of the lower bowels.

In the *third* operation, the dissolved treacle-like mass is seethed over a charcoal fire, strong and steady but not fierce temperature, during which it is worked, spread out, and again and again worked up to expel the water, but prevent it burning. When brought to the proper consistence, it is divided into half-a-dozen lots, each of which is spread like a plaster on a nearly flat iron pot, to the depth of from half to three-quarters of an inch, and then scored in all directions to allow the equal application of heat. One pot after another is then placed over the fire, turned rapidly round, and then reversed, so as to expose the opium itself to the full heat of the red fire. This is repeated three times, the time and proper heat being judged by the workman from the aroma and colour. In this part of the process the greatest delicacy is demanded, for a little more or less fire would destroy the morning's work, or 300 or more dollars' worth of opium. The head workmen in Singapore are men who have learned their trade in China, and from their great experience are paid very high wages.

The *fourth* operation consists in re-dissolving this fired opium in a large quantity of water, and boiling it in copper vessels till it be reduced to the consistence of the chandoo of the shops, the degree of tenacity being the index of its complete preparation, which is judged of by drawing it out by slips of bamboo. The quantity of chandoo obtained from the soft opium is about 75 per cent. But from the gross opium, that is, including the opium and the bark, the proportion is not more than from 50 to 54 per cent.

In this lengthened seething process, the chandoo or extract becomes less irritating and more soporific, the vegetable matter, the resin and oil, the extractive matter, being all thrown out in the refuse matter.—*J. I. A.* No. 1, Jan. 1848; *Dr. Little; Cameron*, pp. 215, 216.

CHANDO-OMAL, or moon goddess. (Qu. Chando Ammal.)

CHANDPUR, the name of many towns in India.

CHANDPUR SAKUMBARI of Tantia are described by Col. Tod as desperate robbers. He saw this place fired and levelled in 1807, when the noted Karim, Pindari, was made prisoner by Sindia. It afterwards cost some British blood in 1817. Though now desolate, the walls of this fortress attest its antiquity, and it is a work that could not now be undertaken. The remains of it bring to mind those of Volterra or Cortana and other ancient cities of Tuscany,—enormous squared masses of stone, without any cement.—*Tod's Rajasthan*, i. p. 100.

CHANDRA. TEL. Acacia sundra; Machilus odoratissimus? and Tetranthera Roxburghii. BENG., Ophioxylon serpentinum, *L.*

CHANDRA. SANSK. The moon, from Chad, to shine. This is a frequent affix to names, as Chandra-Prabhu, shining lord; Chandra-Raya, shining ruler; Chandra-Shekhara, shining mountain peak, a name of Siva. See Amas; Chand; Graha; Haft Dhat; Uma.

CHANDRA, a son of Atri, and father of Budha by Tara. Tara was the wife of his teacher Vrihaspati.

CHANDRA, in Hindu mythology, the moon. Moor tells us it is usually a male deity; sometimes, however, feminine, Chandri, and in such character is more commonly applied to Parvati or Devi, the consort or Sacti of Siva, than to any other goddess. Lakshmi Devi, or simply Devi, as the consort of Vishnu is often called, occasionally coalesces with Parvati; and both, as well as Saraswati, spouse of Brahma, may be identified with the moon or Luna. Thus, in Hindu mythology, the sun and moon, being sometimes regarded as male deities, the three principal female divinities hold a similar union with their respective solar lords. According to Coleman, Chandra or Soma, the moon, is described as the male, and is painted young, beautiful, and of dazzling fairness, two-armed, and having in his hands a club and a lotus. He is usually riding on or in a cart drawn by an antelope. The moon is occasionally represented as Chandri, a female, in which character being visited by Surya, she produced a numerous family called Pulinda. In the third volume of the Asiatic Researches, this sexual change is accounted for by Colonel Wilford, who says, when the moon is in opposition to the sun, it is the god Chandra, but when in conjunction with it, the goddess Chandri, who is in that state feigned to have produced the Pulinda. The moon was also worshipped as male and female, Lunus and Luna, by the Egyptians, the men sacrificing to it as Luna, the women as Lunus; and each sex on these occasions assuming the dress of the other. The Hindus have in their zodiac twenty-seven lunar mansions, called Nakshatra, or daily positions of the moon; and as to perfect the revolutions some odd hours are required, they have added another not included in the regular chart. These twenty-eight diurnal mansions form the zodiac, having been invented by Daksha; are personified as the daughters of the deity, and are the mythological wives of Chandra. In the chart of the

lunar mansions they are curiously represented as a horse's head, a yoni, razor, an arrow, a wheel, a bedstead, a house, etc. The Dii Majores of the Rajput are the same in number and title as amongst the Greeks and Romans, being the deities who figuratively preside over the planetary system. Their grades of bliss are therefore in unison with the eccentricity of orbit of the planet named. On this account Chandra or Indu, the moon, being a mere satellite of Ella, the earth, though probably originating the name of the Indu race, is inferior in the scale of blissful abodes to that of his son Budha or Mercury, whose heliacal appearance gave him importance even with the sons of Vaiva, the sun.—*Cole, Myth. Hind.* p. 131.

CHANDRA-BHAGA, a river formed by the junction of the Chandra and the Bhaga, and is then styled the Chenab river, the Ascesines of the Greeks. In the parts of Ladakh through which the Chandra and Bhaga rivers run, on their banks the people are Bhot up to their junction; after that, Hindu. See Ladakh.

CHANDRA BHUNDA, a tribe employed in the Sunderbuns in the manufacture of salt.

CHANDRAGIRI, a town and taluk in the North Arcot district, near Madras, where the rajas of Vijayanagar resided after the defeat at Talikot, and where, in 1640, was signed the treaty granting to the E. I. Company the site for Fort St. George, Madras.—*Imp. Gaz.*

CHANDRA GOPAL PAL, commonly called Gopal Bhar, was the principal humorist at the court of Krishna. He was a Kūmār or potter by caste, and was a native of Nadiya. Some say he was a Napit, or of the barber caste. He was fond of music, and patronised musicians and khawaths of the Upper Provinces. He delighted in dhurpāds and kheāls, and was a great connoisseur in matters regarding the rāgs and raginis regulating oriental music. He was a great encourager of architecture. He constructed the large building for puja in the Rajbari. It is of Gothic style of architecture, and is considered a splendid dalan. He also built a marble staircase for going down the sacred well Gyan Bapi, in Benares, for the benefit of the pilgrims. He was universally considered the head of Hindu society, and was the arbitrator on all questions of caste.—*Calcutta Review*, No. 109, p. 110.

CHANDRAGUPTA, the Sandracottus or Sandracoptus of the Greeks, the founder of the Mauryan dynasty of Magadha. He was the illegitimate son of the last Nanda, by the beautiful but low caste Mura, from whom he obtained the designation of Maurya. In the Mudra Rakshasa, a Sanskrit drama detailing his elevation, Chandragupta is, however, frequently named Vrishala, a term said to be equivalent to Sudra; and as Nanda himself was the son of a Sudra woman, there can be little doubt that the celebrated Maurya family were of Sudra extraction. In the early part of his career, Chandragupta led a wandering life in the Panjab (see Turnour, Introduction to the Mahawanso, p. 41, quoting the Tika or Commentary), and was probably engaged with his fellow-countrymen in opposing Alexander. His chief adviser, the Brahman Chanakya, was a native of Takshasila or Taxila, the capital of the Western Panjab; and it was in that country that Chandragupta first established himself by the complete expulsion of the Greek troops left by Alexander (Justin. xv. 4: 'Auctor libertatis Sandrocottus fuerat'). It would appear that the Greek colonists in the Panjab had first been placed under Philip, while the civil administration of the country remained in the hands of its native princes, Taxiles and Porus. Afterwards, on the murder of Philip by the mercenary soldiers, Alexander (Anabasis, vi. 2, vii.) directed Eudemos and Taxiles to govern the country until he should send another deputy. It is probable, however, that they continued to retain the charge; for, after Alexander's death in B.C. 323, Eudemos contrived, by the treacherous assassination of king Porus by his general Eumenes, to make himself master of the country (Diodorus, xix. 5). Some few years later, in B.C. 317, he marched to the assistance of Eumenes with 3000 infantry and 5000 cavalry, and no less than 120 elephants. With this force he performed good service at the battle of Gabiene. But his continued absence gave the Indians an opportunity not to be neglected, and their liberty was fully asserted by the expulsion of the Greek troops and the slaughter of their chiefs (Justin. xv. 4: 'Præfactos ejus occiderat;' again, 'Molienti deinde bellum adversus præfactos Alexandri'). Chandragupta was present when Porus was murdered. He afterwards became the leader of the national movement, which ended in his own elevation to the sovereignty of the Panjab. Justin attributes his success to the assistance of banditti (Justin. xv. 4: 'Contractis latronibus Indos ad novitatem regni solicitavit'). But in this Colonel Cunningham thinks he has been misled by a very natural mistake; for the Aratta, who were the dominant people of the Eastern Panjab, are never mentioned in the Mahabharata without being called robbers (Lassen, Pentapot Indica: 'Aratti profecto latrones,' and 'Bahici latrones'). The Sanskrit name is Arashtra, the kingless, which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala or Sakala, a fact which points to their Sanskrit name of Arashtra, or kingless. But though their power was then confined to the eastern Panjab, the people themselves had once spread over the whole country: 'Ubi fluvii illi quivi . . . ibi sedes sunt Arattorum.'—*Lassen, Pentapot Indica, from the Mahabharat.* They were known by the several names of Bahika, Jarttika, and Takha; of which the last would appear to have been their true appellation, for their old capital of Taxila or Takka-sila was known to the Greeks of Alexander; and the people themselves still exist in considerable numbers in the Panjab hills. The ancient extent of their power is proved by the present prevalence of their alphabetical characters, which, under the name of Takri or Takni, are now used by all the Hindus of Kashmir and the northern mountains, from Simla and Sabathu to Kābul and Bamian. On these grounds, Major Cunningham identifies the banditti of Justin with the Takka, or original inhabitants of the Panjab, and assigns to them the honour of delivering their native land from the thraldom of a foreign yoke. This event occurred most probably about 316 B.C., or shortly after the march of Eudemos to the assistance of Eumenes. It was followed immediately by the conquest of Gangetic India (Justin. xv. 4), and in 316 B.C. the rule of Chandragupta was acknowledged over the whole northern Peninsula, from

the Indus to the mouth of the Ganges. Authorities differ as to the length of Chandragupta's reign. The Mahawanso gives 34 years; the Dipawanso and the Vayu Purana give only 24 years. This difference may perhaps have originated in two distinct reckonings of the date of his accession, the one party counting from the death of Nanda Mahapadma, in B.C. 325, and the other party from the conquest of India, in B.C. 315. Some assumption of this kind is clearly necessary to reconcile the different authorities, unless, indeed, we take the only alternative, of adopting the one and of rejecting the other. At this period the capital of India was Pataliputra or Palibrotha, which was situated on the Ganges, at the junction of the Erranaboas or Alaos river. The former name has been identified with the Sanskrit Hiranyabahu, an epithet which has been applied both to the Gandak and to the Sone. The latter name can only refer to the Hi-le-an of the Chinese travellers, which was to the north of the Ganges, and was there undoubtedly the Gandak. Indeed, this river still joins the Ganges immediately opposite to Patna, that is, the city, or metropolis, as its proper name (Patna) implies; the junction of the Sone is some nine or ten miles above Patna. But as there is good reason for believing that the Sone once joined the Ganges at Bakipur or Bankipur, immediately above Patna, it is quite possible that the Erranaboas may have been intended for the Sone, and the Alaos for the Gandak. According to Megasthenes, Palibrotha was 80 stadia or nearly nine miles in length, and 15 stadia or one mile and two-thirds in breadth. It was surrounded with a deep ditch, and was enclosed by lofty wooden walls, pierced with loopholes for the discharge of arrows (Arrian, Indica, x., and Strabo, xv., both quoting Megasthenes). But when Alexander's successors were at peace with each other, the great Seleucus turned his arms towards the east, with the intention of recovering the Indian provinces of Alexander, but Chandragupta formed an alliance with Seleucus, whose daughter he received in marriage. He also received, at his court of Palibrotha, Megasthenes as an ambassador, and in return Chandragupta sent presents with an ambassador to Seleucus Nicator to Babylon. The Hindu drama Mudra Rakshasha records the memorable political event of his usurpation. His name occurs in an inscription at Sanchi, also on one at Ujjain. Tod says he was of the Takshak race. He died B.C. 289. His successor died B.C. 261; and Asoka, the great Buddhist sovereign, the grandson of Chandragupta, then succeeded. Asoka had murdered his brother, whose son converted him to Buddhism, and he was crowned B.C. 259–258, at Patalipura, in the third year of his reign. Asoka engraved on rocks numerous inscriptions inculcating Buddhist doctrines, and erected, it is said, 84,000 chaitya, many of which still remain. — *Bhilsa Topes, Cunningham*, pp. 87–91, 141; *Bunsen, Egypt*, iii. 544; *Tod, Rajasthan; Cal. Review; Indische Alterthumskunde*, i. App. p. xxx., and ii. pp. 1161, 1162; *Jo. As. Soc. Ben.* p. 146; *Thomas' Prinsep*, i. pp. 61, 276; *Burgess and Fergusson*, pp. 190, 725; *Tennant's Ceylon.*

CHANDRAGUPTA, a Chauhan prince of Ajmir, grandson of Manikya Rai, who lived A.D. 695. His descendant, Pritha Rai, was the last Hindu prince who reigned at Indraprestha or Dehli.

CHANDRAGUPTA II., a king of the Gupta dynasty, who A.D. 400 made gifts to the tope at Sanchi, which are recorded on the rail of that monument.—*Fergusson*, 22.

CHANDRA KANTHA. TEL. Mirabilis jalapa, *L.* In Sanskrit the moonstone.

CHANDRAOTA, an ancient town at the foot of the Aravalli mountains. It was anciently the capital of the Pramara rajas, vassals of the Hindu rulers of Gujerat. Its ruins are situated about 12 miles from the foot of the Abu mountain, on the banks of the Bunass, and in a fine, well-wooded country. When Ahmad, grandson of Jaka, styled Wajah-ul-Mulk, resolved to found Ahmadabad, he chose a site occupied by a community of the Bhil race, whose predatory habits were the terror of the neighbourhood, and resolved to create his new capital by means of the city of Chandraota, the materials of which he used, and compelled all its people to follow the spoils of their temples and dwellings to the uninteresting, unhealthy, low flat on the banks of the Sabarmati. It is now only marked by mounds of ruined temples and palaces. Ahmadabad was taken by General Goddard 15th February 1780.—*Tod's Travels*, p. 134.

CHANDRA PALA, a prince mentioned on an inscription at Oomya, A.D. 1439.

CHANDRAPODA. TEL. Argyreia speciosa.

CHANDRASECHA, a mountain in the N.W. Himalaya. See Kali. Chandrasekhara, the moon-crested. One of Siva's many names.

CHANDRA SENA, a ruler at Ujjain about A.D. 50, who followed after Vikramaditya about 100 years. He restored the Hindu kingdom to its entirety.

CHANDRASENI KAYASTHA, a caste of clerks in Poona, who claim to be descended from a raja named Chandrasena, and therefore claim to be regarded in some degree as Kshatriya, and to be entitled to perform the ceremonies of the Vedas,—a claim not recognised by the Brahmans. There are two divisions,—the Patani Prabhu and the Dawani Prabhu. The former are found at Bombay and other towns, the latter at Goa. It is this caste whom the British call Purvoe.—*Wilson.*

CHANDRAVANSA or Indovansa, or Lunar race, a race that reigned in Antarveda and Kasi, but afterwards in Magadha (Behar) and Indraprashtha (Dehli). In this dynasty are included the kings of Kasi (Benares), the line of Puru, and the line of Yadu.

Atri—Muni.
Soma—Lunus, the moon.
Budh—Mercury; married Ila, daughter of the sun.
Alias or Pururavas.
Ayu—kings of Kasi descended from him.
Nahusha—Devanahusha, Dionysos, Bacchus (Wd.).
Yayati—father of Puru and Yadu.

According to Tod, the following are synchronisms of the Solar and Lunar races:—

Budha of the Lunar race married Ila, the sister of Ikshwaku, s. l.

Harischandra, s. l., contemporary of Parasurama of Lunar line.

Sagara, cot. of Taljanga, of Parasurama.

Ambarisha, cot. of Gadhi; founded Kanouj.

In the line of Pura occurs Hastin, who built Hastinapur and Vichitravirya.

Indu, Som, Chandra, in Sanskrit mean the moon;

hence the Lunar race is termed the Chandravansa, or Induvansa, or Somavansa. They are divided into two great branches, the Yadava, who are descendants from Yadu, to which Krishna belonged, and the Paurava, who claim from Puru, to whom belonged Dushyanta with the Kuru and Pandu princes.—*Tod; Thomas' Prinsep's Indian Antiquities; Dowson.* See Magadha; Pandu; Rama; Surya.

CHANDRAWUT, descendants of Chandra, one of the most powerful vassal clans of Mewar. Rampura (Bhanpura) was their residence, yielding a revenue of five lakhs (£110,000), held on the tenure of service from an original grant from Rana Juggut Singh to his nephew Madhu Singh. Chandra obtained an appanage on the Chambal. —*Tod's Rajasthan*, i. p. 261.

CHANDRAYANA, a Hindu penance, which consists in the sinner or devotee 'eating for a whole month no more than thrice eighty mouthfuls of wild grains, as he happens to meet with them, keeping his organs in subjection.' The reward of this is attaining the same abode as Chandra, the regent of the moon; and it absolves a Brahman from the sin of slaughtering a thousand small animals which have bones, or of boneless animals enough to fill a cart; and it is also the common penance for killing a Sudra, a Hindu of the fourth or servile class.—*Coleman*, p. 92.

CHANDRIE. HIND. Calonyction Roxburghii.

CHANDRIKA, a name of Lakshmi.

CHANDRIKI-KA-JHAR. H. Ophioxylon, *sp.*

CHANDUS. HIND. Cotton cloth, coloured border and ends.

CHANDWAR, of the 12th century, is the modern Firozabad. The fields around form the memorable battle-ground on which was decided the contest between the Hindu and Musalman for the sovereignty of India. The heroes Alha and Udal, two brothers, fell here; but their memory is preserved in the songs and traditions of the people, amongst the Mahoba and the Rahtores and Chandals of the Doab. The last Hindu raja, Jye-Chand of Kanouj, here closed his career by leaping into the Ganges.—*Tr. of a Hindoo*, i. p. 378.

CHANG. A deity of the Assamese, replaced in 1665 by Hinduism.

CHANG. HIND. Salix alba.

CHANG, CHIN., is a measure of 10 che, or Chinese cubits of about 14 inches each.—*Staunton's Narrative*, pp. 43, 73.

CHANG. BURM. A fortified city.

CHANG, a beer made by the Bhot race from malted barley; also the barley Hordeum hexastichon.

CHANGA DEVA, a Hindu devotee, whose equipage was a tiger, but other holy men have adopted the tiger as a vehicle. A pious personage of this description was reported to have visited Sri-ranga-patan (the city of Sri Ranga, or Mahadeva, commonly Seringapatam) about the year 1797, and although a Hindu, to have been hospitably invited by Tipu Sultan. He was attended by ten disciples, and declined the royal civilities, saying a tree was sufficient shelter for him. Changa Deva was of that class which pandits call Yug-saddan, or Yug-brashat, or Yug-Vyasa, who by extraordinarily pious pains obtain miraculous longevity; they prolong their existence, it is hyperbolically said, to some hundreds of years.—*Coleman*, p. 426.

CHANGA GADDA. TEL. Sanseviera Zeylanica.

CHANGAL or Champac. HIND.? A moderate-sized tree of Akyab, not plentiful. Wood used for boats.—*Cal. Cat. Ex.* 1862.

CHANGALI GADDI. TEL. Panicum commutatum, *Nees*; P. ciliare, *R.* i. 290.

CHANGALI KOSHTU. TEL. Costus Arabicus, *Heyne.*

CHANGAR, a predatory tribe of the Panjab.

CHANG BHAKAR, a small native state of Chutia Nagpur, with a population of 8919. Its hills are clothed with the sal trees. Its people are Kolarian aborigines (Muasi Kuru), 3195, and Dravidian aborigines, 2955, viz. Gond, and are poor.—*Imp. Gaz.*

CHANG-CHEN-MO. This place gives its name to a route of about 16 marches between Ladakh and Eastern Turkestan, said to be the easiest from India to Upper Asia, much easier than the more westerly Kara Korum route traversed by Schlagintweit and Mr. Johnson. The heights vary from 19,000 to 21,000 feet, but the mountains are generally rounded, and fuel and grass are abundant, save at one stage. Gumah is equidistant between Ilchi and Yarkand, and the Kara Korum route meets this route at Shadula.

CHANGEZ KHAN or Jenghiz Khan, a name from the Uigur chang, firm, and Kissar ghiz, powerful. Temuchin, afterwards known as Changhiz, was born of a Mongol tribe on the banks of the Onon in 1162. He conquered and expelled Mahomed the Kharasmian, and defeated his son Jalaluddin, on the banks of the Indus. Aung Khan of the Keraite Mongols, celebrated in Europe under the name of Prester John, was a contemporary of Changez Khan, whom, at the instigation of jealous enemies, he attempted but failed to destroy.—*Elliot*, p. 498. As the result of Temuchin's successes against the nations of Tartary, he was saluted in 1206 by the diet of his nation as Changiz Khan. According to Quatremère, Changez did not use the higher appellation of Kaan (or Qaan), which was adopted by his son Okkodai and his successors as their distinctive title, identical with Khaqan, the Xaganos of the Byzantine historians. Properly a distinction should therefore be preserved between Khan, the ordinary title of Tartar chiefs, and which has since spread to Persian gentlemen, and in India become a common titular affix to the name of Mahomedans of all classes, and Qaan as the peculiar title of the supreme chief of the Mongols. The Mongol princes of the subordinate empires of Chaghtai, Persia, and Kapchak were entitled only to the former affix, though the other is sometimes applied to them in adulation, and claimed by all Afghans. The conquest of China was commenced by Changez, although it was not completed for several generations. In 1205 he invaded Tangut, a kingdom occupying the extreme north-west of China, and extending beyond Chinese limits in the same direction, held by a dynasty of Tibetan race, which was or had been vassal to the Kin. This invasion was repeated in succeeding years; and in 1211 his attacks extended to the empire of the Kin itself. In 1214 he ravaged their provinces to the Yellow River, and in the following year took Chingtu or Pekin. In 1219 he turned

his arms against Western Asia, and conquered all the countries between the Bolor and the Caspian, and southward to the Indus, whilst his generals penetrated to Russia, Armenia, and Georgia; and a lieutenant, whom he had left behind him in the east, continued to prosecute the subjection of Northern China. Changez himself, on his return from his western conquests, renewed his attack on Tangut, and died in that enterprise, 18th August 1227. Okkodai, his son and successor, followed up the subjugation of China, extinguished the Kin finally in 1234, and consolidated with his empire all the provinces north of the Great Kiang. After establishing his power over that part of China, Okkodai raised a vast army and set it in motion towards the west. One portion was directed against Armenia, Georgia, and Asia Minor, whilst another great host, under Batu, the nephew of the Great Khan, conquered the countries north of Caucasus, overran Russia, making it tributary, and still continued to carry fire and slaughter westward. One great detachment, under a lieutenant of Batu, entered Poland, burned Cracow, found Breslau in ashes and abandoned by its people, and defeated with great slaughter, at Wahlstadt, near Liegnitz (April 12, 1241), the troops of Poland, Moravia, and Silesia, who had gathered under Duke Henry of the latter province to make head against this astounding flood of heathen. Batu himself, with the main body of his army, was ravaging Hungary. The king had been very slack in his preparations, and when, eventually, he made a stand against the enemy, his army was defeated with great loss, and he escaped with difficulty. Pesth was now taken and burnt, and all its people put to the sword. The rumours of the Tartars and their frightful devastations had scattered fear through Europe, which the defeat at Liegnitz raised to a climax. Indeed, weak and disunited Christendom seemed to lie at the feet of the barbarians. The Pope, to be sure, proclaimed a crusade, and wrote circular letters, but the enmity between him and the Emperor Frederick II. was allowed to prevent any co-operation,' and neither of them responded by anything better than words to the earnest calls for help which came from the king of Hungary. No human aid merited thanks when Europe was relieved by hearing that the Tartar host had suddenly retreated eastward. The Great Khan, Okkodai, was dead in the depths of Asia, and a courier had come to recall the army from Europe. In 1255, however, a new wave of conquest rolled westward from Mongolia, this time directed against the Ismaili or Assassins on the south of the Caspian, and then successively against the Khalifs of Baghdad and Syria. The conclusion of this expedition under Hulaku may be considered to mark the climax of the Mongol power. Mangu Khan, the emperor then reigning, and who died on a campaign in China in 1259, was the last who exercised a sovereignty so nearly universal. His successor Kablai extended, indeed, largely the frontiers of the Mongol power in China, which he brought entirely under the yoke, besides gaining conquests rather nominal than real on its southern and south-eastern borders, but he ruled effectively only in the eastern regions of the great empire, which had now broken up into four, viz. (1) the immediate empire of the Great Khan, seated eventually at Keanbalik or Pekin, embraced China, Corea, Mongolia, Manchuria, and Tibet, and claims at least over Tunking and countries on the Ava frontier; (2) the Chaghtai khanate, or middle empire of the Tartars, with its capital at Almalik, included the modern Dsungaria, part of Chinese Turkestan, Transoxiana, and Afghanistan; (3) the empire of Kapchak, or the northern Tartars, founded on the conquests of Batu, and with its chief seat at Sarai on the Wolga, covered a large part of Russia, the country north of Caucasus, Khwarizm, and a part of the modern Siberia; (4) Persia, with its capital eventually at Tabreez, embraced Georgia, Armenia, Azerbijan, and part of Asia Minor, all Persia, Arabian Irak, and Khorasan.

The conquests of Changez Khan, and of his successor Okkodai Khan, in the first half of the century, brought into China a vast influx of Uigoor and Toongani immigrants. Atabeg, also Atabak, in ancient Persia, was an officer or prince, ruler of a province. Luristan seems to have been the latest territory so ruled, until Changez Khan, with his destructive hordes of Tartar and Moghul, overwhelmed the land. Changez Khan, with respect to religion, was the apostle of the most complete toleration. Mahomedans relate that he had the subject discussed in a mosque of Bokhara, and there laid down the principle that he required only faith in one all-powerful God, leaving all the rest to be supplied by man's free study and judgment. But the creed of Changez Khan was Buddhism.—*Prinsep's Tibet, Tartary, and Mongolia*, pp. 3 and 4; *Yule's Cathay*, i. cxviii., ii. 522; *Osborn's Islam; Vambery, Bokhara*, p. 120.

CHANG-GARH. ASSAM. A house raised on posts with a space open underneath,—the ordinary house of the Miri, Burmese, and Malay.

CHANG-KIA-KHOW, a pass from the great wall of China, in the province of Pe-che-lee, about a hundred miles to the westward of that of Kou-pe-keou, by which the embassy of Lord Macartney crossed the wall in 1793, and Sir George Staunton later. The words mean the gate of the Chang family.—*Staunton's Narrative*, p. 22.

CHANGLA. TEL. Aucklandia costus.

CHANGLO, a Tibetan race, a branch of the Lhopa of Butan. The Changlo dialect has a considerable amount of glossarial peculiarity with Tibetan, but in other respects it is entirely Tibetan softened and slightly changed in phonology. It is spoken along that portion of the northern frontier of the valley which extends from the Binji Doar to the confines of the Kuriapura Doar, or from about long. 90° to 92° E. Neither its northern limit nor the numbers speaking it have been ascertained. The inhabitants of this tract occupy the lesser elevations of the southern Himalaya range, and are, generally speaking, agricultural. Their physical appearance exhibits a few shades of distinction noticeable between them and the tribes of the Sub-Himalaya. They are smaller, less muscular, and the hue of their skin possesses a deep isabelline tint. From the latter circumstance, probably, they derive their appellation, the term Changlo meaning black.—*Jour. Ind. Arch.*, April—May 1853, p. 192. See India.

CHANGMA. HIND. Populus balsamifera, P. nigra, also Salix alba.

CHANG-MAI, a mode of spelling Zimmay of

the Laos. It is also written Xieng-ma. It is on the Menam river, between lat. 19° and 20° N.

CHANGO, a tribe of Hungrung Tartars occupying 378 square miles. See Kunawar.

CHANGOS, a village famous in olden times for its pretty dancing-girls; more than one Changos girl entered the zananas of the Dehli emperors. The dark eyes and sunburnt countenances of old and young still testify to a race distinct from their neighbours.

CHANGPA, a semi-nomade tribe near the Pangong Tsi pass. They dwell in their grazing grounds under huts (galkol) made of the yak's hair. The people there call themselves Bot.

CHANGRA. HIND. Capra hircus, *L.*

CHANG-THANG. TIB. On the northern plains to the north of Ladakh, supposed to be the Chatæ Scythæ of Ptolemy.—*A. Cunn.*

CHANG-THANI. PANJ. A kind of wool.

CHANG-TIEN-SZ, the chief of the Taoist priests, living at Kiang-si.—*Smith*, p. 5.

CHANGU. TIB. Canis laniger, *Hodgs.*

CHANI. TEL. Adenanthera aculeata.

CHANJAN WALE. HIND. Asparagus Panjabensis.

CHANK. HIND. A harvest ceremony in several parts of Northern India, differing in each province. After the heap of grain on the threshing ground has been raised a foot high, a man, in silence, standing with his face to the north, a winnowing basket in his right hand, his left hand being full of grain, commencing from the south, goes round from east to west, and again to the south, pressing his basket against the bottom of the heap. This is repeated, changing hands, and when complete, he joins his hands, bows to the heap, and supplicates in a few words, either Parmeshwar or Anna Deota, as,

'Anna Deota ji,
Sahes goona hajiye.'

In the Lower and Central Doab and Sangor, a circle is made with cow-dung or ashes round the Ras and T'hapa at the same time, commencing from the east, and going from south to west till the east point is again reached, the operator taking care all the while to hold his breath. A superstitious observance in the highlands of Scotland bears a remote resemblance to this.—*Elliot.*

CHANK. HIND. Also Chanka, and Ch'hapa. A stamp cut in wood, with the words Akibat ba 'khair bad,—May the end be prosperous; or Iman ki salamati,—Safety in your honour; and impressed on a cake of moist earth (barkat ki matti) on stacks or heaps of grain which are left in the care of one of the parties between whom it is to be divided. The words on the stamp mean, 'May the end be happy,' and 'Security on honour,' implying that the grain is left to the honour of the person keeping it. The seal is then placed on the sides of the heap, never on the top, lest the increase of corn be thereby prevented. It is the system of making an article over to the Supreme Being, common in Africa and the Archipelago, under the term Taboo, and it is similar to the Ch'hutoor of the Hindu.

CHANKEE. MALAY. Cloves. Caryophyllus aromaticus.

CHANK SHELLS, Konk, Conch.

Sukk, ...	DUKH.	Sankha, ...	TAM.
Senkham, . . .	SANSK.	Sangu, ...	,,
Shenku, ...	,,	Senkham, . . .	TEL.

These shells are species of the genus Turbinella, fished up by divers in the Gulf of Manaar, on the coast opposite Jaffnapatam in Ceylon, in about two fathoms water, and at Travancore, Tuticorin, Kila-Karei, and other places. Large beds of fossil chanks have also been found. They form a considerable article of trade in India, as they are in extensive demand all over the country. The fishery is chiefly worked at Kila-Karei in the Ramnad territory, and Tuticorin in the Tinnevelly district. They lie at the bottom in from 2 to 5 fathoms of water. The divers carry a bag round their necks, and dive and grope over the bottom; 20 chanks are a very good haul for one plunge. The rents paid to the zamindar of Ramnad are £500, and to the British Government £1000. The fishing season is from October to March. Chank shell was one of the insignia of royalty of the Chalukya dynasty when ruling at Kalian. The Chank and the Voluta species are used for making the shell ornaments of Dacca.

They are sawn into narrow rings or bracelets, armlets, beads, and are worn as ornaments for the arms, legs, fingers, etc., by Hindu women. Many of them are also buried with the bodies of opulent and distinguished persons. Those which, from being taken with the living mollusc, are called green chanks, are most in demand. The white chank, which is the dead shell thrown upon the beach by strong tides, having lost its gloss and consistency, is not worth the freight up to Calcutta. The value of the green chank depends upon its size. A chank opening to the right, called in Calcutta the right-handed chank, is so highly prized as sometimes to sell for 400 or 500 or even 1000 rupees. Even 20,000 rupees have been named. The Jangam religious mendicants and those of the Viranrusty sect blow them as horns. The commercial returns show an exportation from Madras of ten to twenty-four lakhs of these shells in one year.

1852-53, . .	15,15,495	Rs. 54,780
1853-54, . .	24,60,727	1,04,481
1854-55, . .	10,84,575	56,165
1855-56, . .	Not given	26,171

They are classed as Patty and Pajel, or short and pointed headed, and Wallampory, or right-hand chanks. Bertolacci mentions, as a peculiarity observed by the Ceylon fishermen, that all shells found to the northward of a line drawn from a point about midway from Manaar to the opposite coast at India are of the kind called Patty, and are distinguished by a short flat head; and all those found to the southward of that line are of the kind called Pajel, and are known from having a longer and more pointed head than the former. Nor is there, he says, even an instance of deviation from this singular law of nature. The Wallampory or right-hand chanks are found of both kinds. Chanks are alluded to in Cosmos Indicopleustes, and by Abu Zaid in Voyages Arabes, showing that so early as the 6th century this shell was fished for. The fishery until a few years ago continued a government royalty. The Sankasari of Dacca are famed for their skill in working with the chank or sank. Turbinella rapa is used as a trumpet, a hole being bored through its base. When blown into it gives a loud, sharp, and piercing sound. It is used in Hindu worship to call the attention of the gods to their worshippers. The conch shell, used for pouring water

on the gods, is a smaller one, the Mazza rapa of naturalists. The pictures and figures of the Hindu god Vishnu always represent him with a chank shell in one hand, and a discus or chakra in the other. In ancient times, the Indian warriors used the chank as a trumpet. Chankangan of Shahpur is a silver armlet worn with churis or bracelets.—*Rohde, MS.; Ainslie, Mat. Med.* p. 143; *Tennent's Ceylon; Hooker*, ii. 254.

CHANNA. HIND. The pulse Cicer arietinum, called Bengal gram, gram, and chick-pea. Channa siya is black gram, and Channa Kabuli, Kābul or white gram. Its principal use is to feed horses and cattle, but the people of N. India often eat it. An acid forms on the leaf of the channa, a mixture of oxalic and acetic acids, which is used in chemical processes, and in the preparation of nitric and muriatic acids. Cloths spread on the plant become moistened by the dew, and absorb the acid.—*Elliot.*

CHANNAN, also Chanuni, on the Chenab, etc. Populus alba, the white poplar.

CHANNI. HIND. Daphne oleoides.

CHANOO. BENG. Apium involucratum.

CHANOS ARGENTEUS. *Bloch.* The milk fish. C. salmoneus, introduced from the sea into a tank in Canara.

CHAN-PA, the Tibetan name of Great Tibet. It means snow-land. See Lhassa.

CHANTABURI, a port of Siam, the second in commercial importance. It is at the mouth of a short river, which fertilizes a considerable district by its inundations during the rainy season. The rocks at the entrance of Chantaburi resemble a colossal lion couchant. Chantaburi, which means the nutmeg country, is also a range of mountains east of Siam, whose defiles are held by the Xong or Ching, said to be an offshoot from the Karen. The wax sold by the Xong is the produce of wild bees of gigantic size, which build their cells on the top branches of trees at the height of 150 feet.—*Bowring's Siam.*

CHANUNI. HIND. Populus ciliata, Populus alba; the ban.

CHAN-YO or Chan-Yu. CHIN. Dioscorea batatas.

CHANZ, a pass leading from Kashmir to Tibet. It is also called the Sang-i-Safed.

CHAO. TIB. A monastery.

CHAO-ME-DO, also Chao-mo-to, a place lying between the great wall of China on the Kalgam and Selinginsky, in the country south of the Amur. It is signalized as the place where the rebel Koeur-tan (Kal-dan) was finally defeated, A.D. 1696. Kaldan was uncle to the reigning prince, Tse-vang-Rah-dan, and had stirred up the Eleuth Tartars to rebel. See Kalkas.

CHAORI. HIND. A police station; the village forum.—*Elliot.*

CHAORI. HIND. This is made of ivory, bone, or shell, and is the most ancient ornament of the Indo-Scythic dames. It appears in old sculptures and paintings. In a very old Gothic church at Moissac in Languedoc, the porch, attributed to the age of Dagobert, is the only part left. Sculptures on it represent the conversion of Clovis. Some sculptured figures below are of a distinct age, of an Asiatic character, showing the scarf, the champakulli or necklace representing the buds of the jessamine (champa), and chaori.—*Tod's Rajasthan*, ii. p. 284.

CHAOUS. TURK. A herald, a running footman, an interpreter. The word is supposed to have originated the English phrase, to chowse, or cheat, as the Turkish interpreters so frequently misinterpret.

CHAOU SEEN, the native name of Corea.

CHAP. HIND. An impression from a stamp or seal, from the verb chapna, to stamp or seal. The Chinese 'chop' is a stamped permit; hence also the Hindi term Chapa-khana, a printing press. properly Ch'hap. Chap-ka-lac, sealing-wax.

CHAP. HIND. The refuse of the jhurburee, after the pala is beaten from it.—*Elliot.*

CHAP. BRAHUI. Stone circles of different kinds, commemorative of weddings amongst the nomade Brahui.

CHAPADA, or Chopada. SUMATRAN. Fruit of Artocarpus integrifolia.

CHAPA JANNA. TEL. Fish roe.

CHAPAO, a raid, an inroad. The Turkoman inhabitants of the deserts have ever been famous for their terrible inroads into the Persian provinces. They are of the Sunni creed, a cruel and rapacious race, and always prefer flight to facing a superior force. The arms of the Turkoman are a spear 10 feet long, and a sword. They are excellent horsemen, and pass their lives in pillage and rapine. When a chief determines upon making a chapao, a month is given to his followers to get their horses into proper condition. Spies are sent out, and news being brought, the whole party gallops swiftly on the prey, whether caravan or village. In a few minutes all is over, the people carried off into slavery, and the village burnt. The prisoners are tied to the saddle-bows of the captors, and are treated with horrible cruelty, until they are finally sold in the slave markets of Khiva. The horses of the Turkomans have been known to go over 600 miles in six days.

CHAPAR. HIND. A thatch of straw, also roofing slate.—*Elliot.*

CHAPATI. HIND. An unleavened cake baked on a girdle, eaten by the people of Hindustan. Prior to the mutiny of 1857, wheaten cakes were circulated amongst the people. The meaning of that act remains unknown.

CHAPKAN. HIND. A jacket fitting close to the body, opening at one side of the front, and prefixing.

CHAPLASHA. HIND. Artocarpus chaplasha.

CHAPLET, or immortelle, made of the flowers of an 'everlasting' (Helichrysum, *sp.*), commonly hung about tombs.

CHAPLI. HIND. Leather or leaf sandals.

CHAPTALIA GOSSYPINA. —?

Oreoseris lanuginosa.

Shepherd's tinder, . ENG. | Kuff, Kuffee, Sookta, PAN.

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 to 9000 feet. The tomentum or downy filament on the under surface of the leaves is employed by the hill people as tinder.—*Cleghorn.*

CHAPTI-LAC. HIND. Shell-lac.

CHAPU. TEL. Fishers.

CHAR. HIND., PERS. Four. Char-yar, lit. four friends, a Sunni Mahomedan, who maintains that Abubakr, Omar, Osman, and Ali were the rightful succeeding khalifs. Char in composition is softened into chau. Char-Abru, the beard, the moustaches, eyebrows, and hair on other parts of the body.—*W.*

CHAR, also Char-Charoli. MAHR. Buchanania latifolia. Valeriana Wallichiana, Valeriana Hardwickii, Quercus semecarpifolia.

CHAR or Chur. HIND. A shoal, a sandbank. Baluchar, land covered by a deposit of sand.

CHARA. HIND. Fodder, forage, green grain; wheat or other crop cut for forage or fodder; also a truss, a sheaf, grass, food for animals.

CHARA CHETTU. TEL. Buchanania latifolia. Fruit called Chara pappu, Charu mamidi.

CHARADRIUS, the plover genus of birds, species of which are common to India and Europe. Ch. hiaticula, the ringed plover of Europe, N. Asia, Japan, Greenland. Ch. Cantianus, the Kentish plover of Europe and Asia, not uncommon in India. Ch. Philippinus. Ch. minor, the little ringed plover of Europe, Asia, North America; rare in Britain, exceedingly common in India. Ch. pyrrhothorax is a very common Indian species, known in Europe as a straggler.

CHARAGH. HIND. A lamp. Charaghan-i-Zandah Shah Madar, a Mahomedan festival held on the 17th Jamadi ul Awal, in honour of Badi-ud-Din. He is said to have been a Syrian saint; to have lived at Makanpore, in Oudh, to a great age, or to be even yet living, hence the appellation zandah, alive. His flag is black. Dam-i-Madar, or breath of Madar, is a charm against sickness. Charaghi, a present made to a Mullah for offering up oblations at the tomb of a saint; literally, lamp expenses.

CHARAI. HIND. of Kaghan. Juniperus excelsa, J. arborea; pencil cedar.

CHAR AIMAK. Aimak is a Mongolian, Manchu, and Turki word, meaning a tribe. Of these, there are in Kābul and Persia four, the Char Aimak. They dwell to the north of Herat and Kābul, in the undulating country, which in some places assumes a mountainous, in others a hilly character; in some parts is well watered, in others bleak and rough, forming a watershed of two natural divisions, from the western of which flows the Murghab, the Tajend, and the Farrah-Rud, and from the eastern, the Helmand, the south-eastern feeders of the Oxus, and the north-western feeders of the Kābul river. It is said that Timur, exasperated at the depredations committed by the people inhabiting Mazanderan, south of the Caspian, transported the whole of them into the mountains situated between India and Persia. The descendants of that people form the four tribes or Aimak. They are also called Firoz Kohi, after the city of that name (situated about 63 miles from Teheran), where they were defeated and taken captives by Timur. According to Latham, the four Aimak are the Timuni, Hazara, Zuri, and Timuri. Vambery says the four tribes are the Timuri, Teimeni, Firoz Kohi, and Jamshidi, and of Iranian origin, who speak Persian. The Timuri dwell about Gorian and Kah'san, the Teimeni from Karrukh to Sabzwar, the Firoz Kohi near Kala-i-No, and the Jamshidi on the shores of the Murghab. In their reverence for fire, and their respect to the east, to which their tent doors look, they retain many of the fire-worshipping views. Their number is estimated at 400,000. — *Latham's Ethnology; Ferrier's Hist. of Afghan*, p. 3; *Vambery, Sketches of Central Asia*. See Aimak; Mongols.

CHAR-AINA. HIND. Armour-plates worn by the Sikhs.

CHARAITA. DUKH. Agathotes chirayta, *G. Don*. This valuable bitter is largely employed in medicine, being a perfect substitute for the gentian of Europe. Several plants are, however, used under this general name. The Andrographis (Justicia) paniculata is one of the best of these, and the Ophelia elegans is another.

CHARAKA, a medical writer who lived in Vedic times. He states that he received the materials of his work from Agnivesa, to whom they were delivered by Atreya. Professor Wilson gives the 9th or 10th century A.D. as his era. His book was translated from the Sanskrit into Arabic before the end of the 8th century A.D.—*Dowson*.

CHARA KANDA. TEL. Colocasia nymphæfolia, *Royle*.

CHARAN, a sacred race in the west of India, whose character and pursuits almost resemble those of the Bhat, or Bards, and the origin of both is involved in fable. In Hindu mythology, the Bhat are said to have been produced to amuse Parvati, from the drops of sweat on Siva's brow, but they sang the praises of Siva only, which so offended Parvati, that she turned them out of heaven, and condemned them to lead a wandering life upon earth, to sing there the martial deeds of heroes and the praises of the gods. According to another legend, Mahadeva created a bard to attend to his lion and his bull, but the bull was daily killed by the lion, on which Mahadeva, tired with daily creating a bull, formed the Charan to be their attendant. The Charan was equally devout with the Bard, but of bolder spirit, and from that date the bull was never destroyed by the lion. It is an allegory of brute violence and justice. The Charans of the Maru or desert in the sandy tract of the Indus, are mendicants who attend at marriages and festivals, and threaten to injure themselves if not relieved. The Charan is generally revered, and follows the profession of a bard, herald, and genealogist, and as such is often taken as personal security, the breach of which was followed by the death of the Charan, or of some member of his family. On this account it was usual for travellers in Malwa and Gujerat to hire a Charan to protect them, and the sanctity of his name was generally sufficient. If robbers appeared, he stepped forward, waving his long white garments, and denouncing in verse, infamy and disgrace on all who should injure travellers under the protection of the holy members of Siva. If this failed, he stabbed himself with a dagger in the arm, declaring that his blood was on their heads; and if all failed, he was bound in honour to stab himself to the heart. This is termed Chandi. The Charan, young and old, are not merely taught to desire to die when the honour of the family or clan require it, but one and all are eager to be the first to die. Charan are divided into two tribes, the Kachili, who are merchants, and the Maru, who are Bards. These, again, branch out into 120 clans. The Kachili and Maru do not intermarry, but the latter intermarry with Rajputs. The Charan are taught to read and write. The mercantile tribe, who traffic in camels and horses largely, are shrewd men of business. The Maru tribe are genealogists and Bards, celebrate the praises of heroes in legends and songs. The warlike tribes esteem the heroic lays of the Bard more than the homily of the Brahman. The Charans are throughout reverenced by the Rahtor, and hold lands literally

on the tenure of 'an old song.' A colony of Charans from the frontiers of Cutch Bhuj was founded at Murlah, near Chitore, by rana Hamir, who is celebrated in the history of Mewar; he had a leprous spot on his hand, to remove which he made a pilgrimage to the shrine of Hinglaz, upon the coast of Makran, the division Oritæ of Arrian's geography. The Mārlah Charans are of the tribe Kaucholeah, and are grain-carriers. The sanctity of their office made their persons sacred, and the immunity extended likewise to their goods, and saved them from all imposts; so that in process of time they became the free-traders of Rajputana. This community collectively advanced to receive Colonel Tod at some distance from the town. The procession was headed by the village band and all the fair Charani, who, as they approached, gracefully waved their scarfs over him. It was a novel and interesting scene: the manly persons of the Charans, clad in the flowing white robe, with the high loose folded turban inclined on one side, from which the mala, or chaplet, was gracefully suspended; the naiks or leaders, with their massive necklaces of gold, with the image of the pitriswur (manes) depending therefrom, gave the whole an air of opulence and dignity. The women were uniformly attired in a skirt of dark brown camlet, having a bodice of light-coloured stuff, with gold ornaments worked into their fine black hair; and all had the favourite churi, or rings of hati-dant (elephant's tooth), covering the arm from the wrist to the elbow, and even above it. The founders of this little colony accompanied rana Hamir from Gujerat in the early part of his reign, and although five centuries have elapsed, they had not parted with one iota of their nationality or their privileges since that period; neither in person, manners, nor dress had they anything analogous to those amidst whom they dwell. Indeed, their air is altogether foreign to India; and although they have attained a high place amongst the tribes of India, their affinity to the ancient Persian is striking,—the loose robe, high turban, and flowing beard being more akin to the figures on the temples of the Guebres than to anything appertaining to the Char-burrun or four classes of the Hindus. — *Rajasthan*, ii. p. 622.

CHARANA. HIND. Footprints of the Jaina thirthankara, Reshabhanata. See Rayana.

CHARAN-AMRIT, HIND.; also Charanodaka, water in which the feet of a Brahman has been washed.—*W.*

CHARANDAIN, disciples of Charan who lived in the days of Ramanuja. Their ceremonies and habits are similar to those of Vaishnava, Bairagi, and Kabirpanthi.—*Sherring's Tribes*, p. 267.

CHARAN DAS, founder of the Charan Dasi sect, was born at Dehra, near Ulwar, in S. 1760 (A.D. 1703). When very young, he was taken to Dehli. He was a good musician. He died S. 1839 (A.D. 1782). The sect keep images in their temples, and respect Brahmans. He lived in the time of Alamgir II., and Sahaji Bai, his sister, was his first disciple. Charan Dasi are Vaishnava Hindus, who worship Krishna and Radha. Charan Das was of the Dhusar merchant tribe, and resident of Dehli. His followers are both clerical and secular. At Dehli is the samad'h or monument of their founder.—*Wilson.* See Hindu.

CHAR-ANGLI. HIND. of Salt Range. Boucerosia edulis.

CHAR-ANKH. HIND. A meeting; literally, four eyes.

CHARAN-PAD, also called Padka, two feet engraved on the top of the tombstone of a Gosain, to mark his tomb or samad'h.

CHARA-PUPPU. HIND. Buchanania latifolia.

CHARAS, in Kachar, seedling rice for transplanting.

CHARATI. SANSK. Ionidium suffruticosum.

CHARAY, also Churay. HIND. A knife, any knife; also the knife of the Afghan, a long single-edged dagger, used with much effect by them. It is about the size of the old Roman sword, and speaks volumes for the courage of the wielders.—*Burton's Scinde*, ii. p. 267; *Pilgrimage*, i. p. 320.

CHARAYUM. TAM. Arrack. Charaya karan, MALEAL., is a distiller or vendor of spirituous liquor.

CHARAZ, also Charas. HIND. of S. India. Sypheotides auritus, *Latham*; the florikin.

CHARBAR, Charba, or Chewabad Bay, the best in Makran, is formed by Ras Maleddam or Koolab point on the west, and Ras Charbar on the east. Charbar town has about 1500 inhabitants; it is surrounded by a mud wall. The inhabitants and the cattle live entirely on fish, oysters, crabs, and shell-fish, those for the cattle being mixed with dates. All on that coast, which is the country of the ancient Ichthyophagi, have similar food.

CHARCHARILA. HIND. Parmelia Kamtschadalis, and other species of Parmelia.

CHARCOAL.

Zugal, Fahm-chobi,	ARAB.	Koela, Kolsa, . .	HIND.
Mi-thwa, . . .	BURM.	Carbone de legna, .	IT.
Peh-tan, Pan-tan,	CHIN.	Arang-bara, . .	MALAY.
Peh-tsau-shwang,	,,	Lippe anghoru, .	SINGH.
Charbon de bois, . .	FR.	Carbon de lena, . .	SP.
Kholenstoff, . . .	GER.	Adapu carri, Karri, .	TAM.
Reine kohle, . . .	,,	Bogu, Poibogulo, . .	TEL.

In the south and south-east of Asia, coal being found only in distant localities, and the cost of carriage great, charcoals are in great request. In the Peninsula of India, the common native mode of preparing them is to set on fire a heap of small wood, and, after allowing it to burn for some time, to quench it either by water or by heaping earth upon it; but charcoal so prepared is of little value in reducing iron ore, and the process is wasteful. The destruction of firewood in the neighbourhood of ironworks is grossly extravagant. Native iron-smelters only employ fuel from one to three inches in diameter; and to procure this they take saplings, or the tops and branches of the largest hardwood trees, allowing the trunks to decay. They do this because large trees are not adapted for fuel for native smelting, as the cost of splitting them adds greatly to the expense; and unless the logs be split, the inner wood is not carbonized. Charcoal, to be good, should be of wood burned with as little exposure to the action of the air as possible, and be black, brittle, easily pulverized, perfectly insipid, solid, and inodorous. Charcoal is mostly used as a fuel, but also in the manufacture of gunpowder. For the forge, the best is that prepared from bamboos and from stems of palmyra leaves (Tati komaloo, TEL.). The tamarind yields a good charcoal for the same purpose, as do most hard woods, but the charcoal of the Acacia sundra is said to be amongst the best

for this purpose. Other woods used in the S. of India are the vella-marda, karra-marda, erool, Indian gooseberry, the poohum, the nux vomica, and the cassan. In Northern India, Acacia catechu, A. modesta, Cassia fistula, Butea frondosa, Capparis, *sp.*, Pinus longifolia, Prosopis spicigera, Salvadora. For gunpowder, the roots of the milk hedge, Euphorbia neriifolia, and of the Calotropis gigantea are preferred. At the Madras Government Powder Mills, that of the gram bush, Dolichos uniflorus, and in those of Bengal and Bombay, the Cajanus Indicus, or pigeon-pea stalks, are used. Charcoal used for gunpowder manufacture is generally made from small shrubs or herbs, as Vitex, Cajanus, Calotropis, and Parkinsonia aculeata, the Parkinsonia being said to yield a very good charcoal for gunpowder, though the gunpowder considered the best is manufactured from the Sesbania Ægyptiaca. The gunpowder charcoal used at the Damuda coal-works is made from an acacia. The Sikhs employed Justicia adhatoda, which is also in use all over India. At Aden the Arabs prefer the Calotropis, probably because it is most easily procured. The grain of all these plants is open, whereas in England closer-grained and more woody trees, especially willows, are preferred. In India, gunpowder charcoal is also made from the Adhatoda vasica, Alnus, Butea frondosa, Colebrookia oppositifolia, Cornus macrophylla, Daphne oleoides, and Hamiltonia suaveolens. In China the gunpowder charcoal is made from the Cunninghamia Sinensis. Charcoal is burned as a disinfectant on the last days of the year, in all Chinese houses. Charcoal powder, Pan-moh, CHIN., is used internally in China, mixed with water, in metallic poisoning, in acute diseases of the throat, and in dysentery.

In Ceylon the cashew nut tree is considered the best sort of wood for charcoal for ironsmiths, and is felled for this purpose only. At Darjiling that of the chestnut wood is used by blacksmiths. In Nepal the best is made of the wood of the bahang, or holly-leafed oak. In Kullu and Kangra the wood chiefly used for charcoal is Chil, Pinus excelsa; but the alder (kaunch) and Alnus Nepalensis, which fringes the tributary streams, is also employed for this purpose, as no hard woods are available. The lighter woods generally yield lighter and more combustible charcoals. Nevertheless the dogwood of Britain, the wild cornel tree, which makes the strongest of the British gunpowders, and is exclusively used for the powder of the breechloading firearms, is a dense, comparatively heavy, slow-growing wood. In Britain, the alder, the willow, and dogwood are the only woods used for charcoal in the Government establishments,—the two former for cannon powder, the last for small arms. Private makers use the same woods, and they use the last for the forest sporting powder. The three woods grow well in England, but they are chiefly obtained from Belgium, Holland, and Sussex, the dogwood selling at £12 to £15 the ton. Coarser woods are used for common blasting powder. There are many circumstances connected with this ingredient of gunpowder not yet understood, but it seems to be the variations in charcoal which cause the differences in the powder. Charcoal is little liable to decay. The best charcoal for a dentifrice is that of the betel-nut. Charcoal possesses remarkable antiseptic properties, as it resists the putrefaction of animal matter, and destroys the smell and colour of many substances. — *Mr. Faulkner; Mr. Rohde; Dr. Cleghorn; M'Culloch's Dic.* p. 266; *Mr. Wall's Report in G. O.* 17th July, No. 1040 of 1859; *Hooker's Him. Jour.* i. p. 9; *Edye, Mal. and Can.; Dr. J. L. Stewart; Quarterly Review*, July 1868.

CHAR-DANGHEH, in Persia, a mode of dividing fields. See Dangah.

CHAR DEH, the town of Kābul is built at the foot of a hill of gneiss that rises 1000 feet above it. The town bends round it from the south-east to the south-west, where, with the dip of another hill opposite, is formed the pass, 150 yards broad, that leads into Char-Deh. Kābul may be described as lying at the foot of a range of hills whose direction is from north-east to south-west. The country is thus divided into the plain of Kābul, and the Char-Deh, or four villages. See Kābul.

CHARDIN, SIR JOHN, travelled in Persia and the East Indies from 1664 to 1670. The first part of his Journal du Voyage was published in London, 1686, and the second and third at Amsterdam in 1711. In 1811 his travels were republished in Paris.

CHARGUL. HIND. An ornament worn by women in Hazara.

CHARI, the doe of the Antilope Arabica.

CHARI. HIND. Stalks of millet, etc., sown close for fodder; also Sorghum vulgare; Carex Indica? Rang-Chari is Elsholtzia polystachya.

CHARIKAR, a town in long. 68° 59′ E. and lat. 34° 28′ N. It is near Beghram, and 30 miles north of Kābul. From Charikar to Jellalabad the road is open, and it is supposed that Alexander, whether he recrossed the mountains at Bamian or at Beghram, marched by this route on India. It is on the high road between Kābul and Turkestan, and the valley offers supplies of all kinds.—*MacGregor*, p. 211.

CHARIKONA SHIM. BENG. Goa bean; Psophocarpus tetragonolobus.

CHARI-MARAM. TAM. Ebony.

CHARIOT. In Judges iv. we are told that Sisera had 900 chariots of iron. From the Sanskrit work called the Dhanūrveda, it appears that the Hindus had war chariots similar to those of Sisera. They are described as having had many wheels, and to have contained a number of rooms. The war chariot was peculiar to the Indo-Scythic nations, and was in use in India from the days of Dasaratha and the heroes of the Mahabharata, to the conquest of the Hindus by the Mahomedans, when it was laid aside. On the plains of Kurukhet, Krishna became charioteer to his friend Arjuna; indeed, the title Dasaratha means a charioteer. The Getic hordes of the Jaxartes, when they aided Xerxes in Greece and Darius on the plains of Arbela, had their chief strength in the war chariot. The war chariot continued to be used later in the south-west of India than elsewhere; and the Cat'hi, Comani, Comari of Saurashtra have, to recent times, retained their Scythic habits, as their monumental stones testify, expressing their being slain from their cars.—*Tod's Rajasthan.* See Hindu.

CHARITA, the first degree in the Saiva system.

CHARIZM, in the 6th century of the Hijira, a Charizmian empire rose on the ruins of the Seljukidæ, which extended itself over Tartary and the greatest part of the Persian provinces. During the reign of Mahomed, Chengiz Khan overran

the Charizmian empire.—*Dow's Hindostan.* See Kharasm.

CHARJ. BENG. Otis Bengalensis.

CHAR-JAMA. HIND. A sort of horse housing in two pieces, one for each side under the saddle.

CHAR-JATI. HIND. The four clans of the first class of the Khatri, viz. Seth, Marhota, Khunna, and Kuppoor.

CHARJUI, in lat. 39° 5′ N., and long. 63° 40′ E., a town in the district of the same name, 6 miles inland from the left bank of the Amu. It has about 4500 inhabitants. The Saugan (Cyprinus calybeatus) and the lakka (Silurus glanis) attain a large size at this part of the Amu.

CHARKA. HIND. Letsæa, *sp.*

CHARKARI MAHAL, in the Panjab, the portion of a doab requiring well irrigation.

CHARKH. HIND. A pulley over which a water-rope runs; a wheel; the sheave of a block; a needlemaker's grinding wheel; a cotton-cleaning wheel; also the rope-twister's apparatus; a spinning-wheel.

CHAR-KHAHEH. HIND. Chequered muslin; also called Zilmili. Charkhi, a kind of silk of Kābul.

CHARKH PUJA. HIND. Cheddul, TAM. A barbarous ordeal among the lower classes and low castes of Hindus of India. By self-inflicted wounds, or being suspended in the air by hooks passed through the back, individuals hope to expiate their sins. It is commonly called the Swinging Festival, because the more prominent form of expiation amongst Hindus is that of swinging, suspended by hooks through the skin over each shoulder-blade, and connected by ropes with one end of a lever, traversing an upright post, to which a circular motion is given. It is held when the sun enters Aries. But children of tender years, aged five or six, were to be seen with bamboo sticks through both cheeks. Hooks from a lever are passed through the skin over each shoulder-blade, and the lever is made to rise high in the air and revolve with the hooked person. Wood and iron and snakes are passed through the tongues, the cheeks, and the skin of devotees and of young children. The devotees are called Gajan, and it is in honour of Siva that they inflict tortures on themselves. The British Government about the middle of the 19th century prohibited its practice in British India. See Siva.

CHARKHRE. HIND. Carpinus viminea.

CHAR-KUCHOO. BENG. Colocasia antiquorum.

CHARLANG, a section of the Bakhtiari tribes.

CHAR-MAGHZ. HIND. Juglans regia; the walnut, lit. 'the four-kernelled fruit.'

CHARMS.

Talsīm, Tawiz, . ARAB.	Ism, . . . HIND., PERS.
Hegab, ... EGYPT.	Incanto, Allettamento, IT.
Charme; enchantement, F.	Encanto, Embeleso, SP.
Nazr-band, . . . HIND.	Mantra, ... SANSK.

Charms are in general use amongst all races; and amulets are worn and used both to work for good and to work for evil. The custom of inscribing mystic characters upon the person as a safeguard, or having them engraved in the form of an amulet or charm, is of the most remote antiquity. Cain had a mark set upon him, which denoted the bearer to be placed under the immediate protection of Heaven, so that no man might slay him. The blood sprinkled on the door-posts of Israel in Egypt was a sign that the destroying angel was not to enter, the inmates being under the divine protection. A similar preserving token is referred to in Ezekiel ix. 2, where the man 'clothed in linen,' having a writing inkhorn by his side, was commanded by God to set a mark upon the foreheads of those who grieved for the abominations of Jerusalem. 'Behold my sign!' says Job xxxi. 35, according to the marginal reading; or, 'Behold, here is my Thau' (a mystic mark), as Calmet renders it. Paul, probably alluding to some acknowledged sacred sign, observes, 'Henceforth let no man trouble me, for I bear in my body the marks of the Lord Jesus.' Portions of St. John's Gospel were worn by the early Christians, and verses of Scripture were even placed upon horses. Among the Anglo-Saxons, amulet gems were much esteemed. King John had a large collection; and, in the 16th century, amulets were warehoused in England in large quantities, and usually worn round the neck, as a protection from pestilence (Gage's Hengrave, p. 155). A MS. poem on the virtues of gems, written by Pierre de Boniface in the 14th century, says: 'The diamond renders a man invincible; the agate of India or Crete, eloquent and prudent; the amethyst resists intoxication; the carnelian appeases anger; the hyacinth provokes sleep' (Milner's Seven Churches of Asia, p. 127). The six descriptions of charms or mantra known in Gujerat, are described in the Mantra Shastra. Marun Mantra has the power of taking away life; Mohun Mantra produces ocular or auricular illusions; Sthambhun Mantra stops what is in motion; Akurshun Mantra calls or makes present anything; Wusheekurun Mantra has the power of enthralling; and Oochatun Mantra of causing bodily injury short of death (Rasamala, Hindu Annals, ii. p. 403). Charms, amulets, talismans, and phylacteries all belong to the list of articles which produce imaginative cures, seeing that the persons who trust to them believe in some good obtainable from them, in purse or in person, in health or in welfare. The amulets, hung in a little bag around the neck, are very widely credited with the power of warding off disease. One peculiar kind of amulet is the phylactery, a bit of parchment on which a few sacred words have been written; if worn on the person, it is a safeguard against disease and calamity. The Jews in the East used to carry such an amulet written with a Hebrew verse from the Bible; and some of the Mahomedans with an Arabic sentence from the Koran. The Burmese insert lumps of gold beneath the skin, to procure invulnerability, and Burmese are said to conceal gold in that manner. Many of the charms worn by Hindus and Mahomedans are merely to distract or avert the evil eye. A not unfrequent one, in sickness, is a string formed of hair of the head, to which is attached a piece of the Acorus calamus root, a cowrie shell, a marking nut, and the eye of a peacock's feather. In the Illahi Namah (section 12), it is mentioned that women, during parturition, derive considerable benefit from wearing a charm composed of certain ingredients made into a little ball, which must be perforated with a hog's bristle (Ouseley's Travels, i. p. 227). Most of the Mahomedan pilgrims, when moving towards Mecca, have a charm or tawiz suspended around their necks; and almost all Mahomedans,

when setting out on a journey, bind a piece of money on their arm, as a votive offering to the Imam Zamin. In Arabia, the instant a foal is born, a charm is tied round its neck in a bag of black cloth, and sometimes in this the pedigree is placed. Many of the Mahomedans of Turkey and Asia carry talismans about with them, especially in war, consisting of verses of the Koran, to which they attach extraordinary influence; and with one Mahomedan soldier, who had fallen in battle, a whole Koran was found wrapped in the rolls of his turban. The Mahomedans put up charms over the lintels of the doors, on the walls of their houses, and almost constantly use them on their arms as amulets, for the cure of ailments, to cast out devils, to ward off demons, fairies, enchanters, and to cleanse a haunted house. In exorcism, certain names (Ism, sing.; Isma, pl.) are used by Mahomedans. The ism-jallali, or fiery or terrible attribute, is used; also the ism-jamali, the watery or air attribute; and with these they cast out devils, and command the presence of genii and demons. Amongst Mahomedan women love-philters are in frequent use; and engraved amulets, and leaves and roots of plants, are worn by them to retain or win affection. The Rev. Mr. Ward saw a Mahomedan woman dropping slips of paper into the river, and upon inquiry found that they contained some sacred words, and that the woman was presenting those papers to the river-saint, Khaja Khizr, in hopes of obtaining relief. Persians consider the number thirteen so unlucky, that, in general, they will not even name it. When they have occasion to allude to this number, instead of mentioning sezdeh (thirteen), they say ziyad (much more) or hech (nothing). In ancient Rome, the ladies wore the phallic emblem to overcome their sterility. It was a mango-fruit, given by a rishi to Jarasindha's father, and eaten by his mother, which begot that famous Maghada prince of old. To this day, very often do barren Hindu women, and those who lose their children in the cradle, repair to the most reputed shrine of Siva in their neighbourhood, and by fasts and vigils ensure his blessings for progeny.

Lane says in Egypt the most esteemed of all hegab or charms is a mushaf (or copy of the Koran). This and others are worn by many women, generally enclosed in cases of gold, or of gilt, and plain silver. Next in estimation to the mushaf is a book or scroll containing certain chapters of the Koran, as the 6th, 18th, 36th, 44th, 55th, 67th, and 78th, or some others, generally seven. The ninety-nine attributes of God, written on a paper, and worn on the person, are supposed to make the wearer a particular object for the exercise of all the benevolent divine attributes. The names of Mahomed's relics are also charms. These relics, called Mukhallafat un Nabi, were two sabhahs (or rosaries), his mushaf (in unarranged fragments), his mukhul'uh (or the vessel in which he kept the black powder with which he painted the edges of his eyelids), a furdeh or kind of woollen covering. Sometimes, for the cure of diseases, and to counteract poisons, etc., a draught of water from a metal cup having certain passages from the Koran, and talismanic characters and figures engraved in the interior, is administered to the patient. Water from the sacred well of Zem-zem in the temple of Mecca, and pieces of the black brocade covering of the Kaba, small oblong flat cakes of a kind of greyish earth mixed with saliva, supposed to be composed of earth from over Mahomed's grave, are believed to be a cure for every disease. They are sold at the prophet's tomb, and are occasionally eaten. The Chinese have a written charm, praying for the three mauys, happiness, long life, and sons; and nine libes, prosperity, dignity, longevity, etc.; koo-tung-king, the old brass mirror, to cure the looker of insanity. The Singhalese believe that certain charms are efficacious in protecting them from the violence of bears.—*Skinner's Overland Journ.* ii. p. 70; *Ward's View of the Hindoos*, ii. p. 71; *Milner's Seven Churches of Asia; Herklot's Kanoon-i-Islam; Tr. Hind.* ii. p. 3.

CHAR-MUGHZ, Pers.; also Girdighan; Jouz-i-roomi. Juglans regia; walnuts.

CHARNOCK, JOB, the founder of Calcutta. In the end of the 17th century he dwelt at Barrackpur, which the natives have named Achānak, after him. He resided there so as to be near the grave of his wife,—a Hindu woman, whom he had espoused after rescuing her from burning on the funeral pile of her deceased husband. The mausoleum over her remains is the oldest piece of masonry in Calcutta. His sorrow for the loss of his wife was unbounded. So long as life lasted, he on the anniversary of her death sacrificed a cock in her mausoleum in the cemetery of St. John's Church. His epitaph—

D. O. M.
Jobus Charnock, Armiger,
Anglus. et nup. in hoc
Regno Bengalensi
Dignissimus Anglorum
Agens,
Mortalitatis suæ exuviæ
sub hoc marmore deposuit, ut
in spe beatæ resurrectionis ad
Christi Judicis adventum
obdormirent.
Qui postquam in solo non
suo peregrinatus esset diu,
reversus est domum suæ æternitatis decimo die Januarii
1692.

CHAR-PAI. Hind. A sleeping cot or bedstead; literally, four legs.

CHARRAH. Arab. Lagenaria vulgaris, *Ser.*

CHARRAS, the gum-resin of the hemp plant, Cannabis sativa. It exudes from the flower heads, and also from the seed when ripe. In the Panjab, when the seed is gathered, the heads are rubbed with the hands, and the charras collected. The finest charras is produced in Yarkand and Kashgar. A kind called garda is much in use, and of this again there are three sorts, surkha, bhangra, and khak. It is brought into the Panjab from Ladakh viâ Kulu, Kangra, and Kashmir; also from Yarkand and Persia viâ Peshawur and Dhera Ismail Khan on the western frontier of the Panjab. A small quantity placed in the hookah and smoked, produces almost immediately an intoxicating effect. It seems to have been employed as an intoxicating substance in Asia and Egypt from very early times, and even in medicine in Europe in former times, as Dr. Royle mentions a notice of it in Dale (Pharmacologia, i. p. 133) and Murray (Apparat. Medicaminum, iv. pp. 608–620). In Central India, the Saugor territory, and Nepal, charras is collected during the hot season.

Men clad in leathern dresses run through the hemp fields, brushing against the plant with all possible violence; the soft resin adheres to the leather, and is subsequently scraped of and kneaded into balls, which sell at from five to six rupees the seer. A still finer kind, the Momia, or waxen churrus, is collected by the hand in Nepal, and sells for nearly double the price of the ordinary kind. In Nepal the leathern attire is dispensed with, and the resin is gathered on the skins of naked coolies. In Persia, it is stated by Mirza Abdul Russac that the churrus is prepared by pressing the resinous plant on coarse cloths, and then scraping it from these and melting it in a pot with a little warm water. The charras of Herat is considered to be the best and most powerful of all the varieties of the drug. It is said also that when the bhang leaves are picked off and the stalks remain, the little knots which occur wherever a leaf issues from the stem, are picked and collected as ganja, and these contain much resin. Indian hemp secretes a much larger proportion of resin than is observable in the European plant; but a difference is observed in this point in India between plants grown in the plains and those of the mountains, and also when grown thickly together. The natives plant them wide apart, to enable them to secrete their full powers. In Europe, the thick sowing, and moister, often dull, climate will prevent the due secretion of the peculiar principles of a plant of the Persian region.—*Powell; O'Shaugh.*

CHARRI. HIND. The royal or imperial rod, a long staff or javelin, and often placed by Hindu princes on the royal cushion or throne. It is an emblem of authority, and Charri men zor hai—His rod is strong—is meant to indicate that the authority is obeyed.

CHARSA of Ptolemy, the modern Kars.

CHARSA. HIND. A huge bucket made of hide, for a well.

CHARSUDDA, a town in the Peshawur valley, near which the Swat river joins the Kābul river.

CHART.

Zeekarten, . . . DUT.	Pata, ... MALAY.
Cartes marines, . . FR.	Cartas de marear, . PORT.
Seekarten, . . . GER.	Carta de navegar o'
Naqsha, ... HIND.	de marear, . . . SP.
Carte marine, . . . IT.	

Marine charts of coasts, seas, and oceans.

CHAR-TARA, a musical instrument, literally four-stringed, as the sih-tara is three-stringed.

CHARU. MALEAL. A jungle tree which grows to about 40 feet high, and 2 feet in diameter. It is used in building native vessels, particularly for planks, but is not very durable.—*Edye, M. and C.*

CHARU, in Hinduism, one of the five Jagna, who consist of the Bali, Charu, Baswadeva, and Agnihotra.

CHARUKAR, a town in Afghanistan. It was burned 3d October 1842.

CHARUMAR, predial slaves in Malabar, whose name Wilson derives from Chera, in Maleali, the soil. They follow the rule of Maruma-katayam. They are very diminutive, with a very black complexion, and not unfrequently woolly hair.

CHARUNG, a difficult pass in the Himalaya, in lat. 31° 24′ N., and long. 78° 35′ E. The crest is 17,348 feet. See Kunawar.

CHARVADAR, in Persia, the chief muleteer of a caravan, and generally owner of the animals. He employs a certain number of the Ratirchi or mule-drivers as his servants or assistants.

CHARVAKA, a Hindu philosopher who lived about the third century of the Christian era, and founded a school of materialism. The atheistical philosophy which he put forward is called Lokayata, and its followers Loka-yati. It forms one of the six atheistical systems of philosophy current amongst the eastern Aryan race in India. The other five are the Yogachara, Sidhanta, Waibashika, Madhyamica, and Digambara, all full of indeterminate phrases, and containing a jumble of atheism and ethics. The derivation of Charvaka is from Charoo, insinuating, and Vaka, a word. Charvaka, as the founder of the materialistic school of the Hindus, was the Pyrrho and Epicurus of India. The Charvaka system does not recognise the authority of the Vedas. The sect maintain that in this world of continual changes, which is developed out of four principal elements, prosperity is heaven and adversity is hell, and that there is no other heaven or hell besides these conditions. The philosophic speculations as to the nature of the soul and its relation to the Supreme, called the Adwaita, the Dwaita, and the Visishta adwaita, are derived mostly from the views of the three great apostles of the Vedantist school, who flourished in Southern India, viz. Sankaracharya in the ninth century, Ramanuja in the twelfth century, and Madhavacharya a little later.

Dwaita, the doctrine of duality held by many Hindus, distinguishes two principles in creation, spirit and matter, as opposed to the Adwaita or Monad doctrine, which acknowledges the reality of spiritual existence only. Ananda Tirthachari was the founder of the Dwaita school. Sankaracharya was the propagator of the Adwaita doctrines. The Vivishtadwaita school, non-duality with a difference, was founded by Ramanujacharya. It maintains an intermediate doctrine that the universe is a reality depending upon and supported by God, as the body is by the soul; that the divine and human soul are in some respects identical; yet that for all human purposes they are regarded as distinct, and that, in life, the human soul is subordinate and responsible to the divine soul.

CHAR VALAYAT, four territories under Afghanistan, comprising Maemana, Andkhui, Shibbargaum, and Siri pul, with a population of above 250,000.

CHARWAHA, a herdsman, a grazier, of North India.

CHAR-YARI. HIND. Char, four, and Yar, a friend. A Sunni Mahomedan who acknowledges Abubakr, Omar, Osman, and Ali as the four legitimate khalifs.

CHAR-ZANOO. HIND. Lit., on four knees, *i.e.* sitting cross-legged.

CHASA, also Apaynum. SANSK. Opium. Chasa is said to be derived from Khas khas, poppy seed.

CHASA. A Bengal cultivator. Chasa signifies a cultivator of the ground.

CHASARFO, a yellow earth of Spiti.

CHASHM. HIND., PERS. The eye. It is deemed amongst Eastern Mahomedans an organ of the body by which they can swear, possibly originating in the old practice of blinding persons. The Persian expressions 'Ba-chashm' and 'Ba

sar-o-chasm,' also the Hindi words, 'Mere sar aor ankh par,' meaning 'Your order be on my eyes,' are usual reponses on receipt of an order, and acknowledging that it will be obeyed, on the penalty of the head and eyes. The evil eye is the Chashm-i-bad or Bad chashm of the Mahomedans of Persia and India. Chashm-i-khoras, Abrus precatorius, *Linn.* Chashm-i-maidah, cat's eye; the gem so called. See Evil Eye.

CHASKU. HIND. A cloth dyed with kussumbha and printed.

CHASMAH-i-BAD, a spring in Khorasan on the road from Astarabad to Damghan. The people believe that if its waters be defiled, a furious wind rages till a tribe of the neighbourhood restore its purity.—*Eastwich; Morier; Fraser; MacGregor.*

CHASNI, a sugar-boiler; syrup of sugar; a vessel for taking out boiled cane juice.

CHASTE TREE, three-leaved, Vitex trifolia, *Linn.*; five-leaved, Vitex negundo, *Linn.*

CHATA CHARETTA. HIND. Cicendia hyssopifolia, *Adans.*

CHATAI. HIND. A mat.

CHATANULU, TEL., a sudra sect who worship Vishnu exclusively, and whose occupation is the sale of flowers. This seems to be the race known in the Peninsula as the Satani or Satani-wanlu, followers of Chaitanya.—*Wilson.*

CHATARASI KURA. TEL. Mollugo spergula, *L.*; M. verticillata, *R.*

CHATERA, an embosser or chaser of silver and gold work; derived from Chitarna, to adorn, embellish.

CHATGARI, a frontier district of British India, situated between Desh Durrung and the Bhutan hills, occupied by the Kachari or Boro; about 30,000 dwell in the Assam valley, and on its N. and S. borders. They have no written character; but a large part of their vocables are identical with those of the Garo, and almost all the rest may be traced to some dialect of the Tibetan. See India.

CHATHULU. TEL. White ants.

CHATIN. BENG. Alstonia scholaris.

CHATISGHAR, the south-eastern division of the Central Provinces of British India, comprising the districts of Raipore, Belaspore, and Sumbulpore. It lies between long. 80° 30′ and 83° 15′ E., and lat. 16° 50′ and 23° 10′ N. It has Bustar on its south. Its population is 206,000. The Chamar race form a fifth part of the population, and have all joined the Satnami sect. See Satnami.

CHATNEY, Chutney, or Chetney, a warm condiment in use in India.

CHATR, an umbrella, a caravansary, cloth covering of a carriage, or ekka canopy. A sunshade. In the Native States of India, sovereigns grant the right to use the Chatri, sometimes designating its colour; similar grants are made for the palanquin, shawls, naobat, etc.—*W.*

CHATRA. HIND. Leucas cephalotes.

CHATR-ANGA, the game of chess, so called from imitating the formation of an army, the four (chatur) bodied (anga) array, of elephants, chariots, horse, and foot, in Indian armies. See Chess; Shatranj.

CHATR-GO-PUTR. HIND. The Kayastha or Kaet race, in the Peninsula of India, claim this mythological person as their ancestor. They say he was the secretary to Yama, the god of the infernal regions.

CHATRIWAL. HIND. Euphorbia helioscopia.

CHATRIYA, a warrior branch of the Aryan Hindus, taking social rank after the Brahmans. Menu says, 'To defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification; such are in a few words the duties of a Chatriya.' How this martial race broke up is extremely obscure. They were a brave race, and all Rajputs claim a Chatriya descent.

CHATTA-PAT. HIND. Leaf of Licuala peltata.

CHATTO. HIND. A canopy of royalty.

CHATTRAM. TAM. Chattar, HIND. A caravansari, temple, or choultri.—*Wilson.*

CHATTRI. HIND. Agaricus campestris.

CHATUR-ANGA-BALAM. TEL. An army of the four arms, horse, foot, elephants, and chariots.

CHATUR-BHUJ, a name of Vishnu with four arms. In a deed of conveyance by Maharao Sri Jey Singh, this deity is invoked. The deed runs thus: 'At this time, Brother Maun Sing, I bestow upon thee, of my own free will, the village and lands of Jaetpoorah. This donative shall not look to rankroos (physical infirmity), su-poot (worthiness), ca-poot (unworthiness); your issue shall enjoy them. Of this intention I call the four-armed divinity (Chatur-bhuj) as witness. You are my own child (chooroo); wherever and whenever I order, you will do my service; if you fail, the fault be on your head.'—*Tod's Rajasth.* i. 610.

CHATUR-BHUJA DEVI, a form of Durga, represented sitting on a padmasana or lotus seat.

CHATUR-DASI, in Hindu astronomy, the 14th day of the lunar Pacsha.

CHATUR-DASI, in the Hindu religion, festivals held on the 13th and 14th of the month Cheyt, in honour of Kama, the god of love. Madana, he who intoxicates with desire (kama), are both epithets of the god of love. The festivals on the 13th and 14th are called Madana triodasi (thirteenth) and Chatur-dasi (fourteenth). On these days the Rajputs of Udaipur sing hymns handed down by the Bards: 'Hail, god of the flowery bow: hail, warrior with a fish on thy banner! hail, powerful divinity, who causeth the firmness of the sage to forsake him! Glory to Madana, to Kama, the god of gods; to him by whom Brahma, Vishnu, Siva, and Indra are filled with emotions of rapture!' There is no city in the East where the adorations of the sex to Kamadeva are more fervent than in Udaipur, the city of the rising sun.—*Tod's Rajasthan*, i. p. 577.

CHATURJEE, properly Chaturu padhyaya, the name of a family of Brahmans in Bengal learned in the four Vedas.—*W.*

CHATUR-MASYA. SANSK. Four kinds of sacrifices—Vaiswadeva, Varuna Praghasa, Sakamedha, and Sunasiriya, to be offered in four consecutive months, or every four months, consisting of roasted cakes of rice-flour, offered in the first to the Viswadevas, in the second to Varuna, with two figures of sheep made of flour, in the third with vegetables to Agni? and in the fourth to Indra.—*W.*

CHATURTHI, the fourth day after the new and full moon, sacred to Vighnesvara. On the Ganesh Chaturthi, or Chauth, was born Ganesh, called also Ganapati, made from the turmeric and oil off the head of Parvati. He is the god of wisdom, who removes obstacles, and is invoked at the commencement of all undertakings. Ganapati has a man's body with the head of an elephant.

His head is said to have been cut off or destroyed by Siva, when Ganesh tried to prevent Siva entering the chamber of Parvati when bathing. Clay images are made and worshipped for from one to nine days, and then thrown into water. The Chinchor or Chinchwad, who resides at a village of that name near Poona, is believed to be an incarnation of Ganesh, who promised an ascetic named Moroba, who lived in Sivaji's time, that he would be incarnate for seven generations in his family. The earth image of Ganesh is one of three forms, in which the earth deity Mrittika is worshipped by Hindus. The first is the Nag-pancham, in which feast a snake of clay is worshipped; the second is Gokul Ashtami, when a clay image of the infant Krishna is worshipped; and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The vahan or carriage of Ganesh is a rat. The feast in honour of his birth is held on the 4th of the month Bhadrapad, and falls on the first days of September, and has some planetary or seasonal connection. Ganesh is brought to the house with much pomp.

CHATURUPADHYAYA. SANSK. The name of a family of Brahmans in Bengal, commonly pronounced Chaturjia or Chaturjee.

CHATUR-VEDI. SANSK. Meaning a Brahman who has studied the four Vedas. It is usually pronounced Chaubi. The term is now applied to a class of Brahmans who are not always of a literary character; and in the Upper Provinces they are usually boxers, wrestlers, and the like.—*Wilson.*

CHAU. HIND. Four. Chau-bach'ha, in former times, in the Dehli territory, a levy of revenue on four things, the poll-tax, hearth-money, and hornegeld.

Chaubisi (24), any tract containing 24 villages in the occupation of a particular tribe.

Chaurasi (84), a subdivision of a pargana embracing 84 villages.

CHAUDA-RATNI, also Chaturdesa-ratna, in Hindu mythology, fourteen precious articles, called gems, obtained by churning the ocean. The second incarnation of Vishnu was in the form of a tortoise, hence known as the Kurma avatar. The principal incident in it was the churning of the ocean with the huge mountain Mandara as a churn-rod, using the great serpent Sesha as a churning rope; while Vishnu, in the form of a tortoise, sustained the vast load. The produce was the fourteen precious articles (or gems), the chaoda-ratni, or more classically the chatur desa ratna, one of which was medicine, another poison. See Vishnu.

CHAUDHARI, the headman of a trade in towns; the headman of a village; also, in Hindu temples in the Peninsula, the figures at the corners of the temple supporting each succession of platforms. See Dhara.

CHAUGHAN, a game of Tibet resembling hockey, but played on horseback, on a plain about 60 yards broad and 350 long, with a stone pillar at each end as the goal. The ball is somewhat larger than a cricket ball, and is called in Tibetan, Pulu, and now known to the British as Polo. The stick or Byntu is of the strong and straight bough of the almond-tree, about 4 feet long, and let in at the top and passed quite through to the other end of a curved piece of solid birch-wood, about the size and shape of a drenching horn. The game is mentioned by Baker. It is played in every valley in Little Tibet, Ladakh, Yessen, Chitral. See Chicane; Choughan.

CHAUHAN, one of the principal Rajput races, descended from Prithi Raj, the last Hindu ruler of Indra-prestha, or Dehli, and spread through Malwa and Rajasthan. The principal families are the Khichi, Hara, Bhadauria, Rajkumar, Rajor, Pratapnir, Chakarnagar, and Manchana. The head of the Manchana is the raja of Manipuri. This was the most valiant of the Agnicula Rajputs, and of the whole Rajput race. Its branches (saca) long maintained all the vigour of the original stem; and the Hara, the Khihi, the Deora, the Sonigurra, and others of the twenty-four, have their names immortalized in the songs of the Bards. The derivation of Chauhan is coeval with his fabulous birth,—the four-handed warrior Chatoor-bhooja, Chatoor-baha, Vira. Their name is often written Chauhōn, also Chahuman. They are in every part of the N.W. Provinces, as well as in Malwa and Rajasthan; the chief of this tribe now in the Raht district of Ulwar claims to be the living representative of Prithavi Raj.—*Tod.*

CHAUK. HIND. A market-place.

CHAUKA. HIND. A cleared space in which a Hindu cooks his food or performs any religious ceremony.

CHAU-KALASA. MAHR. A section of the Sudra, so named from their having four (chau) ornaments (kalasa) to the bridegroom's litter in a marriage procession.

CHAUKAT. HIND. A window frame or a door frame.—*Elliot.*

CHAUKI. HIND. A police station. Chaukidar, a watchman, policeman. Chaukidari, a tax levied to defray the cost of the village watch.

CHAULAI. HIND. Amarantus mangostanus. On the hills, A. polygonoides, a small-seeded variety of A. frumentaceus. Lal chaulai is A. anardana.

CHAULARYA. NEP. Borax.

CHAULMOOGRA. HIND. Gynocardia odorata.

CHAU-MUKHA. SANSK. A quadruple image, or four images of a Jaina thirthankara placed back to back.

CHAUNI. HIND. Cleome pentaphylla.

CHAUNSH. HIND. Berchemia, *sp.*

CHAUPAN PAL, or Pahal of Kashmir; shepherds who tend the flocks of other people.

CHAUPAT or Chausar. HIND. A game played with dice.

CHAU-PHRA of the Shan race, means lord, ruler. It is the Tsan-bwa of the Burmese.

CHAURANÆI SCYTHÆ of Ptolemy, supposed to be the people of Khor, a territory S.E. of Ladakh, and eastward of the Byltæ.

CHAUR-ANGA. SANSK. Lit. a square altar or pedestal for the linga.

CHAURAPUPPOO, Charul, also Chironji, of Hindustan, is the seed of the Buchanania latifolia, removed from the small stone or kernel of the achhar or fruit; it is very palatable and nutritious, especially when roasted; is used also in medicine, and considered heating; one seer and a half costs a rupee. The fresh fruit is very agreeable.—*Gen. Med. Top.* p. 131.

CHAURASA, HIND., from Char, four, is often applied to square tools. Chaurasa, a spiter for making holes in a wire-drawer's plate. Chauras bira, a narrow chisel. Chauras mekh, a small square anvil; Chaurasi reti, a square or two-faced file.

CHAURASI or Chouriasi, in Indian land revenue, a common subdivision of a district, comprising 84 villages. Satiasi, or 87 villages, is also not unfrequent.

CHAURI. HIND. A whisk; a flyflapper of hair, or shavings of sandal-wood, or ivory, etc.

CHAUS. *Shaw.* Felis chaus, *Guldens.*

CHAUSI. HIND. Broad cotton cloth, the web having 400 threads. Chausuti, plain cotton cloth, four thread. Chautahi, a bed-cover, also used as a wrapper by villagers.

CHAUTH. HIND. An assessment equal to a fourth of the original standard assessment, which the Mahrattas compelled other nationalities in India to pay, as the fee for abstaining from ravaging their countries. They collected it through their own agents. A quarter, a fourth part.—*W.*

CHAUTHI. HIND. The ceremony of untying the wedding bracelet on the fourth day after consummation.—*W.*

CHAUWAN. HIND. A millet of E. Oudh.

CHAVALAN, low caste Nairs? who are fishermen.—*Wilson.*

CHAVALAPURI KADA. TEL. Andrographis echioides, *Nees.*

CHAVANNESIA ESCULENTA, a creeper of Burma; yields caoutchouc. Its girth is 18 inches, and its crown covers an area of 200 square feet.—*Markham; Pereu. Bark.*

CHAVICA BETLE. *Miq.* Betle vine.

Piper betel, *Linn.*

Pan, . . BENG., HIND.	Vettilei, ... TAM.
Ku-tsing, ... CHIN.	Kammeraku, . . . TEL.
Betle leaf pepper, . ENG.	Nagabali, ... ,,
Vetta, ... MALEAL.	Tamalapaku, . . . ,,

This trailing plant is cultivated in many parts of India and through the Archipelago for its leaf (pan), which is used to enwrap ingredients—betle-nut, quicklime, aromatics, astringents—presented to guests on ceremonial visits. The plant thrives best in a stiff soil. This is well ploughed or dug, thoroughly cleaned and levelled, then enclosed with stakes and brushwood, and covered with a roof of seutha grass, Saccharum procerum. Shallow trenches 2 feet wide and 5 or 6 inches deep, and about 5 feet apart, are next scooped out and filled with water, and when the ground is thoroughly saturated the planting begins. A full-grown plant is cut down to the roots, which are separated and laid horizontally, and the sprouts, which in three or four days arise from the joints, each forms a separate plant. Planting goes on from February to April, and each row receives two or three waterings daily. The stripping of the leaves commences about the middle of June, and continues regularly for about a year, when the site is abandoned. The leaves are packed in bundles of 200, called dholi, and the dholi are sold at from 1½ pice to 14 annas per dholi, according to the quality and age of the leaf. Pan plants are grown to protect ferns, caladiums, and other foliage plants from sun and frost. See Betle.

CHAVICA ROXBURGHII. *Miq.*

Piper longum, *Linn.*, long pepper.

Dar-filfil, . . . ARAB.	Chabai jawa, . . MALAY.
Filfil-u-daraz, AR., PERS.	Tabee, ... ,,
Pipul, Pipool, . . BENG.	Katta terpali, . MALEAL.
Pei-khyen, . . . BURM.	Pippuli, . . . SANSK.
Pih-poh, . . . CHIN.	Krishna pippuli, ,,
Pippili, ... DEK.	Tipili, . . TAM., SINGH.
Pipla mul, . . . HIND.	Pipulu, Pipul, . TEL.

This plant is extensively cultivated, but it grows wild on the banks of streams in the Circar mountains, S. Konkan, Bengal, Sylhet, and on the banks of the Irawadi. The dried catkins of the female plant form the long pepper of commerce.—*Roxb.; Voigt; Useful Plants.*

CHAWUL. HIND. Husked rice.

CHAWURA or Chaura, a tribe once renowned in the history of India, though its name is now scarcely known, or only retained in the chronicles of the Bards. Of its origin, says Col. Tod, we are in ignorance. It belongs neither to the Solar nor Lunar races. The capital of the Chawura was the insular Deobunder, on the coast of Saurashtra; and the celebrated temple of Somnath, with many others on that coast, dedicated to Balnath, or the sun, is attributed to the tribe of the Saura, or worshippers of the sun. The Balabhi princes were succeeded in the rule of Gujerat by the Chaura, who finally established their capital, in A.D. 746, at Anhalwara, now Patan, and became one of the greatest dynasties of India. The last raja dying in A.D. 931 without male issue, was succeeded by his son-in-law, a prince of the Rajput tribe of Salonka or Chalukya, whose family were chiefs of Kalian in the Dekhan, above the Ghats.—*Elphinstone's History of India*, i. p. 401; *Tod's Rajasthan*, i. p. 101.

CHAWUT. MALAY. Bark cloth from Artocarpus elastica.

CHAWUT. BY. Chenopodium viride, *Roxb.*

CHAYA. JAP. A tea-house.

CHAYA. SANSK. A shadow, from Cha, a covering, or disappearance. See Surya.

CHAYA. BENG. Ærua lanata, *Juss.*

CHAYAU-KA-YOE. BURM. Amoora rohituka.

CHAYNDPOLLA. TEL. Trichosanthes cucumerina.

CHAYROOKA. MALEAL. Capparis Heyneana.

CHAY ROOT. ANGLO-TEL.

Emboorel, . . . TAM.	Tsheri velloo, . . TEL.
Rammisserem vayr, ,,	Chaya veru, . . ,,

This is the root of a small biennial plant, the Oldenlandia umbellata, which is largely used as a scarlet dye. It is extensively cultivated in Ceylon and the Peninsula of India, but also grows wild, and the Singhalese prefer the wild plant. The plant grows in light sandy ground near the sea, where its roots strike very deep. The colouring matter resides entirely in the bark of the root, the inner portion being white and useless. This root is of great importance to the S. Indian dyer, yielding a red dye similar to munjeet, Rubia cordifolia. The celebrated red turbans of Madura are dyed with it. That of Madura is considered superior of its kind, but this superiority is probably owing to some chemical effect which the water of the Vigay river has upon it, and not to any peculiar excellence of the dye itself. Wild chay roots are shorter, and are considered to yield one-third or one-fourth more colouring matter than the cultivated root; this probably arises from too much watering, as much rain injures the quality of the root. Roots of two years' growth are preferred when procurable. It is said that chay root rapidly deteriorates by being kept in the hold of a ship, or, indeed, in any dark place. When cultivated, the minute seeds are gathered, together with the surface sand, and sown in land previously prepared. It is watered for a year, and then dug, and sells at Rs. 20 the candy of 500 lbs.

If left longer in the ground it increases in value, and does not require further watching.

When first sown, it is immediately watered with water in which cow-dung has been dissolved. This binds the surface, and prevents the seeds being blown about by the winds. The dyers in the Peninsula of India test the value of the root by mixing some of the pounded root and quick-lime. If good, the mixture soon assumes a fine red colour, if the mixture become pale or brown, or if no change of colour take place, it is considered of little or of no value. If a white colour prevail in the inside of the bark and on the wood, it may be pretty certain that the root is spoiled; a green colour is a sure indication of its goodness (Rhode, MSS.). It furnishes the colouring matter for the durable red for which the chintzes of S. India are famous. Chay root forms a considerable article of export from Ceylon. It grows there spontaneously on light, dry, sandy ground on the sea-coast. The cultivated roots are slender, with a few lateral fibres, and from one to two feet long. Attention was drawn to it as a dye-stuff in 1798 by a special minute of the Board of Trade recommending its importation; but Dr. Bancroft's report discouraged its further importation.

Dr. Heyne's description of dyeing cotton yarn with chay root is as follows:—

The yarn, being washed and untwisted, that it may not become entangled, and being so separated that every part may be equally penetrated by the colouring matter, is divided into bundles of thirty or forty threads, through each of which at the middle and extremities a cotton thread is loosely sewed, but so as to allow of every thread being exposed to the sun's rays when hung up, and the threads spread out on a bamboo.

The yarn is washed and cleansed in cold water, aided by half an hour's manipulation; it is then kept in water in covered vessels till it acquires a putrid smell, which takes place in from twenty-four to thirty-six hours, during which it is occasionally pressed and worked for a quarter of an hour together; it is then to be washed as clean as possible, beaten on a stone or earthen pot, and then hung up to dry.

While this process is going on, a lye is prepared of the ashes of the plantain or other tree in cold water. It is an object to have this lye of sufficient strength, which is determined by adding to a small quantity about half as much gingelly oil and giving to it a gentle motion. Should it turn immediately white, having no visible globules of oil swimming on the surface, it is good.

The quantity required of clean lye being poured off and strained, sheep dung, in the proportion of three ounces to a pint of lye, is dissolved in one-half of it, and this solution is again strained. The other half of the lye is mixed with half its bulk of gingelly oil and half as much tsiky (the saponaceous water procured during and retained from former process, being, in fact, a solution of soap in water); the two liquors are then mixed together, and if things are favourable a milky scum arises.

The proportions required for say half a pound of yarn would be,—gingelly oil, half a pint by two pints; tsiky (soapy liquor from former process), a quarter of a pint; sheep dung, two or three ounces.

The yarn having been thoroughly imbued with this mordant, is dried in the sun for some hours; it is then again soaked and dried as before. The same night it is treated with an additional portion of mordant, is put into covered vessels, and allowed to remain till morning. If any mordant remain, the same process is again repeated.

The yarn is at night moistened with the lye first prepared, diluted with one-third of its bulk of water, and put into covered vessels. The yarn in drying, it should be remarked, should have the position constantly changed, to prevent the mordants or lye from accumulating in the lower part.

Next day the yarn is spread out to dry on the bamboo. It is taken in at night, and treated with lye. This alternate soaking or thorough moistening with lye at night and exposure during the day are continued without intermission till the yarn appears saturated with lye, or, in fact, till the oil is converted into soap. This, if the lye is sufficiently strong, may occupy five days. This is ascertained by washing a few inches from off the bundle in water holding some astringent in solution; a whitish scum will arise, and it is from the feeling of this scum when worked between the hands, and the appearance of it afterwards, that they determine the state. The workman being satisfied of the completion of this process, the yarn is again moistened for one day, morning and evening, with much diluted lye or plain water. The yarn may be immediately washed, but the process is much improved by retaining it for some weeks, probably to allow the anamalizing matter to get fixed.

Before washing it thoroughly, the yarn is washed in a small quantity of water, which, receiving the soapy particles in solution, is retained by the dyer under the denomination of tsiky. It gradually acquires some consistence and a disagreeable smell. The yarn is then washed in a tank till nothing of the mordant seemingly remains, but the smell and a certain softness to the touch. Occasionally the whole process is again repeated.

The yarn being thus thoroughly impregnated with the mordant, a cold infusion of cassa leaves in water is made, and after some hours the yarn is put into it and handled in such a manner as to expose every thread to its action. It is allowed to remain therein all night. The quantity of leaf used in the infusion is so great that it resembles a paste.

Next morning the water is wrung out from the yarn, the adhering leaves are shaken off, and fresh ones with an equal quantity of chay root substituted; for half a pound of yarn a handful of each is sufficient. After two hours the yarn is laid in the liquor.

The same process is repeated on the third day; by this time the yarn usually changes to a reddish-yellow colour, with occasional red spots. A liquor in which to soak the yarn is now prepared of a handful of chay root in water.

On the fourth day the yarn will appear in the evening of a light red colour. It is to be treated in the same manner as on preceding days, and a similar liquor to the last-named is prepared for soaking it in at night.

On the fifth day the yarn is washed in a tank, and afterwards dried in the sun. As usual, for soaking it in at night, a liquor is prepared of

pounded cassa leaves, mixed with gingelly oil sufficient to form a dry paste, of which about half an ounce is mixed in the usual portion of water; after standing two hours, a handful of chay root is added, and the yarn immediately immersed for the night.

The mode of proceeding on the sixth day is precisely similar, but the liquor for the night is prepared wholly of chay root.

On the seventh day the yarn is again washed, dried, etc. On this and the next day it is immersed in a liquor composed of equal parts of cassa leaves and chay root in water.

The yarn is now boiled in a liquor composed of that strained from it at the last night's process, with the addition of chay root, a handful for half a pound of yarn, and sufficient water to give room to agitate the yarn freely. The pot containing the liquor is placed on the fire, which is kept up briskly till it begins to boil; it is then kept simmering till a rose-coloured froth rises and covers the surface, when the fire is withdrawn, and the pot with its contents allowed to cool gradually. During the boiling the contents of the pot are stirred quickly, so as to expose the yarn as little as possible to the action of the air. When cold, the yarn is taken out and washed in a tank, beaten as usual, and dried in the sun; its colour should be a bright and lively red. If it fail, it is occasionally brightened by steeping once more in a liquor composed with cassa leaves and chay root, the former being mixed first with a little gingelly oil. A temporary brilliancy is further given by putting it in a cold infusion of safar wood.—*Rohde; M. E. J. R.; Simmonds.* See Dyes.

CHAYRUKA. MALEAL. Capparis Heyneana.

CHE-ANA, literally six annas, a clan of the Garo, who are rated at six annas.

CHEAYTI. BENG. Agathotes cherayta.

CHEBULIC MYROBALAN. Six kinds of chebulic myrobalans are used in India, all known as Halileh:—

H.-i-Zira, is the fruit dried when just formed, and the size of a cumin seed or Zira.

H.-i-Javi, the fruit dried when the size of a Jao or barley-corn.

H.-i-Zingi, the fruit dried when of a larger size, and black like a Negro.

H.-i-Chini, larger than H.-i-Zingi, and greenish.

H.-i-Asfar, the fruit near maturity, and yellow.

H.-i-Kabuli, the fruit at full maturity. Mature Kābul myrobalans sell for a rupee apiece in the Bombay market, under the name of Sarwar-i-Hindi.

CHECHAR. HIND. Rhus buckiamela.

CHECHER, under the Mahomedan system of land-tax, lands which had suffered from inundation or excessive rains, the rent of which was remitted for five or six years. See Khiraj.

CHEDA. PERS. A funeral pillar erected by the Brahui nomades, modern representations of the ancient Buddhist chod'ten or chaitya. They are, like the cairns or tsalai of the Afghans, piled over the graves of their holy men and martyrs.—*Bellew.*

CHEDARASI. TEL. Mollugo spergula, *L.*

CHEDDI or Cherri. TAM. A tree, a plant.

CHEDDUL. TAM. The charakh puja.

CHEDDULU. TEL. White ants.

CHEDI, a kingdom in Saurashtra to which Krishna resorted, once as a fugitive, and again as a conqueror. See Krishna.

CHEDUBA, a moderately high island, extending from lat. 18° 40′ to 18° 56′ N., its greatest breadth being almost 15 miles. Its N. peak is in long. 93° 31′ E. Area, 120 square miles. It is a volcanic island, lies off Arakan, and is about 1760 feet high; it was lifted 10 feet up about the year A.D. 1750. Population in 1872, 22,078. Petroleum is found in several parts of the island; and at the N.W. corner is a site, known as the volcano, from which issues an inflammable gas. The neighbouring seas of Cheduba and Ramree need careful navigation. Hallstead gives an account of it in Bl. As. Trans., 1841, x. p. 350. It was taken from the Burmese on the 27th May 1854.—*Horsburgh; Dr. Buist; Imp. Gaz.*

CHEDU BADDU DUMPA. TEL. Dioscorea pulchella, *R.* iii. 801. The name signifies 'bitter climbing tuber.' Not uncommon in the forests of the Manyam lands, in the hill country of Vizagapatam and Ganjam. Chedu bira, Luffa amara, *R.* iii. Chedu potla, Trichosanthes cucumerina, *L.*

CHEEHEE, a Gujar tribe.

CHEEL, also Cheer. HIND. Pinus longifolia. Plentiful on the lower hills of the Himalaya; its upper limit is 6000 feet.—*Captain Gerard.*

CHEEL. HIND. A kite. The word is applied to the Haliastur Indus, which is called the Sankar cheel, or Siva's kite, and is known to Europeans as the Brahmany kite; also name of the Milvus ater or common kite of India, Malayana, and E. of Europe.

CHEENA. BENG., HIND. Panicum miliaceum.

CHEENAPU. TAM. Lagerstræmia Indica, *Linn.*

CHEE-NEB. BURM. This tree, of maximum girth 4 cubits, and maximum length 22½ feet, is abundant in Tavoy and Mergui. When seasoned it sinks in water. The flowers have an intolerably fetid, sickening smell, hence its name. It is used by the Burmese for boxes, tables, etc., and is a long-fibred, tough wood when new, but rots readily.—*Captain Dance.*

CHEENEH, a subdivision of the Jat race in the Panjab. See Jat.

CHEEP. GUJ. Mother-of-pearl shell; a corruption of the Persian sipi, any shell or mollusc.

CHEER, a pheasant of the Himalaya, also called Charir; Phasianus Wallichii.

CHEERA MELLA. HIND. Phyllanthus longifolius.

CHEERI. SANSK. Mimusops hexandra; also Wrightia antidysenterica.

CHEERONJI. HIND. Buchanania latifolia.

Its Oil.

Charuli ka tel,	HIND.	Sare pappu nuna,	TEL.
Saré pappu yennai,	TAM.		

The kernels of the fruit are eaten by the natives of India to promote fatness; they abound in a straw-coloured, sweet-tasted, and limpid oil, which is seldom extracted. The tree grows plentifully.—*Mad. Ex. Jur. Rep.*

CHEESE.

Ju-fu, Niu-nai-ping,	CHIN.	Caseus,	LAT.
Ju-ping, Tsiang-shwui,	,,	Keju,	MALAY.
Kaas,	DUT.	Queijo,	PORT.
Fromage,	FR.	Sur,	RUS.
Kase,	GER.	Queso,	SP.
Panir,	GUJ., HIND.,	Junnu katti,	TAM.
Formaggio, Cacio,	IT.	Junnu gedda,	TEL.

Cheese is made by the natives of India, but that used by Europeans is imported, and is known in

the market by names derived from the places of manufacture, such as single and double Gloucester, Stilton, Cheddar, Dunlop, Dutch, Cheshire, etc. Cheese is made from milk in China, also from a mixture of cream and butter, and called tsiang-shwui. In Britain the chief season for cheese-making is from May to September, and it is carried on in nearly every county; but particular districts have acquired great repute. In Cheshire cheese, the salt is well mixed with the curd, and not merely rubbed on the outside. This, which is the most celebrated English cheese, is made in quantities amounting to nearly 14,000 tons annually. The average annual produce of cheese in Great Britain and Ireland is 80,000 tons, most of which is made in Cheshire, Gloucestershire, Shropshire, and Derbyshire. The rich cheese called Stilton is made in Leicestershire; it is not sufficiently mellow for use under two years old. Double and single Gloucester cheese is also well known. The former is made of the milk and cream, the latter of the milk and half the cream. Bath and York are famous for cream cheeses. Good cheeses are produced in large quantities in Holland. In Gouda cheese, which is considered the best in that country, muriatic acid is used instead of rennet. Hence it is never infested with mites. Parmesan cheese from Parma, in Italy, is skim-milk cheese, owing its rich flavour simply to the fine herbage on the banks of the river Po. Swiss cheese, especially that of Gruyère, is pleasing to some tastes. It is flavoured with herbs. — *Tomlinson*, p. 359; *Faulkner; M'Culloch's Commercial Dictionary*, p. 271; *Statist. of Commerce.*

CHEESE-MACARONI, Ju-sien, CHINESE, is made by the Chinese.

CHEETA. HIND. The several leopards and panthers of India are so named. The word, meaning spotted, is so used by the natives of India, but they prefix another word to indicate the particular animal intended. Generally, by the word cheeta is meant the Felis leopardus, *Schreb.* The F. pardus is called the tendwa, also chita and chita-bag; it is the larger cheeta or pard or panther, and the hunting leopard the shikari cheeta. The black or kala cheeta is supposed by some to be a variety of the F. pardus. The smaller variety, the leopard, is the gor-bacha or bor-bacha, or bibia-bag. The hunting leopard, the Felis jubata, is carried to the field on a flat-topped cart without sides, drawn by two bullocks. Each animal has two attendants, and is loosely bound by a collar and rope to the back of the vehicle, but is also held by the keepers by a strap round the loins. A leathern hood covers their eyes. By skilful management the cart approaches within two hundred yards of the game. The cheeta is then unhooded and loosed from its bonds, and it drops quietly off the cart. It approaches them at a slow, crouching canter, masking itself by every bush and inequality of ground. As soon, however, as they begin to show alarm, he quickens his pace, and is in the midst of the herd in a few bounds, rolls over the one he fixes on, and in an instant is sucking the life-blood from its throat. The instant that the deer is pulled down, a keeper runs up, hoods the cheeta, cuts the victim's throat, and, receiving some of the blood in a wooden ladle, thrusts it under the leopard's nose. The antelope is then dragged away and placed in a receptacle under the cart, while the cheeta is rewarded with a leg for his success. Jerdon regards as one species the three cheetas of India, viz. the two varieties of Felis pardus, the panther and the leopard; also the black cheeta or black leopard, Felis melas, *Peron.* The hunting leopard or shikari cheeta is the maned leopard, Felis jubata, the pard of the ancients.—*Schreder; Mundy's Sketches in India.*

CHEETA-MEENA, a branch of the Meena race, from whom spring the Mair or Mera clan, the mountaineers of Rajputana, one of the aboriginal races of India, whose country is styled Mairwara, or 'the region of hills.' The Mair branch of the Meena is also called Mairote and Mairawut. Mairwara is that portion of the Aravalli chain between Komulmir and Ajmir, a space of about 90 miles in length, and varying in breadth from 6 to 20. Rajputana rises from 3000 to 4000 feet above the level of the sea. Mera is 'a mountain' in Sanskrit; Mairawut and Mairote, 'of or belonging to the mountain;' the name of the Albanian mountaineer, Mainote, has the same signification. The Meena race consists of as many branches as their conquerors, the Rajputs. All these wild races have the vanity to mingle their pedigree with that of their conquerors, though in doing so they stigmatize themselves. The Cheeta-Meena accordingly claim descent from a grandson of the last Chauhan emperor of Dehli. Unail and Anoop were the sons of Lakha, the nephew of the Chauhan king. The cocoanut was sent from Jeysulmir, offering princesses of that house in marriage, but an investigation into their maternal ancestry disclosed that they were the issue of a Meena concubine, and their birth being thus revealed, they became exiles from Ajmir, and associates with their maternal relatives. Unail espoused the daughter of a Meena chieftain, by whom he had Cheeta, whose descendants enjoy almost a monopoly of power in Mairwara. The sons of Cheeta, who occupied the northern frontier near Ajmir, became Mahomedans about the 15th century, when Doodha, the sixteenth from the founder of the race, was created Dawad Khan by the hākim of Ajmir; and as Athoon was his residence, the 'Khan of Athoon' signified the chief of the Mairotes. Athoon is still the chief town of the Mair race. Chang, Jhak, and Rajosi are the principal towns adjoining Athoon. Anoop also took a Meena wife, by whom he had Burrar, whose descendants have continued true to their original tenets. Their chief places are Burrar, Bairawara, Mundilla, etc. The Meena were always notorious for their lawless habits; and importance has been attached to them so far back as the period of Beesildeo, the celebrated prince of Ajmir, whom the Bard Chand states to have reduced them to submission, making them carry water in the streets of Ajmir. Like all mountaineers, they break out whenever the hands of power are feeble. In the autumn of 1882 the Meena committed a cruel outrage in the Jeypore territory.—*Tod's Rajasthan*, i. p. 681.

CHEETOO, a famous Pindari chief of the early part of the 19th century, who would not yield to the British, but sought refuge in forests, where he was deserted by all his followers. His mangled body was at length found in a tiger's lair, with his sword, and a letter-case holding some important papers.—*Heber*, ii. 551.

CHEETUL. HIND. The spotted deer. Axis maculatus.

CHEETZ. MAHR. Tamarindus Indica, *Linn.*

CHEGA. TEL. Sanseviera Roxburghiana.

CHEGA GADDA. TEL. Vangueria spinosa.

CHEGO, a race in Malabar, who seem to be noticed by Wilson as the Chegavan or Chekavan, and whom he describes as a man of low caste, commonly a Tair, one whose occupation is drawing toddy. The tradition is that the Chego came originally from Ceylon, where they belonged to the military caste. The Chego say that in the time of Cheram Perumal, a washerwoman, whose house adjoined that of an Ajari (carpenter), being occupied as usual in washing a cloth in water mixed with ashes, and having no one at hand to hold the other end of it, called to a young daughter of the Ajari, who was alone in the house, to assist her. The child, not knowing that this was an infringement of the laws of her caste, did as she was requested, and then went home. The washerwoman was emboldened by this affair to enter the Ajari's house a few days afterwards, and upon the latter demanding angrily how she dared to cross his threshold, the woman answered scornfully that he belonged now to the same caste as she did, since her daughter had helped to hold her cloth. The Ajari, learning the disgrace that had befallen him, killed the washerwoman. Upon this her friends complained to Cheram Perumal, who espoused their cause, and threatened the carpenters, whereupon the latter combined together to take refuge in Ceylon, where they were favourably received by the king of Kandy. Cheram Perumal begged the king of Kandy to send them back, promising to do them no injury. The Ajari did not place entire confidence in these promises, but asked the king to send with them two Chego and their wives, to witness Cheram Perumal's conduct towards them, and to protect them. The king granted their request, with the stipulation that on all occasions, such as weddings and deaths and other ceremonies, the Ajari should bestow three measures of rice on each of these Chego and their descendants, as a tribute for this protection,—a custom which still exists. If the Ajari is too poor to afford the outlay, he is still obliged to present the requisite quantity of rice, which is then given back to him again,—the rights of the Chego being thus maintained. From these two couples all the Chego of Malabar are said to be descended. This caste comes next below that of the Sudra, but is considered much less honourable. In times of civil war or rebellion, the Chego are bound to take up arms for the lawful sovereign; and some princes employed them as soldiers on other occasions, if they had not a sufficient force of Nairs. Their principal occupation is that of drawing cocoanut toddy, which is compulsory on their caste. The Chego are subdivided into two castes, the Chego and the Twen Chego.

CHEHAL TAN, properly Chahal Tan. Near the Jahan Numa, in Shiraz, is a building called Chahal Tan, 'the forty bodies or persons;' another the Haft Tan, or 'seven persons,' from the number of holy men there buried.—*Ouseley's Travels.*

CHEH'L-WASTI, or captain of forty, amongst the Nasiri, a nomade race who occupy the Tohti and Hotuki countries in summer, and the Daman or skirts of the Suliman range in winter. In their migrations, they appoint a cheh'l wasti, or captain of forty, and a director-general.

CHEHOOR. BENG. A pale brownish-coloured cordage of Birbhum, coarse, and of moderate strength.—*Royle.*

CHEIRANTHUS ANNUUS. *Linn.*

Na-farmani, . . HIND. | Todri safaid, . . HIND.

The natives of India recognise five kinds of seed, which they distinguish by their flowers. Lab or surkh, red, and zard, yellow, appear to be wallflower seeds. Safaid (white), nafarmani, and nila (blue), are stock seeds.—*Powell's Handbook.*

CHEIRANTHUS CHEIRI, wallflower, from Cheir, the hand, and Anthos, a flower, derives its English name from growing wild on old walls and ruins in England. It is of a light yellow colour, but, when cultivated in gardens, assumes a rich dark tint, mixed with brown; the double variety of a yellow colour, and striped with deep orange. In the Panjab it is called Lahori subu. It has small linear, acute, reddish seeds (todri surkh, lal todri), and the flowers said to be cordiac and emenagogue, are used in paralysis.—*Powell.*

CHEIRONECTES, the frog-fish of the British, in India, belong to the family of Lophiadæ or anglers, and are met with in many seas. In this group the bones of the carpus form arms that support the pectoral fins, and enable these fishes to walk along the moist ground, almost like quadrupeds. Cheironectes immaculatus, *Ruppell*, has feet or claws rather than fins. Hartwig mentions a frog-fish of the Asiatic islands and the southern hemisphere, remarkable for its hideous appearance and its capability of surviving for several days on land.—*Tennent's Ceylon*, p. 330. See Fishes.

CHEIROPTERA, the bats.

Chauve souris, . .	FR.	Nottoli, ...	IT.
Fleder mauser, . .	GER.	Vespertiliones, .	LAT.
Gadhul, ...	HIND.	Shub-para, . . .	PERS.
Pipistrelli, ...	IT.	Trinjan, ...	TAM.

A sub-order of mammals of the order Primates. The bats, or flitter mice, derive their scientific name from the two Greek words, Cheir, a hand, and Pteron, a wing, from the circumstance that a membranous fold of their skin, commencing from their neck, spreads out between their fore feet and their fingers. They include four families, viz.,

Fam. Pteropopidæ, Frugivorous bats.
3 Gen.—Pteropus, 4 species; Cynopterus, 2 species; Macroglossus, 1 species.
Fam. Vampyridæ, Vampire bats. *Sub-Fam.* Megadermatinæ.
1 Gen.—Megaderma, 4 species.
Sub-Fam. Rhinolophinæ.
5 Gen.—Rhinolophus, 11? species; Hipposideros, 10 species; Cælops, 1 species; Rhinopoma, 1 species; Nycteris, 1 species.
Fam. Noctilionidæ. *Sub-Fam.* Taphozoinæ.
1 Gen.—Taphozous, 5 species.
Sub-Fam. Noctilioninæ.
2 Gen.—Nyctinomus, 1 species; Cheiromeles, 1 species.
Fam. Vespertilionidæ. *Sub-Fam.* Scotophilinæ.
3 Gen.—Scotophilus, 11 species; Noctulinia, 1 species; Nycticejus, 8 species.
Sub-Fam. Vespertilioninæ.
8 Gen.—Lasiurus, 1 species; Murina, 2 species; Kerivoula, 5 species; Vespertilo, 7 species; Myotis, 6 species; Plecotus, 3 species; Barbastellus, 3 species; Nyctophilus, 1 species.

Some of the frugivorous bats are eaten in the East. The Indian fruit-bats are Pteropus Edwardsi and Pt. Leschenaultii; that of Australia, Pt. poliocephalus; and Cynonycteris collaris is the collared fruit-bat.

CHEITUN, a Brahman of Naddiya, who in the

beginning of the 16th century introduced the reforms of Ramanand into Bengal.

CHEKAVAN or Chegavan. MAL. A toddy-drawer in Malabar.—*Wilson.* See Chego.

CHE-KIANG, a province on the east of China, of 57,000 square miles. It is washed by the China Sea. Its chief towns are Hang-chau, Ningpo, and Wan-chau.

CHE-KIANG RIVER, or Pearl river, disembogues after a course of 500 miles. As it passes Canton, it divides into two branches, which, embracing the island of Honan and the Flat islands, re-unite below the Flat islands to form the true Pearl river, which flows on in a broad stream, receives many tributaries, and finally empties itself by many mouths into the sea below the Bogue Forts. It drains 150,000 square miles. The channels are narrow, but most of them are navigable by boats to all the large towns in the provinces of Kwang-tung and Kiang-si.

CHEKONADI. TEL. Cadaba Indica, *Lam.*

CHEKURTI TIVVA. TEL. Pentatropis microphylla, *R.* ii. 35.

CHEL. HIND. Cannabis sativa.

CHELA. HIND. Alangium decapetalum.

CHELAH means literally an adopted dependant. It neither applies to a slave nor an adopted child, but to a person who is admitted to the claims of a dependent relation. In use, it means a disciple, a pupil, a slave. Tod (ii. 608) says it includes servitude or domestic slavery, but implies at the same time treatment as a child of the family, or disciple. Tod mentions that at Bhynsror the head of the establishment came forth to bestow his blessing on him and to beg something for his order. He, however, in the first place elected Colonel Tod one of his chela, or disciples, by marking his forehead with a tika of bhaboot, which he took from a platter made of dhak leaves. —*Tod's Travels; Malcolm, Central India.*

CHELAT-PIPPUL. BENG. Stillingia sebifera.

CHELIDONIUM MAJUS. *Smith.*

Chi-mu, ... CHIN. | Celandine, . . . ENG.

It is used as an expectorant.

CHELIFER. Amongst the insects which infest books in India are two genera, which are usually regarded as accomplices in the work of destruction, but which, on the contrary, pursue and greedily feed on the larvæ of the death-watch and the numerous acari which are believed to be the chief depredators that prey upon books. One of these maligned genera is a tiny tailless scorpion (Chelifer), of which three species have been noticed in Ceylon, the Ch. librorum, *Temp.*, Ch. oblongum, *Temp.*, and Ch. acaroides, *Hermann*, the last of which it is believed had been introduced from Europe in Dutch and Portuguese books. Another genus of book insects is the Lepisma, the fish insect genus, and called so by Fabricius from its fish-like scales, —tiny silvery creatures which feast on the acari and soft-bodied insects that infest books. There have only been two species described, viz. the L. niveo-fasciatus and L. niger, *Temp.* It has six legs.

CHE-LING-TCHA-POO, a division of the country of the Kalkas, in the district of Pola, adjoining the Russian district Selingsky.

CHELKA DUDUGA. TEL. Unona discolor.

CHELLAWN, HIND., properly Chilan. An invoice, a passport, from Chilana, to forward.

CHELLU. TAM. Termites, white ants.

CHELLUMBRUM, a town in S. Arcot district, famous amongst Saiva Hindus for its shrine, called Sabanaiker Koil, to which pilgrims repair. It was built by one of the kings of Chola Mundalum. The Hindus of Ceylon and the Nattu Kotta merchants of Madura contribute largely to its support. The single blocks of granite in the gateway and roof are each 30 feet long and 5 feet square. In one part there is a roof supported by 1000 solid granite columns; and the lights from the Gopuram, 122 feet high, can be seen at sea 10 miles distant.

CHEL-MAR-ZAI, one of the four divisions of the Med, a seafaring and fishing population on the seaports of the Makran coast; the other three divisions are Guzbur, Hormari, and Jellar-zai.

CHELMERI. HIND. Cicca disticha.

CHELMON ROSTRATUS. *Linn.* One of the archer fishes. Chætodon rostratus, *Shaw*, according to Sir J. E. Tennent, is the archer fish of the fresh waters of India. On seeing a fly settle overhead on a leaf, it propels a drop of water and brings it down. See Chætodon toxotes.

CHELONIA, an order of reptiles, known as tortoises and turtles, generally considered the first by zoologists. They are also termed Testudinata, from testudo, the Latin for a tortoise. They belong to the section Cataphracta or shielded reptiles; and the families, genera, and species in S.E. Asia are as under :—

SUB-CLASS, REPTILIA PROPER.

The Order of Tortoises—Chelonia.

I. Land Tortoises, Testudinidæ.

Testudo elegans, *Schöpff.*, Peninsula of India, Ceylon.
T. Horsfieldii, *Gray*, Afghanistan.
T. elongata, *Blyth*, Gamboja, Arakan, Mergui.
T. Indica, *Gmel.*, Galapagos.
T. radiata, *Shaw*, Madagascar.
T. stellata, ,, Vizagapatam.
T. platynotus, *Blyth*, Burma.

II. Freshwater Tortoises, Emydidæ.

Manouria emys, *M. and Schl.*, Penang, Arakan, Tenasserim.
Cuora Amboinensis, *Daud*, Eastern India.
C. flavomarginata, *Gray*, China, Formosa.
C. trifasciata, ,, China.
Cyclemys Oldhami, ,, Mergui, Gamboja.
Pyxidea Mouhotii, ,, Cochin-China.
Notochelys platynota, ,, Singapore.
Geoemyda spinosa, ,, Tenasserim, Pegu.
G. grandis, ,, Gamboja.
G. tricarinata, *Blyth*, Chybassa.
Emys ocellata, *D. and B.*, Tenasserim, Pegu.
E. Bealii, *Gray*, Southern China.
E. Thurgii, ,, Bengal, Penang.
E. mutica, *Cantor*, Chusan.
E. nigricans, *Gray*, Southern China.
E. nuchalis, *Blyth*, Java.
E. nigra, *Blyth*, Tenasserim.
E. sebæ.
E. Sinensis, *Gray*, Canton, Formosa.
E. crassicollis, ,, Mergui, Malay Peninsula, Gamboja.
E. Reevesii, ,, Cochin-China, S. China.
E. trijuga, *Schweigg*, Peninsula of India, Ceylon.
E. macrocephala, *Gray*, Siam, Gamboja.
E. Hamiltonii, ,, Lower Ganges.
Pangshura tecta, ,,
P. tentoria, ,, Dekhan, Indus.
P. flaviventer, *Gthr.*, Bengal?
P. Smithii, *Gray*, Panjab?
Batagur baska, *Gray*, Ganges, Irawadi, Penang.
B. Thurgii, ,, Central India.
B. Berdmorei, *Blyth*, Pegu.
B. ocellata, *Dunn*, Calcutta.
B. trivittata, ,, Moulmein.
B. lineatus, *Gray*, Nepal, Moulmein.
B. Ellioti, ,, Kistna river.
B. affinis, *Cantor*, Malay Peninsula.
B. dhongoka, *Gray*, Nepal, Assam.
Platysternum megacephalum, *Gray*, China, Pegu.

III. Freshwater Turtles, Trionycidæ.

Emyda granosa, *Schöpff.*, Hindustan, Sikkim, Bengal.
E. Ceylonensis, *Gray*, Ceylon.
E. vittata, *Peters*, Goa.
Trionyx Sinensis, *Weigm.*, China, Chusan, Formosa.
T. Gangeticus, *Cuv.*, Ganges, Penang.
T. Javanicus, *Schweigg*, Ganges, Dekhan, Penang.
T. ornatus, *Gray*, Siam, Gamboja.
T. subplanus, *Schweigg*, Singapore, Penang.
T. Guntheri, *Gray.*
Chitra Indica, ,, Ganges, Malay Peninsula.

IV. Marine Turtles, Chelonidæ.

Caouana olivacea, *Eschech*, coasts.
Chelonia virgata, *Flem.*, coasts.
C. midas, *Schw.*, Bay of Bengal.
Caretta squamata, *L.*, coasts.
C. imbricata, *Schw.*, Bay of Bengal.
Dermatochelys coriacea, *L.*, coasts.

Chelonia midas is the green turtle; Caretta imbricata, hawksbill turtle; Caouana olivacea, loggerhead turtle. As an article of food, the green turtles (Tortues Franches of the French) are so highly prized that they have become a considerable article of commerce. The fat of many species, when fresh, is used with success in lieu of butter and oil in cookery; and, in those kinds which have a musky odour (Chelonia, Caouana, and C. caretta, for instance), is used for embrocations, leather-dressing, and as lamp-oil. The imbricated turtles furnish that valuable article, tortoiseshell, or rather the best sorts of it, so highly prized in ancient and modern times, and so ornamental and useful in the arts. The eggs of all species, particularly those of the green turtles, are excellent. Chelonophagi inhabited the shores of India and the Red Sea, as Strabo and Pliny testify. They used the shells of the turtles which they caught, for roofs for their houses and boats. The largest shell seen in modern times was 7 feet.—*Yule's Cathay; Eng. Cyc.* pp. 1004-1007. See Reptiles.

CHEMA KURA, also Chama dumpa. TEL. Colocasia antiquorum, *Schott.*

CHEMANTI. TEL. Chrysanthemum Roxburghii, *Desf.*

CHEMBADI-VADU. TEL. A fisherman.

CHEMBAGA-NOVEL. TAM. Eugenia jambosa.

CHEMBRUMBAKAM, a large tank or reservoir about 14 miles from Madras. It was originally formed by the native rulers, and held from 55·61 to 77·80 millions of cubic yards of water, and had an area of 4648 acres, or 7·26 square miles. The British in the 19th century enlarged the head sluice and supply channel with the intention of making the reservoir hold 196·87 millions of cubic yards; but its present capacity is 102·91 millions of cubic yards, and the water spread 5729 acres, or 8·95 square miles.

CHEMBU NARINGI. MALEAL. Indigofera enneaphylla.

CHEMISTRY, Kimia, ARAB., was largely cultivated by the Arabs, and, after their conquest of Egypt, it spread over the old world. The most celebrated alchemists of Europe were Albertus Magnus, Roger Bacon, Raymond Lully, Arnoldus de Villa Nova, John Isaac Hollandus, Basil Valentine, Paracelsus, and Van Helmont.

CHEMMAN. MALEAL. A currier. See Chamar.

CHEMMANUTHI. TAM. Sethia Indica.

CHEM-MARA. MAL. Amoora rohituka.

CHEMPAKAM. MAL. Michelia champac, *Linn.*

CHEMRI. HIND. Eleusine flagellifera.

CHEMUDU. TEL. Euphorbia tirucalli, *L.* E. cutteamundu. See Cutteamundoo.

CHEMULA or Chemuda, the Semylla of Greek writers.

CHENA. HIND. Panicum miliaceum. It is sown and reaped in the hot season after all the rabi crops have been cut. It needs much water, hence the saying—

'Chena ji ka lena,
Choudah pani dena,
Byar chale to, na lena na dena.'

To get the chena crop, water it fourteen times. If a blast strike it, then neither harvesting nor selling. It is a very precarious crop.—*Elliot.*

CHENAB, next to the Sutlej, is the largest of the five great rivers of the Panjab. It is also called the Trimab. Ptolemy called it Sindabal or Sandabilis, but the Greek historians of Alexander called it Akesines. Its source is in the high land of Tibet, about lat. 32° 50′ N., and long. 77° 40′ E., near the Bara Lacha pass. The Chandra and Bhaga rise on opposite sides of the Bara Lacha pass, which is in lat. 32° 45′ N., and long. 77° 22′ E.; and as their junction form the Chenab, they give also its Sanskrit name, Chandrabhaga, or moon garden. It runs north-west to Murumurdwun; south-west to its confluence with the Jhelum, thence south-west to the Ghara, or continuation of the Sutlej. Its length to the Ghara is 765 miles. It descends at the average rate of 40 feet per mile for the first 200 miles. Its estimated elevation at Kishtawar is 5000 feet. It receives the Suruj Bhagu, Murumurdwun, and the Dhark, all short streams. It becomes navigable for timber rafts at Aknur. Above Darwas it is a rapid river, running through a deep rocky channel.

The portion of it which passes through the territories of the maharaja of Kashmir is about 200 miles long. From the junction of the Chandra and Bhaga at Tandi, in British Lahul, to Aknur, where the river debouches upon the plains, its length is about 300 miles. The fall, according to General A. Cunningham, is 34 feet per mile from Tandi to Kishtawar, and 26 feet per mile from Kishtawar to Aknur. The flora of the upper valley agrees in most respects with that of Kunawar; lower down there is an approach to the vegetation of the Outer Himalaya. In the basins of the Chenab and Jhelum are four distinct races, but all of Aryan origin, viz. the Dogra, Pahari, Kashmiri, and Chaibati. The races on its valley call it Sanda Bhaga, Jenab, Ghenab, Jenal, and Ghenal.—*Powell*, 532; *Thomson's Tr.* 348; *Cleghorn, Rep.* 134, 153; *Panjab*, i. 10, 11.

CHENA CULTIVATION. ANGLO-SINGH. In Ceylon, Chena means scrub land, patches of forest, burned, cleared, and cultivated for two or three years, and then abandoned and allowed to become forest lands again. This destructive form of cultivation is known as Kumari on the western coast of India.—*Tennent; Dr. Cleghorn.* See Kumari.

CHENA-GHANRI. BENG. Xyris Indica.

CHENEBROON, a large tree of Akyab used in house-building; plentiful in the Ramree and Sandoway districts.—*Cal. Cat. Ex.* 1862.

CHENK PURI, also Thungon-Puri. BURM. The elytra or wing-cases of the genus Buprestis, order Coleoptera. See Beetles. They are used for ornamenting the dress and person; 5000 maunds procurable during the rains. Price in Akyab, from 6 to 7 rupees per maund.

CHENNA, also Chinna. TAM. Small. Many towns seem to be called from this word.

CHENNA. HIND. Cicer arietinum, *Linn.* This is called Bengal gram, in contradistinction to Koolti or Madras gram, Dolichos uniflorus. Properly Channa.

CHENNANGI. TEL. Lagerstrœmia macrocarpa, *R.*, and L. parviflora, *R.* ii. 505.

CHENNAPPA NAYAKKAR, father-in-law of the Nayakkar of Chingleput, a petty local chieftain; a feudatory of the Chandragiri raja, from whom the English obtained possession of a little fort on the coast, which they converted into a fortified factory, and it became the fortress and town of Madras, which is known to the native inhabitants as Chenapatan.

CHENNAT NAIR, a forest near Palghat, with well-grown Terminalia glabra, Pterocarpus marsupium, and Inga xylocarpa trees.

CHENOPODIACEÆ, the goosefoot tribe of plants, many species of which occur in the S. and S.E. of Asia, of the genera chenopodium, beta, blitum, salicornia, spinacia, basella, salsola, and atriplex. Several species are used for culinary purposes. Garden orach (atriplex), chard-beet, beet, mangold wurzel (beta) belong to this order, and soda is obtained from species of salsola and salicornia. Ch. album (beta sag), common in Bengal, is used by the natives as a pot herb; Ch. laciniatum, an erect annual, and Ch. viride, of which there are two varieties. Ch. olidum, stinking goosefoot, smells like putrid salt fish, and exhales ammoniacal gas. It is employed as an emenagogue and antispasmodic.—*O'Sh.* p. 523; *Voigt.*

Chenopodium album, *Linn.*

Kulf, ... ARAB.	Ructanala, . . SANSK.
Khuljeh ke baji, . DUKH.	Parupu kire, . . TAM.
Bhatwa, Bathu, . HIND.	Pappu kura, . . TEL.
Bathu, ... PANJ.	Chakra varti kura, ,,

Grows all over India, coming up with the spring crops in N. India and the Panjab hills. The poorer people use it largely as a pot herb.

Chenopodium auricomum, *Lindley*, a tall perennial herb of the Darling river to Arnbern's land, furnishing a nutritious and palatable spinage. It can live in arid desert regions.—*V. Mueller.*

Chenopodium blitum, *V. Mueller*, Blitum virgatum, *Linn.* An annual herb found from S. of Europe to India, cultivated as a spinach plant; fruits furnish a red dye.—*V. Mueller.*

Chenopodium rubrum, Chih-hien and Hien-tsai of the Chinese. Much cultivated in Hu-peh, in China, as a vegetable.

Chenopodium viride, *Roxb.* ii. 58.

Rockeb el jammel, ARAB.	Betoya, ... BENG.
Beto sag, ... BENG.	Chawut, ... BY.

Chenopodium vulgare, Bhatwa of Panjab. Goosefoot is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 feet. Entirely a rain-crop; grows to six feet high; seeds considered nourishing.—*Cleghorn, Report.*

CHEN-PO. CHIN. Michelia champaca, *Linn.*

CHENSUAR, a wild, half-savage forest tribe inhabiting the Eastern Ghats of the Peninsula of India. They are known to their settled neighbours as the Chenchu kulam, Chenchwar, and Chensuar. They seem to be the people whom Wilson names Chenchu-vadu (vadu, TEL., a man). They are about 1200 in number, and dwell in the tract of jungle covering the westernmost range of the Eastern Ghat line, between the Pennar river and the Kistna, and known locally as the Nulla-Mulla and the Lankamulla; occupy the Palicondah hills to the west of the Nellore district, but chiefly in the Nandikandah pass, on the road between Cumbum and Ghooty, where they serve as watchmen and guides. They inhabit clearings in the forest, live in beehive-shaped huts like the African, Nicobarian, and many of the ruder Asianesian tribes. These are of wicker-work, with walls about three feet high, and a conical straw roof, with a screen for a door. The women dress like the wandering female basketmakers, whom they resemble in features. They speak Telugu with a harsh and peculiar pronunciation. They look on weaving and other manufacturing arts with contempt. Some of them occasionally visit Nellore, living in patchwork tents, from which they are named Bonta Chenchu. They bring for sale bamboo seed and bamboo flutes. They never engage in cultivation, but live by hunting deer, wild hog, hares, using darts which they throw by hand. They also collect forest products, wax and honey; and a few rear sheep, goats, and cattle. Their food consists of all kinds of flesh, with bamboo seed, wild roots, and ragi, when obtainable. A few firearms are in their possession. They build small round huts of stone and grass, in clusters of ten or fifteen. The men are almost nude; they wear piece cloths, sometimes a cloth round the waist. The more savage members of this race are said to wear leaf-aprons, and never to leave the forests. Their colour varies from dark brown to black. The men are shorter than the neighbouring Hindus, slightly but well made, except about the knee, which is large, and the leg. The features of the men are small and animated; cheek-bones higher and more prominent than in the Hindu in general; nose flatter, and nostrils more expanded; eyes black and piercing. Their hair is more shaggy and less straight than that of the Hindu, and they wear it very long, and rolled up at the back or near the crown like that of a woman. They bury their dead, but sometimes burn; and the Nandial Chenchwar, like the Tartar, carry the deceased's weapons to the grave. They use the spear, axe, or matchlock, or bamboo bow and reed arrow tipped with iron. They are patient and docile. It is suggested by Mr. Logan that the Chensuar are a continuation of the wild forest Surah of the mountainous tracts further north in the line of the Eastern Ghats. They have large dogs; and a few are employed as hill police in the pass from the Kuman to Badwail. Vocabularies of six of the non-Aryan tongues — the Kond, Savara, Gadaba, Yerukala, and Chentsu — are given in Beng. As. Soc. Journal for 1856.—*Newbold in R. As. Soc. Journ.* 1845; *Logan in Journ. Ind. Arch.*

CHENSU KARRIR, a wandering race mentioned by Buchanan as residing in the hilly tracts near Coimbatore. They are described as without houses or cultivation; but by snares, or with the bow, catch birds or large game, which they dispose of for rice. The white ant is said to be used by them for food. They approach their game under the shelter of a cow or buffalo, which they have taught to stalk. Their language is a dialect of the Tamil, with a few Canarese words intermixed. Those near towns learn the use of Telugu words. A Tamil man is unable to understand their language. A few reside in little huts out-

side on the outskirts of villages, and have a little blanket, but their ordinary clothing is a loin-cloth. In the denser forests they dwell in caves or hollows of trees, or under the shelter of a hut made of branches of trees, and use only a few leaves for covering. They describe the Animallay as their original country. They seem to have disappeared from that locality.

CHEPANG, Haiyu, and Kusundu, three uncivilised Bhot tribes who reside amid the dense forests of the central region of Nepal, to the westward of the great valley; they dwell in scanty numbers, and nearly in a state of nature. They live in huts made of the branches of trees, on wild fruits and the produce of the chase. The Chepang are slight, with large bellies. Mr. Hodgson says they are of Mongol descent. Their language is akin to the Lhopa. The Chepang, Haiyu, and Kusunda seem to belong to the Rawat group of frontier populations. They are named by Mr. Hodgson, the Durre, Denwar, and Bramho. They occupy the districts where the soil is moist, the air hot, and the effluvia miasmatic.—*Latham.*

CHEPATI. HIND. Cakes made of wheaten flour and water or milk, baked on the girdle. They form the principal article of diet of the Hindus of N.W. India and of the Rajput races.

CHEPU-NARINGI. TAM. Indigofera enneaphylla, *Linn.*

CHEPURU VALELLU. TEL. A grass grown in Kimedy, from the roots of which neat table mats and teazing-brushes are made.

CHEPU TATTA. TEL. This term is applied to several plants. Desmodium polycarpum, *D. C.* Hedysarum purpureum, *R.* iii. 358. Coldenia procumbens, Asarum Europeum, and Elytraria crenata.

CHER, in the Panjab, statute labour.

CHERA or Kerala, an ancient dynasty in the south of the Indian Peninsula. They seem to have risen on the fall of the Pandiya sovereignty, and to have ruled over a small state between the territory of the Pandiya and the western sea. It comprehended Travancore and parts of Malabar, Coimbatore, and Salem. It is mentioned in Ptolemy, and may have existed at the commencement of the Christian era. It spread at one time over the greater part of Karnata, but was subverted in the 10th century, and its lands partitioned among the surrounding states. The Chera princes appear to have been established first at Scandapura in the Malabar coast, and subsequently at Talcad or Dalavanpura on the Cauvery and Mudugondapatnam, perhaps the same as the modern village of Mudugondoor, on the road from Seringapatam to Koonghul. The Carura regio Cerebothri has been supposed to indicate that Caroor in the Coimbatore country was one of their earliest seats. They were powerful in the 4th and 5th centuries. Their 16th king boasts of having conquered Andhra and Kalinga; and their 20th king, Kongani Raya III., boasts of having conquered Chola, Pandiya, Dravida, Andhra, Kalinga, Varada, and Maharastra desas, as far north as the Nerbadda river. Vira Chola (A.D. 927–977) seems to have checked their victorious career; and Ari Vara Deva, another Chola king (A.D. 1004), to have completed their destruction. He also boasts of having carried his victorious standard to the Nerbadda, and to have been a benefactor to Chillambaram. After this, the Bellala of Mysore, and the Chalukya in Central India, seem to have became dominant.

The Kongu Desa Rajakal is a book describing the series of the Kongu or Chera princes, from Vira Raya Chakravarti to raja Malla-deva.—*Elphinstone's History of India*, p. 414; *As. Res.* xv. p. 40; *Fergusson*, p. 321; *J. R. As. Soc.* viii. p. 5. See Kerala; Narapati; Pandiya.

CHERAITA. HIND. Valuable bitters, equivalents of gentian, obtained from the genera Ophelia, Exacum, Agathotes, Adenema, and Andrographis (Justicia).—*Dr. Cleghorn, Ed. New Phil. Mag.*, No. 6 of 1856. See Chiretta.

CHERAKEN. JAV. Croton seed.

CHERAN, a name of the Chera race, who ruled at Kerala on the Malabar coast.

CHERAT, a hill cantonment and sanatorium, near the Markulan pass in the Peshawur district, 34 miles from Peshawur in the Panjab, in lat. 33° 50′ N., and long. 72° 1′ E., on the west of the Khatak range. It is 4500 feet above the sea.—*Imp. Gaz.*

CHERI. TAM. A town, a village, a hamlet. Paraicheri or Parcherry, the Pariah district of a town, Tellicherry, Pondicherry.

CHERIBON or Cherimai, a mountain in lat. 6° 54½′ S., and long. 108° 28¼′ E., in the north of Java, 10,323 feet high.—*Horsburgh.*

CHERIMELLE, Cheramella, or Harriphal. BENG.

Cheremin, . . MALAY. | Cherambola, . . PORT.

In Japan this fruit is pricked all over with a needle, and laid in water. For use it is boiled up with sugar, and kept with syrup in glass bottles. These fruits are often eaten with tea. They are sometimes eaten unripe with a little salt, and may likewise, when in that state, be preserved in salt. Sometimes they are eaten ripe, and have then a subacid taste.—*Thunberg's Travels*, ii. p. 292.

CHERIMOYA. Anona cherimola.

CHERIN. —? a form of divination.

CHERKH. PERS. A breed of hawks used in Persia in hunting antelope. They are trained to fly at and pounce on the deer's head, so as to enable the dogs to come up with the antelope.

CHEROOTS, the dried leaves of the tobacco plant, formed into small rolls for the purpose of smoking. In Europe, Havana cigars are usually reckoned the best. In India, Manilla cigars are most esteemed. Imitation Manillas, Chinsurah cheroots, Lunka, Dindigul, and Trichinopoly cigars are the chief kinds manufactured in India.

CHERRAPOONJEE or Charapunji is a hill station in the Khassya hill district of Assam, 4588 feet above sea-level, in lat. 25° 15′ 58″ N., and long. 91° 46′ 42″ E. Its average rainfall during 1874, 1875, and 1876 was 368·41 inches, and in 1861 the fall was stated to be 805 inches. The station stands on the first of a series of hills that rise abruptly from the plain of Bengal, and catch the vapour of all the clouds that roll up from the sea. The principal race in the neighbourhood are the Khassya, an able-bodied people, who differ little from the Garo. They are arranged in petty rajaships in the Khassya hills. They build their houses on piles; they trap fish like the people of Borneo, Java, and Sumatra. A bed of coal is raised on an insulated summit; sandstone, composing here as elsewhere the base of the coal-measures, forms the lofty front of the mountains facing the plains. The lower beds consist of a

coarse conglomerate, resting on greenstone, after the manner of similar conglomerates in nearly all countries in which their fundamental rocks have been observed. Between Ringhot and Cherrapoonjee, and at other places in the hills, are bridges made of the fibre of the India rubber tree. The Khassya race inter their dead in places where they erect oblong pillars, hewn or unhewn, three to thirteen in number.—*Bl. As. Trans.* iii. p. 25, xiii. p. 614; *Dr. Buist's Catalogue; Latham.*

CHERRO NALMAPELLA. TAM.? A light brown-coloured wood of Travancore, sp. gr. 0·483, used for making canoes.—*Col. Frith.*

CHERRO-POONA. TAM.? A dark-coloured wood of Travancore, used for building houses.—*Col. Frith.*

CHERRO-TIMBA. TAM.? A dark-coloured wood of Travancore, sp. gr. 0·843, about 3 feet in circumference, used for house-building, tools, etc. —*Col. Frith.*

CHERRU. TEL. A tank.

CHERRU PINAKOTTE. CAN., MALEAL. Calophyllum calaba.

CHERRY.

Yu-li, ... CHIN.	Ciriegia, ... IT.
Cerise guigne, . . FR.	Cereza, ... SP.
Kirsche, ... GER.	

The fruit of the Prunus cerasus. The bird cherry, P. padus, occurs in the Panjab, the N.W. Himalaya, and Afghanistan. It has a mawkish taste.

CHERRY LAUREL, Cinnamomum cerasus.

CHERRY-STONE OIL, oil of Prunus cerasus.

CHERRY TREE of Norfolk Island. The bark is used for tanning; and it furnishes one of the most useful woods.

CHERSYDRUS, a genus of sea-snakes. C. annulatus and C. granulatus occur in the sea at Madras. See Hydridæ; Reptiles.

CHERU, aborigines in Ghazipur, part of Gorakhpur, the southern part of Benares, Mirzapur, and Behar. They are sometimes said to be a branch of the Bhur. They seem to be the same as the Sivira or Seoree, but Buchanan considered them distinct. Cheru declare themselves to be descended from the great serpent, from which they may be supposed to be the Nagbansi of Magadha. Remains of buildings attributed to them are found near Buddha Gya, Sasram, and Ramghur, and the images of Siva and Hanuman found in them indicate that they belonged to the Hindu religion. They appear to have been expelled from their ancient abodes by the Pramara of Bhojpur, the Hyobun of Hurdi, and the Bhoonhar, a little before the first Mahomedan invasion, about which time there seems to have been a general convulsion in N. India, during which several tribes acquired their present possessions. The features of the Cheru are said to resemble the occupants of the Vindhya mountains. They live by cutting timber, collecting drugs, and killing game; and though their numbers are very low, they continue to create a raja for every five or six houses, and invest him with the tilak in due form. The emperor Sher Shah subdued Muharta, a Cheru zamindar of Behar, which seems to have been a last but strong effort of the Cheru race. The chief of Singrowlee in Mirzapur is a Cheru, though he calls himself a Benbans. Sir H. Elliot suggests that the Sivira, Seori, and Cheru may perhaps be the Sauraseni. In the Harivansa is the following passage: 'From this race came the Sauravira and Saurasena. The great king Saurasena has given his name to the country over which he reigned' (Elliot, Glos.). They have almost disappeared from the seat of their ancient splendour. Once rulers of Behar, a petty population (2377) now represents the nation there. Not above 400 remain in their old home on the plateau of Shahabad, and about 3000 live in the land bordering on Nepal. They were driven into the Nepal Terai, and into the highlands of Chutia Nagpur, where they number 17,632, but are a very humble class of cultivators and day-labourers. They are usually of a light-brown colour, with high cheek-bones, small eyes obliquely set, low, broad noses, and large mouths with protuberant lips, but considerably softened by the alliances with pure Hindu families, which their ancient power and large possessions enabled them to secure. The village of Munka in Palamaw belongs to a Cheru. The Cheru and Kharwar and Kol observe triennial sacrifices. Every three years a buffalo and other animals are offered in the sacred grove 'Sarna,' or on a rock near the village. They also have, like some of the Kol, a priest for each village, called Pahn. He is always one of the impure tribes, a Bhuiya, or Kharwar, or a Parheya, and is also called Byga, and he only can offer this great sacrifice. No Brahmanical priests are allowed on these occasions to interfere. The deity honoured is the tutelary god of the village, sometimes called Duar Pahar, sometimes Dharti, sometimes Purgahaili or Daknai, a female, or Dura, a sylvan god, the same, perhaps, as the Darka of the Kols.—*Elliot; Wilson; Dalton, Ethnol.*

CHERUMAN, a class of predial slaves in Malabar, whose name Wilson derives from Chera, MALEAL, the soil. General Briggs names a non-Aryan race Cherumar. They follow the custom of Maruma Katayam.—*Wilson; Briggs.*

CHERUMA PERUMAL, a viceroy of the 9th century, who governed the whole Malealam country of Chera or Kerala, including Malabar and Travancore, but afterwards established himself as an independent ruler. He is supposed to have founded the town of Calicut, and all the royal races of Malabar claim descent from him.

CHERU PINNAY. TAM. Calophyllum spurium, also C. calaba, *Linn.*

CHERU-PUNA, TAMIL, is the small leaf or real mast poon, which is preferred for the masts of ships or vessels. The peon or puna woods are similar in shape and growth; the large sort is of a light, bright colour, and in the forests of Corumcul, in Canara, it grows to a length of 150 feet. At Mangalore, Mr. Edye procured a tree of this sort that would have made a foremast for the Leander sixty-gun ship in one piece, for the sum of 1300 rupees, or £149 sterling. Poon of the forests of Cochin and Travancore is of a very inferior quality to that before stated; one sort is named the Karapa puna, which is dark poon; and Malai puna, meaning the hill poon; and another sort, the Vellai puna, or the white poon, is small, not more than 12 or 18 inches in diameter, and 18 or 20 feet long. In Canara, another sort, named Merchie puna, grows to 28 inches or three feet in diameter, and from 30 to 50 feet long, and is very much like American birch. It is generally

defective and not durable; when felled, it opens and splits at the top and butt for many feet in length. The weight of the poon may be said to be from 40 to 48 pounds the cubic foot; but the lightest Edye met with was 34¾ and the heaviest 50 pounds the cubic foot when dry. The leaf of this tree is small and oval, about two by one and a half inches broad, and the fruit grows in bunches; it is about the size of coffee-berries. From this the natives extract oil, which is used for various native purposes.—*Edye, M. and C.*

CHERVIL, Chærophyllum sativum. The leaves are used in soups and salads.

CHESS, the Shatranj of the Persians, is supposed to have been invented by a Brahman who succeeded the dynasty in Sind. In Hindu legend, the wife of Ravana invented chess to wile him from his martial propensities.

CHEST, the commercial form in which opium is sold. A chest of Behar opium, consistence 75, made at Patna, contains 105·107 lbs. avoirdupois.

A chest of Benares opium, consistence 70, made at Ghazipur, contains 98·1 lbs. avoirdupois. The 'consistence' is the percentage of fine opium, excluding all water.

A chest of Malwa opium is usually assumed to range a little above 126·128 lbs., of 90 to 95 per cent. of fine opium.

A chest of Behar opium contains ·83, and a chest of Benares opium at most ·78, of the contents of a chest of Malwa opium.

The actual cost of a chest of Benares opium is Rs. 373, and of a chest of Behar opium, Rs. 436. The sum paid to the cultivator is Rs. 4½ to Rs. 5 a seer, at 70 per cent. consistence.

CHESNEY, General F. R., an officer of the Royal Engineers, who in the years 1835, 1836, and 1837 conducted an expedition for the survey of the rivers Euphrates and Tigris, and wrote the reports.

CHESTNUTS.

Sin-lih, Pan-lih, . Chin.	Kastamen, . . . Ger.
Tuh-kiah, Sanskrito-Ch.	Castagne, ... It.
Chataignes, . . . Fr.	Castanas, ... Sp.

The fruit of the Castanea vesca of Europe. The chestnut tree grows to a large size in China, and one, two, or three nuts are found within the large, dehiscent-spiny fruits. They are constantly spread for sale in Chinese streets in both the raw and roasted forms. Chestnut of China is Southwellia balanghas.

Horse chestnuts are the fruit of the Æsculus hippocastanum, *Linn.*, an Asiatic tree, planted in Europe for shade and ornament; they are used for feeding sheep, horses, etc.

Water chestnuts are the horned fruits of species of Trapa, T. bicornis, T. bispinosa, and T. natans, *Linn.*, growing in ponds, lakes, etc., in the temperate climates of Europe and Asia. In China and Kashmir they are largely used for food.

CHETAN. Mal. On the Malabar coast, a man-servant, a slave, a weaver of a particular caste.—*Wilson.*

CHETANA SWAMI, a Hindu religious reformer, the preceptor of Baba Lal, who founded the Baba Lali sect.

CHETCHEN, a tribe of the Eastern Caucasus, a branch of the Mitchendegen or Kists, one of the seven clans of that range. They dwell along the banks of the Terek. They are Mahomedans and fanatical, and plunder and enslave their pagan neighbours, receiving assistance from the Lesghi and all Mahomedans. They headed the opposition to the Russians on the eastern, as did the Circassians on the western, side of the Caucasus, whilst there rallied round them the smaller tribes, Abehas, Ubiche, Tschigetian, Tartar (Karatschai), and Kabardan, related with the Adighe by blood and tongue. They inhabit the beautiful mountain chain between the high Caucasian chain and the Terek. Shamyl was their leader in opposing the Russians.

The Chetchenzi tribes were considered the most formidable of all those which inhabit the innumerable rocky valleys of the eastern line of the Caucasus. Their predatory excursions, whether in large or small bodies, were not only a dread to their own immediate neighbours, tribes like themselves, though of less extent and power, but their sudden descents, ambuscades, and continued warfare, kept the disciplined Russians constantly on the alert. These lords of the mountains seemed never to rest, day nor night. Unwearied in their watch for prey, and like lightning in attack, for they struck or were lost to sight as quickly. The bride always brings a dower, consisting of cattle, etc. She is brought home to the house of her betrothed husband, and then the ceremony is completed by dancing, drinking, and carousal.—*MacGregor; Porter's Travels*, i. p. 62.

CHETEK, a climbing vine of Java; its sap is poisonous.—*Bikmore*, p. 53.

CHETI POTLA. Tel. Trichosanthes cucumerina, *L.*

CHETIPPA. Tel. Hymenodyction excelsum.

CHETKA. From this town to Neilung, on the Jankee or Jannubee branch of the Ganges, is the lofty pass of Chungsakhago, not under 18,000 feet. See Kanawar.

CHETKOOL. From this place to Burasoo in Garhwal the road leads over the Sungla pass, about 16,000 feet high. See Kanawar.

CHETRIYA, commonly pronounced k'hetri, in the Hindu castes; also written Chatriya, Ch'hatri, Khetri, and properly Kshatriya. All Rajputs claim to be of this caste, but none of the ancient race are supposed to have survived their incessant wars. Menu says (Art. 43, 44, ch. x. p. 346) that several of the Chetriya tribes—Paundraca, Odra, Dravira, Camboja, Yavana, Saca, Parada, Pahlava, China, Cirata, Derada, C'hasa, Cirata, and Derada—had gradually sunk from the second to the Sudra class, owing to their omission of holy rites and to their seeing no Brahmans. See Chattri; Khetri; Kshatriya.

CHETTU. Tel. A tree.

CHETTU-KARAN. Maleal. A toddy-drawer; a grass-cutter.

CHETTY, pl. Chettiar, a titular distinction for the traders and financiers of the Peninsula of India, under the forms of Seth, Sheth, Sethi, Chettiar. It is applied without any reference to caste or race, to the Zoroastrian Parsee engaged in trade, to the Mahomedan Borah, the Teling Komati, the Tamil Vellaler, the silk-weaver, the Kavary; and amongst the Telugu races the title is conceded to the Gajoola balija bangle-makers, the Vaniar oil-pressers, the Elavaniar cloth-merchants, and the Komati (Comati) grocers and general dealers. In the Tamil country to the south it is allowed to the Natoo kottiyar, keen, enterprising

general merchants, and to the Kusavan potters. The Tulu race also take Chetty as a title. Many of the traders and shopkeepers of Madras are of small stature, but they are fair-coloured. They are intelligent and successful business men, and a few have lately entered into commercial transactions to distant countries. Their wives dress with the sari, but only of late years have any of them adopted the choli or bodice. A Sudra naidoo, the late Latchmenarsu Chettiar, member of the Legislative Council of Madras, took this title. None of them have ever had any political relation with the Native States.

CHEUNAKA. SANSK. Cicer arietinum.

CHEVA CHETTU or Mranu. TEL. Red-wood timber.

CHEVANESSIA ESCULENTA, a creeper cultivated in British Burma. See Caoutchouc.

CHEVIKAM. MALEAL. Piper nigrum.

CHEVUKURTI CHETTU. TEL. Slevogtia verticillata, *D. Don;* Adenema hyssopifolium.

CHEVULAPILLI TIGE. TEL. Ipomœa pescapræ, *Swiet.*

CHEWA. HIND. Ephedra Gerardiana.

CHEWAGIR-CHHATRA. HIND. Morchella semilibera.

CHEWANG, a chief of one of the vassal states into which feudally governed China had been divided. He made himself sovereign of the empire, under the title of Che-hwang. He was a great conqueror, and was successful in opposing the inroads of the northern barbarians, the Heung noo or Huns, one of his measures to withstand whom was the erection of the celebrated Great Wall.

CHEWKA. TEL. Tamarindus Indica.

CHEYAIR, a tributary of the Pennar river; also a tributary of the Palar river.—*Imp. Gaz.*

CH'HACH'H. HIND. Butter-milk.

CH'HAEE or Chhai. HIND. A pad to prevent laden bullocks from being galled.

CH'HAGUL-BATEE. BENG. Naravelia Zeylanica. Ch'hagul-bantee, Dæmia extensa. Ch'hagul-khoori, Ipomœa pes capræ. Ch'hagul-nudi, Sphæranthus hirtus. Ch'hagul-patee, Cynanchum pauciflorum. Ch'hagul-putputee, Euphorbia dracunculoides.

CH'HAJ. HIND. A basket used in winnowing.

CH'HAKRA. HIND. A cart or carriage without sides, used for conveying cotton. The gari has sides.—*Ell.*

CH'HANTI. HIND. A coarse cloth.

CH'HAP. HIND. A stamp, a seal; in North India, the Pottadar's stamp. The Chinese chop. In Dehli and the Upper Doab it is the name applied to a small bundle or heap of thorns about a foot high. When large, it is called Khewa, *q.v.* Ch'hapa-Kaghaz, a newspaper, a printed paper.

CH'HAPPAR. HIND. Thatch or a thatched roof. Ch'happar-band, a thatcher.

CH'HATARPUR, the chief town of a feudatory state in Bundelkhand of 1240 square miles, and a population in 1875 of 170,000; revenue, £25,000. Its chief is a Puar Rajput. Its troops, 62 horse and 1178 infantry and police, with 32 guns.—*Imp. Gaz.*

CH'HATIN. BENG. Alstonia scholaris.

CH'HATISGARH, the S.E. division of the Central Provinces, lying between lat. 20° 1′ and 22° 33′ 30″ N., and long. 80° 28′ and 84° 26′ E. The area of the plains of Ch'hattisgarh is computed at about 10,000 square miles, including most of the zamindari estates, but excluding tracts of hill and forest. The population in 1866 was 2,103,165. The Chamar caste maintain here a numerical preponderance. They are not, however, leather-workers, but are eager and industrious agriculturists; and nearly a fourth of the cultivation of the land must be in their hands. About the middle of the 19th century, under the teaching of Ghasi Das, they became monotheists; every evening they fall prostrate before the sun, exclaiming Sat Nam! Sat Nam! from which they have been styled the Sat Nami, meaning worshippers of the Pure God. But serpent-worship seems to have largely prevailed in former times in many parts of the Central Provinces; and other races are spirit-worshippers, believe in sorcery and witchcraft, and have recourse to the ordeal. See Central Provinces; Chamar; Gond; Rai Dasi; Raipur; Satnami.

CH'HATRI. HIND. An umbrella; a small ornamented pavilion built over a place of interment, the cenotaph of a Hindu chief.

CH'HATTOOR, also Ch'hattur. HIND. The name given in Northern India to a covering placed on a heap of winnowed corn. It is from the Hindi Ch'hatr, an umbrella, but is known also by the names of Burhawun and Chank, *q.v.* In Benares it is generally a mere cake of cow-dung; elsewhere it is a shoot of grass or a dry stick of the arhar, Cajanus Indicus, with several (generally five) projecting twigs, on each of which a small piece of cow-dung is placed, or a flower of the ak or mudar (Calotropis gigantea). Sometimes a spear is stuck in the ground at the side of the heap; and sometimes an artificial flower is placed at a short distance from the bottom of the heap. The object in view is to prevent the effect of an evil eye, or the injury which is sure to be sustained from the praises of any casual visitor, or any eye-biter, as an Irishman would say. That this strange opinion was entertained among the ancients, is known to every reader of Virgil and Theocritus. It is a prevalent opinion not only among the Scotch and Irish, but with almost every other nation of the globe. But by the native of N. India the Ch'hattoor is devoutly believed to offer a sure safeguard against the disastrous effects of fascination. If his ras or heap be but provided with this protection, the husbandman may sleep secure; but as sure as he neglects it, should an evil eye fall upon the grain, he will have to weep over the lost hopes of a year's labours.

'Nam quocunque aciem horribilem intendisset ibi omnes
Cernere erat subito afflatos languescere flores.
. . . . . .
Spem que anni agricolæ mœsti flevere caducam.'
—*Elliot.*

CH'HAUR. HIND. A custom in the N.W. Provinces of India, of walking a boundary with a raw cow-skin on the head, under a solemn oath to decide correctly; five sticks are held in the hand, to imply that the arbitrator is the representative of the panchayat.—*W.*

CH'HAYA. BENG. Ærua lanata.

CH'HAYA means a shadow. In Hindu astronomy, Vishuva ch'haya, the shadow of a gnomon, when the sun is in the equinoctial points. Madhyama ch'haya, the mid-day shadow of the same at any other time of the year. Sama mandala ch'haya, the mid-day shadow of the same when the

sun is east or west of the gnomon. Ch'haya suta, one of the names of Saturn, meaning born from darkness.—*Warren.*

CH'HAYA. HIND. A shade, a spirit, the shade of a goddess or deity. In the hysterical or cataleptic seizures which happen to Hindu devotees, where a deity is supposed to take possession, the expression used to denote it is Ch'haya aya or Saya aya; and the body of the possessed is said to be filled, ang-bhara. In Hindu mythology, Ch'haya is the wife of the sun.

CH'HEDA. HIND. A destructive little animal similar to the weevil (Calandra granaria), from Ch'hed, HIND., a hole, the verbal root of Ch'hedna, to pierce. It is also the name of the disease which grain sustains when affected by the ravages of this insect.—*Elliot.*

CH'HEENKA. HIND. A network made of strings or cords; to place anything on the cords of a bhangi.

CH'HEENTA, also Ch'hinta. HIND. From Ch'heentna, to sprinkle. A field in which peas and linseed have been sown by broadcasting while the rice crops are standing on the ground. When the rice is cut, these crops are left to grow, and are harvested in the beginning of the month Chait. In Dehli the term Ch'heenta is applied to throwing more seed amongst a growing rice-crop. The same word is employed in Gorakhpur to signify lands in which seed has been scattered after a single ploughing; more particularly at the extremities of villages, with a view to secure possession.

Ch'heenta is also a drop of water. Ch'heente-cheente parna, spitting of rain. Dud'h ki handi men, pani ki ch'hinti dalna, to sprinkle water into a jar of milk, meaning to cause unnecessary annoyance. From this word is the English chintz. —*Elliot.*

CH'HIL-TAMBA. HIND. Oxidized copper filings.

CH'HINDWARA, a town which gives its name to a British district of the Central Provinces, with an area of 3852 square miles, and a population in 1872 of 316,095. The midland Gond kingdom of Deogarh had its capital in this district; the hill parts have long been held by Gond or Kurku chiefs, and the British have allowed the petty rajas to retain their lands and rights as tributaries. The Gonds in 1872 numbered 109,469, besides Bharia and Kurku; Ahir or Gaoli, 23,844; Bhoyar, 10,506; Dher or Mhar, 27,790. The others are Hindus, Brahmans, Kunbi, Teli. Ch'hindwara is 2200 feet above the sea. Coal of the same quality as that of Raniganj occurs. The Ch'hindwara forests are very extensive, and lie principally on the southern slopes of the Satpura mountains.—*Imp. Gaz.*

CH'HIPA or Ch'hipi, a printer of cottons, a stamper of chintz.

CH'HIPIA, a small village in the Gonda district in Oudh, in lat. 22° 3′ 30″ N., long. 78° 59′ E. It has a handsome Vaishnava temple of stone and marble, erected by Sahājanand, a religious reformer in Western India, who is regarded by his followers as an incarnation of Krishna, and is worshipped as Swami Narayan. His descendants are at the head of the sect at Junagarh. Many Hindu pilgrims visit the birthplace of their deified leader.—*Imp. Gazetteer.*

CH'HITUA. HIND. Broadcast sowing.—*Elliot.*

CH'HOD-TEN, an offering to a Buddhist deity; a Buddhist temple. These are numerous in Tibet, consecrated to the celestial Buddha, in contradistinction to the dungten, which are built in honour of the mortal Buddhas, and which ought to contain some portion of relics, either real or supposed. See Buddha; Chaitya; Dungten; Tope.

CH'HOLA. BENG. Cicer arietinum.

CH'HOONCHOO MOORMOORI. BENG. Isolepis squarrosa.

CH'HOR. HIND. Release. Chor-chitti, a deed of release.—*Ell.*

CH'HOTA, Ch'hoti. HIND. Ch'hoto, BENG., small.

Ch'hota-kelu, Asparagus racemosus.
Ch'hota-lewar, Andromeda fastigiata.
Ch'hoti-lane, Suæda fruticosa.
Ch'hoti-manhari, Solanum xanthocarpum.
Ch'hoti-van, Salvadora Persica.
Ch'hoti-mai, Tamarix orientalis.
Ch'hoto-akundo, Calotropis herbacea.
Ch'hoto-bich taruka, Argyreia argentea.
Ch'hoto-chand, Ophioxylon serpentinum.
Ch'hoto-doodhee-luto, Gymnema sylvestre.
Ch'hoto-genda, French marigold, Tagetes patula.
Ch'hoto-gothoobee, Cyperus dubius.
Ch'hoto-hulkusa, Leucas aspera.
Ch'hoto-jalgantree, Panicum repens.
Ch'hoto-jam, Eugenia caryophyllifolia.
Ch'hoto-jantee, Utricularia diantha.
Ch'hoto-jhunjhun, Crotalaria prostrata.
Ch'hoto-keruee, Euphorbia chamæsyce.
Ch'hoto-kirata, Slevogtia verticillata.
Ch'hoto-kokshim, Vernonia cinerea.
Ch'hoto-kulpu, Trichodesma Indicum.
Ch'hoto-kut, Sagittaria sagittifolia.
Ch'hoto-looniya, Portulaca meridiana.
Ch'hoto-mechheta, Hemiadelphis polysperma.
Ch'hoto-musoor, garden tare, Ervum hirsutum.
Ch'hoto-mutur, grey pea, Pisum sativum, P. quadratum.
Ch'hoto-neelpud-mo, Nymphæa stellata.
Ch'hoto-okra, Zapania nodiflora.
Ch'hoto-pan-choolee, Villarsia cristata.
Ch'hoto-phootika, Osbeckia aspera.
Ch'hoto-pine-nutee, Cynodon filiformis.
Ch'hoto-ruktu-kumbul, Nymphæa rosea.
Ch'hoto-sada-makhum-shim, Canavalia erythrosperma, flore albo.
Ch'hoto-shundhi, Nymphæa edulis.

CH'HOTA UDAIPUR, also called Mohan, the chief town of a tributary estate in the province of Gujerat; area, 873 square miles, and population 62,913, 86 per cent. being the Bhil and Koli. The chief is of the Chauhan Rajput. During the rebellion in 1858, the chief refused to admit Tantia Topi into his capital, and Tantia was defeated there by General Parke. Revenue, £30,000; and tribute, £1050.—*Imp. Gaz.*

CH'HURA. HIND. A big knife used by Afghans as a weapon. Ch'huri, a small knife.

CH'HURI-KA-BANDHA. HIND. A ceremony, formerly in use in the Mahratta country, of formally investing a Sudra with a bill-hook, in imitation of the investiture of the Brahman with the cord.

CH'HUTTEE. HIND. A Mahomedan rite on the sixth day of a woman's confinement.—*Herk.*

CH'HUTTHEH, a subdivision of the Jat race in the Panjab. See Jat.

CHIA KAI. MALEAL. Pods of Acacia concinna.

CHIAN and Cyprus turpentines, gum-resins, products of a pistacia. See Gums.

CHIBBUR. SIND. Cucumis pubescens.

CHIBH, a tribe south of Kashmir, but little reclaimed from barbarism either by Hindu or Mahomedan conquerors.

CHICACOLE, in lat. 18° 17′ 25″ N., and long. 83° 56′ 25″ E.; a town in the Ganjam district of the Madras Presidency. It is four miles from the sea on the Languliga river. It was at one time the Kalinga capital. It gives its name to a district with a population of 169,094 souls, mostly Vaishnava Hindus, and speaking Telugu and some Uriya. It forms part of the Northern Circars, which have been under the Reddi or Gajapati; during the 16th century under the Kutub Shashi, in the 18th century under the Nawabs of Hyderabad and Arcot. In November 1753, M. Bussy obtained it for the French E. I. Company, but it was afterwards ceded to the British. In 1791, and again in 1866, Chicacole suffered greatly from famine.—*Imp. Gaz.*

CHICANE of Languedoc is the game of Choughan, once universally practised throughout Persia, and formerly often played on a level piece of ground near Shiraz. As a game on foot, we have it in the cricket of England, the golf and shinty and hockey of Scotland, and the hurling matches of Ireland. Pietro della Valle (Viaggi, Lettera de Casvin 25 Iuglio 1618) discovered it in the Florentine Calcio. Ci' e solo questa differenza tra il giuocho de Persiani e 'l calcio de Fiorenti, che i Fiorentini giucano con molta gente a piedi, etc.; Ma i Persiani, piu nobilmente giucano a cavallo. The chicane of Languedoc is played as in Persia, with a wooden ball and a club headed like a mallet or hammer.—*Ouseley's Travels*, i. p. 346. See Choughan.

CHICHA KOTTA. In a battle fought here A.D. 1772 by the British, the forces of the Bhutan raja were defeated.

CHI-CHAY, a Buddhist sage of China, whose writings have been very influential.—*Dr. Edkins.*

CHI-CHIA, also Pudma and Purpinja. HIND. Juniperus communis.

CHICHIRIA. B. and H. Achyranthes aspera.

CHI-CHOU and Chi Hsien are district magistrates in the province of Kwang-Tung in China. See Kwang-Tung-Chi.

CHICHRA. HIND. Butea frondosa.

CHICHRI. HIND. Plectranthus rugosus.

CHICHRU. —? The Himalayan nettle.

CHICHUNDA. HIND. Trichosanthes anguina.

CHICKAN, also Chickan-dozi. HIND. Plain embroidery. That in use for European families is usually called work or Chikkan work. It is a large branch of muslin work of India. Flowers are worked in silk, muslin, or cotton, on a cotton ground.

CHICKARA. HIND. Tetraceros quadricornis. See Bovidæ.

CHICK-PEA, Cicer arietinum.

CHICKRASSIA TABULARIS, *Ad. Juss.*
Swietenia chickrassa, *Roxb.* ii. 379.

Chikrassi, . . . BENG.	Ganti malle, . . SALEM.
Pudha of . . . BOMBAY.	Hulang-hik-gas, . SINGH.
Yimma, Zimma, . BURM.	Aglay maram, . . TAM.
Dul mara, Dal mara, CAN.	Chittagong chettu, . TEL.
Bastard cedar, . . ENG.	,, karra, . ,,
Chittagong wood, . ,,	Chetakum ,, . ,,
Deodar, ... ,,	Madagari vembu, . ,,
Pubha, Pabba, Hool, MAHR.	

This large tree occurs in the mountainous countries to the east of Bengal, in Chittagong, also in Coimbatore, Ceylon, is rather common in the southern jungles of the Bombay Presidency, but much less so in the northern, where, in common with one or two other light red-coloured woods, it currently passes under the general name of cedar or bastard cedar, and all are extensively employed in cabinetmaking. This has quite a cedar-like smell. In Madras it is extensively used in cabinetmaking under the denomination of Chittagong wood, being imported from that province, though it is abundant in the mountainous parts of the Peninsula. It is close-grained, light-coloured, and delicately veined; makes beautiful and light furniture, but is apt to warp during the season of hot land winds. Its wood could easily be creosoted. It furnishes one of the deodars of Malabar. The Chickrassia tabularis enters the market as one of the cedars, bastard cedars, deodars, and Chittagong wood. This is the true Chittagong wood. The bark is powerful.—*Mr. Rohde; Roxb.* ii. 379; *Beddome.*

CHICKWEED, Cerastium Indicum, *W. and A.*

CHICORY. Ku-tu, CHIN. Cichorium intybus, C. endivia. The root in Europe is largely employed to adulterate coffee.

CHICUDA. CAN. Phaseolus max.

CHI-FU, Chi-le-chow, and the Chi-l-tung-chi are the prefects of the province of Kwang-Tung.

CHIGARA VANTIGE. KARN. A form of land tenure in Mysore, by shares, in which the whole village lands were parcelled out in lots of equal value.—*W.*

CHIGHEH. PUSHT. On the occurrence of a robbery or act of violence in an Afghan village, all the able-bodied men turn out in pursuit. This is called the chigheh.

CHIGRI. CAN. Antilope cervicapra, *Pallas.*

CHIHA, a haul bridge in use in Jummoo.—*Drew.*

CHIHAI or Chihara. HIND. A cremation place where Hindu dead bodies are burned, from Chaee, ashes.

CHIHE. HIND. A division of the Gujar tribe.

CHIHI. BHOT. Arctomys bobac.

CHIH-KIAU. CHIN. Lac.

CHIH-LING, a fabulous beast of the Chinese, unicorn with mane and cleft hoofs, said to appear once in ten thousand years. The last time was at the birth of Confucius, known to curiosity-hunters as, and commonly spelt, kyling.—*Frere, Antipodes.*

CHIHNA. SANSK. An emblem of the Jaina thirthankaras; a cognisance.

CHIH'RA. HIND. The countenance; a descriptive roll. Chihra-navesi, taking a descriptive roll.

CHIJ. HIND. Wastage allowance in goldsmith's work, Dehli.

CHIJAKRI. HIND. Podophyllum emodi.

CHIJLA. HIND. Fraxinus xanthoxylloides.

CHIK. HIND., TAM. A screen made of rattans, suspended in India outside of verandahs, over doors or windows, to keep off the glare of the sun's rays. The chik is often made of strips of split bamboo, also of grass, or of the khus-khus grass, the Anatherium muricatum; the Arundo donax, the Saccharum sara, and S. spontaneum are also largely used for the chiks of houses.

CHIKALDAH HILL, in lat. 21° 24′ N., and long. 77° 22′ E., near to and somewhat higher than the fort of Gawilghur. Chikaldah, elevated 3777 feet, is on the Vindhya, or, as some call it, the Gawilghur range of hills, and about 15 miles from Ellichpur. The plateau of Chikaldah is not above three-quarters of a mile broad, and about a mile in length.

CHIKAN. HIND. Euonymus fimbriata.

CHIKARA. HIND. Antilope quadricornis,

Blain; A. Arabica, *Hemprich;* A. sub-quadricornutus, *Elliot.*

CHIKATI MRAKU or Tamalamu. TEL. Xanthochymus pictorius?—*R.*

CHIKAYA or Sikaya. TEL. Acacia concinna, *D.C.;* A. rugata, *Buch.* The tender acid leaves are eaten in curries; and the skin of the ripe legume is used like soap to cleanse the hair.

CHIKBALLAPUR, a town in Mysore. The Morasu Wakkala, a tribe of hereditary cultivators, during the 14th century founded dynasties of polygars throughout Mysore. In 1761, Hyder Ali conquered this place, and sent the last of the Gauda a prisoner to Coimbatore.—*Imp. Gaz.*

CHIK-CHAK, Ptyadactylus gecko, a lizard of Labuan. It is very domestic, like the chaplak of India. It is said to be luminous on occasions.

CHIKI. HIND. Gouffeia holosteoides.

CHIKILINTA GADDI. TEL. Panicum verticillatum, *L., R.* i. 301. The rapid growth of this beautiful grass has given rise to the common saying, Chikilinta aiswaryam, lit. grass, like riches, come and go.

CH'IKKI. HIND. A hand-mill, a quern.

CHIKNA-KALR. HIND. A kind of earth used to remedy kalr or reh in soil. Chikni-Matti, clay, fireclay.

CHIKRI. —? Buxus Nipalensis.

CHIKSA. HIND. A perfumed powder composed of a variety of odoriferous substances, generally mixed up, when used, with sweet-scented oil (phoolail ka tel).—*Herklots.*

CHIKU VELAGA. TEL. Dicliptera parvibracteata, *Nees.*

CHIL, also Chir, in the N.W. Himalayas, are the generic terms for the genus Pinus; and P. excelsa and P. longifolia are so named.

CHIL or Cheel. HIND. The kites of India. Haliastur Indus, *Bodd.*, is the Bahmany Chil; Milvus Govinda, *Sykes*, is the Chil proper; Baza lophotes, *Cuv.*, is the crested black kite; and Elanus melanopterus, *Daud*, is the black-winged kite.

CHILA. HIND. Casearia tomentosa.

CHILAGADA DUMPA, or Genusu gadda and Mohanam. TEL. Batatas edulis, *Ch.* About Vizagapatam, Dioscorea fasciculata, *R.* iii. 801, is cultivated under this name. It seems to be only a variety of D. aculeata.

CHILAKA DUDUGA. TEL. Guatteria suberosa, *Don.;* Uvaria sub., *R.;* also Unona discolor, *Vahl.*—*R.*

CHILAKA TOTA KURA. TEL. Amarantus fasciatus, *R.* iii. 609.

CHILAMBARAM or Chidambaram, a small town of 15,519 inhabitants in the South Arcot district of the Madras Presidency. It is famed throughout Southern India for its Hindu temples. The Sabhanaikan Kovil or Kanak Sabha (golden shrine) is sacred to Siva and his wife Parvati. It covers 39 acres of ground. The magnificent principal hall has 936 pillars. It is mostly of granite, with many monoliths 40 feet high; none of its pillars are less than 26 feet high. In the centre is the shrine of Parvati, a beautiful building containing a golden canopy. Opposite it stands the Miratha Sabha, regarded as the most perfect gem of art in S. India. There are other temples; also the Siva Ganga, or Hemapash karani (golden tank).—*Imp. Gaz.*

CHILAMCHI. HIND. A flat metal wash-hand basin.

CHILAN. From Chilna, HIND., to go. A waybill of the post office, etc.; a list of contents; a clearance; written Chillawn. Chilaoni, current coin.

CHILAS. This country is bounded on the north by the Indus river, on the south by the watershed of the ridge over Looloosur lake, on the east by the watershed of the same ridge as above Looloosur lake, culminating in the lofty peak of Munga Parbut; the Astor boundary marches with Chilas here on the west to a point beyond the village of Sazeen, where the Indus takes a turn to the south-west. Chilas affords good pasturage, but lies under snow for a considerable portion of the year. The Sheen, claiming an Arab descent, are the proprietary and governing class. Crime is rare; women have more liberty and power than among Mahomedan tribes, and breaches of chastity are punished by death. They were visited in 1866 by Dr. Leitner, at the request of the Bengal Asiatic Society. Their language seems distinct from Pushtu, Persian, and Hindi, and is not understood by their neighbours the Syud race, who inhabit Durreil and Tankeer to the west of Ghilghit. According to their own traditions, the inhabitants of Chilas were conquered about the middle of the 18th century, and converted to the Mahomedan faith. Up to about 1840, the Kahgan Syuds received quantities of gold-dust as religious dues from the people of Chilas; but when the Syuds, aided by the Sikhs, failed in an attack on Chilas, the dues were discontinued. A second attack by the Sikh nation was successful, and a small annual tribute of 3 tolas of gold-dust and 100 goats is paid to the Kashmir durbar.

CHIL BINJ. HIND. Strychnos potatorum, clearing nut.

CHILCHIL. HIND. Celosia argentea.

CHILDREN.

Aulad, ...	ARAB.	Batch-Katch, . .	HIND.
Batche, ...	HIND.	Pulli, ...	TAM.

Male children are greatly longed for by all the races inhabiting the south and east of Asia. One prevailing feeling regarding them is such as is expressed in Psalm cxxvii. 4, 5: 'As arrows are in the hand of a mighty man, so are children of the youth. Happy is the man that hath his quiver full of them: they shall not be ashamed, but they shall speak with the enemies in the gate.' Most persons will hesitate to attack a large united family. Amongst Hindus and Chinese, with all of whom spirit-worship prevails, sons are particularly longed for, in order to obtain from them duties to the manes of their parents. The eastern custom of nursing a child from the hip or side, as in Isaiah lx. 4, lxvi. 12, is still continued; and a child born after vows is still, as in Proverbs xxxi. 2, called the son of a vow; and many Hindu children of both sexes, but principally girls, are devoted to the gods. As in Genesis xxv. 6, the children of Mahomedans, born of a wife of humbler birth, or of a harm woman, are not deemed equal in social rank to the children of a high-born wife. Infanticide is still continued amongst certain Rajput races, but the causes are not for fulfilment of any vow, or from any religious duty, but pride or poverty induces them to destroy their female children, and many Rajput tribes have the utmost difficulty in obtaining wives. The British Indian Government, in the early

part of the 19th century, declared the throwing of children into the Ganges to be criminal, and has made continuous efforts to prevent the destruction of children. The Chinese have complete power over their offspring, even to life, but in no country of the south-east of Asia is the sacrificing of children, on religious grounds, continued; though, down to comparatively recent historic times, the Phœnicians, Carthaginians, Aramæans, Syrians, Babylonians, and even Israelites, and their neighbours on both sides of the Jordan, sacrificed their children with the hoped-for object of averting any great and serious misfortune. A Phœnician legend is of El, the strong, offering up his son Yedud or Yedid, the beloved,—El being the Kronos (Bunsen, iii. 286). Malek Bel was the same as the Tyrian Hercules, or Moloch or Bal-Moloch, to whom, as also to Hecate and Melekhet Artemis, dogs were sacrificed. In Exodus xiii. 13, xxxiv. 20, the animal's neck or backbone had to be broken unless redeemed. The principal sacrifices offered to Hercules Usoo, as well as to his mythical companion, were human beings, who in Laodicea of Phœnicia might be ransomed by a doe. At Carthage, the practice of sacrificing their favourite children, and those of the highest rank, in honour of Hercules, continued down to their latest wars. The legend of the Grecian Hercules is that he became insane, burned his own children, as well as those of his twin brother Iphicles, and murdered his guest Iphitus.—*Bunsen*, iv. 212, 213. See China; Harm; Infanticide; Rajput.

CHI-LE-CHOU and Chi-le-tung-chi, prefects in the Chinese province of Kwang-Tung.

CHILGHOZA. Hind.; corruptly Galghoza. The nuts or seeds from the cones of the edible pine, Pinus Gerardiana. In Hazara, the seeds of the Chil, P. excelsa and P. longifolia, are so called.

CHILIANWALAH. A drawn battle was fought here on the 13th January 1849, between the British and the Sikhs, where 14·2 per cent. of the British soldiery fell in the action. It lies between the Chenab and the Jhelum rivers.

CHILI PINE, Araucaria imbricata. The harsh, rigid, scale-like and persistent foliage of dark green, and its singular mode of branching, render this tree very conspicuous. The seeds, borne in large round cones, are eaten in Chili, where it forms widespread forests between lat. 37° and 48′ S. The cones are about the size of a child's head, each enclosing between 200 and 300 nuts; and not unfrequently twenty or thirty cones are borne on a single tree, so that eighteen Araucarias are reckoned to maintain a single person for a whole year. The nuts, in form like an almond, but twice the size, are eaten by the Indians either fresh, boiled, or roasted, the latter mode of cooking giving them a flavour something like a chestnut. It might be introduced into India.—*Dr. Poeppig.*

CHILIVA. Hind. The Indian bleak of N.W. India, a lonely little fish, seldom reaching more than two or three ounces; he is active, playful, and ravenous; his appearance is like new silver (the scales being used in making false pearls), and he ranks among the most delicate at table. Lady anglers, with a long, graceful wand, whip for him with great success on fine clear evenings, near the cold season, with tiny midges of rainbow hue, begirt with gold tinsel. Five pounds' weight and more of these pearly playthings have been the reward of a lady party on one evening, caught without much exertion from a boat, and under the shade of contiguous topes and groves, along the river Rapti. Besides the artificial fly, the chiliva greedily seizes everything from a mosquito to a butterfly; and a grub or flesh maggot, a bit of paste, or a large grain of tough rice, are equally good. He is essentially a surface fish, active and cleanly in his predilections; of a delicate constitution, he soon dies after handling, especially if he has been hooked. The casting net is the proper *modus operandi* to get stock fish for a water, and the supply should be kept very few together, or they will rapidly die; earthen pans carried on a pole across a man's shoulder by night are best. This fish is very prolific, but his enemies are abundant in proportion. From his surface habits, he falls an easy prey to the ducks, fish-hawks, kingfishers, snakes, turtle, etc. To feed them or cause them to congregate, burn a little ghi or fat in a pot over the fire, and when it begins to smoke, empty out the contents on the pool or lake, and the chiliva will soon be seen hunting this new food on the surface. Coarse flour slightly melted and thrown in will also attract a great number; the casting net thrown on the spot will gather quite a silvery load. The Indian angler prizes the little chiliva beyond all his confreres, for he is the shining bonne bouche which, when properly spun on a first-class rapid, tempts the majestic mahseer of discreet 50 to 120 lbs. from all his propriety, or seduces the golden-eyed bokhar of 20 to run amok.

CHILKA-DUDUGU. Tel. Guatteria cerasoides, *Dun;* Unona discolor, *Vahl.*

CHILKA LAKE, a marine lagoon in the Orissa and Ganjam districts on the north-western side of the Bay of Bengal. It bounds the Northern Circars on the north. It seems to be the result of a breach of the sea over a flat sandy shore, whose elevation is something above the level of the country within. Pulicat lake appears to have had the like origin. Each of them communicates with the sea by a very narrow but deep opening, and are shallow within. The Chilka lake, extending from lat. 9° 28′ to 19° 56′ 15″ N., is about 44 miles in length from N.E. to S.W., and in most places 12 or 15 miles wide. It is at the extreme end of the Puri district, just where it touches the Presidency of Madras. It is separated from the Bay of Bengal by a long sandy ridge of a few hundred yards in breadth, against which the force of the south-west monsoon expends itself in vain. Its area varies from 344 to 450 sq. m., during the dry and rainy seasons respectively. It is dotted with half-formed islands, and hardly anywhere exceeds six feet in depth. Here and there there is a forest of reeds and high grasses, and in some places the lake is fringed by picturesque and wooded hills. It is annually frequented by numbers of waterfowl.—*Rennell's Memoir*, p. 242.

CHILKI. Hind. A rupee of Kashmir, value ten annas.

CHILLA. Hind. Casearia tomentosa.

CHILLA CHETTU or Indupu Chettu. Tel. Strychnos potatorum, *L.*

CHILLA GADA, also Grasugada. Tel. Batatas edulis.

CHILLAH, the fortieth day after childbirth, on which a Mahomedan woman performs her

purifications. It is the forty days of Lev. xii. 4. —*Herkl.*

CHILLA-JAIDAR, a kind of silk of Bokhara.

CHILLAMA COOR. A small village, 193 miles from Madras. Earth salt is abundant.

CHILLANKI. TEL. Inga umbellata, *Willd.*

CHILLAR. HIND. The husk, skin, or rind of fruit, grain, etc.

CHILLAR. HIND. Small money or change; it corresponds also to the English word 'upwards,' as a hundred rupees and upwards,—sao rupai challar.

CHILLHA. HIND. A holy place where a fakir sits, so called from the initiatory Chihla (40) days' abstinence. It is also known as a fakir's takia.—*Elliot.*

CHILLIES.

Capsicum, ...	ENG.	Lombok; Chabai,	MALAY.
Cayenne pepper, .	,,	Lada mera; Lada china,	,,
Mirch, ...	HIND.	Mollaga, ...	TAM.
Lombok, ...	JAV.	Mirapa-kaialu, . .	TEL.

Chilli is the Mexican name for all varieties of capsicum, though they are natives of the East and West Indies, and other hot climates. C. annuum is the species commonly noticed, but there are numerous varieties which, by many, are reckoned species. Thus C. frutescens is a shrubby plant, which grows to a large and more bushy size; C. minimum supplies the variety called bird pepper; C. baccatum has a globular fruit, and furnishes cherry or berry capsicum. They are all of the simplest culture; but culture appears to increase the size, and to diminish the pungency of the fruit. Their acridity is owing to an oleaginous substance called capsicin. When the fruit is fresh, it has a penetrating acrid smell; is extremely pungent to the taste, and produces a most painful burning in the mouth. When dried, they form a large article of local and foreign traffic, and form the basis of cayenne pepper; but in vinegar, when green or ripe, they are an acceptable pickle. In Bengal, the natives make an extract from chillies, which is about the consistence and colour of treacle. In all Southern and Eastern Asia both rich and poor daily use them, and they form the principal ingredient in all chatnis and curries; ground into a paste between two stones, with a little mustard, oil, ginger, and salt, they form the only seasoning which the millions of poor in those countries can obtain to eat with their rice. They are worth about 40s. the candy of 600 lbs. Cayenne pepper is used in medicine chiefly in the form of tincture, as a rubefacient and stimulant, especially in cases of ulcerated sore-throat. It acts on the stomach as an aromatic condiment; and when preserved in acetic acid it forms chilli vinegar. Red pepper may be considered one of the most useful vegetables in hygiene. As a stimulant and auxiliary in digestion, it has been considered invaluable, especially in warm countries. Immense quantities of the capsicum are used by the native population of the West Indies, Africa, and Mexico; the consumption there as a condiment being almost universal, and perhaps equal in quantity to salt. The 'wort' or cayenne pottage may be termed the national dish of the Abyssinians, as that or its basis 'dillock' is invariably eaten with their ordinary diet, the thin crumpet-like bread of teff or wheat flour. Equal parts of salt and the red cayenne pods are powdered and mixed together with a little pea or bean meal to make a paste. This is called dillock, and is made in quantities at a time, being preserved in a large gourd shell, generally suspended from the roof. The wort is merely a little water added to this paste, which is then boiled over the fire, with the addition of a little fat meat and more meal to make a kind of porridge, to which sometimes is also added several warm seeds, such as the common cress or black mustard, both of which are indigenous in Abyssinia. A kind called the Tobago red pepper is said to possess the most pungent properties of any of the species. It yields a small red pod, less than an inch in length, and longitudinal in shape, which is so exceedingly hot, that a small quantity of it is sufficient to season a large dish of any food. Owing to its oleaginous character, it has been found impossible to preserve it by drying; but by pouring strong boiling vinegar on it, a sauce or decoction can be made, which possesses in a concentrated form all the essential qualities of the vegetable. A single drop of this sauce will flavour a whole plate of soup or other food.—*Johnston's Abyssinia; O'Sh.; Faulkner; Simmonds*, p. 429. See Capsicum.

CHILLOUNEA, a singular tree of Nepal. Its upper coat is entirely composed of innumerable needle-form fibres, partially united by a kind of gelatinous sap. The wood makes good beams and rafters, and is held in such estimation by the natives, that no house is considered secure in which more or less of the timber has not been employed.—*Smith's Nepal.*

CHILLUM. HIND. A pipe bowl, a hookah bowl.

CHILON. HIND. Populus ciliata.

CHILRAI, also Khatrow, Picea (Abies) Webbiana, P. pindrow, the silver fir.

CHILTA-RITA. TEL. Phœnix farinifera.

CHILUCHI. HIND. Iris Nipalensis.

CHILU NUTIYA. BENG. Amarantus polygonoides.

CHIMA-PUNJI. MALEAL. Cochlospermum gossypium.

CHIMBARI. HIND. Dactyloctenium Ægyptiacum, Eleusine flagellifera.

CHIMKANI. HIND. Cathartocarpus fistula.

CHIMNANU, of Lahoul and the Chenab, Amygdalus Persica, the peach.

CHI MOEE. CHIN. A bacchanalian game played at Chinese parties.

CHIMONANTHUS FRAGRANS. *Fortune;* the Lah-mei or Hwang-mei-hwa of the Chinese. This shrub is sometimes grafted. The flowers, mounted on brass wire, are the favourite winter ornament of Chinese women of all classes. The Chinese macerate the tree in water, and then polish it a beautifully black brilliant surface. It is a favourite in England, where it blooms in the open air at Christmas. It is quite common in China.—*Fortune's Tea Districts*, p. 79.

CHIMPANZEE, one of the Simiadæ, which approach near to man. The term has been applied to the Simia satyrus of Linnæus, the oriental orang, but it is now generally restricted to a West African genus, the Troglodytes niger of Geoffrey, the Homo troglodytes of Linnæus.—*Engl. Cyc.* p. 1015. See Simiadæ.

CHIMU, also Chimyaka. HIND. Syringa emodi, Morus serrata, Podophyllum emodi.

CHIMURUDU. TEL. Cadaba Indica, *Lam.*

CHINA. HIND. Panicum miliaceum.

CHINA, the empire in the centre and east of continental Asia, known to Europe by this name, is called by the western Mongols, Cathay; by the Manchu Tartars it is called Nikan Kourn; and by the Chinese Tchoung-koué, the last term meaning the Central Kingdom (Duhalde, Hist. of China, p. 1), also Tchoung-kuo, the Empire of the Centre. According to M. Huc (i. pp. 349–350), the Chinese also name it Tchoung-hoa, or Flower of the Centre; also Tien-hia, the Beneath the Heavens, or the world, as the Romans called their dominions Orbis. The name most in use is Tchoung-koué. It is also, however, called Tang-shan, the Hills of Tang (the name of one of their most celebrated dynasties). The present reigning family has given it the name of Tat-sing-kouo, the Empire of Great Purity; and in government proclamations, especially in those addressed to Barbarians, it is often called Tien-chao, the Celestial Empire. Other figurative appellations are Tchoung-thang and Tien-chao, Heaven's Empire. The natives call themselves Chung-kuo-teih-jin, men of the middle kingdom; also Han-jin and Tang-jin, men of Han or of Tang (from the dynasties of those names). China is supposed to be the country mentioned as the land of Sinim in Isaiah xlix. 12. Chinese annals extend back for three or four thousand years. Fo-hi is the first named sovereign of the Chinese, but the date of his reign is not ascertained. Yu the Great is the first monarch of whose reality there is no historic doubt. Their Bambus-book contains the record of the ancient imperial dynasties from B.C. 1991 to A.D. 264:—

1st. Hia, the first emperor Yu beginning B.C. 1991, reigned 432 years.
2d. Shang, began B.C. 1559, lasted 509 years; 28 reigns in 15 generations.
3d. Tsheu, began B.C. 1050, lasted 479 years. The 12th emperor Yeu Yang began to reign B.C. 781. His sixth year was B.C. 776. Confucius lived under this dynasty, and he recorded the observations of the solar eclipses from B.C. 481 upwards to 720.
4th. Tsin, began B.C. 255, and lasted to 207, 49 years.
5th. Han, began B.C. 206, and lasted to A.D. 264, a total of 469 years.

But systematic Chinese history hardly goes back so far as the reign of Yu, who was the founder of the dominion of the kings or princes of Shen-si in S. China, as far as the great river. He diverted the course of the Yellow River to fertilize the lands between the two rivers.

Prior to Chi-hoang of the Tsin dynasty, about 255 years B.C., the country had been subdivided into numerous principalities and commonwealths, but that warrior emperor brought them all under subjection. He built the Great Wall to keep off the Tartars. Seres, which Horace and the ancients used, seems to have been strictly applicable to some nation in the west of China, and many authors have surmised that the term China (Cheena) was given to the country when the Tsin dynasty carried their arms to the west. China (Cheena) was early given by the people of the N.W. of India to the nation which Europe now calls China.

The Tsin dynasty was overthrown by Lin-pang of the Han province, who was the first of the Han dynasty. With the destruction of the Tsin dynasty great injury resulted to the Chinese annals; but most of the Han princes were munificent patrons of literature. During the reign of Ming-ti, the 15th of the Han dynasty, considerable intercourse was carried on between the princes of India and China; but it was particularly during the dynasties of Sum, Leam, and Tam, from the fourth to the seventh centuries A.D., that princes from Bengal and Malabar northwards to the Panjab sent embassies to the Chinese monarchs. Nearer our own times, the Ming and Tsing dynasties have ruled from A.D. 1368 to the close of the 19th century, viz.:

Kwo-Hiau, or reigning title.	Miau-Hiau, or Temple Title.	Began reign, A.D.	Reign, years.
Ming Dynasty—			
Hung-woo, .	Tai-tsoo, . . .	1368	30
Kien-wan, .	Kien-wan-te, .	1398	5
Yung-lo, . .	Tai-tsung, . .	1403	22
Hung-h, . .	Jin-tsung, . .	1425	1
Sinen-te, . .	Sinen-tsung, . .	1426	10
Ching-tung, .	Ying-tsung, . .	1436	21
King-tai, . .	King-ti, . . .	1457	8
Ching-hwa, .	Hien-tsung, . .	1465	23
Hung-chi, . .	Hiao-tsung, . .	1488	18
Ching-ti, . .	Wu-tsung, . .	1506	16
Kia-tsing, . .	She-tsung, . .	1522	45
Lung-king, .	Muh-tsung, . .	1567	6
Wan-le, . .	Shin-tsung, . .	1573	47
Tai-chang, .	Kwang-tsung, .	1620	1
Tien-ke, . .	He-tsung, . . .	1621	7
Tsung-ching, .	Hwa-tsung, . .	1628	16
Tsing Dynasty—			
Shun-chi, . .	Changhwang-te,	1644	17
Kang-he, . .	Jin-hwang-te, .	1661	61
Yung-ching, .	Hien-hwang-te, .	1722	14
Keen-lung, .	Shun-hwang-te, .	1736	60
Kia-king, . .	Jui-hwang-te, .	1796	25
Taou-kwang, .	Zhim-zung-jan, .	1821	29
Heen-fung, .	Wan-zung-chien,	1851	10
Tung-che, . .	Mu-zung-i, . .	1862	13
Kwang-su, .	...	1876	...

Origin and Early History. — All the ancient traditions of the Chinese refer to their migrations from the west. Chevalier Bunsen (Report, Brit. Assoc., 1847) says that, according to Chinese traditions, Tibet is the land of their earliest recollections. But the first settlers of this race in China were probably emigrants from the lands lying to the south of the Caspian. An early relationship existed between Chinese and Mesopotamian culture, among the most striking proofs of which are the facts that 'the primitive Chinese, like the Babylonians, recognised five planets besides the sun and moon, and, with one exception, knew them by the same names;' and 'a comparison between the ancient names of the months given in the Urh ya, the oldest Chinese dictionary, with the Accadian equivalents, shows, in some instances, an exact identity.' A number of ethnological and linguistic facts point to the Chinese having left a home in the south of the Caspian Sea, where they had been brought under the influence of Accadian culture. From this resting-place they moved eastward about the twenty-fifth century B.C., probably in consequence of the invasion of Susiana by some possibly Turanian tribe, and finally struck the northern bend of the Yellow River, the course of which they followed until they reached the fertile plains of Shen-si. The Chinese immigrants found the country in possession of a number of Taic tribes, such as the Kwei, Lung, Pung, and Li, all of whom possessed a certain amount of culture. With these tribes they contended for dominion, and by force of a superior civilisation gained the mastery over them. The relations thus established produced effects

which have left their mark on the history of the nation through all time. In the language at the present day, as well as in the traditions and customs now existing, are reflected traces of this intermingling of races more than four thousand years ago. The admixture of Taic blood was also of paramount importance to the Chinese; and they owe much of their endurance as a nation, and of their superiority in mental and bodily physique, to the constant introduction of new blood into the national life. They have a tradition of a deluge, B.C. 2357, in the reign of Yaou. The first settlement of the immigrant Chinese was in the northern portion of Chih-le; and Chinese legendary history tells us that Yaou, who reigned 4200 years ago, had his capital at the city of Tsin-chow, situated about 100 miles only to the south of the present capital, Pekin. From this the people spread gradually westward and southward, colonizing the newer regions, and displacing the aboriginal inhabitants.

Extent of China.—The territorial distinctions of China proper and the Chinese Empire have existed from the earliest periods of Chinese history. China proper has meant, at all periods, that portion of the east of the Asiatic continent which has been possessed and permanently occupied by the Chinese people. The Chinese Empire has meant, besides China proper, those large portions of the whole Asiatic continent occupied by Tartar nomades or other non-Chinese peoples, but which have from time to time been under the sway of the Empire of China, and more or less directly ruled by Chinese officers and armies. China proper has at all periods been characterized by Chinese civilisation; that is to say, its population generally, besides being physically of the same race, has always been governed in its domestic, its social, and (with the exception of some very short periods) its political life, by the principles and rules laid down in the Chinese old sacred books. The non-Chinese peoples of the Chinese Empire have, on the other hand, at all periods either been destitute of anything that could be called civilisation, or have been slightly tinged with Chinese civilisation, or have been marked by some different civilisation, as for instance at present, in the inhabitants of Turkestan by a Mahomedan civilisation, and the inhabitants of Tibet by one strictly Buddhistic. At present China proper and the Chinese Empire are supposed to be 3,010,400 square miles in extent, and may be noticed under three territoral divisions:

China proper, as the empire existed under the Ming dynasty, which ruled in China from A.D. 1368 until the Manchu conquest in A.D. 1644.

Manchu, or, as known in Europe, Manchuria, the country of the reigning dynasty.

Colonies of China, in Mongolia, Soungarra, Eastern Turkestan, Tibet, and the countries of the several tribes bordering on Kan-su and Sze-chuen.

China proper is the largest as well as the most compact country in any part of the globe, extending in length from about lat. 19° to about 42° N., and in breadth (taking one extremity, where it borders upon the peninsula of the Corea) from about long. 125° (taking the other extremity, where the Great Wall extends to the west) to about long. 85° E., being 23° in lat. and 39° in long. The area given by Sir George Staunton is 1,292,000 miles. A recent estimate is 1,534,953 English square miles; and in 1844 its revenue, 191,803,139 taels = £63,934,713.

It is separated on the north by the Great Wall from the desert lands of the Mongol tribes, and from the scarcely less dreary Manchu country; on the east is the Gulf of Pe-che-li, the Eastern Ocean, and the Formosa channel; on the west barbarous tribes; and S.W. are the kingdoms of Tonquin, Cochin-China, Burma, and Laos.

In the course of ages the Chinese Empire has varied greatly in extent. It has been more than once larger than it is even now. It was so, for example, about 2000 years ago, under the fifth emperor of the Han dynasty, when it embraced the greater portion of inhabited Asia east of the Caspian Sea, and inclusive of Siam, Pegu, Cambodia, and Bengal. In the intervals between these great extensions, it has shrunk up to the size of China proper, and even this latter has been occasionally subdivided for considerable periods under two or more ruling families or dynasties, each acknowledging no superior. But the Chinese people has continued the same, even when under several rulers, and has been steadily increasing its territorial possessions. They have annexed all the parts neighbouring on China proper from Manchu and Mongol races. The dynasty now is Mongol, and the army Manchu, and furnishes Manchu soldiers in Mongolia and Tibet.

Government.—The idea of the family is the grand principle that serves as the basis of society in China. Filial piety, the constant subject of dissertation to moralists and philosophers, and continually recommended in the proclamations of emperors and the speeches of mandarins, has become, in the views of the Chinese, the fundamental root of all other virtues. All means are made use of to exalt this sentiment, so as to make of it an absolute passion. It assumes all forms, mingles in all actions, and serves as the moral pivot of public life. Every crime, every attempt against the authority, property, or life of individuals, is treated as filial disobedience; whilst, on the other hand, all acts of virtue, devotion, compassion toward the unfortunate, commercial probity, or even valour in battle, are referred to filial piety. To be a good or a bad citizen, is to be a good or bad son. This grand principle dominates and penetrates more or less deeply all the strata of society. The emperor, as the head of the family system on which Chinese political life is based, is responsible only to the gods. In civil cases the last appeal is to the emperor, and the registers of capital offenders are submitted to him. The names of the officials who merit promotion or disgrace are likewise submitted to him. He is called Hoang-te, August Sovereign, or Hoang-chou, August Elevation; but his name *par excellence* is Tien-dza, or Tien-tsze, Son of Heaven.

The empress of China, on the other hand, is the representative of mother earth. She is supposed to be ignorant of politics, and occupies herself in feeding silkworms, winding silk at the cocoon festival, and inspecting the silk stuffs woven by the women of the imperial household.

China has 18 political divisions,—Shang-tung, Pe-che-li, Shan-si, Shen-si, in the north; Kwang-tung and Kwang-si in the south; Che-kiang, Foh-kien, and Kiang-su, in the east; Kan-su, Sze-chuen, and Yun-nan, in the west; and Nang-

hui, Kiang-si, Hoo-nan, Hu-peh, Ho-nan, and Kwei-chu, as midland provinces.

Executive Civil Government.—The entire administration is under the direction of two councils, attached to the person of the emperor, the Nei-ko and Kiun-ke-tchou. The first is charged with the preparation of plans, and the despatch of current business. Its duty is, according to the official book, 'to put in order, and to make manifest the thoughts and designs of the imperial will, and to regulate the forms of administrative decrees.' It may be regarded in some measure as the secretariat of the empire. The second council, named Kiun - ke - tchou, deliberates with the emperor concerning political affairs. In the Nei-ko, or Interior Council Chamber, are four chief councillors, two of them Tartars and two Chinese, who bear the titles of Choung-thang and Ko-laou. The Tartar minister presides.

Loo-Poo is the general appellation for the six civil and criminal tribunals of China. The first of these, properly termed Loo-Poo, has four departments for the administration of the provinces; the second, named Hoo-Poo, takes charge of the imperial revenues; the third board is named Lee-poo; Ping-poo-war is the fourth; King-Poo, the criminal department; Kung-Poo, or public works, being the fifth and sixth.

The provinces of the country are each under a governor, or, where two provinces are united, a governor-general. Every province is divided into a certain number of districts, called 'Fu,' 'Ting,' 'Chow,' 'Heen.' A 'Fu' is a large portion or department of a province under the general control of a civil officer, immediately subordinate to the head of the provincial government. A 'Ting,' a smaller division than, and sometimes a portion of, a Fu; when separate, it is governed as a Fu, and called a 'Chuh-le.' A 'Chow' is similar to a Ting, as also a Heen, but each is a smaller division. Each Fu, Ting, Chow, or Heen has one or more towns or walled cities under its guidance, one of which takes its name and rank as 'Kwang-Chow-Fu' and 'Shang-Hae-Heen,' which latter, although of that subordinate rank, is the largest maritime city in the empire, and the greatest resort of the native ships or junks. But with all these, there has, besides, always remained a powerful and vivacious spark that the Tartar government has never been able to extirpate; and secret societies have been formed all over the empire, the members of which have seen with impatience the Manchu domination, and cherish the idea of overthrowing it, to obtain a national government.

Titles.—Also, there are five orders of nobility, the koung, heow, paak, tze, and nan, which correspond to the duke, marquis, earl, baron, and baronet of Britain. Each of these has classes. The Kee-Too-Wye is a lower grade, and the Wan-Kee-Wye a still lower. Other grades of rank are arranged as Chung or Tsung-deputy. Hereditary titles only exist for the imperial family and for the descendants of Confucius, who are still very numerous in the province of Shang-tung. Of the twelve orders of the Imperial nobility of China, tsinw'n is the first, kiui-wang the second, beileh third, beitseh fourth, chin kwoh kung fifth, f-kwoh kung sixth. To the hereditary titles which the relations of the emperor enjoy, there are attached certain prerogatives, as well as a very modest allowance, the right of wearing a red or yellow girdle, of putting a plume of peacock's feathers in their caps, and of having six, eight, or twelve bearers to their palanquins. They cannot, more than any other citizen, pretend to any public office, without having previously taken their literary degree at Pekin and Moukden, the capital of Manchuria. Many of these nobles are to be seen living in idleness and penury on their small pensions, and having no other proof to show of their illustrious origin than the red or yellow girdle. A private tribunal, however, is charged to govern them and superintend their conduct.

The first civil and military mandarins who have distinguished themselves in the administration or in war, receive the titles of koung, heow, paak or phy, tze, and nan. All the officers, civil and military, of the Chinese Empire are divided into nine orders, khiou-ping, distinguished one from the other by certain buttons, or rather balls, of the size of a pigeon's egg, which are worn above the official cap. This distinctive ball is of plain red coral for the first order, of carved coral for the second, of a translucent deep blue stone for the third, of pale blue for the fourth, crystal for the fifth, of some opaque white stone for the sixth, and for the seventh, eighth, and ninth, of gilt and wrought copper. Every order is subdivided into two classes, the one active and official, the other supernumerary; but this makes no difference in the balls. All the official personages comprised in these nine orders are designated by the generic term of kouang-fou. The term mandarin was invented by the first Europeans who visited the country, and is probably derived from the Portuguese word 'mandar,' to command. The people are all partial to honours, and ornamental arches are raised to men and women who distinguish themselves.

The punishments for crimes are very severe, many are brutal. They transport and flog for petty larceny, use torture to extort confessions; use cages, the cangue, and fetters; chain the criminal to heavy stones and to iron bars; leave the food supply to chance; cut off the ear, or cut the person to pieces at 8, 24, 36, 72, and 120 cuts; decapitate and strangle. The prisons of China may be considered as unequalled upon earth, so far as everything that is most abominable is concerned.

Races.—The great races in the empire are three, the Chinese, the Mongol, and the Manchu. These nations differ very considerably in their physical characters, although much mixture has taken place. The northern or predominant nation appears to have a fundamental tendency to an Iranian modification of the Turanian type; and the same tendency is observable amongst the Coreans and the higher classes of the Japanese, as amongst some of the American, Tangusian, and Asianesian peoples. In the south of China, the fundamental tendency is to an extreme flatness of features, the nose being often more insignificant and shapeless than in any other race, although the finer type also occurs. In the eastern maritime province, the northern type is much more common. The dominant or northern Chinese race is much less Mongolian than the S. Chinese, the Malay, and most of the intermediate ultra-Indian races. They are closely allied to the Japanese and Americans, and, indeed, are evi-

dently the same race, however much their language differs. The predominating colour of the skin of the Chinese is yellow; but yellow, brown, and sometimes a maroon tint occur. The face is broad and flat, cheek-bones projecting, irides black, eyes oblique, beard scanty, stature above that of the Malay and Tibetan, below that of the European. The Chinese head, when viewed from the front, has a strongly-marked physical relation not only to all the races of the Mongolian type, but in a much closer or more special manner to the Tibetan tribes, the American Indians, and some of the eastern Asianesian tribes, in all which one of the prevailing Chinese types may be traced. Numerous examples of the elongated head, obtusely wedge-shaped cranium, and arched nose of America and New Zealand may be seen in every assemblage of Chinese in Singapore. The occipital truncation remarked in America and Polynesia is common in South-Eastern Asia. It is very strongly marked in the Lau race. The Tibetan tribes have the rise of the skull at the coronal region, but the other characteristics are wanting. The heads of the American men of Dr. Prichard's Natural History of Man resemble those of the Chinese. The prominent lateral expansion of the zygomæ is comparatively rare in the Chinese as in the Americans. The Sumatra Malays have much more frequently the typical Mongolian head, as have also the allied tribes of the Irawadi basin, with whom they are most nearly connected, and whence they have undoubtedly derived their physical stock.

The sea-coast people are skilful and enterprising, with that self-reliance which enables nations to emigrate; and we find them swarming in the Malay ports, in Singapore, Borneo, and the Philippines; numbers are in Australia, the West Indies, Sandwich Islands, and Western America, particularly California. But, except in Buddhist Burma, they are not settlers, only forming temporary connections, sending all their savings, and looking forward to return, to their native land. Next to the Malay, this people have been the most formidable pirates of the eastern seas. Their rapid and wide diffusion is one of the most remarkable of the events of modern history, and is likely to exercise a great influence on the future condition of man. For the Chinese do not migrate to mingle with and be absorbed among other tribes and peoples: they preserve their own language, their one nationality, their own costume and religious usages, their own traditions, habits, and social organization. Though they intermarry with the races among whom they dwell, the Chinese type becomes predominant, and the children are almost invariably educated on the father's model, the influence of the mother seeming almost annihilated. And though the Chinese frequently acquire large fortunes, great influence, and sometimes high rank as a consequence of their prosperity, the ties that bind them to their country seem never to be broken, and the tides of population flow Chinaward with every south-western monsoon, to be replaced by a stronger stream when the monsoon of the north-east sends the junks on their wonted way towards the south. It is estimated that in the kingdom of Siam there are more than a million and a half of Chinese settlers; in the city of Bangkok alone there are supposed to be two hundred thousand. In fact, all the active business appears to be in their hands. Nine out of ten of the floating bazars which cover for miles the two banks of the Meinam, are occupied by Chinamen; very many of them are married to Siamese women, for a Chinawoman scarcely ever leaves her country. But the children are invariably educated to the Chinese type; the tail is cultivated if it be a boy, and the father alone seems to model the child's nature and education. Yet that strong parental affection which has been remarked as one of the characteristic virtues of the Chinese, is almost invariably exhibited. Fathers are constantly playing with and carrying about their children, encouraging their gambols, and teaching them to observe.

Several estimates of the population of the country have been attempted since the latter part of the 16th century. Captain Gill, a traveller in the 19th century, and who, in 1882, was murdered by an Arab shaikh, is of opinion that they have all been too high. Famines, with rebellions of the Tae-ping and of the Mahomedans in Kwei-chow and Yunnan, are supposed to have reduced the nation to 250 or 300 millions.

1570? 307,467,000 in the reign of Kien lung Wong.
1743, 200,000,000 Grosier.
1813, 360,000,000 Census.
1842, 414,686,994 ,,

According to Mr. Knowlton, the census of 1839, as given by M. Sacharoff of the Russian embassy in Pekin, made a population of 415,000,000. A census was found in Governor Yeh's Yamun at Canton; and the Chinese commissioners at Tien-sing, in 1859, stated the population at 400,000,000, which is a fourth of the human race, twice the population of British India with its feudatories, and seven times that of Russia. China proper has 280 to the square mile, while that of Britain and Ireland has only 260.

Tribes.—The various types of race on the mountain frontier of China, Burma, and Tibet, possess the highest interest for all ethnographical students. Of the aboriginal inhabitants of China, the Kwei people, remnants are to be found to this day in Northern Cambodia. These Kwei, whom M. Terrien de la Couperie conjectures to have been an Aryan people, possessed a literature to which the term Kwei shoo or 'Kwei Books' probably refers.

The country at the mouth of the Amur in 1842 was ceded to Russia by the Chinese, but members of the *Aino* family are settled there, and due north of Pekin is a Mongol tract which nearly separates the true Tungus part of Manchuria.

The *Hakka* inhabit Loong-Moon, Toong-Koong, T'seng-shing, and other districts. They eat dog's flesh.

The *Tan* are a race of Chinese boatmen dwelling in their boats in all the Chinese rivers, similar to the Yao and Man tribes. Their physique is vastly superior to that of the house population, who designate them *Suee Ki*, or waterfowl.

The *Ng-'Tsock* are a tribe in China who undress and bathe and re-clothe the dead. They are deemed unclean, and are not permitted to worship in the temples; their sons are not allowed to become candidates for literary degrees. They resemble the pollinctores of the ancient Romans.

Miau-tsi is a term applied to the hill tribes of China. They seem to be in small clans; no less than 82 of them residing in the small province of

Kwei-chu. Some of their names are appellatives,—Sang, wild; Heh-sang, black wild; Heh-kioh, black foot; Yan-jin; and others are the Nung, the Lo-Lo, and Yau in the mountain ranges of S.W. China. The *Miau-tzi*, on the south of Sze-chuen, are said to be wild mountaineers, but much connected with them is obscure. Friar Odoric noticed the differences between the races on the two sides of a great mountain. Polo also speaks of savage cannibals with blue-painted (*i.e.* tattooed) faces in Foh-kien; and some observations of Sir John Davis corroborate this (Polo, 178; Chinese Supp. p. 260). In the modern Chinese census, one class of the population in a district of the province of Canton appear as blacks (Chin. Mod. p. 167). Indeed, Semedo (about 1632) says there was still an independent kingdom, presumably of the Miau-tsi, in the mountains dividing Foh-kien, Canton, and Kiang-si, viz. those of which Odoric speaks (Rel. Della China, p. 19), certain F'ung people who once visited the court of the Chinese emperor, and delighted him by their dancing and singing. These F'ung people still exist in South-Western China.

Its Army, of 800,000 men in four divisions, is made up of 68,000 Manchu, 80,000 Mongol, and 625,000 Chinese. The bannermen of the Mongols are the *élite* of the dominant Manchu. The Chinese soldiery are in two bodies, one of which, about half a million in number, is designated soldiers of the green flag, and receive pay of four silver tael (27s.) per month; the other portion are a militia, holding lands for service, and drilled for a month once a year. Since the year 1878, they have obtained from Europe, swift, heavily-armed gunboats. Military Feudatories of the empire are scattered through the regions known to the Chinese geographer as Inner and Outer Mongolia, Uliasutai, and Tsing Hai or Koko-Nor; but there are also the troops of Tibet, under the resident minister of that country. The tribes acknowledging the sway of China are divided into Inner and Outer Mongolians. The former occupy the region to which their name refers them; the latter, all the other tracts and districts above mentioned.

Inner Mongolia, lying between the desert of Gobi and the continuous frontier of Manchuria and China, was occupied, in 1812, by 24 tribes, differing in name, irregularly ranged under 49 standards, and divided, in uneven proportions, into 6 chalkan or leagues.

The *Outer Mongolians* were,—1st, four tribes of Kalkas of different names, under khans, which, with two fragmentary tribes attached to them, formed four leagues; they numbered in all 86 standards, and resided in the territory north of the desert of Gobi, geographically named Outer Mongolia. 2d, Eleven tribes, not in leagues, under 34 standards, scattered to the west of the Holan mountains, in the S.W. of Inner Mongolia, to the south of the Altai, and to the north of the Tengkiri ranges. 3d, Two tribes of Mahomedans, under 2 standards, at Hami and Turfan, within the provincial boundaries of Kansuh, south of the Celestial Mountains; and 4th, Five tribes under 29 standards, round Koko-Nor, called by the Chinese Tsing-Hai, or Azure Sea. Colonel Gordon, who had taken a prominent part in suppressing the Tae-ping rebellion, recently returned to China to advise the great viceroy, Li-Hung-Chang, regarding the Chinese forces. The occasion was the retention by Russia of the town and district of Kuldja, and war appeared possible. He urged them to avoid pitched battles, to cultivate skirmishing, to throw up earthworks, to harass the enemy by irregular warfare, and form a fleet of small and cheap ships.

Religions and Philosophies.—The Chinese have acquired, in the course of their long existence, more than one different kind of philosophy; that is to say, there exist in China several radically different ways of viewing the nature of the inanimate world and of man. The philosophic systems of Lao-tsze, of Kung-tsze, of Choo-tsze, of Mang-tsze, and of Buddha, take the place of religions, but none of these are pure philosophies; those recognised by the state being Taoism, Confucianism, Buddhism with its form Lamaism, and Mahomedanism. They are systems of morality.

There was a long struggle for mastery among the adherents of these three systems,—a struggle which expressed itself in mutual proscriptions and persecutions; but the Confucian (Kung-tsze) always succeeded in maintaining for itself the greatest ascendency, except during some comparatively short period, and it became definitively paramount fully ten centuries ago. From that time to this it has continued dominant in the country. It has been the philosophy and morality of all the great historians of China, and has formed the basis of her peculiar national system of legislation and administrative procedure. It may be described as the assemblage of those fundamental beliefs which are entertained by all cultivated Chinese on the phenomena of animate and inanimate nature. The literature in which it is set forth, and which it has moulded, whether notological, psychical, ethical, legislative, or historical, is that exclusively an intimate and extensive acquaintance with which has for many centuries been made indispensable to the passing of the public service examinations, which are, for the talent and ambition of China, far more than the hustings, the avenues to church preferment, and the bar all combined, are for the talent and ambition of Britain. Hence Confucianism is, and has long been in the fullest sense of the terms, the national, orthodox philosophy and morality of the Chinese people. Taoist and Buddhist temples exist all over China, and in latter centuries Mahomedan mosques have been erected in many of its cities; but the dominant Confucianism merely endures Taoism, Buddhism, and Mahomedanism as erroneous and superstitious systems of belief, prevalent among, because most suited to, people of uncultivated or weak minds, whether rich or poor; but which find most acceptance among the poorer and therefore unlearned and unenlightened classes. They have no influence on the national polity. The people are in nowise prohibited from worshipping in the Buddhist and Taoist temples; in other words, they may regulate their purely religous life by the tenets of these, or indeed of any other sect. But where Taoism or Buddhism would leave the region of religion, and, in the form of philosophy or morality, extend their direct influence into the domain of the social science and art, there Confucianism peremptorily and effectually prohibits their action. Not only are the national legislation and administration formed exclusively on Confucian principles, it is by them also that the more important acts of the private life of the Chinese are regulated, as for

instance marriages. The cause of the prevalence of Mahomedanism in China, in spite of discouragements, lies in the fact that Confucianism says little or nothing of a supernatural world or of a future existence. Hence it leaves almost unsatisfied those ineradicable cravings of human nature, the desire to revere and the longing for immortal life. That it has, notwithstanding its want of these holds on the human heart, maintained itself not simply in existence, but as the ruling system, is a fact that must, as soon as it is perceived, form for every true thinker a decisive proof of the existence of great and vital truths in its theories, as well as thorough soundness and wholesomeness in the practical rules which it dictates. By Chinese philosophy must be understood Confucian philosophy; and by Chinese morality, the moral principles rooted in that philosophy.

In order to get a distinct general conception of the Chinese philosophical literature, two epochs must be specially kept in mind. The first began with Confucius (Kung-tsze), who was born B.C. 551, and ended with Mencius (Mang-tsze), who died about B.C. 317. The second began with Chow-leen-ke or Choo-tsze, who commenced his labours about A.D. 1034, and ended with Choo-ke or Choo-tsze, who died in A.D. 1200. The first lasted for seven generations. It was separated by an interval of thirteen hundred years from the second, which lasted for five generations. Both were periods of revival of ancient learning and of further development. Both embraced several celebrated philosophers besides those mentioned, but in each case it was the originator and closer of the epoch who became most celebrated. The writers of the second epoch are often mentioned as the philosophers of the Lung dynasty; which latter was established in A.D. 960, about 70 years before Choo-tsze's labours began, and continued in possession of the sovereignty till A.D. 1271, about 70 years after Choo-tsze's labours closed. Confucius, though his name in the west became identified with Chinese learning, was by no means its originator. Authentic, though not full records, embodying ethical and political doctrines, extended back to B.C. 2357, or to about eighteen hundred years before Confucius; while the Chinese philosophy originated with Fuh-he, who lived, according to tradition, some twenty-three generations before the exact chronological era, which latter took place B.C. 2637 with the institution of the national cycle of sixty years. Allowing thirty years to a generation, this would place Fuh-he about B.C. 3327. It was he who substituted writing for the knotted strings that had previously formed the only means of record; and it was he who first established marriages and separate families. To him are also ascribed some civilisation labours of lesser but still great importance,—the division of the day into twelve She-shin, or watches, of two hours each. Fuh-he is therefore the founder of Chinese civilisation generally. But he is perhaps best known as the originator of the natural philosophy, and in particular as the author of the 'Eight Diagrams.' He constructed these after a careful and extensive survey of nature and its varied phenomena, as exhibited in the departments which we call astronomy, meteorology, physical geography, and natural history and after reflection on his own nature, physical and mental, and on the nature of men generally, as manifested in the events of the social life around him. The Eight Diagrams consist alternately of whole and broken lines. They have never been read, but they have not the less been made the basis of an ancient system of philosophy and divination. Fuh-he's diagrams, as re-arranged, together with the short explications of the first monarch of the Chow dynasty and his son, form the basis or text of the first of the Chinese Sacred Books, the Yih-king. After an interval of six centuries, Confucius edited the Yih-king, and appended those annotations which have given the work its subsequent value. What philosophical views may have been attached to the Yih-king of Wan-wang and Chou-kung by the contemporaries of Confucius, we know not. That work, together with the other three works edited or compiled by Confucius, viz. the Shu-king books and the Le-ke, constitute the whole of the ancient literature of China which has come down to posterity, and who have it only, as it was explained, arranged or modified in passing through his hands. It is well known that he expressly repudiated portions of it, as containing doctrines adverse to the views which he held and strove to diffuse. The names only of some celebrated ancient books, one dating from the times of Fuh-he himself, have been preserved. It is these circumstances which constitute the labours of Confucius the commencement of a distinct literary epoch. Apart from the labours of Confucius himself, the permanent literary results of this, the first of the two great epochs to which attention has been directed, are contained in the collection of works called the Four Books, composed by different members of the school which he founded. The last contains a record of the ethical and political teachings of Mencius (Mang-tsze), who died about B.C. 317, and closed the first epoch.

Choo-tsze was the originator of the second epoch of philosophical development. To him is ascribed the merit of having revived that distinct knowledge of the greatest truths, which had been lost to the world for the thirteen centuries that had elapsed after the death of Mencius; and he regained that knowledge by the independent efforts of his own mind, unaided by any master. Only two of his works have been preserved, the Tea-heih-too-shwo and the Tung-shat. He died in A.D. 1200; and in A.D. 1241 an imperial rescript ordered his tablet, with those of four of his immediate predecessors whose works he had annotated, to be placed in the temple of Confucius, which is to be found in every district city throughout the empire. From that time his views of philosophy, morality, and politics have been supreme in China. His commentaries on the Yih-king and the Four Books are learnt by heart by millions of Chinese, with the text of these works. The public service examinations cannot be passed unless this be done.

The fact is, however, that though the authors of the first and second epochs, Confucius himself included, professed to teach only what was contained in pre-existing sacred books, and though they possibly themselves believed that they did only teach what was virtually contained in such pre-existing books, they nevertheless did, in each case, originate some entirely new views and doctrines.

The Yuen dynasty, which succeeded the Sungh in A.D. 1271, were Mongols, immediate descendants of Chengiz Khan, who adopted Chinese civilisation only in a very slight degree, and were consequently soon expelled again. Choo-Yuen-Chang, the first emperor of the native dynasty, the Ming, which succeeded them in A.D. 1368, though a promoter of literature, was himself illiterate, having been a servant in a monastery. But the third sovereign of the line, who began to reign A.D. 1403, had a splendid library formed, and several encyclopædiac works compiled. He published an edition of the Sacred Books, which is known by the affix to their title of 'Tatreuen,' in full completeness.

Religion.—Mahomedanism was introduced by an Arab, Wos-Kassin, said to have been Mahomed's maternal uncle; but the Mahomedans are neither zealous in the propagation of their doctrines, nor over strict in the observances of their religion. They are perpetually rising against the Government. In 1863 those living in the north went into open revolt, and spread a ruin and devastation not yet (1882) remedied.

Christianity penetrated into China as early as the 5th and 6th centuries; in the 13th it was very flourishing, and there existed at Pekin an archbishop with four suffragans. The general who conquered Southern China is stated to have been a Nestorian Christian, and to have built a church at Nankin for those of his own faith. Marco Polo, a Christian, was in high favour. We learn from the Mahomedan travellers, who visited China as early as A.D. 850, that when Canton was taken and sacked in A.D. 877 by a rebel army, as many as 120,000 Mahomedans, Jews, Christians, and Parsees perished in the sack (Prinsep's Tibet, Tartary, and Mongolia, p. 10). The Chinese have also books of Christian doctrine, composed by ancient missionaries, and which, even in a purely literary point of view, are much esteemed in the empire. The Chinese designate the Christian religion as the religion of the Lord of heaven (Huc, i. xv. p. 68). A French missionary, who had been very much in the interior of China, stated the total number of native Christians at 500,000. M. Huc's estimate is 800,000, scattered over all China proper in small communities. They differ from their own countrymen in many of those social and domestic customs and in all those mental peculiarities which constitute the special nationality of the Chinaman. Dr. Knowlton has stated that if the present ratio of conversions goes on as it has for some years back, 'by the year 1900 the native Christians in China will number over two millions!' (Huc, Chinese Empire, i. p. 16). A popular uprising began in 1848. It originated in 1830 in the teachings of Mr. Roberts, an American missionary, and those of an earnest Chinese disciple. It became blended with the national struggle of the Tae-ping, or the votaries of 'the divine kingdom of eternal peace.' According to the writings of Hung, once a schoolmaster, but afterwards the 'Heavenly Prince' and acknowledged head, the convert, on coming to baptism, pronounced a solemn vow to take the belief in the Father, Son, and Holy Ghost for his rule of life, and to dedicate this life to God, in love to the brethren; while visits to the tombs of ancestors were enjoined, in gratitude for the release of their immortal souls from this troublesome life, and to renew the vow of life-long devotion to the cause of God and the brethren. The Bible was the word of God, the Ten Commandments the moral law, and opium-smoking a sin equal to adultery (Bunsen, God in Hist. i. p. 272). Chevalier Bunsen was of opinion that the Chinese worship of the dead is the sole connecting link between them and a future state. In their disbelief of immortality and of God, Quinet doubts if they have, in the past 5000 years, lived a single day (Bunsen, God in Hist. i. pp. 265–7). But the nation believe in spirits or disembodied beings, and Chinese officials address letters to their deities, which they despatch in a fire sacrifice. Their philosophies are noticed above.

Throughout China some vague idea is entertained by the people of the existence of one great being, whom they usually designate as Shang-ti, the Supreme Ruler, the Supreme Sovereign, or whom they call Tien, Heaven; and believe that he, by a fixed destiny, controls all affairs; and as such, Tien is taken to be an appellation of the godhead of men. The learned among the Chinese speak of him, as he is represented in their most ancient classics, as having no form, nor sound, nor savour, nor tangibility; and to their minds he appears divested of all distinct personality. The spiritual ministers of heaven they call Shin, expansive spirits, or Shin-ming, illustrious spiritual beings. They divide them into two large classes, of which one is the Tien-shin, or heavenly. But the whole number of these spirits are dependent upon, and ruled by, Tien, or the Supreme Ruler of heaven. They rarely build any temple for the worship of Shang-ti. Still the people universally pay to Heaven, or to Heaven's Lord, a sort of homage daily. Every Chinese house has a lantern suspended outside the street door, and directly over the middle of the doorway, which they call Tien kung-tang, Heaven's Lord's lantern, or simply Tien-tang, Heaven's lantern. These lanterns are all lighted up, and incense is burnt for him during a short time every evening. Also, one day in every year they profess to devote to his honour, the ninth day of their first month, which they call his birthday! Then they have plays acted to please him!

They have an idol. Choo-tai-tsoo, the founder of the Ming dynasty, ordered the manufacture of a metallic figure of a man, 15 inches high, attired as a Taoist priest. This is carried in procession on the installation of every Chinese emperor. Three fingers of the left hand are placed in its mouth; and in the hand is a tablet inscribed, 'Fast for three days.'

The inferior state deities are—

Kwan-te, a distinguished general, the protector of the peace, who is now their god of war.

Lung Wong, or the Dragon King, a rain god.

Yuh Wang-te, or the Pearly Emperor, another rain god.

Mang-Chang, worshipped by schoolboys and collegians; god of learning.

Shing Wong, the protector of walled cities.

Hung Sing Wong, the deity presiding over the Southern Ocean.

Pih-te or Pak Tai, the great deity of the north.

Five genii preside over the five elemental substances, fire, earth, water, metal, and wood.

Tien How, queen of heaven.

Koon Yam, the goddess of mercy.

Kum Fa, the tutelary goddess of women and children; the Venus genetrix of the Chinese.

Shay Tseih, god of the land and of the grain.

Fung Fo Shan, the wind and fire gods.

Too Tee, the god of wealth.

Wang Teen is a deity to whom the Shu-king and She-king ascribe the attributes of omnipotence, omniscience, and immutability.

Poon Koo Wong, with the Chinese, the first parent, a division of the mundane egg. He breathed on gold and on wood, and from the vapour produced a son and daughter, Yong-Yee and Cha-Noee. Poon Koo Wong has many temples, and his image is carved in wood or clay.

Their chief festival occurs on their new year; their festival of Too-tee, of middle heaven, of Th'shat-t'sic, of the sun, of Wa-kwong, the god of fire, of Ching-yaong, the emperor's birthday.

Shu Yee is a Chinese festival of burnt-offerings to the souls of paupers.

San Lin is the new year festival; it is their bacchanalia. The new year commences with the new moon nearest to 15° of Aquarius, into which sign the sun passes in the month of January. They also hold as festivals the 1st and 15th day of each month. These bear some resemblance to the Mominia, or feasts observed by the Hebrews, Egyptians, Persians, Greeks, and Romans, and seem identical with the Hindu fortnightly ceremonials.

Tuen Nin, or Wa Shun, a Chinese festival held on the 28th or 29th of the 12th month, in which thanks are given to the tutelary deity of the house.

Tien Chung Ching Sit is the Chinese feast of the middle heaven.

Th'shat-t'sic, a Chinese festival held during the 15 days' observance of the Shu Yee, burnt offerings for paupers. It is held on the 7th day of the 7th month, in honour of the seven stars which the Chinese regard as goddesses, one of whom visited earth, and was married to, and lived for a time with a cowherd.

Literature.—The greatest counterpoise of the imperial power consists of the literary aristocracy, or corporation of men of letters, an ancient institution, which has been established on a solid basis, and the origin of which is at least as early as the 11th century before the Christian era. It may be said that the administration receives all its real and direct influence from this sort of literary oligarchy. The emperor can only choose his civil agents from among the lettered class, and in conformity with established arrangements. Every Chinese may present himself for the examination for the third literary degree, and those who obtain this may then become candidates for the second, which opens the way to official employment. To fill the higher offices, the prize must be obtained in the competition for the first degree. The corporation of lettered men, recruited every year by the method of examination, constitutes a privileged class, almost the only nobility recognised in China; and it may be considered as the chief strength and nerve of the empire. The famous imperial academy of Han-Lin is composed of literary graduates. It furnishes orators for the public festivals, and literary examiners for the province, and is supposed to promote the cause of learning and science generally.

Five canonical books were written or compiled by Confucius,—

1st. Yih-king, the Book of Mystical Combinations, a mystical form of writing on divination.

2d. Shu-king, or the Book of History, descends from B.C. 2400 to 281. It is in the character of a dialogue, and contains much of a didactic nature.

3d. The She-king, or Book of Poetry, a collection of poems, songs, and odes of inappreciable antiquity, to which Confucius attached great value as a means of moulding the national character.

4th. The Le-ke or Record of Rites, a national ceremonial; and the Chinese consider the observance of its ceremonies and usages to be essential to the maintenance of social order and the promotion of virtue.

5th. Ch'un-Ts'ew, or Spring and Autumn, a history of his time, and of several reigns immediately preceding it. The first four King were compiled and edited by Confucius; the last is an original work by the sage; but the fourth contains much from later hands.

The *Shu* are three books, in which the disciples of Confucius have recorded his conversations about poetry, history, and the rules of propriety; above all, about what concerned the growth of social virtue in the individual or the state.

In the year B.C. 213, the emperor Chi-wang-ti burned all the books in his dominions, excepting those on architecture and medicine. The sixth emperor after him, King-ti, commenced the restoration of all books, which Wou-ti, who succeeded him B.C. 140, urged on. The materials he collected were put together by Sse-ma-thsian, whose work was named the Sse-ki, or Historical Memoirs. This is composed of 120 books, and embraces the history of China from the reign of Hoang-ti, B.C. 2097, to that of Hiao-wou, A.D. 122, which has been the model of all succeeding writers. It is divided into five parts, entitled the Imperial Chronicle, Chronological Tables, the Eight Branches of Science, Genealogical Histories, and Biography.

Sse-ma Ching is the next historian, also called Siao Sse-ma. He lived towards the end of the 6th century. His book is called San-hoang-pen-ki, and is half mythological.

Sse-ma Kouang flourished in the 11th century. His great chronicle is the Tseu-tchi-thoung-kian, or Mirror for the use of Governors, and consists of 294 books of text, 30 of tables, and 30 dissertations and discussions, and embraces a period of 1362 years. He had several turns of prosperity and adversity whilst alive, and after his death his tomb was thrown down; but in A.D. 1267 his honours were restored, and his name inscribed in the temple of Confucius.

Jin Kin, or Classes of Men, is a Chinese book of great authority. In it the sages occupy the first chapter, and in this Confucius is placed high above all others.

Li is a Chinese word of very extensive meaning, sometimes rendered reason, courtesy, propriety, good breeding. The saying is, Li and Wen (learning) make up the whole sum of human excellences.

Four other classics, known as the Four Books, are mostly Confucian. They are the Ta-heo, or Great Study, the Chung-yung, or Invariable Mean, the Lun-yu, or Miscellaneous Conversations, ethical and philosophical works, which are allied with those of Mang-tsze.

Kang-he-tsze-tien is a great dictionary, and Pei-wan-yun-fu, or Girdle of Literature, is another. It was published A.D. 1711, in 110 thick volumes.

The Hae-kwo-tu-che, A.D. 1840, by Lin, is a historical work.

Their most celebrated poets are Su-lung-po of the 8th, and Le-tae-pih of the 14th centuries.

Choo-foo-tsze lived about the 12th century, till lately he was looked upon almost as a second Confucius. He has left a very enduring impression upon the literature of the country.

In no other country has the Government ever made so ample a collection of popular songs as that which the Chinese authorities compiled in ancient times, in order that the character of the rule exercised in different principalities might be judged by the tone of the poetical and musical productions of their subject,—a collection from which it is believed that Confucius compiled his celebrated She-King, or Book of Poetry. Nowhere else has so vast a work ever been produced as the Encyclopædia, in 5020 volumes, which was compiled at the command of the enlightened emperor K'ang-he, and which contains articles on every known subject, and extracts from all works of authority dating from the 12th century B.C. The copy in the British Museum is almost the only complete copy existing.

The Chinese written language consists of picture words. The alphabet is a hieroglyphic system, each word having its own graphic representative. Chinese is monosyllabic; no word is allowed more than one consonant and one vowel. Hence the possible number of words is extremely small; but each word can be pronounced with various accents and intonations, of which there are said to be 450, and the number of words or ideas in Chinese is said to be 43,496. The vastness of this amount will be appreciable, by mentioning that only about 5000 words occur in the Christian Old and New Testaments. A student of average memory should be able in five years' study to store up enough to carry him through any ordinary business or official documents. M. Remusat, in his Grammaire Chinoise, notices three styles of the Chinese written language, which he calls style antique, style litteraire, and langue des magistrats, or langue mandrinique. Mr. Meadows considers (Des. Notes, p. 13) Remusat not quite correct in these definitions. Nevertheless M. Huc also says that the Chinese in their written language have three distinctions of style,—the antique or sublime style, the type of which is to be found in the ancient literary monuments, and which exhibits very rare grammatical forms; the vulgar style; and the academic style, which partakes of the two preceding, being less concise than the antique, and less prolix than the vulgar. The vulgar style is employed for light productions, theatrical pieces, private letters, and proclamations intended to be read aloud. The spoken language is composed of 450 monosyllabic intonations, which, by the very subtle variations of the accents, are multiplied to about sixteen hundred. It results from this, that all Chinese words are necessarily grouped in homophonous series, whence a great number of double meanings may arise either in reading or speaking; but their difficulty is avoided by coupling synonymous or antithetic words. In this manner the ambiguities disappear, and the conversation is no longer embarrassed. The language called Houan-hoa, that is to say, common universal language, Europeans wrongfully designate mandarin language, as if it were exclusively reserved for the mandarins or functionaries of government. The Houan-hoa is the language spoken by all instructed persons throughout the eighteen provinces of the empire, but in this a distinction is made between the language of the north and that of the south. The former is that of Pekin; it is marked by a more frequent and sensible use of the guttural or aspirate accent. It is spoken in all the provincial government offices.

The Chinese have six styles or modes of writing their characters, the most elegant being the Kiai-shoo.

The Chuen-shoo style is the ancient mode of writing, and is derived immediately from hieroglyphics, and is either a caricature or a stiff and imperfectly written character.

The Le-shoo is used by official attendants, and is written with greater freedom than that employed in books.

The Hing-shoo is the regular running hand used when quick writing is needed.

The Tsaou-tsze is a hasty and abbreviate style, used in ordinary transactions and correspondence.

The Sung-ti is the regular form of the character used in printing.

The respect which the Chinese pay to their written character amounts almost to worship. The literati employ men to traverse the streets of towns and villages to collect waste-paper from dwelling-houses and shops, lest fragments bearing Chinese characters should be trodden under foot. Each man is provided with two baskets, and at his call, 'Sow-suee-chu!' Spare the printed paper! the people rush to the door and empty their waste-paper baskets into his. When his baskets are full, he takes them to the temple or guild, provided with a furnace for the purpose of consuming such collections, and in many instances the ashes of this paper are put into earthenware vases, and flung into a tidal stream to be borne out to sea.

The essays of candidates for the various degrees must be in the best caligraphy, and the Kiai-shoo style is that adopted by them. They must have at least 360 characters in their essays, and not more than 720.

Chinese Currency.—Sycee silver, in Chinese Wan yin, is their only approach to a silver currency. In it the government taxes and duties, and the salaries of officers, are paid; and it is also current among merchants in general. The term Sycee is derived from two Chinese words, Se-sze, fine floss silk; which expression is synonymous with the signification of the term Wan. This silver is formed into ingots (by the Chinese called shoes), and by the natives of India, khuri, or hoofs, which are stamped with the mark of the office that issues them, and the date of their issue. The ingots are of various weights, but most commonly of ten taels each.

Sycee silver is divided into several classes, according to its fineness and freedom from alloy. The only coined money in China are the brass pieces with a hole in the centre. Silver is sold by the weight, and an ounce is the equivalent of from 1700 to 1800 of these brass coins, which are called 'sapek' by Europeans. They have some pieces of brass, called tsian, and in Mongol tchos,

of which the inhabitants of Siberia make tchok and tchek; they are of less value than a sapec. A kind of notes are in circulation among private persons.

Weights.—The Chinese have communicated their weights to all the adjacent countries. A pikul is equal to 133⅓ lbs. avoirdupois; and 4 lbs. being equal to 3 catties, 100 catty make a pikul.

10 cash	= 1 candarin.	16 tael	= 1 catty.
10 candarin	= 1 mace.	100 catty	= 1 pikul.
10 mace	= 1 tael.		

Calendar.—The Han dynasty of China reformed the calendar. The Chinese, like all the natives of the north-east of Asia, reckon their time by cycles of 60 years, and give a different name to each year of the cycle. The Chinese cycle of sixty years is called Hwa-kea-tsze. The year commences from the conjunction of the sun and moon, or from the nearest new moon, to the fifteenth degree of Aquarius. It has twelve lunar months, some of twenty-nine, some of thirty days. To adjust the lunations with the course of the sun, they insert, when necessary, an intercalary month. Day and night are divided into twelve periods, each of two hours. Their division of the day is therefore as simple as the British, and not much unlike it. The Chinese begin the day an hour before midnight, and divide the twenty-four hours into twelve parts of two hours each. Instead of numbering their hours, they give a different name to each period of two hours.

Tsze,	11 to 1 morning.	Woo,	11 to 1 afternoon.
Chow,	1 to 3 ,,	We,	1 to 3 ,,
Yiu,	3 to 5 ,,	Shin,	3 to 5 ,,
Maou,	5 to 7 ,,	Yew,	5 to 7 ,,
Shin,	7 to 9 ,,	Seo,	7 to 9 ,,
Sze,	9 to 11 ,,	Hae,	9 to 11 ,,

The word Keaou is added when the hour of each period is intended, and Ching for the last. Thus Keaou tsze is eleven at night, and Ching tsze, twelve at night; Keaou chow, one in the morning; Ching chow, two; etc. etc. The word K'hih, 'quarter,' is used after the hour with the numerals yih (one), urh (two), or sau (three), to subdivide the hours into quarters, which is the smallest division commonly employed: example, Ching maou yih k'hih, a quarter past six; Keaou woo urh k'hih, half-past eleven.

This division still maintains itself in legal and official language, though the practical value of the European clocks and watches, now largely used in China, is gradually substituting for it the occidental division of twice twelve hours.

Industry and Art.—The Chinese are a laborious, diligent, hearty-working and painstaking race, skilful in economizing materials, and possessed of no mean share of inventive power. Foreign nations have borrowed from China many of the comforts and ornaments of life. The very names of such aids to existence as silk, satin, and tea are in most European lands a sufficient proof of this fact, being but slight modifications of the Chinese words sze, sze-tun, and tê. Their knowledge of the magnet is supposed to have led them to a knowledge of the compass. Their ordinary ink, composed of lamp-black and glue, is sufficiently pure to be used in the arts. Their ordinary cotton-cleaning machine, for freeing the cotton fibre from the seeds, has not yet been equalled by all the mechanical skill of Europe. In all working in metals,—in ordinary blacksmith work, metal smelting, alloys, particularly their white metal of copper, zinc, iron, silver, and nickel, their sonorous gongs and bells, that of Pekin being 14½ feet to 13 feet, and their ingenious metallic mirrors, some with engravings; their manufactures of porcelain, glass, and glazes; their carving and engraving of gems, agates, and rock crystal, and on ivory and wood, have for centuries been famed, and much of it excites the admiration of Europe, as also does their varnish work. Their lacquer-ware is beautiful, though perhaps excelled by that of Japan; their excellent metallic colours, red, white, green, and violet, are used in painting their china-ware. Their porcelain long excelled that of all other countries. The gold and silver tinsel cloths of Pekin stand deservedly in high estimation; and their gold and silver filagree work equals any ever produced by ancient Venetian masters; and their chasing in silver and enamelling on silver is unrivalled (see Carving, Lacquer-ware, Colours, Ceramic Manufacture, Enamelling, Filagree Work). In weaving they are superior, in candle-making not inferior, but in painting and sculpture they do not excel. They are bold, self-reliant, skilful gardeners, and excellent farmers, and date their skill in these back four thousand years.

Husbandry and silk-weaving were the earliest of the arts cultivated by this people. The former was introduced by Shin-nong, the immediate successor of Fo-hi, and silk-weaving by an empress; and to both of these inventors the Chinese perform annual sacrifices on their festival days. Husbandry is still highly honoured; and annually, at a grand festival in honour of the spring, the emperor ploughs and sows a field. The Egyptians, Persians, and Greeks held games and festivals, mingled with religious ceremonies, at seed-sowing; and in England, formerly, the festival of Plough Monday was held, during which the plough light was set up before the image of the patron saint of the village. The Chinese, in the reign of Hoang Ti, invented the magnetic needle, the smelting of copper for making money, and vases of high art; and money seems to have been coined in gold and silver and lead so early as Confucius' time, but many payments are still made in kind or by pieces of silver. Most of their calculations are made by a reckoning board. Sir John Davis is of opinion that the art of printing, the composition of gunpowder, and the magnetic compass, which are justly considered in Europe as three of the most important inventions or discoveries of modern times, had their first origin in China. In the beginning of the 10th century printing was invented, and in A.D. 932 that mode of multiplying copies of books received the imperial sanction; a printed imperial edition of all the sacred works having been then published. The greatest of all the arts was not invented in Europe till 500 years after this. Marco Polo speaks much of the stamped paper money of the Chinese; and he must have seen their printed books. Their printing types are made from the pear-tree wood, called by them Ly-mo.

Eighteen centuries ago they had discovered the secret and means of manufacturing paper. Before that invention, they used to inscribe written characters on strips of bamboo or sheets of metal, using a style, or iron pen, for the purpose of marking the characters. Before the art of paper-

making had arrived at perfection, the Chinese had adopted the practice of writing upon white silk, or cotton, with a bamboo pen; this was found a more convenient method than writing either on strips of bamboo or sheets of metal, as the silk or linen could be folded into a small compass. Paper is manufactured from various materials, each province or district having its own peculiar manufacture. In Foh-kien province it is made from young, soft bamboo; in the province of Che-kiang it is made from paddy straw; in the province of Kiang-nan it is made from the refuse silk, and this paper is very fine and delicate, being highly valued for writing complimentary inscriptions upon. To size the paper and render it fit for ink, they make a glue, somewhat similar to isinglass, from fish-bones; these they chop up very small, and soak the mass in water, which is continually renewed. When all oily impurity is extracted, they add a due proportion of alum which has been dissolved. Over the vessel in which this mixture is, a rod is laid; a cleft stick is used for holding the sheet of paper during the process of dipping. As soon as the paper has been sufficiently saturated, it is withdrawn by gently rolling it round the stick which has been laid over the vessel; the sheet of paper is afterwards hung to dry either near a furnace or in the sun. Towards the close of the 19th century, they have thought of introducing railways, have worked their coal mines on the system followed in Europe; have formed steam-mills for spinning and weaving cotton and wool, and have established steam navigation companies and steam war-ships.

The trade of India with China ranks next after that with the United Kingdom; in the year 1878 the total value of the foreign trade of China was as follows:—Imports, 70,804,027 Haikwan taels, or, at 5s. 11½d., £21,093,670; exports, 67,172,179 taels, or £20,011,711; total, 137,976,206 taels, or £41,105,000. The customs revenue in 1878 increased to 12,483,988 taels. The total value of the trade of China with Great Britain and her possessions is set down at 64,943,997 taels or £19,347,899 imports, and 46,022,719 taels or £13,710,935 exports; making together 110,966,716 taels or £33,058,834.

Domestic and Social Relations. — Polygamy exists, and any man may have his second, third, or inferior wives. Women, even as first wives, do not take a favourable position in their households, though as mothers their condition is improved. Chinese differs from Mahomedan polygamy in this, that a Mahomedan woman can legally hold property, is the owner of her own dower, and each wife has a separate establishment and a separate allowance for herself. In China, the extent to which wives are, by law and custom, in the power of their husbands, would produce deplorable effects, but for the almost unlimited power which law and opinion give mothers over their sons of every rank and age. So also the institution of polygamy is largely counterbalanced by the desire of all the men to marry early, in order to secure a progeny of sons as soon as possible. Polygamy is encouraged by the law which compels gentlemen and tradesmen to give their slaves in marriage, and by the physiological views which compel a husband to abstain from cohabiting with his wife during pregnancy, and during all the time the child is at the breast. Wealthy Chinese are generally very careful to follow this custom. The dread of unhappiness caused by polygamy has kept many Chinese girls from marrying, and instances occur of suicide to avoid it. The imperial household is probably unsurpassed in extent, there being married to the emperor, not only the chief wife, who is the empress, but also under-wives of first, second, and third classes, on all of whom unnumbered servants wait. The imperial porcelain factories of Kin-tih-chin forwarded to the palace for their use, in the year 1877, 11,838 articles, consisting of fish-bowls, flower-vases, and ornamental jars of the first quality, and inferior products in proportion.

In China, children are married according to seniority, as in Genesis xxix. 26, and Book of Tobit viii. 1. In China, parents choose wives for their sons, as was customary with the early Hebrews, as in Genesis xxi. 21, xxxviii. 6, Deut. xxii. 16, and as still prevails with most of the Eastern races. A Chinaman cannot take as a wife a woman who bears the same family or clan name as himself; such a marriage is null. Neither can he marry his cousin on his mother's side, nor his step-daughter, nor his aunt, the sister of his mother. No lady can marry until she is fourteen years of age. Nap-pie is the presentation of silks in betrothal, as in Genesis xxiv. 22. The bride is seldom seen by the husband, until she leave the sedan chair in which she is conveyed, with her belongings, to his house. Mandarin ducks are introduced at marriages as patterns of connubial felicity. The last part of the ceremonial is for a female attendant to present to the bridegroom a small linen sheet, which he spreads on the nuptial couch, and on the following morning it is presented to his parents. In China, widow re-marriage is not respectable, and a girl whose betrothed dies is regarded as a widow.

Cosmetics are much used by Chinese ladies; they are forbidden to be used by a bride on her marriage day, and are not used in mourning.

Playactors, policemen, boatmen, and slaves must marry into their own respective classes.

As in Matthew's Gospel, xxv., lanterns are much used.

In the little feet of the Chinese women, the four smaller toes appear grown into the foot, the great toe being left in its natural position. The fore part of the foot is so tightly bound with strong broad ligatures, that all the growth is forced into height instead of length and breadth, and forms a thick lump at the ankle; the under part measures scarcely four inches long and an inch and a half wide. The foot is constantly bound up in white linen or silk, and strong broad ribbons, and stuck in a very high-heeled shoe. The crippled fair ones trip about with tolerable quickness; to be sure, they waddle like geese, but they manage to get up and down stairs without the help of a stick. The feet of their women are naturally small, but at six or nine years of age they are trained into a deformity. Long bandages of cotton cloth an inch wide are folded round the foot, and brought in a figure of eight form from the heel across the instep and over the toes, then carried under the foot and round the heel, and so on, and drawn as tight as possible. After some years, if the bandage has been well applied, the pain subsides. The tarsus is bent on itself; the back of the os calcis is brought to the ground. A large foot is a sure

indication of humble birth. It is not, however, the mark of aristocratic or wealthy station, but a Chinese as opposed to a Tartar practice, though indeed some Chinese races do not follow it. Infanticide, of which the husbands are the only perpetrators, is not uncommon; but female children only are murdered, and those immediately after their birth. This horrible crime meets with no punishment from the laws of the country; a father being the sovereign lord of his children, he may extinguish life whenever he perceives, or pretends, that a prolongation of it would only aggravate the sufferings of his offspring. Professor Douglas is of opinion that it is only abject poverty which drives Chinese parents to the rough resource of infanticide, and that in prosperous districts such primitive method of providing for children is unknown. But the stone which stands near a pool outside the city of Fu-chu, bearing the inscription, 'Girls may not be drowned here,' proves that the inestimable blessing of possessing daughters is not yet appreciated as it should be by Chinese parents.

The Chinese are not a moral, though they are a ceremonial people. Their usual salutation when meeting is Haou-tsing-tsing? Are you well? Hail! Hail! Social conversation is replete with compliments, compelling even the most egotistic talker always to speak of himself as 'the little one,' 'the mean one,' 'the stupid one,' or 'the cheap one;' and allowing such a greeting as 'I congratulate you on having acquired wealth,' to be addressed to a passing beggar. They, like most of the natives of the East, waste much time before commencing the business for which they meet. The conversation must always begin on indifferent and mostly insignificant subjects, and at the end of the visit you explain in three words what really brings you there. The visitor rises, and says, 'I have been troublesome to you a very long time;' and doubtless, of all Chinese compliments, this is the one that most frequently approaches the truth. They are not truthful. Sir John Bowring says (i. p. 105) his experience in China predisposes him to receive with doubt and distrust any statement of a nature when any, the smallest, interest would be possibly promoted by falsehood. They are largely given to the use of opium. Mr. Knowlton estimated that there are 2,351,115 confirmed opium-smokers, or one in every 170 of the population.

In ordinary quiet times they appear to maintain order as if by common consent, independent of all surveillance or interference on the part of the executive. But let them be brought into contact with bloodshed and rapine, or let them be roused by oppression or fanaticism, and all that is evil in their dispositions will at once assert itself, inciting them to the most fiendish and atrocious acts of which human nature has been found capable. Both kindliness and cruelty, gentleness and ferocity, have each its place in the Chinese character; and the sway which either emotion has upon their minds, depends very much upon the associations by which they are for the moment surrounded. When in their own quiet homes, pursuing undisturbed the avocations to which they have been accustomed, there are no more harmless, well-intentioned, and orderly people.

They are good agriculturists, mechanics, labourers, and sailors; and they possess all the intelligence, delicacy of touch, and unwearying patience which are necessary to render them first-rate machinists and manufacturers. They are, moreover, docile, sober, thrifty, industrious, self-denying, enduring, and peace-loving to a degree.

They emigrate to any climate, be it hot or frigid. All that is needed is teaching and guiding, combined with capital and enterprise, to convert them into the most efficient workmen to be found on the face of the earth.

On the pressure of want they readily part with their children, especially girls, and girls are often destroyed. On the other hand, asylums exist in China for aged men and women, for the blind, and for lepers. The aged men are treated with great respect, and are allowed to have walking-sticks, which are not used by Chinese, long-stemmed pipes being employed. Monumental arches are raised to their honour.

Food.—The great staff of life in China is rice, which is either eaten dry, or mixed with water so as to resemble a soup. Out of rice they make their chief intoxicating liquor, which, when good, is something like strong whisky, both in its colourless appearance and its smoky flavour. Several vegetables are consumed, such as the sweet potato, Barbadoes millet, peas, beans, turnips, carrots, etc. Of their fruits, the orange, lichee, loquat, and mangoes are much in use. Their favourite animal food is pork, the taste for which is national. There is a maxim prevalent among them, that a scholar does not quit his books nor a poor man his pigs. The flesh of the bullock, sheep, deer, dog, cat, wild cat, rat, and horse is eaten, but compared with that of swine these are rarities. Fish are eaten in great abundance, either fresh, dried, or salted; and they rear great quantities of ducks and various species of fowl for the table. The comprehensive principle on which Chinese diet is regulated, is to eat everything which can possibly give nourishment. Their notions as to dogs' and rats' flesh are quite fanciful. The luxuries consumed by the rich consist of the edible bird's nest, the beche de mer or sea-slug, shark fins, fish maws, cow sinews, points of stag antlers, buffalo hides, which afford the gelatinous food considered so restorative. Amongst their delicacies also are dishes made of the larvæ of the sphinx moth, and of a grub bred in the sugar-cane. In China, the various modes of catching and rearing fish exhibit the contrivance and skill of the Chinese quite as much as their agricultural operations. According to the Repository, at least one-tenth of the population derive their food from the water, and necessity leads them to invent and try many ingenious ways of securing the finny tribes. Besides fish, molluscs of every kind, crustacea of all kinds. A Chinese is prohibited by law from killing a cow. The punishment for slaughtering a draught cow or ox, for the first offence, is one hundred blows; for a second offence, the same number, and exile for life from the province.

The *amusements* of the Chinese comprise theatrical representations, pyrotechnic displays, marionettes, peep-shows, conjurors, athletes, ventriloquists, regattas, cricket fighting, quail fighting; and they are very fond of singing-birds.

The *horse* commonly seen in China is a mere pony, not much larger than the Shetland pony; it is bony and strong, but kept with little care,

and presents a worse appearance than it would if its hair were trimmed, its fetlocks shorn, and its tail untied. This custom of knotting the tail is an ancient practice, and the sculptures at Persepolis show that the same fashion prevailed among the Persians. The Chinese language possesses a great variety of terms to designate the horse; the difference of age, sex, colour, and disposition are all denoted by particular characters.

Flora.—The only trees to the cultivation of which the Chinese pay any attention, are the fruit-bearing kinds; and in some places in China there are very fair orchards, containing the mango, leechee, longan, wangpee, orange, citrons, and pumelows. The yang-mai is a scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre. The kum-quat is a small species of citrus, about the size of an oval gooseberry, with a sweet rind and sharp acid pulp. A small quantity is sent to England preserved in sugar. Groves of the kum-quat bush are common on all the hill-sides of Chusan from three to six feet high, and when covered with its orange-coloured fruit is a very pretty object. The shaddock, plantain, and persimmon are common, and several varieties are enumerated of each; the plantain is eaten raw and cooked, and forms no inconsiderable item in the subsistence of the poor. The pomegranate, carambola or tree gooseberry, mango, custard-apple, pine-apple, rose-apple, bread-fruit, fig, guava, and olive, some of them as good and others inferior to what are found in other countries, increase the list. The whampe, leechee, longan or dragon's eyes, and loquat, are indigenous fruits at Canton. The first resembles a grape in size, and a gooseberry in taste; the loquat (Eriobotrya) is a kind of medlar. The leechee looks like a strawberry in size and shape; the tough, rough red skin encloses a sweet watery pulp of a whitish colour, surrounding a hard seed. Grapes are plenty, and tolerably good.

In China, the staple summer crops are those which yield textile fibres. The jute of India, a species of Corchorus, is grown to a very large extent, and in China is used in the manufacture of sacks and bags for holding rice and other grains. A gigantic species of hemp (Cannabis) growing from 10 to 15 feet in height, is also a staple summer crop of China, and is used in making ropes and strings of various sizes, such articles being in great demand for tracking the boats up rivers and in the canals of the country. China grass-cloth, a beautiful fabric made in the Canton province, is largely exported to Europe and America. The Urtica nivea plant, which is supposed to produce this, is also abundantly grown in Kiang-si and other provinces. Fabrics of various degrees of fineness are made from this fibre, but none are so fine as that made about Canton; it is also spun into a very strong and durable thread. There are two very distinct varieties of this plant common in Che-kiang,—one the cultivated, the other the wild. The cultivated variety has larger leaves than the other; on the upper side they are of lighter green, and on the under they are much more downy. The stems also are lighter in colour; and the whole plant has a silky feel about it, which the wild one wants. The wild variety grows plentifully on sloping banks, on city walls, and other old and ruinous buildings. It is not prized by the natives, who say its fibre is not so fine, and more broken and confused in its structure than the other kind. The cultivated kind yields three crops a year. A species of juncus is grown, the stems of which are woven into beautiful mats, used by the natives for sleeping upon, for covering the floors of rooms, and for many other useful purposes. This is cultivated in water somewhat like the rice plant, and is therefore always planted in the lowest part of these valleys. In the beginning of July, harvest of this crop commences.

Burials. — When the life has departed, the dead body is arrayed in robes of state, or in most costly apparel; ablutions are not performed, nor any unnecessary handling of the body suffered. White is the sign of mourning. The Chinese worship the spirits of the dead; and amongst that nation the desire to have a good coffin is universal. Many purchase for themselves that last tenement, and keep it by them, and it is usually substantial, of metal or wood. In Burma, where many Chinese are settled, the best block of teak is selected, and, the upper portion being sawn off to form a lid, the block is hollowed and ornamented. These may be seen in Moulmein in every carpenter's shop. In China, the coffin-makers' shops have a very gay instead of a lugubrious appearance, as the coffins are usually painted red, or some equally bright colour, and the more expensive ones are decorated profusely with gilding; these coffins are placed on shelves one above the other, and the prices vary from one dollar up to four or five hundred. They are often presented by children to parents. The funeral customs of China vary in the different districts. In Foh-kien, the body is placed in a coffin soon after death; a fan is placed in the hand, a piece of silver in the mouth, and a hole is sometimes made in the roof for the spirit to effect its exit. The tombs are on the hill-sides, where lucky spots are chosen by geomancers. Paper images of clothes, horses, and other luxuries are cast into the grave, and a sacrifice of cooked provisions is offered on the day of the funeral. Every year, in the month of April, the whole population visit the tombs and worship the manes of ancestors. Sometimes a poor family will keep the coffin for many months in their house till able to purchase a tomb, but the very poor are buried *en masse* within enclosed buildings. The dead are occasionally left exposed on the sides of hills, at the wayside, and on banks of rivers, creeks, and canals. At Nankin they are exposed in great numbers. The rite of respectful burial is, however, so revered, that burial clubs exist in all the large cities. The monumental tombs are small raised truncated cylinders. In mourning for near relations, every part of the ceremonial is exactly regulated,—even the period, manner, and degree of the mourner's grief being duly prescribed. The corpse, being dressed in warm clothes, is deposited in a substantial coffin, and kept for several days above ground, whilst the survivors express their measured grief by gesture, dishevelled hair, sackcloth, and mournful silence. When a good spot has been selected for the grave, the corpse is consigned to the earth. Building a tomb in the form of a horse-shoe, they inscribe thereon the name of the deceased, erect a tablet to his memory in the hall of his ancestors, and repair annually to the grave, in order to prostrate themselves before the manes, and to offer victuals in sacrifice to the spirits. In the temples,

divine honours are paid to their memory. To supply their full wants in the other world, they burn gilt paper, paper chariots, and houses, with every necessary article of furniture, which are supposed to be changed in the other world into real utensils; whilst the gilt paper, when burnt to ashes, becomes so much ready money. The greater the personage, the more protracted is the mourning. The emperor mourns three years for his parent, and every good subject follows his august example. Mandarins resign their office during this period of affliction; literati avoid entering the examinations; the common people abstain for some time from their labour. Sati prevailed to a considerable extent until about the 18th century. It does not appear, however, to have been regarded as a compulsory rite, but was generally the widow's own choice, to show her extreme fidelity, or to escape the hardships of widowhood, or, in the case of dutiful sons, to save the life of a parent. Fire was never used; but opium, poison, or starvation was the means of suicide employed. Yiun Chang was the first emperor who discountenanced those practices, which his immediate predecessors had encouraged; and he forbade honorary tablets to be erected to self-immolating victims. In 1792, a memorial was presented to the emperor, praying for the dedication of a tablet to a most dutiful son, who had cut out his liver in order to cure his mother's sickness. The imperial Board of Rites, after mature deliberation, respectfully observed that the practice of cutting out the liver is that of the ignorant, showing a contempt for their lives, and after all but foolish devotion; and a decree was issued discountenancing the custom.—*Williams' Middle Kingdom; Fortune's Wanderings; Maury's Physical Geography; Thunberg's Travels; Rev. Frederic W. Farrar; Mr. Morrison; Edinburgh Review*, 1867; *Gutzlaff, Chinese History; Forbes, Five Years in China; Meadows' People of China; ib., The Chinese and their Rebellions; Sirr, China and the Chinese; Huc, Chinese Empire; ib., Journey through Tartary, Tibet, and China; ib., Christianity; Wade's Chinese Army; Duhalde, History of China; Bunsen's God in History; Journal, Indian Archipelago*, 1848; *Prinsep's Tibet; Timkowski; Sinnett; Sir John Davis' Chinese; Dr. W. W. Hunter; Marco Polo; Bowring's Siam; Yule's Cathay; Edkins' Religion in China; Foreigner in Far Cathay; Frere's Antipodes; Gray's China; Dr. A. Gordon's Chinese*, 1860-61; *Oriental Herald; Oriental Linguistic Studies; Tod's Rajasthan; D. C. Boulger's China; Lockhart's Medical Missionary; R. K. Douglas' China; H. A. Giles' China.*

CHINA. MAHR. Eriobotrya Japonica, *Lindl.*

CHINA AVAGUDA. TEL. Trichosanthes incisa. China Dula Gondi, Tragia cannabina.

CHINA BARK, bark of Buena hexandra. It is a febrifuge, but is less powerful than the cinchona barks.

CHINA GRASS, or China Flax.

Boehmeria nivea, *Gaud.* Urtica nivea, *Linn.*	Urtica tenacissima, *Roxb.*
Rheea, ... ASSAM.	Tali rami, BENG., MALAY.
Inan Bonoa, . . „	Lepeeah, . . . NEPAL.
Gambe, . EAST CELEBES.	Kankura, . . RUNGPORE.
Chu-ma, Chu, . CHIN.	Pan, ... SHAN.
Karao, Tsjo, Mao, . JAP.	Kaloi, Kalovee, SUMATRA.
Rami, . BENG., MALAY.	

This nettle grows in all the moist countries from Bengal, through Rungpore, Assam, into China, and southward all through the Malay Peninsula into Sumatra, Java, and Celebes. In Bengal and Assam its fibre has only been used for string and ropes by the fishermen and by the Dom race of Assam; but in China, where it has long been woven into the China grass cloth, it is carefully cultivated, and great care is also taken in the process of cutting down, scraping, peeling, steeping, and bleaching the fibre. These, indeed, are detailed minutely in the Imperial Treatise of Chinese Agriculture, lib. lxxviii. fol. 3. When grown from seed, a sandy soil is preferred; the ground is repeatedly dug, formed into beds a foot broad and four feet long, raked and smoothed and watered, again raked and again smoothed, and a pint of seed, mixed with four pints of earth, is scattered on the surface of six or seven beds, and left uncovered in. They are sheltered from the sun by a canopy of matting or grass, which is kept damp, and this shelter is retained till the plants be an inch or two high. The young plants are then to be transferred into a stiffer soil, which is afterwards repeatedly hoed, and top-dressings of fresh horse dung, ass, or cow dung can be used. This process is adopted only where the roots of old plants are not obtainable. The plant grows best from shoots or layers. Dr. Royle (Fib. Pl. p. 344) gives the following as the Indo-Chinese method for preparing the rheea fibre, as adopted in Upper Assam by Major Hannay:—

To cut the Rheea.—The rheea is fit for cutting when the stems become of a brown colour for about six inches upwards from the root. Hold the top of the stalk in the left hand, and with the right hand strip off the leaves by passing it quickly down to the root, and cut off with a sharp knife, taking care to be above the hairy networks of the roots, as these should be covered up with manure immediately, to ensure another crop quickly; lop off the tender top to the stalk, and make the reeds up into bundles of 200 or 250 if the stripping process is not to be carried on in the field or garden; but it is best to strip off the bark and fibre on the spot, as the burnt ashes of the stem afford a good dressing for the roots, along with dry cow-dung.

To strip off the Bark and Fibre.—The operator holds the stalk in both hands nearly in the middle, and, pressing the forefinger and thumb of both hands firmly, gives it a peculiar twist, by which the inner pith is broken through, and then, passing the fingers of his right and left hand rapidly alternately towards each end, the bark and fibre is completely separated from the stalk in two strands.

Making up into Bundles.—The strands of bark and fibre are now made up into bundles of convenient size, tied at the smaller end with a shred of fibre, and put into clean water for a few hours, which, he thinks, deprives the plant of its tannin or colouring matter, the water becoming quite red in a short time.

Cleaning Process is as follows:—The bundles are put on a hook fastened in a post by means of the tie at the smaller end, at a convenient height for the operator, who takes each strand separately of the larger end in his left hand, passes the thumb of his right hand quickly along the inner side, by which operation the outer bark is completely separated from the fibre, and the riband

of fibre is then thoroughly cleaned by two or three scrapings with a small knife. This completes the operation,—with some loss, however, say one-fifth,—and if quickly dried in the sun, it might at once be made up for exportation. But the appearance of the fibre is much improved by exposure (immediately after cleaning) on the grass to a night's heavy dew in September or October, or a shower of rain during the rainy season. After drying, the colour improves, and there is no risk from mildew on the voyage homewards (Royle, Fib. Pl. p. 344). The French have been growing China grass in small quantities ever since 1844, in which year a packet of China grass seed was sent home by M. Leclancher, surgeon to the war corvette La Favorite. The Rouen Chamber of Commerce reported that China grass fibre has an affinity for colouring matters at least equal, if not superior, to that of the very finest kinds of cotton. The plant will flourish north of Paris, and even in Belgium. Mr. Gray's process was said to produce China grass fibres almost as strong as so much silk, quite as free and unentangled as the fibres of the most perfect samples of cotton-wool, and capable of being spun into as delicate a yarn as ever was produced from the very best Sea Island cotton. It possesses a lustre far exceeding that of cotton, greatly in excess of that of native Indian grass cloth. His process was said to be practicable on any scale, and also to jute, hemp, New Zealand flax, and various other plants. Lord Mayo directed much attention to this fibre, which is said to bring prices of £60 to £120 a ton. But such prices could only be obtainable for well-prepared fibre of the finest quality. It is said to be procurable at Ningpo at £20 the ton.—*Roxb.* iii. 590; *Royle, Fib. Pl.*

CHINAKA. HIND. Brassica Griffithii; Malcolmia strigosa.

CHINAKARAM. SINGH. Alum.

CHINA KARINGUVA. TEL. Gardenia lucida.

CHINAL, a caste of people in the Derajat who make carpets; in India, a common woman.

CHINANGI. TEL. Lagerstrœmia parviflora.

CHINAPATAM, in lat. 12° 39′ N., and long. 77° 13′ E., is a Mysore town S.W. of Birdi or Bidadi, 2011 feet above the sea; also the name given to Madras city by all natives of the Peninsula.

CHINAR. HIND. Platanus orientalis.

CHINAR, in lat. 34° 8′ N., long. 74° 50′ 3″ E., an island in the lake near Srinaggur, the capital of Kashmir, 5209 feet above the sea.

CHINA REDWOOD, a Penang wood of a red colour, used for furniture.

CHINA ROOT.

Kusb-sinie, . . .	ARAB.	Smilax China, . .	LAT.
Sook China, . .	BENG.	Esquina, ...	PORT.
Tu-fu-ling, . . .	CHIN.	China alla, . .	SINGH.
China-wortel, . .	DUT.	Rais China, . . .	SP.
Squine, Esquine, . .	FR.	Cocolmeca, . . .	,,
China-wurzel, . . .	GER.	Paringay-puttay, .	TAM.
Chob-cheenee,	GUJ., HIND.		

This large tuberose knotty root of the Smilax China is of a reddish white colour within, and reddish brown without. It grows abundantly in China and Japan. At one time considerably employed in medicine in syphilitic cachexia.

CHINARU. HIND. Armeniaca vulgaris, *Lam.*

CHINA VALASA. TEL. Walsura ternata, *R.*

CHINA-WARE, or porcelain, once so extensively exported from China, is now almost confined to the commonest and cheapest descriptions of stoneware. The patterns made by the Chinese seldom change, while the European manufacturers both consult and lead the taste and fancy of their customers; and it is owing to this, in some degree, that the demand for the Chinese finer ware has ceased, though the Mongols, Siamese, Hindus, and islanders in the Archipelago are still largely supplied from China. When the productions of the East were first carried round by the Cape of Good Hope, the porcelain of China bore an enormous price; and the profits of manufacturing it having been ascertained, the European nations began to make it, and soon outrivalled the Chinese. China-ware is sold in China in sets, consisting of a table set of 270 pieces at from 12 to 75 taels, a breakfast set of 20 pieces at 3 taels, a long tea set of 101 pieces at 11 to 13 taels, and a short tea set of 46 pieces at from 5 to 6 taels.

The Ow-mi-ew, or black China-ware ornamented with gold, is very much prized in China; to make it they mix three ounces of azure and seven of the oil of stones; this is laid on the ware, and when perfectly dry it is baked, after which the gold is laid on and the vessel is re-baked. The To-wi-kie is a porcelain prepared simply by varnishing the vessels with a whitish ash-coloured varnish, made from calcined translucent white pebbles. This has the property of marbling and veining the ware, and giving it an appearance as if it had been fractured into many pieces, which had been carefully reunited. This China-ware is highly prized under the designation of cracked porcelain.—*Compendium by Hon. Mr. Morrison.* See Ceramic Manufactures.

CHIN-CHIN. CHIN. Corruption of Tsing Tsing, a Chinese greeting, meaning, I pray you! I pray you!

CHINCHKED or Mai-ji, in the taluk of Pachora in the Bombay Presidency, has an annual fair in the 15th of the month Paosh, about the beginning of January. It originated from the circumstance of a female devotee named Mai-ji burying herself alive. She was the daughter of a man of the Firoli Kunbi caste of the village of Hewri, in the Jamner district. Being distressed by her husband's parents, she abandoned her home and studied under Goraksh Nath in the Toran Māl mountain. She finally settled at Chinchked, where she was annually provided with a house, which she every year burned, and at the close of the twelfth year she buried herself alive, about the middle of the 17th century. People made vows to her while alive, and after her death to her manes.

CHINCHONA, a genus of plants, natives of South America, several species of which are of great value in medicine, yielding 'bark' or Peruvian or cinchona bark, from which quinine is produced. See Cinchona.

CHIN-CHOO. CHIN. The true God, of Chinese Mahomedans.

CHINCHOR, a town in the Dekhan, with a temple containing an idol named Kandoba, to whom many Murli girls are devoted. See Murli.

CHIN-CHOU. CHIN. Gracillaria tenax.

CHIN-DEO, in Canara, means Jain images, and is supposed to be a corruption of Jain deo.

CHINDWARAH, in the Nerbadda division of the Central Provinces, is a district lying between lat. 21° 25′ and 22° 50′ N., and long. 78° and 79° 30′ E., with an area of 3852 square miles. It has

two distinct natural subdivisions,—the hill country above the slopes of the Satpura mountains, called the Balaghat, and a tract of lowland beneath them to the south, and called the Zer Ghat. It is a sanatorium, and there is a barrack for fifty men.

CHINESE FEET. The binding of the feet is not begun till the child has learned to walk and do various things. The bandages are specially manufactured, and are about two inches wide and two yards long for the first year, five yards long for subsequent years. The end of the slip is laid on the inside of the foot at the instep, then carried over the toes, under the foot, and round the heel, the toes being thus drawn towards and over the sole, while a bulge is produced on the instep and a deep indentation in the sole. The indentation, it is considered, should measure about an inch and a half from the part of the foot that rests on the ground up to the instep. Successive layers of bandages are used till the strip is all used, and the end is then sewn tightly down. The foot is so squeezed upward, that in walking only the ball of the great toe touches the ground. Large quantities of powered alum are used to prevent ulceration and lessen the offensive odour. After a month the foot is put in hot water to soak some time; then the bandage is carefully unwound, much dead cuticle coming off with it. Ulcers and other sores are often formed on the foot; frequently, too, a large piece of flesh sloughs off the sole, and one or two toes may even drop off, in which case the woman feels afterwards repaid by having smaller and more delicate feet. Each time the bandage is taken off the foot is kneaded, to make the joints more flexible, and is then bound up again as quickly as possible with a fresh bandage, which is drawn up more tightly. During the first year the pain is so intense that the sufferer can do nothing; and for about two years the foot aches continually, and is the seat of a pain which is like the pricking of sharp needles. With continued rigorous binding, the foot in two years ceases to ache, and the whole leg, from the knee downward, becomes shrunk, so as to be little more than skin and bone. When once formed, the golden lily, as the Chinese lady calls her delicate little foot, can never recover its original shape.

CHINESE MOSS, Plocaria tenax. See Algæ.

CHINESE TARTARY, also called Chinese Turkestan, is a great depressed valley, shut in by mountains of great height on three sides, and on the east are barren sands, which merge imperceptibly into the great desert of Gobi. It comprised two great divisions, viz. Zungar or Mughholistan, and Kashgar or Eastern Turkestan, on the N. and S. respectively of the intersecting range of the Tian-Shan mountains. The northern portion was called by the Chinese Tian-Shan Peh-Lu, and the southern, Tian-Shan Nan-Lu. The first of these has lapsed in great part to Russia. The Tian-Shan range separates it from Zungaria, the Bolor range from Transoxiana, and the Kara Koram and Kouen Lun from India and Tibet on the south. The land is clayey near the base of the mountains, but sandy in the central tracts. Rain is rare, and the air is of exceeding dryness, but the climate is temperate and healthy. It is well watered from the mountains, the waters converging towards the Ergol or Tarym. The country has gold, copper, salt, sulphur and the jade-stone. The southern line of the caravan route passes through it from Khamil to Aksu and Kashgar. From Aksu to Khokand is 800 miles. It was subject to China from the beginning of the Christian era, to the time of Chengiz Khan. After the middle of the 18th century, the Chinese power regained possession of it. Alti-Shahr, or the six cities, forms the western district, comprising Yarkand, Kashgar, Khotan, Aksu, Yanghisar, and Oosh-Turfan, with territories subordinate to each. Eastern Turkestan is eminently Mahomedan. Yarkand is the entrepot of trade between China and Bokhara. Khotan, from the time of C'tesias, has been celebrated for its mineral products, its jade and emeralds, its shawl wool, and flax. It was at one time the entrepot of a vast trade with Hindustan, and now imports largely furs, broadcloth, leather, and sugar. In the latter part of the 19th century, there was a short-lived Mahomedan uprising, from which sprang difficulties between China and Russia, the latter having taken possession of the province of Ili, and the town and district of Kuldja.

CHINGANI, a name of the Kara-chi of Central Asia, supposed to be a gipsy race.

CHINGARI. HIND. A thug; a clan of Muttri thugs assuming to be Mahomedans, and travelling as ostensible grain merchants.—*Wilson.*

CHINGERITT, a Penang wood of a brown colour, sp. gr. 2·165. A small tree, used for furniture.

CHING-HAE or Chin-hae, in lat. 29° 57½′ N., long. 121° 43½′ E., is the maritime town of the river Yung or Ningpo. The city of Ningpo is about 10 miles from the river's harbour. Ching-hae is a heen or city of the third class. It was captured by the British on 10th October 1841.—*Horsb.*

CHING-HWANG-MEAOU. CHIN. The temple in Chinese towns dedicated to the patron deity of the town. On the morning of the new or full moon, is a lecture, one of sixteen which the emperor Kang ordered to be read, but first put in practice by his son. They are practical homilies on the duties of life.

CHING-KEANG-FO, a town of China, battle of, fought 21st July 1842.

CHINGLEPUT, a town 36 miles S. of Madras. It gives its name to a revenue division which lies between parallels of 12° 13′ and 13° 54′ N. lat., and wraps round Madras. The several races of Mahomedans number 23,192, and Hindus 899,686, of the Valala, Vania, Kamalar, Kaikalar sections, and a small number of Irular and Pariahs. It is known as the Jaghir, having been, in 1763, granted as a jaghir to the E. I. Co. by the nawab Muhammad Ali, for services rendered to his father Anwar-ud-Din Khan and himself; and in 1765 the grant was confirmed by the emperor of Dehli. It was twice overrun by Hyder Ali, in 1768 and in 1780; and in 1784 many parts presented only the bones of the persons who had been massacred, and the ruins of houses made desolate. It has small rivers.

The Palar, rising in Mysore, passes Arcot, Walajahbad, and Chingleput, and falls into the sea at Sadras. The Cheyar falls into the Palar opposite Walajahbad; the Adyar falls into the sea at Madras; and the Corteliar flows into the marine lagoon at Ennore. There are four large tanks, of Chambrambaukum, Utramalur, Red Hills, and Karangoli. St. Thomas' Mount, a military cantonment eight miles south of Madras,

is the headquarters of the artillery. It has two hills rising from a level plain. One of these is St. Thomas' Mount, 220 feet high, on which in 1547 the Portuguese had built a church, and another church on the Little Mount, a rocky hill two miles nearer Madras. On the 9th February 1759, a battle was fought on this plain between the British under Captain Calliaud, and the French. It lasted from 5 A.M. to 5 P.M., and the French, under Lally, withdrew. Between 1746 and 1872, 16 disastrous cyclones swept over it.

CHINGO PANMARI, the Tibetan name of Mount Everest.

CHINGORIER, one of the thug clans.

CHINHA. SANSK. A cognisance, an emblem. Each of the Jaina thirthankara and each of the chief Hindu deities has one. The Chinha of the 24 Jaina thirthankara, are the antelope, ape, buffalo, boar, bull, cobra, chank shell, crocodile, curlew, elephant, falcon, goat, horse, lion, lotus, moon, Nandyavarta mark, rhinoceros, the Srivatsa mark, the Swastika mark, thunderbolt, tortoise, water jar, and water lily. The apostles of the Christians had emblems similarly.

CHINI, HIND., *i.e.* China, or relating to China; hence Chini, sugar-candy, first brought from China, but is also white moist sugar. Rewand Chini, HIND., is Verbascum thapsus, Eremostachys vicaryi, and Rheum emodi. Chini-kam is porcelain.

CHINI, in the Western Himalaya, is situated on the northern side of the snowy range. A few marches to the north of Chini, sharp to the left of the road, there is a grand pass from the Sutlej to the Spiti valley, 18,600 feet high, the Manee or Maneerung crest in the month of May resembling a hurricane of snow, beyond everything sublime and cold.

CHINI. PUSHTU. A China silk fabric of Yarkand.

CHIN-INDIA, a name proposed for the countries beyond the Ganges.

CHINIOT, a town in the Jhang district of the Panjab. It has the shrine of Shah Burhan, a Mahomedan saint, revered by Hindus and Mahomedans.—*Imp. Gaz.*

CHINKAH. HIND. A traversing basket-bridge.—*Wilson.*

CHINKARA, HIND., of European and native sportsmen, is the Gazella Bennettii, found generally on the plains and low open hills of India. In many parts it especially affects the nullahs and stony eminences which diversify the plain. The horns of the male are annulated, and twist back with a slight but graceful curve. They are ten or twelve inches in length. The doe has horns also, but much smaller in every way than those of the buck. They are not annulated, and are sometimes strangely distorted, without any approach to regularity of appearance. They roam in herds of six or eight, but they are more abundant in the province of Cutch than elsewhere, and the antelope is not seen there, though, across the gulf, on the coast of Kattyawar, they abound.

CHIN KILICH KHAN, of Turk origin, of respectable family, was son of Ghazi-ud-Din, who long served under the emperors Aurangzeb, Jahandar Shah, Bahadur Shah, and Farokhsir. Chin Kilich Khan also served and raised himself to independence in Hyderabad, where he was known under the titles Nizam-ul Mulk and Asof Jah. He was the founder of the Asof Jahi dynasty still ruling there, A.D. 1880, as Nizams of the Dekhan. Chin Qilich, are Turki words meaning a sword-drawer.

CHINNA. TAM., TEL. Small; hence,—

Chinna Aku, Acalypha betulina, *Retz.*
Chinna Avaguda, Trichosanthes incisa.
Chinna Botuku, Cordia angustifolia.
Chinna Dula-gondi, Tragia cannabina.
Chinna Jammi, Acacia cineraria, *Willde.*
Chinna Kala Banda, Aloe littoralis, *Kœnig;* A. Indica, *Royle;* A. perfoliatata, *Roxb.* ii. 167.
Chinna Kalinga, Dillenia pentagyna, *R.* ii. 625.
Chinna Kaliva Pandu, Carissa spinarum.
Chinna Mandula Mari, Vitis Linnæi, *Wall.*
Chinna Moralli, Buchanania latifolia, *R.*
Chinna Muttama, Sida alba, *R.*
Chinna Muttavapulagam, Pavonia Zeylanica.
Chinna Nangi, Lagerstrœmia macrocarpa, *Roxb.;* L. parviflora.
Chinna Naringi, Triphasia trifoliata.
Chinna Navuli, Niebuhria linifolia, *R.*
Chinna Nare, Eugenia salicifolia, *R.*
Chinna Nidra Kanti, Desmanthus triquetrus.
Chinna Puli, larger panther.
Chinna Ranabheri, Anisomeles Malabarica.
Chinna Rantu, Rhaphidospora glabra, *Nees.*

CHINNA KIMMEDY, a district in the N.E. part of the Madras Presidency, inhabited by Khand races, who until lately practised human sacrifices, the victims being styled Meriah. The rite is supposed to be now suppressed. In Chinna Kimmedy, 'the Meriah was dragged along the fields, surrounded by a crowd of half-intoxicated Kandhs, who, shouting and screaming, rushed upon him, and with their knives cut the flesh piecemeal from his bones, avoiding the head and bowels, till the victim, dying from loss of blood, was relieved from torture, when the remains were burnt, and the ashes mixed with the new grain to preserve it from insects.' Captain MacViccar, writing in 1851, stated that in Maji Deso, midway between Boad and Patna, 'on the day of sacrifice, after the appointed ceremonies, the Meriah was surrounded by the Kandhs, who beat him violently on the head.'

CHINNAMA. TAM., TEL. Little mother, an ordinary name for women.

CHINNA MASTAKA, in Hindu mythology, is a form of Parvati as Kali, and possibly is the sacti of Siva, in the form of Kapali. She is described as a naked woman with a necklace of skulls. Her head is almost severed from her body, and her blood is spouting into her mouth. In two of her hands she holds a sword and a skull. Mr. Ward states that this goddess was so insatiate of blood, that, not being able at one time to obtain enough of that of giants, she cut her own throat to supply herself therewith. Ward derives the name from Chinna, cut off, and Mastaka, a head. —*Cole, Myth. Hind.* p. 94. See Kerari.

CHINNERETH, called also Gennesareth, Tiberias, Galilee, and Bahr ul Tibariah, a sea or lake formed by the river Jordan. It has many fish. Its surface is upwards of 300 feet below the Mediterranean, and it is enclosed by steep hills 300 to 1000 feet high. It is 12 miles long and 6 broad.

CHINNY. TAM.? A Travancore wood of a rather dark colour, sp. gr. 0·515. From 8 to 16 feet in circumference; used for building canoes.—*Col. Frith.*

CHINRAIPATAN, a town in Mysore famed for a Jaina statue, estimated 54 to 70 feet high. It has been cut out of the solid rock.

CHIN-SAN, or Golden Island, is in the middle of the Yang-tse-kiang, river of China, where the width is near three miles. It is the property of the emperor. It is interspersed with pleasure-houses and gardens, and contains a large monastery of priests, by whom the island is almost entirely inhabited.—*Macartney's Embassy*, i. p. 27.

CHINSURAH, a neat town on the right bank of the Hoogly river, in lat. 22° 54′ N., and long. 88° 26′ 40″ E., in the neighbourhood of Calcutta. The Dutch established themselves there in A.D. 1675, but they came in contact with the British on the field of Bidera, four miles to the west, and were defeated; and finally, about 1825, they received Java for it in exchange. The college building was formerly the house of Perron, the French general and deputy of Sindia in the Doab.

CHINTA CHETTU. TEL. Tamarindus Indica, *L.*

CHINTAMANI, a mythical wish-gem of the Hindus, supposed to yield to its possessor all that he may desire. The word is Sanskrit, from Chinta, thought, and Mani, a jewel, and is the name of a romantic epic Tamil poem, representing the Jaina system in an attractive form. It is of considerable merit, and is regarded as the highest classical authority in that language, but its style is difficult. It contains 15,000 lines, and probably belongs to the tenth century. It was written by an avowedly Jaina author.

CHINTZ.

Sits, ... DUT.	Chit, ... MALAY.
Indiennes, ... FR.	Chitas, ... PORT.
Zitze, ... GER.	Zaraza, Chites, . . SP.
Chint, GUJ., HIND., PERS.	Simai gudde, . . . TAM.
Indiane, ... IT.	,, gudda, . . . TEL.

Fast-printed calicoes of different colours, impressed upon a white or light-coloured ground. The name is from chinta, a spot, or spotted. In the Madras Presidency, the principal sites of this manufacture are the towns of Masulipatam, Arnee, and Sydapet. Those of Masulipatam are called Kalam-kari, literally firm colour; they are of various hues. Each piece is 2 cubits in breadth and 12 in length, priced at from 4 to 12 rupees each; and it is used for under-garments by Hindu women. Those of Arnee and Sydapet are 8 by 2 cubits, sold at 1 to 3 rupees each; they are used for pillow-covers and other purposes, as well as the under-garments of humbler native women. Some of the chintzes of Masulipatam and of the south of India are as beautiful in design as they are chaste and elegant in colour. — *M'Culloch; Mr. Faulkner; M.E.J.R.; Dr. Watson.*

CHINVAT, of the Parsee religion, is a mythological bridge. On a death occurring, a dog is brought to look at the corpse, that its passage over Chinvat may be secured.

CHINWA. HIND. Panicum miliaceum.

CHIN ZOOAY. BURM.? Meaning elephant's teeth, a wood of maximum girth 1½ to 2 cubits, max. length 10 feet, abundant on the hills inland, always on rocky, barren ground, in mountainous or hill districts, all over the Tenasserim provinces. When seasoned, sinks in water. This wood is the hardest and strongest known in these latitudes, perhaps anywhere in the world. It is only procurable in such rocky spots as no other tree will grow in. It cuts up, as yendaik and other hard woods do, with huge cracks through it; but is valuable for the edges of phillester planes, for spokeshaves, and for purposes in which much scantling is not required.—*Captain Dance.*

CHIOCOCCA JAVANICA, the Java snowberry, a parasitical shrub, found on the mountains of Java upon trees.—*Eng. Cyc.*

CHIONANTHUS, a genus of trees. Ch. albidiflora, *Thw.*, the taccada gas, grows up to 3000 feet in Ceylon. Ch. intermedia, *Wight* (the Lenociera inter., *Wight*), grows on the Animallay at 5000 feet. Ch. ramiflora, *Roxb.*, is a tree of the Moluccas; and Ch. leprocarpa, *Thw.*, is a small tree growing at 3000 to 4000 feet in the Central Province of Ceylon.—*Thw.*

CHIONE, a genus of molluscs, of which many species occur in Indian seas.

CHIPPEVADU, Chippiga. TEL. A tailor.

CHIPPI, a beggar's bowl made of the shell of the sea, or double cocoanut, Laodicea Seychellarum.

CHIPULU GADDI. TEL. Aristida setacea, *Retz*; Chætaria set., *Beauv.* The words mean broom or sweeping-grass, from the use to which it is applied.

CHIPURA TIGE. TEL. Cocculus villosus.

CHIR, in Chamba, Armeniaca vulgaris, apricot; Prunus Armeniaca. In the N.W. Himalaya, Pinus, *sp.* Dar chir, P. excelsa. Drab chir, P. longifolia.

CHIR. HIND. Phasianus Wallichii.

CHIRA of the Periplus, an ancient kingdom that seems to have been formed out of the Pandya dominions. The Chira seem to have possessed also Kerala, and to have sent an embassy to the Romans, to whom the Chira prince was known as O Kerobothras. See Chera.

CHIRAGADAM. TEL. Batatas edulis, *Ch.*

CHIRAGH. PERS., HIND. A lamp. Ba-charagh, an inhabited house or town. Be-charagh, in ruins. Chiragh ka tel, lamp oil. In Southern India, oil of large-seeded Ricinus communis. In N. India, poppy and other oils are used for lamps.

CHIRA KURA. TEL. Amarantus polygonoides.

CHIRA MELLA. HIND. Phyllanthus longifolius.

CHIRAN. HIND. Prunus Armeniaca.

CHIRANJI. TEL. A dyeing root of Rubia cordifolia, in the bazars of the Northern Circars.

CHIRA SAMUDRA. SANSK. In Hinduism, the sea of milk on which the serpent Sesha rested when Vishnu was reposing. See Balaji.

CHIRATALA BODA. TEL. Dalbergia scandens, *R.* iii. 232.

CHIRAULI. HIND. Buchanania latifolia.

CHIRAUNDA. HIND. Adelia serrata.

CHIRAYIT. HIND. Agathotes chirayta.

CHIRCHA or Chirtsa. CAN. Felis jubata.

CHIRCHIRA, also Chirchitta. HIND. Lycium Europæum, also Achyranthes aspera, resembling the Penicillaria spicata; the people believe if a person eat one chitak of its grain, he will not be hungry for 21 days.

CHIRETTA. HIND. Creyat root.

Kussub-uz-zerireh, ARAB.	Create, ... FR.
Kalapnath, . . . BENG.	Creyatta, Kriatt, HIND.
Kala-megh, Maha tita, ,,	Kairata, . . . SANSK.
Toa-kha-kyi, . . BURM.	Atadi, ... SINGH.
Kiriat, ... CAN.	Sheraït-kuchi, . . TAM.
Kreat, ... DUKH.	Nela vemu, . . . TEL.

Chiretta, or chirayta, or kriat, for all these pronunciations are in use, is the name given to several plants, all of them closely allied in medicinal properties to gentian, for which several of

them are perfect substitutes. Like gentian, chiretta promotes digestion, improves the appetite, and gives a tone to the system, without producing much stimulant effect, or causing constipation. It contains a resin and yellow bitter matter, on which the activity of the plant depends. Its use is admissible in all inflammatory states of the intestinal canal, and in febrile diseases. The chiretta of the bazars is the produce of the several following plants:—

Adenema hyssopifolia, the chota or small chirayta, is common in various parts of Southern India, is very bitter, also somewhat laxative, and much used by the natives as a stomachic.

Agathotes chirayta, *Don.*, Ophelia chirayta, *Grissbach*, Gentiana chirayta, *Fleming*, north of India, and Morung hills. All parts of the plant are extremely bitter, and are identical in composition with the common gentian. It is highly esteemed as a tonic and febrifuge all over India. It is a common and abundant plant in the bazar, supplied chiefly by the lower ranges of the Himalaya.

Andrographis paniculata (Justicia paniculata, *Roxb.*), Kalamegh, Beng. Kalupnath or Maha tita, Hind., is the genuine or original chiretta.

Chironia centauroides of Roxburgh (Erythræa Roxburghii, *Don.*), is another and powerfully bitter plant found in India.

Cicendia hyssopifolia (syn. Exacum hyssopifolia), common in various parts of the East Indies; the whole plant is bitter and somewhat laxative; is used by the natives as a stomachic.

Exacum bicolor grows rare on the Neilgherries below Kotagherry, and abundant a mile below Nedawuttum, where it flowers during the autumnal months. This species enamels the swards of the Western Ghats with its beautiful blossoms, has the same bitter stomachic principles for which the Gentiana lutea is so much employed, and, it is believed, may be used with advantage in lieu of gentian for medicinal purposes. The infusion is a mild pure bitter. It is known in Mangalore as country creat, and sold there at 1 anna 6 pie per pound.

Exacum tetragona is another species of this genus, and is called Ooda chiretta, or purple chiretta.

Ophelia angustifolia, *Don* (O. Swertia, *Royle*), is called pukarree chiretta, and is substituted for the true chiretta.

Ophelia elegans, *Wight*, grows plentifully in several parts of the Madras Presidency; is considered febrifuge by the native physicians, who prefer it to the Himalayan chiretta. It grows plentifully in the Jeypore zamindari of Vizagapatam, and is annually exported, as Silaras or Selajit, to the value of about Rs. 2500. The infusion of O. elegans has a powerful bitterness.

Ophelia alata and Ophelia chiretta seem to be used similarly; they grow in the Himalaya.

Villarsia Indica, V. artistata, and V. nymphæides occur in every part of India.

Chiretta may be regarded as a type of the simple bitters, so many of which have been employed in Europe as febrifuges. For such purposes it is employed in India, and it will do whatever a simple bitter can in stopping intermittents. Chiretta is of much service in convalescence from fever. It is one of the few articles of the Indian Materia Medica which is in every respect an adequate substitute for the corresponding European article. Chiretta is a useful vehicle for other remedies. It is the basis of the celebrated drogue amere, a compound of mastic, frankincense, resin, myrrh, aloes, and creat root, steeped in brandy for a month, and the tincture strained and bottled. Chiretta is met with in a dried state, tied up in bundles, with its long slender stems of a brownish colour, having the roots attached, and which have been taken up when the plant was in flower. It is procurable in all native druggists' shops. The extracts of chiretta agree in being valuable bitter tonics. Both these and gentian contain a peculiar principle, termed the gentisic acid. The dose is ten to thirty grains twice or three times daily, usually prescribed with sarsaparilla, hemidesmus, or iron (Beng. Phar. p. 290). The wine of chiretta is cordial bitter and tonic in a dose of two fluid drachms. A compound tincture of creat is prepared by creat root six ounces, myrrh and aloes each one ounce, French brandy two pints; macerate for three days, and strain. This preparation is equivalent to the celebrated drogue amere. Its effects are tonic, stimulant, and gently aperient. It is a valuable preparation in the treatment of several forms of dyspepsia and torpidity of the alimentary canal, in a dose of one fluid drachm to half an ounce. —*Faulkner, Beng. Phar.; On Chiretta, by Dr. Cleghorn; Dr. J. L. Stewart.*

CHIRGHA, a Pukhta war-cry. Chirgha wal, a fighting man.

CHIRI. Sansk. Wrightia antidysenterica; Memusops hexandrus.

CHIRI. Tel. A term applied to several plants resembling others:—

Chiri alli, Villarsia cristata, *Spreng.*
Chiri annem, Briedelia scandens, *Willd.*
Chiri benda, Sida cordifolia, *L.*
Chiri bikki, Gardenia gummifera, *L.*
Chiri chatarasi, Dentella repens, *Forst.*
Chiri dudduga, Alphonsea lutea, *H.*
Chiri galigeru, Trianthema, *L.*
Chiri giligichcha, Crotolaria laburnifolia, *L.*
Chiri gummudu, Batatas paniculata, *Ch.*?
Chiri jeguru, Cluytia, *sp.*
Chiriki, Sansk., fruit of Buchanania latifolia.
Chiri koti goru, Pterolobium lacerans, *R. Br.*
Chiri kura, Amarantus polygonoides.
Chiri malla, Jasminum angustifolium, *Vahl.*
Chiri manu, Conocarpus latifolia.
Chiri nanupala, Euphorbia, *L.*
Chiri palleru, Tribulus lanuginosus, *L.*
Chiri piaz, Hind., Allium rubellum.
Chiri sanagalu, Ervum, *sp.*?
Chiri teka, Clerodendron, *sp.*
Chiri teku, bastard teak, Erythrina Indica, Wormia bracteata.
Chiri tummi, Leucas, *R. Br.*
Chiri vanga, Solanum melongena, *L.*, small var.
Chiri veru, Oldenlandia umbellata, *L.*
Chiri ulava, Rhynchosia rufescens, *D.C.*

CHIRIA. Hind. A bird; hence Chiriya-Mar, a bird-catcher, a low caste fowler.

CHIRIMI. Malay. Cicca disticha, *Linn.*

CHIRITA SINENSIS, the manneen-chung of the Chinese, a dwarf species of Lycopodium, highly prized by that people. —*Fortune's Tea Districts*, p. 8.

CHIRIT MURAL. Malay. Caoutchouc.

CHIRIYA-GHAS. Beng. Helopus annulatus.

CHIR-MITI. Hind. Abrus precatorius seeds.

CHIR-MUTTI. Hind. Leptropus cordifolia.

CHIR-NATH. Hind. Fir cones of Pinus longifolia and P. Gerardiana.

CHIRNDI. HIND. Litsæa, *sp.*; Adelia serrata.
CHIRNDU, Eleodendron dichotomum.
CHIR-ODHELI or Chir-vadhal of Dehra Ghazi Khan (hills), obtained from the tamarisk (F. furas or F. dioica), said to be called pinjwa in other parts. This occurs in nodules, highly friable, of a granular texture.—*Powell's Handbook.*
CHIROLI. HIND. Prunus Armeniaca.
CHIRONIA CENTAUROIDES. *Roxb.* Erythræa Roxburghii, *Don.* | Nye, ... HIND.
This plant grows in several parts of India; its leaves and stalks are powerfully bitter, and are found in the bazars as one of the chirettas.—*O'Sh.*
CHIROR. HIND. Mahonia Nepalensis.
CHIRRU. HIND. Xanthium strumarium.
CHIRU DEKHU. TAM. Clerodendron serratum, *Blume.*
CHIRUGU CHETTU. TEL. Caryota urens.
CHIRUNJE. HIND. A red dye from Buchanania latifolia.
CHIRU NUTI. BENG. Amarantus polygonoides, *Roxb.*; Oxystelma esculentum, *R. Br.*
CHIRU-PARAM. TAM. Riedleia corchorifolia.
CHIRUTA-ITA. TEL. Phœnix farinifera.
CHIRWI, in the Multan division and Derajat, means the best kind of split and dried dates of the Phœnix dactylifera; the word seems from chirna, HIND., to split.
CHISHTI, a tribe of Arab descent in Multan, and at Bijapur in the Dekhan. Those on the banks of the Sutlej river are peaceful and industrious, but strict and bigoted.
CHISHTIAH, a sect of Mahomedan fakirs.
CHIT. HIND. Chintz; sprinkled, hence,—
Chit-Abra, a printed cotton.
Chit-Pattu, a woollen wrapper with a chit or print pattern.
Chit-Rahdar, a print with a striped pattern.
Chit-Bundri, spotted print.
Chit-Butidar, sprigged print.
Chit-Marpech, spriggled print.
Chit-Shakargah, print with figures of animals.
Chit-Nakl-irani, a kind of Persian print.
CHIT, in the doctrines of the Sri-Sampradaya sect of Hindus, means the spirit of Vishnu; this, with Achit, or matter, and Ishwara, or god or ruler, being the three predicates of the universe. In their views, Vishnu is Brahma, before all and creator of all. See Sri-Sampradaya.
CHITA. See Cheeta.
CHITA. BENG., HIND. Plumbago rosea; P. Zeylanica, *Linn.*
CHITA BAGNU. HIND. Populus alba.
CHITA BANSA. HIND. Ipomœa turpethum.
CHITAK, a measure of weight equal to 914 grains.
CHITAL, Chitra, Chitri. HIND. Axis maculatus, *Gray.*
CHIT-AMINDALU NUNA. TEL. Oil of small-seeded Ricinus communis, castor-oil plant, used medicinally.
CHITANA. HIND. Pyrus Kumaonensis.
CHITANKALOO. TEL. Wrightia tinctoria.
CHITA-PULI. TEL. Felis jubata, *Schreber.*
CHITA-RATHI. MALEAL. Alpinia racemosa.
CHITARKOT, a hill in the Banda district, N.W. Provinces of India, with the Paisuni river at its base. There are thirty-three Hindu shrines; and many pilgrims still visit them, and circumambulate (pradakshana) the hill.—*Imp. Gaz.*
CHITAS. PORT. Chintz.
CHITA SINJI. HIND. Melilotus leucantha.
CHITAWALA. HIND. Senecio angulosus.
CHIT BATTO. HIND. Trifolium pratense.
CHITE ANKALU. TEL. Wrightia tinctoria.
CHITES, also Zaraza. SP. Chintz.
CHITIJARI. HIND. Aconitum heterophyllum.
CHITIKESWARUM. HIND. Poinciana elata.
CHITIMIRK, HIND., also Chiti-phul, Heliotropum brevifolium.
CHITI-MORT. HIND. Desmodium argenteum.
CHITI MUTI. TEL. Sida acuta, *Burm.*
CHITI SIRIN. HIND. Cedrela toona; C. serrata.
CHITKA. BENG. Bauhinia acuminata.
CHITKABRA. HIND. Uraria chetkubra.
CHITKAN of Hazara, an ear-ring.
CHITKEE. HIND. Snapping the fingers.
CHITLINTA KURA. TEL. Marsilea Coromandelina; M. minuta, *Heyne*, 54; also Riedleia corchorifolia.
CHITONIDÆ, the Chiton family of molluscs.
CHITOOA-BORA. BENG. Polypodium glabrum.
CHITPATRA. HIND. Marlea begonifolia.
CHITPEKALARA, in Arakan, slaves who had been taken in battle.—*Wilson.*
CHITRA. HIND. Staphylea emodi; Drosera muscipula. Lal chitra is Plumbago Zeylanica.
CHITRA, also written Chaitra, and Chaitram, the first month of the Tamil solar year, answering to the Hindu Vaisac'ha, when the sun is in the sign Mesha. But this name is also that of the last month of the Hindu solar year, used everywhere (excepting in the Tamil country) when the sun is in the sign Min, answering to the Tamil Pungoni. Lastly, Chaitra is the name of the first month of the luni-solar year, which begins on the new moon preceding the sun's entrance in the sign Mesha. This variety of significations of terms so nearly resembling each other requires the greatest attention, when adverting to dates, and reading books written in different countries.—*Warren.*
CHITRA. BENG. Cucumis Madraspatanus; also HIND., Berberis lycium, B. Asiatica or B. aristata.
CHITRAGUPTA, pronounced Chitrgoputr, the registrar of Yama, the recorder of the dead. When Yama sits in judgment on the dead, Chitragupta examines the register in which the good and bad deeds of men are recorded. From Chitru, to write, and Goopta, hidden. He had several sons, from whom the different tribes of Bengal Kayasths derive their origin,—Sribastab, Ambashtha, Karan, Bhattanagar, Gaura, Valmika, Mathur, Saksena, Aithana, Kulasreshtha, Nijam, Suradhwaja.—*Dalton, Ethnol. of Bengal*, p. 313.
CHITRA INDICA, one of the Chelonia or tortoises. It inhabits India.
CHITRA JAVANIKA, a painted cloth, a screen or veil suspended in a temple before the adytum; according to Malanka, it is rather arras or tapestry; he describes it as cloth covering the walls of a temple.—*Hind. Theat.* ii. p. 74.
CHITRA KOOTA. SANSK. From Chitra, speckled, and Koota, the peak of a hill or mountain. An isolated hill on the bank of the Pisani river, 50 miles S.E. of the town of Banda in Bundelkhand, in lat. 25° 12′ N., and long. 80° 47′ E. The whole neighbourhood is Rama's country during his exile. Every head-

land has some legend; every cavern is connected with his name. It is a sacred spot; crowded with temples and shrines of Rama and Lakshmana. Many thousands annually visit the spot, and round the hill is a raised footpath, on which the devotee with naked feet treads, full of pious awe. It was the seat of Valmiki, the sage and poet, author of the Ramayana. The hill is crowded with monkeys. The river is lined with the landing-places called ghats, and flights of stairs for ceremonial ablutions.

CHITRAL, or Little Kashgar, is beyond the Belut Tagh mountain. See Bucharia; Eastern Turkestan.

CHITRA-MUL. HIND. Thalictrum foliosum.

CHITRA-MULAM (Tella, Nalla, and Erra, white, black, and red). A generic name for species of plumbago.

CHITRA-RAT'HAN, the chief musician of Indra, who rides in a painted car. On one occasion it was burned by Arjuna, the confidential friend and agent of Krishna, or the sun.

CHITRA VANI. SANSK. Plumbago Europæa.

CHITRI CHIRUYA. BENG. Urochloa panicoides.

CHITRIKA. TEL. Limonia pentagyna, *R.*

CHITTA-AMADUM. TEL. Castor-oil.

CHITTA-BURKANI, also Chittaganda. TEL. Leggada lepida, *Jerdon.*

CHITTABUTE of Murree, Abelia triflora; also Buddlea crispa.

CHITTA-DUDAGA, Guatteria cerasoides, *Dun.*

CHITTAGONG, or Islamabad, a town which gives its name to a district of British India along the N.E. coast of the Bay of Bengal. The town is built on the bank of the Karnaphuli river, in lat. 22° 21′ 3″ N., and long. 91° 52′ 44″ E. The district is bounded on the N. by Tiperah, S. by Arakan, E. by the Yomadoung mountains, and W. by the Bay of Bengal, and has an area of 2322 square miles, and a population of 1,006,422 souls. It is a low strip of coast about 165 miles long, with many large tidal creeks; and the central parts opposite the islands of Mashkal and Kutabadia much resemble the Gangetic Sunderbuns. Since historic times it has been subject successively to Tiperah, to the Afghan rulers of Bengal, to the raja of Arakan, to the Dehli empire; and it was ceded to the British East India Company in 1760. The Portuguese descendants are known as Feringhi. They were 854 in 1872; the Nat, 949; the Magh, 30,026; and the Rajbansi, 10,852; Brahmans, 22,657; and Kayasths, 68,916. The Lascars of the coasting and foreign-going ships are largely from Chittagong. The Rajbansi are the offspring of Bengali women and Burmese husbands. 70·5 per cent. of the population are Mahomedans, the Hindus 26·7 per cent.—*Imp. Gaz.*

CHITTAGONG HILL TRACTS are a portion of the great chain of mountains running from Assam southwards to Cape Negrais, and the Blue Mountains, on the frontier of Chittagong, rise 8000 feet above the sea. Several rivers rise in these mountains, amongst others the Karnafuli, which flows into the Bay of Bengal. The hill tribes of Chittagong call themselves Kyoung-tha, or sons of the river, and Toung-tha, or sons of the hills. The latter, to which the Lushai belong, are the more savage and independent, and speak different languages. The former have a written language, and even possess several copies of the Raja wong, or History of the Kings of Arakan. They are of Arakanese origin, speak the Ra-khui dialect, and are Buddhists. All are Mongolian in physique. They have an honest, bright look, with frank and merry smile, and their look is a faithful index of their mental characteristics. They live in bamboo houses raised above the malaria of the ground. They practise Jum, Cheena, or Kumari cultivation, burning down the jungle to prepare the soil for mixed seed scattered broadcast, and moving off to a new site next season. And they have a mild form of debtor slavery, which Captain Lewin thinks the British too suddenly interfered with, so that the hillmen fall victims to the usurer.

The Kyoung-tha, or Jumia Magh, have 15 clans, who dwell in village communities under a Roājā, or village head.

The Toung-tha tribes, a wilder and less civilised group, are the Tiperah, Mrung, Kumi, Mro, and Khyeng, Bangi, Pan-kho, Lushai or Kuki, and the Shindu, the last four being independent. Their villages are generally situated on lofty hills. They worship the elements.

The Chakma (Tsak or Tsakma, or in Burmese Thek) is the largest of all the tribes. It has 40 clans. Their habits are similar to those of the Kyoung-tha. The tribes all practise the Jum or Kumari form of agriculture; and rice, cotton, tea, tobacco, and potatoes are their chief crops. The elephant, the rhinoceros, the tiger, and the leopard are numerous, with the Malay black bear, the wild buffalo, the sambur (Rusa Aristotelis). The python grows to a large size.

Among the independent tribes beyond the British border, prisoners of war are sold like cattle. Raids are caused by the usage of wehrgeld, which they call goung hpo, or the price of a head; for when a villager dies, his friends charge the village which he may have last visited with his death, and demand a price for his life. Raids for women seem to keep up the necessary supply. Chastity is enforced only after marriage. All the unmarried lads sleep in one house in the village, under the care of a 'goung' or headman. The merry-makings and customs which are connected with this 'bachelor's hall,' as Colonel Dalton calls it, are the same as in the Kol and Gond countries. In the hills marriages are unions of affection, not of convenience or interest. Girls marry at 16, lads at 19. The most favourite offering to a sweetheart is a flower; and the lover will often climb the hills before dawn to procure the white or orange blossom of some rare orchid for the loved one's hair. One of Captain Lewin's police sought a week's leave of absence on this ground: 'A young maiden of such a village has sent me flowers and birnee rice twice as a token, and if I wait any longer they will say I am no man.' Among the Kyoung-tha, a leaf of pawn, with betel, and sweet spices inside, accompanied by a certain flower, means 'I love you.' If much spice is put inside the leaf, and one corner turned in a peculiar way, it signifies 'Come.' The leaf being touched with turmeric means 'I cannot come.' A small piece of charcoal inside the leaf is 'Go, I have done with you.' The love songs are as pure as they are pretty, and no improper ditties are allowed in the hearing of the village maidens. As the lads and lasses work in a crowd at harvest times, they respond in chorus, or, when the leader has finished, the whole party break out into the hoia or hill

call, like the jodel of Switzerland, and the cry is taken up from hill to hill, till it dies away in the distant valleys. In their mode of kissing, instead of pressing lip to lip, they apply the mouth and nose to the cheek and give a strong inhalation. They do not say, 'Give me a kiss,' but 'Smell me.' The religion of these tribes is a mixture of Buddhism and nature-worship. At the Maha Muni temple in Arakan, the bamboo is adored by some as the impersonation of the spirit of the forest. But wherever, as in the case of the Chakma, the tribes come into contact with the Bengali, they show a tendency to gravitate towards Hinduism, the caste of which would soon kill the joyousness and check the freedom of their life. The Khumia and Kuki tribes occupy the hills of Sylhet, Tiperah, and Chittagong; the Kuki at the tops of the hills, and the Khumia on the skirts. The Kuki are the ruder or more pagan race, though also tinctured with Hinduism. They term their chief deity Khojein Putiang, to whom they sacrifice a gyal; and to an inferior deity, named Shem Saq, a rude block of wood put up in every quarter of a village, a goat is offered; and they place before it the heads of the slain in battle, or the heads of animals killed in the chase. The Kuki say that they and the Mug are the offspring of the same progenitor.—*Captain Lewin.*

CHITTAGONG WOOD, Chickrassia tabularis, is used at Madras for furniture. It is light, cheap, and durable.

CHITTAK. HIND. An Indian weight, equal to 914 grains = 2 oz. 39½ grs. avoir.

CHITTA LINNY. TAM.? A Travancore wood of a red colour, sp. gr. 0·847, 1 to 1½ feet in circumference; used for furniture.—*Col. Frith.*

CHITTAMANAK YENNAI. TAM. Castor-oil. Chittamudapu, TEL., Ricinus communis, the small variety, from the seeds of which only the medicinal castor-oil is expressed.

CHITTAMATTA. TEL. Gardenia gummifera.

CHITTA-RATTA. MAL. Alpinia galanga.

CHITTA-ROHI, in Northern India, sand with salt efflorescence.

CHITTA TUMIKI. TEL. Diospyros tomentosa.

CHITTA YELKA. TEL. Leggada lepida.

CHITTEDURU. TEL. Vanda Roxburghii.

CHITTENTA KURA. Riedleia corchorifolia.

CHITT'HI. HIND. A note, a letter, an order or demand; hence Chit-navis, a note-writer.

CHITTI ANKUDU. TEL. Wrightia tinctoria. Chitti Benda, Pavonia odorata; Chitti Gara, Capparis brevispina; Chitti Papara, Citrullus colocynthis.

CHITTI-PHUL. HIND. Heliotropium brevifolium.

CHITTITA CHETTU. TEL. Phœnix farinifera.

CHITTORE or Chetur, a town in Rajputana, in the kingdom of Mewar. Its dynasty are Rajput, and claim to be descended from Lob, the eldest son of Rama, of the Solar dynasty. They say that they were first ruling at Balabhipura, a city in the gulf of Cambay, but their capital was laid waste by a son of Nushirwan of Persia, in A.D. 524. The Rajput queen escaped the general destruction, and gave birth to a son, named Goho, from whom the rajas of Udaipur are descended. Goho established the kingdom of Edur, and eight princes succeeded him on the throne. The race seem to have remained in the desert till the middle of the 8th century, but in A.D. 727 Bappa took Chittore. Shortly afterwards Bappa proceeded to Saurashtra, and married the daughter of Esupgole, prince of the island of Bunderdhiva. With his bride he conveyed to Chittore the statue of Vyan-mata, the tutelary goddess of her race, who still divides with Eklinga the devotion of the Gehlot princes. The temple in which he enshrined this islandic goddess yet stands on the summit of Chittore, with many other monuments assigned by tradition to Bappa. Bappa is not a proper name, it signifies merely a child. He is frequently styled Syeel, and in inscriptions Syeel Adhes, the mountain lord. The Mori prince from whom Bappa took Chittore was of the Tak or Takshak race, of whom Nagnecha, Nagani Mata, was the mother, represented as half woman and half serpent, the sister of the mother of the Scythic race, according to their legends. Many rites of the rana of Mewar's house are decidedly Scythic. According to Sir H. Elliot, however, when Mahomed bin Kasim, the general of Walid, overran Gujerat about A.D. 718, and advanced to Chittore, Bappa met and entirely defeated him, and after this Bappa was raised to the throne of Chittore. After a long and prosperous reign, Bappa abdicated and departed to Khorasan, Tod says to Scythia. In the reign of Khuman, his great-grandson Mahmun, governor of Khorasan, invaded Chittore, but was defeated and expelled by Khuman after twenty-four engagements. Baber, 1527, sustained a great defeat at Futehpur Sikri at the hands of the Rajput Rama Singha, chief of Chittore; but in 1527 Baber led his army a second time against the Rajput prince, whom he overthrew, and completely broke his power. While ruled by Oody Singh, Chittore was invested by the emperor Akbar, and captured after a prolonged siege. Oody Singh, at the approach of the imperial army, withdrew to the Aravalli hills, and left Jeymul, the Rajput chief of Bednore, to defend his kingdom; Jeymul, with 8000 of his men and women, perished on the occasion, and 74½ maunds of plunder were taken away by the army of Akbar. The capture of Chittore was regarded at the time by the Rajput race as the greatest of misfortunes, and they have perpetuated the remembrance of it by impressing on all their correspondence the figures 74½. Oody Singh did not re-occupy Chittore, but founded Udaipur, which he made his capital.—*Elliot's Hist. of India; Tod's Rajasthan*, i. p. 594; *Elphinstone.*

CHITT-PAWAN. MAHR. A Konkanistha Brahman.

CHITTULDROOG, a hill fort which gives its name to a town and district in the Nagar division of the Mysore kingdom, 120 miles N.W. from Bangalore. It gets its name Chutta thul droog, or the Umbrella Hill, from its shape. The district has an area of 4471 square miles, and a population in 1871 of 551,360. It is a sterile tract, with little rainfall. It was long held by a Polygar chief of the Beder race, and the present non-Aryan races are the Beder 90,050, the Wakkaliga 69,735, Golla 46,296, and the Kuruba 35,459, with out-castes 58,245, and wandering tribes 44,142. The Mahomedans are 18,068, and the Siva Chaktars or Lingaet, 44,142. The district in the early years of the Christian era was largely of the Jaina faith; and there are many

inscriptions of the Chalukya, Ballala, and Vijayanagar dynasties, and there are now several maths or Hindu monasteries. Here, on the 6th August 1809, East India Company's officers induced the native soldiers to mutiny, but they were attacked and defeated by detachments of the British army. —*Imp. Gaz.*

CHITTUR, a town and fort in the N. Arcot district, 98 miles west from Madras, and 1100 feet above the sea. It is in lat. 13° 14′ N. The hills are rugged and barren; they are intersected by a vein of iron ore. It is built on the south side of the Pooney river, which runs through the valley, and joins the Palar.

CHITTUR DULLA. Sansk. Marsilea quadrifolia.

CHITULIA, a genus of water-snakes of the order Hydridæ. C. mornata and C. fasciata inhabit the Indian Ocean.

CHITZ. Mahr. Tamarindus Indicus.

CHIU. Hind. Rhododendron arboreum, also Euphorbia Royleana.

CHIUN, of the prophet Amos, v. 26, is supposed by Calmet to be Bal-peor, Chivin, or Siva.

CHIURACY? a Penang wood of a brown colour, sp. gr. 1·081; used for beams.

CHIVAN AMELPODI. Maleal. Ophioxylon serpentinum, *Linn.*

CHIVATI. Maleal. A small coasting vessel of Malabar.

CHIVENDI. Tam. A Ceylon timber tree, about 8 inches in diameter and 20 feet in height; used in housework.—*Edye, Ceylon.*

CHIVES, Allium schoenoprasum, a variety of the onion, held in estimation for its leaves and small bulbs, and used in soups and salads. Propagated either by slips, or dividing the roots at any season, but best after the rains; 9 or 10 inches of space must be allowed between each bulb. Requires plenty of water, and protection from the vertical rays of the sun.—*Riddell.*

CHIVIKI VELAMA. Tel. Eleusine coracana.

CHIWANA. Hind. A place for the cremation of the Hindu dead, called also Chihaee and Chihanee. These three terms are derived from Chaee, ashes. Marg'hat, Bhoeedugdha, and Smusan or Samsan (in Benares), are also employed to signify the burning place.

CHLIATÆ or the Kallat, with the Kankli, Kapchak, and Kharlik, are four Turkish tribes descended from the Oguz Khan.—*De Guignes*, ii. p. 9; *Yule, Cathay*, i. p. 165.

CHLORANTHUS BRACHYSTACHYS, one of a genus of plants belonging to the natural order Chloranthaceæ; is a native of the coast of Java. Its properties are like those of C. officinalis.

CHLORANTHUS INCONSPICUUS. *Smith.*

Chu-lan, ... Chin. | Ki-chau-lan-hwa, . Chin.

Its small flowers, along with those of Aglaia odorata, are mixed with certain kinds of tea, called after the plant, Chu-lan-cha. This is the scented caper of commerce, a very excellent but expensive tea.—*Smith.*

CHLORANTHUS OFFICINALIS, a smooth shrub 3 to 4 feet high, a native of Java, in the moist woods 1500 feet above the sea. All the parts are powerfully aromatic. The roots, if quickly dried, retain their properties for a long time; and the mountaineers employ them in infusion as a remedy for spasms; also, united with anise or Ocimum, in small-pox. In fevers it is said to be of great service. It is a powerful and active stimulant.—*Engl. Cyc.*

CHLORIDE OF ZINC. Captain Keppell believes Sir William Barnett's solution of chloride of zinc, properly applied, the only composition yet known that will preserve anything from the white ants.—*Keppell's Ind. Arch.* ii. p. 189.

CHLORITE is found in connection with tin. Portions of the clay-slate east of Tavoy contain chlorite slate. The Moongnee stone of Orissa is said to be chlorite slate.

CHLOROXYLON SWIETENIA. *Roxb.*

Swietenia chloroxylon, *Roxb.*

Satin-wood, . . . Eng.	Porasham, . . . Tam.
Bhiree, ... Mahr.	Kodawah porasham, ,,
Mal burute, or flowered satin; Buruta, Singh.	Billuda, ... Tel.
	Billu chettu, . . . ,,
Mududa, ... Tam.	Bilugu? . . . . Uria.
Vum-maai, . . . ,,	Bhayroo, ... ,,

The satin-wood tree grows in Ceylon, chiefly in the eastern districts, where it attains a large size, and is esteemed next to the Calamander in value. It grows in Coimbatore, in the Animallay hills, where Dr. Wight got planks 15 inches broad. Indeed, some of the finest satin-wood to be anywhere seen is to be met with near the foot of the Animallay, though even there this valuable wood was rapidly disappearing under the cultivator's axe. It grows at Gokak; but Dr. Gibson had never seen it reach beyond the size of a small tree, which, when straight (seldom the case), would afford a log squaring 3 inches. It is found only in the Padshapoor jungles, and in those of the upper Mool, in the Ahmadnaggur collectorate. In Ganjam the tree is not so common as in Bodo godo; and it is said to be still more plentiful in Mohery and other taluks to the south. It is a most serviceable hard wood, well suited for naves of wheels, and, were it procurable in any quantity, for all framework requiring strength and and durability. The Peradenia bridge, a single arch of 205 feet on the road to Kandy, was designed for and principally executed in this wood. The wood is very close-grained, hard, and durable, of a light orange colour, takes a fine polish, and is suited for all kinds of ornamental purposes, but is somewhat apt to split. For picture frames it is nearly equal to American maple. The timber bears submersion well; in some instances it is beautifully feathered, and flowered or feathered satin-wood, when first polished, is one of the most beautiful woods in the world. Mr. Rohde had seen specimens surpassingly beautiful; but the valuable logs are not distinguishable from ordinary satin-wood till sawn, and twenty or forty may be cut without one of any beauty being found. The feathered satin-wood seems very liable to sever when dry and old. Articles of satin-wood get darker and lose much of their beauty by age, unless protected by a coat of fine varnish. A cubic foot weighs 55 to 57 lbs. It is used for axletrees, oil-presses, posts, bed-posts, rafters, and the handles of axes; and in the Madras Gun Carriage Manufactory, for naves of wheels, also for fuses. The wood is excellent for agricultural implements, internal decoration and furniture, brushes and turnery.—*Drs. Roxb.* ii. 400, *Gibson, Wight, Cleghorn; Mr. Rohde; Mr. Mendis; Hartwig; Thw.*

CHO, or Chor, are vast and continually encroaching beds of sand left by the torrents that rush down from the low hills of the Siwalik range. The rapid increase of the area thrown out of cultivation by

being covered with barren sand, has been a source of continual trouble and anxiety to the revenue officers of the district; and the increase of the sand area is being continually accelerated by the destruction of forests on the outer hills. These hills are composed chiefly of an exceedingly soft sandstone. When once its surface is laid bare by the destruction of the grass and brushwood that once covered the hills, it is very readily swept away by the heavy rainfall. The vertically falling rain at once penetrates it, down almost to the level of the plain, and excavates a narrow gorge with perpendicular sides extending far into the hills, but with the bed of the stream sloping very gently until it terminates in a vertical wall at the upper end. The rush of the water over this precipice, every time a shower falls, disintegrates a quantity of the rock, and helps to extend the area of loose sand on the plain below. The sandstone in its natural state is not unfertile; it is easily penetrated by the roots of plants, and contains a considerable admixture of lime and clay. Moreover, patches of ancient forest are still occasionally to be found on the hills.

CHO. HIND. Pyrus malus.

CHOAR KULLI MARAM. TAM. Soymida febrifuga? yields clear, transparent gum, slightly tinged with red, and with a slight dash of bitter in the taste.

CHOASPES, the ancient name of the river on which Susa, in Khuzistan, was built. It is the modern Kerah river, near which are the ruins of Susa.—*Williams' Essays*, p. 13.

CHOB. HIND. A stick, a pole, timber, a mace. Chob-dar, a mace-bearer. The chob or mace is made of silver, ivory, or wood. It is probable that the office of gold stick, adopted in the British Court, was borrowed from the East. Most men of rank in India—Hindu, Mahomedan, or British—retain this class of attendants, mostly, however, bearing a silver baton, but having the common name of chob-dar, or staff-bearer. The chob or baton is about five feet long, with a head, and as thick at the upper end as one's wrist, or as a constable's staff.

CHOB, a strong fibre of Chutia Nagpur, made into ropes.

CHOBA, a dish of polao, mixed with slices of cocoanuts, dates, and almonds.

CHOB-CHINI. HIND. Smilax China, China root.

CHOB-i-PAU. PERS. Fothergilla involucrata.

CHOB-KUT. HIND. Costus root.

CHOBS. —? Campanula edulis.

CHOCHENA. URIA. ? A tall tree of Ganjam and Gumsur. The bark is used medicinally in fever, and the milk is given to children in a wasting disease there, called 'dūbli.'—*Captain Macdonald.*

CHOCHHI. HIND. ? A tree of Chutia Nagpur, yielding a harsh, reddish-grey timber.—*Cal. Cat. Ex.* 1862.

CHOCOLATE, a nutritious article of diet manufactured from the nuts of the Theobroma cacao and T. bicolor. It reaches India in the various forms of chocolate nibs, flake chocolate, soluble chocolate, and flake cocoa. T. cacao is now seen to a small extent in the S. of the Peninsula of India, and in British Burma, but is grown chiefly in Trinidad, Guiana, and Brazil. The husk contains a number of the seeds, very closely packed in a little pulp. These, after being dried, roasted, and ground, constitute cocoa; if merely broken up after roasting, cocoa nibs; mixed with starch and very finely ground, soluble cocoa of the shops. Chocolate consists of the same, made up into a paste, and flavoured. In 1870 nearly 15,000,000 of pounds of cocoa were imported into Great Britain, more than 6,000,000 being entered for home consumption.—*M'Culloch.*

CHODA of Hazara, Pyrus baccata, crab apple.

CHOD-TEN, in Tibetan, is the chaitya of the Sanskrit, a Buddhist monument numerous in Tibet, dedicated to the celestial Buddha.

CHOERADODIS, a genus of Mantodea common to India and tropical America.

CHŒTOCARPUS CASTANOCARPUS, *R.*, is Adelia castanicarpa, *Roxb.*; Ch. pubescens, *Thw.* A tree of Ceylon, variable in size, common in the Ratnapura and Ambagamowa districts; also found in Sylhet, Khassya, Burma, etc. The timber is very hard, and in use for building purposes. Chœtocarpus coriaceus, *Thw.*, is a moderate-sized Ceylon tree, common.—*Beddome, Fl. Sylv.* p. 284; *Thwaites.*

CHOGA, a loose cloak worn by the Afghans, not unlike the dressing-gown of European nations. It is made of a fabric woven of camel's hair or of the fine wool of the rufus sheep, or of that which grows at the roots of the hair of the goats in the northern parts of Afghanistan. That of camel's hair cloth costs up to £20; it is called Shutri choga. From Barrak, the cloth made from the rufus-woolled sheep, is made the Barraki choga. Kurk cloth, made from the wool of the highland goat, is used for the Kurki choga. Kurk resembles the pashmina or woollen cloth of Kashmir, but is of denser texture. They are made chiefly near Herat and in the Hazara country. Those of Kashmir are famous. A choga of British broadcloth, lined with the fur of the sambur deer, costs £60 to £80; but the fur of the ermine, squirrel, and fox are also used.—*MacGregor*, p. 50.

CHOGOD. HIND. An owl; also pronounced chuhat.

CHOGU. HIND. Taxus baccata.

CHOHAN or Chahuman, one of the four Agnicula tribes, which formed a dynasty that reigned at Ajmir and Dehli, and afterwards at Kotah and Bundi. Ajipala, one of this dynasty, founded Ajmir in A.D. 145; and it was afterwards lost to the Mahomedans by Dola Rai. Harihara Rai defeated Sabaktagin. The race has been conspicuous for bravery during two thousand years. The leading individuals have been—

Anhul or Agnipala, 'offspring of fire,' the first Chohan; probable period 650 before Vikrama, when an invasion of the Turshka took place; established Macavati nagri (Gurra Mundilla); conquered the Konkan, Aser, Golconda.

Suvatcha Mallan. In all probability this is the patriarch of the Mallani tribe.

Gulun Soor; Ajipala, 'Chukwa,' or universal potentate; founder of Ajmir, some authorities say in 202 of the Vikrama, others of the Virat-Samvat. The latter is the more probable.

Dola Rai, slain, and lost Ajmir on the first irruption of the Mahomedans, S. 741, A.D. 685.

Manika Rai, S. 741, founded Sambhur; hence the title of Sambri-Rao borne by the Chohan princes, his issue.

Hursraj, S. 827, defeated Nazir-oo-din (qu. Subaktagin), thence styled 'Sultangraha.'

Beer Beelundoo or Dharmaguj, slain defending Ajmir against Mahmud of Ghazni.

Beesuldeo (classically Visaladeva); his period, from various inscriptions, S. 1066 to 1130.

Anah, constructed the Anah Sagar, Ajmir; still bears his name.

After Anah were Jeipal, Ajeydeo or Anundeo, and Someswar. Someswar married Rooka Bae, daughter of Anung Pal Tuar, king of Dehli, and their son Prithi-raj succeeded to the throne of Dehli, and is said to have been slain by Shahab-ud-din S. 1249, A.D. 1193. His son Rainasi also fell. Vijaya raj, son of Someswar, whose name is on the Dehli pillar, was a nephew of Prithi-raj, and was adopted as his successor. His son Lakunsi had twenty-one sons, seven of whom were legitimate, the others illegitimate, and founders of mixed tribes. From Lakunsi there are twenty-six generations to Nonud Singh, a late chieftain of Neemana, the nearest lineal descendant of Ajipal and Prithi-raj. The genealogical tree of the Chohan tribe exhibits thirty-nine princes, from Anhul, the first created Chohan, to Prithi-raja, the last of the Hindu emperors of India. Mahomedan historians say that Prithi-raj was killed at the battle of the Cuggur, or shortly afterwards; but Chand, or rather his continuator, represents him as dying in captivity at Ghazni, and the bard would gladly have concealed so humiliating a fact if he could. Several Chohan sepoys, after the capture of that fortress, sought out and professed to find the Ch'hatri of their ancestor, where they showed their devotion to his memory, by presenting their humble offerings in honour of the champion of their faith. The desert tribes in the Chohan territory, the Sahrai, Khosa, Koli, Bhil, were till lately predatory. The western Chohan are said to be free from infanticide. They do not wear the zonar, nor form a circle (choki) in cooking, and their cooks are usually of the barber caste. The Chohan and Gehlot were neighbours, and on friendly terms, but the Rahtor and Tuar were often at war, though only separated by the Kali naddi. The Chohan territory on the S.E. has Koliwara, on the W. the desert Dhat, on the S. the Rin. It has two divisions,—Vira Bah on the E., and across the Looni on the W. is Parkar, the Naggur Parkar of the maps. Bundi and Kotah are the most celebrated of the existing Chohan. Twelve branches of the Chohan became Mahomedans.—*Prinsep's Antiquities by Thomas*, p. 248; *Tod's Rajast.; Elliot, Supp. Gloss.*

CHOHAR or Choar, a tribe of mountaineers in the hills of Ramgarh, etc.—*Wilson.*

CHOI, also Jira. HIND. A hole in the bed of a river, to get water; the outer leaf or spathe of the sugar-cane.—*Elliot.*

CHOIGYAL. TIB. Dharmaraja, the judge of the dead. Shin-je, TIB., is also said to have the same meaning.

CHOIL. PANJABI of Cis-Sutlej. Low, swampy, undrained land.

CHOITRO, a Hindu month corresponding to the latter half of the month of March and first half of April. The full moon of Choitro, therefore, corresponds with the full moon of Easter. It was in this month that the devotees formerly engaged in the ceremonies of the Charakh puja, the swinging sacrifice.

CHOK. HIND. Gmelina arborea.

CHOKA. HIND. Rumex vesicatoria.

CHOKA. DUKH. Piper nigrum.

CHOKHA, the root of a plant that is brought from Dehli to Ajmir. It is heating, taken internally as a narcotic; is bitter. It is chiefly used, mixed with sulphur and oil, to cure the itch in camels.—*Gen. Med. Top.* p. 131.

CHOKI. HIND. Custom-house. A circle drawn round the spot on which Hindus cook their food. The interior area is holy. No stranger must step within or over it; with the Sri Vaishna of the Ramanuja followers, no strange eye must look on it. Such occurring, the food is thrown away, no matter how long the abstinence had been.

CHOKIDAR, in India, a watchman, a policeman. The Chokidar or Ich Agasi of the Pashalic of Baghdad is one of the pages of the pasha's presence.—*Mignan's Travels.*

CHOKLU. HIND. Rhus succedanea.

CHOL. TURK. Desert.

CHOLA, an ancient dynasty in the south of the Peninsula of India; the Sorai of Ptolemy. Their several capitals were Arcot, Conjeveram, then Wariur, near Trichinopoly, Combaconum, Gongadaram, and lastly Tanjore. At the beginning of the Christian era they seem to have been ruling over all the countries speaking the Tamil language; and Mr. Ellis was of opinion that in the 8th century its princes were occupying large portions of Karnata and Telingana, and ruling over as much of the country up to the Godavery as lay east of the hills at Nundidrug. They seem to have been first checked in the 12th century, and ultimately driven back within their ancient frontiers. In this state they continued to subsist either as independent princes or feudatories of Vijayanagar until the end of the 17th century, when a brother of Sivaji, the founder of the Mahratta state, who was at that time an officer of the Adal Shahi government of Bijapur, being detached to aid the last Chola raja, supplanted him in his government, and was the first ruler of the Mahratta government of Tanjore. The capital of the Chola for the most part was at Kanchi or Conjeveram. They must have been exercising sovereignty in the time of Ptolemy, who makes mention of 'Arcati soren;' and in the Mahawanso frequent references to transactions with the Chola occur during the earliest periods of the Singhalese annals. The Tamil traditions abound with stories of Adonda Chakravarti, who appears to have been the subduer of the aboriginal or Curumber tribes; yet no trustworthy records of his origin and actions are forthcoming, neither have authentic accounts of the overthrow and extinction of any of the great southern states been yet obtained. The Chola kingdom at one time reached as far as the river Kistna. The Ceded Districts formed part originally of the kingdom of the Chola, with whom they were occasionally disputed by the Kalyan Chalukya; and ultimately they constituted the principal portion of the kingdom of Bijanagar or Anegundi. The capitals of the latter power were successively Bijanagar on the Tumbudra, Penaconda, and Chandragiri.—*Elphinstone.*

CHOLA-MANDALOOR, supposed to be the source of the term Coromandel, applied to the east coast of the Peninsula of India, the Carnatic below the ghats. It was the country of the rajas of the

Chola dynasty Choran, who seem to have been coeval with the Cheran and Pandyan dynasties.

CHOLAY of Nepal, Capra hircus, *Linn.*

CHOLERA, also called Cholera morbus, a disease which has been reappearing at intervals in British India, certainly since the latter part of the 17th century. In its attacks only one in two or three recovers. It has spread to most countries, and seemingly has Lower Bengal as an abiding place. Cholera reappeared at Negapatam in October 1781. A third time it appeared in 1786, and a fourth time in 1817. It appeared amongst the native troops, who marched from Bengal 5000 strong in February 1781, and they arrived near Madras in August, reduced to little more than 2000. It broke out near Ganjam in March 1781, and lasted about six weeks.—*Hough.* p. 115.

CHOLI. HIND. A bodice worn by most of the women of British India. It is of various shapes, but generally of coloured materials; in Sind, under the shift, of cloth called kanjari, the choli or gaj conceals the bosom. When it passes round the side like a bodice, and is fastened behind, its name is puth. The Marwari and Brinjari women have the latter form. In Sind, over the choli or angia bodice is a light muslin shirt, which continues below the waist, called a koortni; and over all a scarf of white or coloured muslin of fine texture, do-patta, passed once round the waist, and thence across the bosom and over the left shoulder and head, like the sari, completes the costume.—*Watson; Burton's Scinde*, p. 301.

CHOLI. DUKH. Portulaca quadrifida, *R.*

CHOLLA. TEL. Eleusine coracana, *Gærtn.*

CHOLUM. TAM. Sorghum vulgare.

CHOMONDRI or Chalembry. TAM. A Ceylon tree; wood of a very dark colour, and durable. It grows to between 12 and 20 inches in diameter, and 20 feet in height. It is used by the native carpenters for general purposes. It produces a fruit which is used as medicine.—*Edye, Ceylon.*

CHOMORERI LAKE, according to Major Cunningham, is slightly saline. It has evidently had an outlet at its southern extremity, where it is only separated from the valley of the Parang river by a very low range of hills. The outlet of the little salt lake of Thogji has evidently been near its north end; and its waters, previous to the change in the state of the country which interrupted their exit, in all probability flowed into that tributary of the Zanskar river which runs to the eastward of the Lachalang pass. A goddess, Mo, is said to have haunted this lake Chu, and while flitting over it used to call out incessantly, 'Ree, Ree!' thence Choo-moree-ree! It is on the lofty platform of Rupchu, which extends from the Parang pass across the main chain of the Himalaya to the adjacent head of the Zanskar valley. The lake is 15,200 feet above the level of the sea.—*Mrs. Hervey's Adventures*, i. p. 148; *Hooker and Thomson.*

CHOMPRENG. MALAY. A river cargo boat. The prahu boat, called Sekong, is made of one log of wood, very sharp fore and aft, with long outriggers to prevent it upsetting.—*J. I. Arch.*

CHONDROPTERYGII, a sub-class of fishes. The skeleton is cartilaginous, and skull without sutures; body with medial and paired fins, the hinder pair abdominal; caudal fin with produced upper lobe. Gills attached to the skin by the outer margin with several intervening gill-openings; rarely one gill-opening only. No air-bladder. Embryo with deciduous external gills; males with prehensile organs attached to the ventral fins. In the family Carcharidæ the eye has a nictitating membrane, and the mouth is crescent-shaped and inferior. The families Amnidæ, Rhinodontidæ, Notidanidæ, Scylliidæ, and Pristiophoridæ, have no nictitating membrane. In the saw-fish family Pristidæ, the snout is produced into an exceedingly long flat lamina, armed like a saw with a series of strong teeth along each edge. The electric organ of the family Torpedinidæ is composed of vertical hexagonal tubes between the pectoral fins and the head. The ray family, the Rajidæ, have a broad rhombic disc, generally with asperities or spines, and the pectorals extend to the snout. The pectorals of the Trygonidæ are similarly prolonged, and they have a long and slender tail. The pectoral fins of the Myliobatidæ are greatly developed; they leave the head free, and reappear at the extremity of the snout as a pair of detached (cephalic) fins.—*Gunther, Catal. of Fishes.*

CHONDRUS CRISPUS. Carrageen moss.

CHONEMORPHA MACROPHYLLA, one of the Apocynaceæ. It takes its name from Chone, a funnel, and Morpha, form. A very handsome climbing shrub, with large white flowers, well adapted for a screen or covering a wall.—*Riddell.*

CHONEMORPHA MALABARICA. *Don.*
Echites Malabarica, *Lam.* | Pul-valli, . . MALEAL.

A Malabar plant. Its leaves, rubbed up in rice water, are applied to carbuncles; and its root is used in fever, with dried ginger and coriander seed.—*Useful Plants.*

CHONG, an infusion or fermented liquor, made by the Lhopa of Bhutan, from wheat, barley, or rice, which is boiled and strained. Afterwards, one ball, size of a nutmeg, to each pound of grain, of the blossom of the Cacalia saracenica (Bakka), is crumbled and strewed over the grain. It is then pressed in baskets lined with leaves. To use it, a portion of the digested mass is put into a vessel, boiling water poured over it, and infused. It is now the Chong, and it is a grateful beverage, slightly acid, and not powerfully alcoholic.

CHONG, a hill tribe on the side of the Mei-kong basin, but towards the sea, between lat. 11° and 12° N. They preserve more of the Australo-Tamulian character than any of the neighbouring tribes. Their hair, instead of being stiff or harsh, as in the Mongolian, Tibetan, and prevalent ultra-Indian and Malaya-Polynesian race, is comparatively soft; the features are much more prominent, and the beard is fuller. The Moi or Ka-moi, who, on the opposite side of the Mei-kong, occupy the broad expansion of the Annam chain towards Kamboja, and appear to extend northwards along these mountains, marching with the Lau on the westward, are said to be black savages, with Negro features. The Kambojans style them Kha-men. They are the Kho-men of Leyden, and the Kha-men of Gutzlaff.

CHONG-MON-GO. HIND. Nepeta floccosa.

CHONTI. HIND. Amongst Hindus, a tuft of hair left unshaven on the top of the head. It is also called Choti, also Chonda and Chuda. Mahomedan boys sometimes retain it, as a votive offering to some saint. All Mahomedan women of the Peninsula dress their hair with the chonti, or tail, hanging behind, and largely added to by

their hair that has been combed out. Tufts of hair are left on children's heads unshaved, dedicated to saints. See Chuda-Karanam.

CHOOA, HIND.; also Battoo, also Marsa. Amarantus oleraceus, *Elliot.*

CHOOA, an oil of Cuttack, distilled from the jhoona resin, a few fragrant substances, as sandalwood and khus-khus, being mixed with the compound. It is used as an unguent in cutaneous diseases. The best sort sells at 5 lbs. weight per shilling.—*Local Committee, Cuttack.*

CHOOARA. From Chooara to Sungla of Tookpa, three passes cross the top of the Himalaya range in Kunawar—Neebrung 16,035 feet, Goonas 16,026 feet; Goosool, 15,851 feet, all crossing the top within half a mile of each other.

CHOOBOO, a hybrid between the yak and the Indian cow.

CHOO-FOO-TSZE, the Coryphæus of Chinese philosophy; one of China's greatest writers, the most prominent of all the authors of the middle age period in that country. Until recently he was considered as almost a second Confucius.—*Dr. Edkins.*

CHOOHA. DEKH. The rat; Mus decumanus.

CHOOKEH, also Chooko-Palung. BENG. Rumex vesicarius; sorrel.

CHOOKRA, the lowest class of village servants, the Kummalu, Bhungee, Hulal khor, and Khakrob. The head of the race is called Mihtar (Persian, a prince), and his perquisites are Mihtarai.—*Elliot.*

CHOOKUL or Choput. HIND. A leaf cloak in general use amongst the natives in Manbhum during wet weather.

CHOOLA, a tribe of Tuga in Baghput, so called from having come from Chooloo or Chooro in Bikanir.—*Elliot.*

CHOOLAEE. HIND. This name is indifferently given to Spinacia tetrandra and Amarantus polygamus. The former is a common sort of native greens, and when boiled resembles spinach; it is procurable nearly all the year round. The latter is much cultivated by the natives. It is sown broadcast in beds from June to March. The leaves are sold in the bazar at one pice the seer. Used as greens and also in curries.—*Riddell.*

CHOOLI. HIND. A whirlpool; also stones rounded by attrition in running water, called Rori and Binlung. They are used by Saiva Hindus as the lingam emblem of Siva. See Rohri; Chuli.

CHOOLI. BENG., HIND. Villarsia Indica.

CHOOMLI KOL, a branch of the Kol race, also called Mullar and Panburri. This branch is respectable, and is employed in every Dekhan village as a member of the third division of the Balottah, and supplies water to travellers, wearing on his head the choomli or twisted cloth, on which to rest the pot; hence the name.

CHOONA. HIND. Quicklime, mortar; in Tamil, Chunam or Chunamboo.

CHOONCHA. BENG. Country sorrel.

CHOONDUREE. Once a year, on a festival day, amongst Hindus, sons visit and pay adoration to their fathers. The diet that day is chiefly of vegetables and fruits. Brahmans, with their unmarried daughters, are feasted, and receive garments called choonduree from their chiefs.

CHOONEA. A Kafir tribe. See Kafiristan.

CHOONGGAY. HIND. Fried cakes made of wheat flour, sugar, and ghi.

CHOONGUL. HIND. Also Khonch. A handful of anything.—*Elliot.*

CHOONJERMA, a pass in Nepal, in lat. 27° 33′ N., long. 88° 1′ E.; crest, 16,000 feet; temperature, 24° at 5 P.M.

CHOON-KHURKEE. BENG. Apluda aristata.

CHOOPREE ALOO. HIND. Dioscorea globosa. Tubers roundish, very large, white inside, and much esteemed; the skin thin and smooth like a potato. The stems require strong sticks to creep over. It bears a large roundish fruit, like an oak-apple in appearance, which is also edible. The words seem to be correctly Safri-alu.—*Riddell.*

CHOORA and Thaori were, in Colonel Tod's time, in Rajputana castes of robbers,—the former from the Lakhi jungle, the latter from Mewar. Most of the chieftains had a few in their pay, entertained for the most desperate services. The Bahaderan chief had expelled all his Rajputs, and retained only Choora and Thaori. The Choora were highly esteemed for fidelity, and the barriers and portals throughout this tract were in their custody. They enjoy a very singular perquisite, which would go far to prove their being the aborigines of the country, namely, a fee of four copper coins on every dead subject, when the funeral ceremonies are over.—*Campbell.*

CHOORA-KARANA. SANSK. From Choora, the bunch of hair on the crown of the head, and Kree, to do. See Chonti.

CHOORAY-KAI. TAM. Calabash.

CHOOREEAN. HIND. Bracelets worn by fakirs.

CHOORWAY. HIND. A dish prepared from parched rice.

CHOO-TAI-TSOO, founder of the Ming dynasty.

CHOOTA-PUSHPA. BENG. Melastoma aspera.

CHOOTRA-PHUL, a Nepal tree, not unlike the barberry; the wood is of a strong yellow colour, but does not afford a permanent dye. Nepal women use it instead of sandal for tracing the tilak on their forehead.—*Smith's Nepal.*

CHOP. CHIN. A brand, a stamp, a seal.

CHOPADA. SUM.? Artocarpus integrifolia.

CHOPANDIGA. HIND. Achillia millefolium.

CHOPAR. HIND. Hiptage madablota.

CHOPAT. HIND.? Part of the potter's wheel.

CHOPRA. HIND. Adelia serrata.

CHOPRA, a tribe of the Barajati class of the Khatri. See Khatri.

CHOPUT. HIND. Chess-cloth.

CHOR, a mountain 25 miles S.E. of Simla. It rises to a height of 11,982 feet above the sea.

CHOR. HIND. Coriaria Nepalensis.

CHOR or Chur. HIND. A sandbank or island in a river bed.—*W.*

CHORA, in Kaghan, Quercus dilatata, Q. ilex; in the Simla hills, Angelica Archangelica.

CHORA. GUJ. Dolichos catiany.

CHORAIL. — ? An evil spirit.

CHORASMIA or Khwarizm, the country on the east of the Caspian Sea, the capital of which was Gurganj. The Arabs wrote the name of the country Jurjan, and that of the capital Jurjaniya. The Mongol form of the name was Organj. Noshtigin, a Turkish slave of Malik-Shah Saljuk, was made governor of the province, and contrived to secure his independence. His son, Kutb-u-din, extended his dominions, and acquired the title of Khwarizm-Shah, a name which had been borne

by the rulers of the country before the Mahomedan sway. This empire of the Khwarizm kings rose upon the ruins of the Saljuk dynasty, and their territories extended from Azarbaijan and the Caspian Sea to the Indus, and from the Persian Gulf to above the Jihun or Jaxartes. A succession of nine princes reigned for 138 years, from 491 to 628 Hijira (1097 to 1230 A.D.); but in 618 H., the last of them, Jalal-ud-din Mankburni, was driven by Chengiz Khan beyond the Indus, and he was killed in Mesopotamia ten years afterwards, stripped of all his dominions.

CHORBAT. This district is a dependency of the government of Iskardo, which, like that of Leh, is subject to that of Kashmir. The desert country by which Nubra and Chorbat are separated, has for the present acted as a barrier to the further extension eastward of the Mahomedan religion, which is now universally that of the people of the whole of the Iskardo (or Balti) district, as well as of Dras. On the Indus and in the valleys south of it there is no uninhabited tract between the two, so that the Mahomedan and Buddhist population are in direct contact. The result is that Mahomedanism is in that part gradually, though very slowly, extending to the eastward. — *Dr. Thomson's Travels in Western Himalaya and Tibet*, p. 204; *Tibet*. See Maryul.

CHOR-CHITTI. HIND. Deed of relinquishment.

CHOR-DEO, an evil spirit; literally, thievish god.

CHOR-GANGA in A.D. 1131 invaded Orissa, and established the Ganga Vansa dynasty, which lasted till A.D. 1451. See Chur-Ganga; Orissa.

CHOR-HULDEE, a Mahomedan ceremony so called.

CHORI AJWAIN. DUKH. Seeds of Cleome viscosa.

CHOR-KANTA. BENG. Andropogon aciculare. Spear-grass.

CHOR-KONDA. a glacier in Balti, in lat. 35° 36′ N., and long. 75° 58′ E., and 16,900 feet above the sea.

CHOR-KULLI. HIND. Soymida febrifuga.

CHORO-CADAMBOO? TAM. A Travancore wood of a yellow colour, specific gravity 0·529; used for packing-cases.

CHOROLI KI BHAJI. DUK. Portulaca quadrifida.

CHOR PATTA or Surat, Urtica crenulata, a gigantic stinging nettle, a native of the hills and valleys on the east of Bengal, Luckipore, Pundua hills, and Assam. It affords a fine white fibre, but of no great strength, and not durable. The hill tribes fabricate it into coarse cloths.—*Royle*.

CHOR-SACI, a term by which the Scythians designated the ancient Persians. See Kurmsaq.

CHORTEN, in Hinduism, a pile dedicated to the five elements. It seems to be the Buddhist chod'ten, or relic receptacle.

CHOR-UTAR, in Mewar, a grant of land by the sovereign, resumable at pleasure.

CHOSA. SANSK. Papaver somniferum; poppy.

CHOSROES, in Persian, Khusru, Kasru, or Kasra. Two Persian kings of this name of the dynasty of the Arsacidæ. Chosroes I., styled Nushirwan, A.D. 531 to 571, was defeated on the plain of Melitene by Justinian, the general of Tiberius Constantine. Amongst the plunder obtained was his drinking-cup, of gold and paste jewels, which is now in the Bibliothèque Impérial of Paris. He was succeeded by Hormuzd. Chosroes II., or Khusru Parvez, A.D. 591, reigned till A.D. 623, when he was put to death by Kobad. He was grandson of Chosroes I. He married a daughter of the emperor Maurice, and this lady is generally supposed to be the heroine of the eastern romances Khoosroo and Shireen, and Farhad and Shireen. Near Baghdad is an arch, known as the Tak-i-Kasru, or arch of Chosroes, which marks the site of the ancient Ctesiphon.—*Mordtmann; Smith; Prinsep by Thomas*. See Greeks of Asia; Kasr.

CHOT, also Ghoonghi. HIND. A blanket, cumbli, or sheet, folded or tied at one end to form a cloak.—*Elliot*.

CHOTA. HIND. Pyrus Kumaonensis.

CHOTA. HIND. Small, little; Choti, fem.; and Ch'hoto or Choto, BENGALI; hence,—

Chota-bish-tarik, Ipomœa speciosa.
Chota-chand, Ophioxylon serpentinum.
Chota-chirayta, Cicendia hyssopifolia.
Chota-dhaon? Grislea tomentosa.
Chota-gul-khairu. See Khabaji.
Chota-jam, Eugenia caryophillifolia.
Chota-karoonda, Carissa spinarum.
Chota-koksun, Vernonia cinerea.
Chota-kanoor, Aloe litoralis.
Chota-okra, Zapania nodiflora.
Chota-pind-alu, Dioscorea aculeata.
Chota-sundhi, Nymphæa edulis.
Choti-al, Rheum emodi.
Choti, Corchorus olitorius.
Choti-sim-ki-phalli, Dolichos lablab, native bean. This is a smaller species of the D. lablab; the legume and seeds are both eaten; it is sown in the rains, and sells from one or two pice a seer.
Choti-ilachi, Elettaria cardamomum.
Choti-mai, galls of Tamarix orientalis.
Choto-phutika, Osbeckia aspera.
Chota-akunda, Calotropis herbacea.
Chota-al-ki-pat, Morinda umbellata leaves.

CHOTA NAGPORE, properly Chutia Nagpur, is the country on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damuda, and other rivers have their sources. It extends into Sirguja, and forms what is called the 'Upar-ghat' or highland of Juspur, and it is connected by a continuous chain of hills with the Vindhyan and Kymor ranges, from which flow affluents of the Ganges; and with the highlands of Amarkantak, on which are the sources of the Nerbadda. The plateau has an area of about 7000 sq. miles. It is on all sides difficult of access. It is a well wooded, undulating country, diversified by ranges of hills, and has a genial climate. The population at the 1872 census was 3,825,571, and is formed of a number of non-Aryan tribes who had fallen back to that refuge from the plains, more than half of them being of the race known to Europeans as Kol. On the south-west frontier of Bengal, besides Chutia Nagpur, are Sirguja, with Palemow, Ramgurh, Hazaribagh, Mynpat, and Amarkantak. The elevation of Chutia Nagpur is 2000 to 3000 feet, with hills running E. and W., but of little height; Sirguja is mountainous, rising 600 to 700 feet above the level of Chutia Nagpur. Mynpat is a table-land about 30 miles S.E. from Sirguja town, and about 3000 or 3500 feet high. Palemow district is very mountainous. Hazaribagh town, lat. 24° N., long. 85° 54′ E., is 1750 feet. Slope of the country is south towards Sumbulpore; N. and E. parts of district very mountainous, but level and even depressed towards the Mahanadi.

Sumbulpore town, only 400 feet. Orissa table-land then rises on the southern side of Mahanadi, in some places to 1700 feet, backed by the chain of E. Ghats. Amarkantak jungle table-land, lat. 22° 40′ N., long. 81° 5′ E., 3500 feet. The soil in the plains is generally fertile, producing abundant crops of wheat, barley, rice, pulse, excellent vegetables, cotton, and sugar-cane. The cultivated parts are overrun with a coarse grass.

There are 21 mahals, which form the S.W. frontier of the Bengal province, and which may be classified in four groups, the Sumbulpore, Patna, and Sirguja groups, and Singbhum.

The Sumbulpore and Patna groups are in the circle of the Cuttack Tributary Mahals. Singbhum was never Mahratta; and in 1857 its chief, the raja of Poorahat, joined in the rebellion, many of the Larka Kol following him. A Christian mission went to Chutia Nagpur in 1845, and has made much progress amongst the Dhangar race. In Chutia Nagpur, in which are the districts of Manbhum and Singbhum, the mortality from the famine of 1866 fell on the population about the same as in Orissa. More than half of the population are aborigines or semi-Hinduized. The fourteen Kolarian tribes being the Asur, Bhumij, Birhor, Ho, Kharria, Kora, Korwa, Muasi, Mundah, and Santal, who speak the Mundah, or a language closely allied; with the Cheru, Kharwar, Kisan, and Saont, who have lost their own primitive speech. The Dravidian tribes are the Bhuiher, Binjhia, Gond, Khand, Kaur, Mal, Oraon, Rautia, Sabar, and many others. The census of 1872 showed as under:—

Asur, K.,	2,567	Ho or Kol,	292,036
Bhuiher.		Tamaria,	3,016
Boyar.		Korwa,	17,564
Bhumij,	128,287	Kur, Kurku or	
Binjhia.		Koraku,	2,458
Birhor,	393	Muasi.	
Cheru, Cherwa,	17,632	Mal.	
Gond,	65,069	Naiya or Naik,	2,324
Kaur,	27,508	Kisan, Nagesar or	
Kharria,	26,393	Naksia,	22,934
Santal,	220,096	Oraon or Dhangar,	208,343
Bhuiya,	184,089	Pakaria,	511
Chik (weavers),	19,585	Rautia,	24,633
Ghasi (scavengers),	32,258	Bhar; Raj Bhar,	17,091
Khaira,	11,804	Ghatwal,	31,366
Kharwar;	137,055	Mahali,	20,285
Kolitan.		Sukiar,	8,980
Panda,	5,478	Kurmi,	250,000?
Surak,	9,986	Koeri,	53,638
Christians,	14,226	Kora,	11,505
Mahomedans,	169,000	Kewat,	2,660

The Asur or Agaria are wild, uncivilised iron-smelters. The Bhuiher and Boyar are supposed to be the same tribe, to be identical with the Parheya, and allied to the Gond. They are also called Beoriha, from practising the kumari or jhūm form of cultivation.

The Bhumij (128,287) are in Dhalbum, Manbhum, and Orissa, and, under the name of Chuar, were formerly known for their daring exploits.

The Birhor, a very small tribe, who claim alliance with the Kharwar. They used to practise cannibalism; a Birhor whose end was approaching, would invite his relatives to come and feast on his body.

The Kaur claim descent from the Kaurava race.

The Korwa are a very wild tribe of Kol, but agricultural.

The Oraon, and those of the Oraon tribe called Dhangar, are a merry, light-hearted people, very fond of dancing, but given to excess in eating and drinking.

The Santal are most numerous in Manbhum, Singbhum, and Chutia Nagpur.

The Bhumi form the majority of the population in all the estates of the Manbhum district to the south of the Kassai river. As they approach the confines of Chutia Nagpur, they appear to be called indifferently Mundah or Bhumij, and they intermarry. More to the east, the Bhumij have greatly assimilated to the Bengali; many have acquired estates and influence as Sirdar Ghatwali, the hereditary guardians of the passes. They tenaciously cling to their national songs and dances. Bhumij are to be found in Mohurbunj and Keonjur, and it is this branch of the Mundah race which has spread farthest in an eastern direction. The Bhumi of the lower part of Singbhum and Manbhum are tolerably civilised. All the wild tribes of Central India worship relatives immediately after death; and the Bhunjia, Bhumij, and Kol tribes or clans practise the ceremony whereby the soul of a man just deceased is attracted or conjured into some tangible thing, which is brought back into the house soon after the funeral, apparently that the soul may thenceforth be worshipped as a household spirit. Traces of this superstition may be found all the world over. It is practised by Hindus; Herodotus and Homer show its antiquity. Captain Burton mentions it in Africa. — *Cent. Ind. Prov. Com. Rep.* pp. 5-9; *Dalton*, pp. 147-156; *Campbell*, p. 33; *Aitcheson; B. As. Soc. Jo.* 1866; *Bengal Census Report.*

CHOTA SUR. HIND. Porculia salvania.

CHOTI-PHUL of Shahpur, a flat, shield-like ornament worn on the top of the head by Arora women. It is also in the form of a round spherical boss, different in form from the ornament of the same name in the Jach Doab.

CHOTRA. HIND. Berberis aristata.

CHOU. HIND. Four; softened from Char, four, from which are many compound words.

CHOUBE or Choubay, a class of Brahmans who originally received their name from reading the four (chou) Vedas, as Doobe was derived from reading two, and Tribedee from reading three, of the Vedas. Choube are numerous in Muttra, where they claim the exclusive right of worshipping in the temples of Krishna. They are of large physical frame; and the Choubni women have a commanding style of beauty.

CHOUBEESA, from Choubees, 24, is a term applied to a tract of country containing that number of villages in the occupation of a particular tribe. There are several of them scattered over the provinces, but they may perhaps be more frequent in the neighbourhood of Muttra than elsewhere.

CHOUDHARI, an overseer, commonly written Chowdri. In Hindustan the choudhari is the revenue officer of a district, called desmukh or desai among the Mahrattas. He is also a head of a division, or sect, or gang. In many Hindu cities, the different classes of the community of every rank still acknowledge certain of their members as their hereditary headmen or provosts. These are the Sartavaha of the Brahmans, and Sirdar of the Mahomedans. The chowdrani is usually a woman overseer. Many of the Hindu temples of the south of India are pyramidal,

but in successive tiers, four-cornered, each tier or platform being upheld by two men at the corner; these are the choudhari, though in reality there are eight for each tier.—*Wilson, Hind. Th.*

CHOUDWAN, a tract of country in the district of Dehra-i-Ismail Khan.

CHOUGH, the Cornish chough, Fregilus graculus, inhabits the more elevated regions of the Himalaya, and of all high middle Asia, also stated to have been obtained in the vicinity of Calcutta.—*Cal. Rev.*

CHOUGHAN, in Rajputana, the Rajput champ-de-Mars. See Dard.

CHOUK. HIND. A market-place. Chouki, a custom-house, a police station. Choukidar, a policeman.—*Elliot; Wilson.* See Choki.

CHOUKA. HIND. Tetraceros quadricornis.

CHOUKANDI, or Luri-ka-kodan, so called from the leap from its top of an Ahir, by the name of Luri. It is in the town of Sarnath, and is a lofty mound of solid brickwork, surmounted with an octagonal building. Hiwen Thsang describes this tower to have been no less than 300 feet in height.—*Tr. of Hind.* i. p. 295.

CHOUK MARAM. TAM. Casuarina muricata.

CHOULA, also Choura. HIND. Dolichos Sinensis; a pulse commonly cultivated in Hindustan; also called Ruwas and Rumas, and in Persian Lobia.

CHOULAM. At five months of age, a Hindu ceremony called Choulam occurs, and the lobes of the ears are pierced with a small thin gold ring.

CHOU-LEEN-KE, or Chow-tsze, commenced his labours about A.D. 1034. He died A.D. 1100? From 1241, his views of philosophy, morality, and politics have been supreme in China.

CHOULTRY.

Chattar, Chattram, H., TAM. | Chawadi, ... TEL.

In the Madras Presidency, a resting-place like the Mahomedan sarai; a police-station, a post-house.

CHOUMASA. HIND. The Indian seasons are, according to the Shastras, six in number, each comprising two months. The common people are content to adopt the more definite division of three. Choumasa, or Bark'ha, constitutes the four months of the rainy season. The rest of the year is comprised in Seeala, Jara, or Mohasa, the cold season; and Dhoobkala, or K'hursa, the hot season.—*Elliot.*

CHOU-MURTI MAHADEVA, a name of the four-faced lingam, one of which is in one of the Ellora caves, others in the Burabur caves, and many in the Gyah district. The meaning is, as an ordinary lingam can be worshipped only looking in one direction, this four-faced one can be looked to from four sides.

CHOURA-DADUR, a plateau in Central India, which has an area of about 1000 sq. miles. It is covered with jungle.

CHOURAGARH, the highest summit of the Mahadeva hills, has an altitude of 4200 feet above the sea; the usual height of the range, which, entering the Nagpur territory from Gawilghur, passes by Dewaghur towards Shiwani, is not above 2000 feet, though in the east of the same chain, where it goes under the name of the Lanji hills, some of the peaks attain an elevation of 2300 and 2400 feet. At Nagpur, the country falls to a level of 1000 feet. On the west, however, it immediately rises by 200 or 300 feet in a succession of eminences. — *Carter's Geological Papers*, p. 248.

CHOURASSI, HIND., literally, eighty-four, is a revenue term applied to a subdivision of a pargana or district amounting to 84 villages. Tod, in his Annals of Rajputana, where the chourassi are numerous, remarks that they are tantamount to the Saxon Hundreds (i. p. 141). The Chourassi, eight-four [townships] of Ruttungurh Kheyr, was in S. 1828 (A.D. 1772) assigned to Madaji Sindia to pay off a war contribution; and until S. 1832 its revenues were regularly accounted for. It was then made over to Berji Tap. Chourassi also is supposed to be the number of solar months in the year, multiplied by the number of days in the week, $12 \times 7 = 84$.—*Tod's Rajasthan*, ii. p. 637.

CHOUREEONA. URIA.? A tree of Ganjam and Gumsur. The bark is used medicinally for rheumatism. The flowers are worn.—*Macdonald.*

CHOURPUT. HIND. A fine and light fabric, used as a blanket in Northern India. It is made of the inner coat of the yak or chowri ox.

CHOU-SINGHA. HIND. Tetraceros quadricornis, *Jerdon.*

CHOUTAL. MALAY. A Canara tree 40 feet high, and its wood is used by the native coopers in preference to other woods of the country, for casks, vats, tubs, etc.—*Edye, M. and C.*

CHOUTH. HIND. A fourth part, implying the fourth part of the revenue, which was the war-tax imposed by the Mahrattas on all the countries that they conquered. It was a permanent contribution of one-fourth of the revenue, and its exaction formed a peculiar feature of the policy of the Mahrattas during their ascendency. It was first exacted by Sivaji, A.D. 1676, when he ravaged Kandesh. Payment of it exempted the districts that agreed to it from plunder, so long as it was regularly paid. It was taken from the Hyderabad state and other Dekhan kingdoms; also in A.D. 1735 from the emperor of Dehli.—*Elph.* p. 559.

CHOVANNA MANDARI. MALEAL. Bauhinia variegata; B. purpurea.

CHOW. In China, a district. A Chow is similar to a Ting, as also a Heen, but each is a smaller division; each Fu, Ting, Chow, or Heen has one or more towns or walled cities under its guidance, one of which takes its name and rank, as Kwang-Chow-Fu and Shang-Hae-Heen, which latter, although of that subordinate rank, is the largest maritime city in the empire, and the greatest resort of the native ships or junks. — *Forbes, China*, pp. 10, 11; *Sirr*, i. pp. 211, 223.

CHOWAT KURNAT. MALAY. A fibrous material from the Baram river, supposed to be from a species of Artocarpus; its bark and bark cloth were sent to the Exhibition of 1851.—*Royle.*

CHOW CHOW. CHIN. Mixed preserves.

CHOW-GHURRAY. HIND. A small box with four partitions, for holding spices, etc.

CHOWHATTIA, a head of a clan of the Miana race. The Miana of Mallia in Mucha Kanta, on the banks of the Muchu river, are the real masters of Mallia. They have a thakur, but own allegiance only to their own chowhattia. The Miana are turbulent, used to take service in the neighbourhood, and in every boundary fight a Miana or two were killed.

CHOWK BYTHNA. HIND. To sit in a circle; a technical phrase among fakirs.

CHOW-LE, a classical author of China.

CHOWLI. DUKH. Portulaca quadrifida.

CHOWNSUT KHAMBEH, or Chownsat Satoon, as it is commonly called, is a singular structure quite close to the tomb of Nizam-ud-Din Aoleea, near Dehli. As the name implies, it is composed of 64 pillars. They are of white marble, supporting a square roof of the same material, which occupies a tolerably wide area. It is a building of great purity, its pale aspect of white throughout being interrupted by no other colour. The lattice-work that surrounds it is of very delicate execution, and well polished. This building seems to be erected to the memory, if not actually over the remains, of a celebrated poet and historian, Amir Khūsrū, a native of Samarcand, and a prince. He was a contemporary and friend of Shaikh Nizam-ud-Din Aoleea, not far from whose tomb this building is raised.—*French's Tour*, p. 13.

CHOWR, Chamara, or Chaunri. HIND. A whisk, made sometimes of peacocks' feathers, sometimes from the tail of the yak, sometimes of spill shavings of sandal-wood, of ivory, or of horse hair, or of grass, and used for the purpose of driving away flies, mosquitoes, and other insects. They are usually seen in the hands of the attendants of the gods. The chamari or chouri from the white bushy tail of the yak or Tibet cow, was in ancient India fixed on a gold or ornamental shaft between the ears of the horse, like the plume of the war-horse of chivalry; the banner or banneret, with the device of the chief, rose at the back of the car; sometimes several little triangular flags were mounted on its sides. 'The waving chowri on the steed's broad brow points backwards, motionless as a picture.'—*Coleman*, p. 376; *Hindu Theatre*, i. p. 199.

CHOWRA, a dynasty that ruled at Anhilpura in Gujerat from A.D. 746 to 942, when they were dispossessed by Mul Raj, a Solunki Rajput. The Chowra dynasty is usually known as the Saura; the natives of the S.W. of India change s into ch.

CHOWRI. TEL. (Chavadi.) A caravansary, a choultry, a chattram.—*Wilson.*

CHOWTHEE. HIND. The bridal ceremony of untying the kunggun on the fourth day after the shabgasht; a Mahomedan ceremony.

CHOW-YU. CHIN. Dioscorea batatas.

CHOZAN TARTARS were Israelites professing the Jewish religion, and practising circumcision.

CHRIST, from the Greek word Christos, equivalent to the Hebrew and Arabic Massiha, from Mas'h, anointed. The Christ is Jesus of Nazareth, called Jesus and Jesus Christ, also the Messiah. The Mahomedans' designation is Isa Masiha, Jesus the Anointed; they also entitle him Ruh Allah, the Spirit of God, as Moses is known as the Kalam Allah, the Speaker with God, and Abraham as the Khalil Allah, or Friend of God. Christians and Mahomedans believe him to have been born of the Virgin Mary.

CHRISTIANITY.

Chrétien, ...	FR.	Cristiano, . . .	IT., SP.
Isawi, ...	HIND.	Christan, . . .	TAM.

Christians in Southern and Eastern Asia are in many sects, and are the converts to this creed from many races, and since the earliest days of the Christian era. Arabia seems to have early adopted the Christian faith. The Eastern Churches believe that St. Thomas preached in Arabia Felix and Socotra, on his way to India, where he suffered martyrdom about A.D. 50; and it is said that the rudiments of this religion were first implanted amongst the Himyarites by St. Bartholomew. It is also recorded that St. Pantenus was sent by Demetrius, Bishop of Alexandria, to preach in Arabia Felix, and there he found traces of St. Bartholomew,—amongst others, a copy of St. Matthew's Gospel, written in the Hebrew character, which he brought away with him to Alexandria. In the reign of Tobba, son of Hasan, from A.D. 297 to 320, Christianity became more generally known in Arabia, and extended to Abyssinia, where the people, though surrounded by Mahomedan and pagan tribes, continue Christian till the present day. Subsequently, in A.D. 326, Frumentius was elected by Athanasius, Bishop of the Indians, and he is said to have contributed much to the propagation of the Christian religion, but whether Arabia or Abyssinia was the scene of his labours is disputed. In A.D. 342, Theophilus Indus, a native of Diu, obtained permission to build churches in Yemen, one of which was erected in Aden (Playfair). The Arab conquerors' first emigration from Arabia is supposed to have taken place about 700 years before the time of Solomon, and the Abyssinians appear to be of Arab descent. They were converted to Christianity in the fourth century of the Christian era, and in the sixth they re-crossed over to Arabia to avenge the persecution of Christians by a Jewish ruler, conquered Yemen, and marched to the gates of Mecca, where they were overthrown, two years before Mahomed was born. St. Thomas is believed to have become a martyr near Madras, at the Little Mount, half way between St. Thomé or Mylapur and St. Thomas' Mount. The first historical record of Christianity in India shows that its followers were Persians, followers of Mani. Cosmas Indicopleustes, who travelled in India A.D. 530–550, and afterwards became a monk, mentions the presence of Christians.

Alfred the Great, in A.D. 883, sent Sighelm as an ambassador to the Christians at Mylapur, but there is no authority for his having reached India.

Christianity in Arabia at the time of Mahomed was in a grossly corrupt state. The heresies of Ebion, Beryllus, Nazaræan, Collyridians, and Miriamites were current.

At present, in Arabia, there are two sects which have attracted the notice of travellers, because of their names. One of these, the Salebi, from Saleb, a cross, which they reverence; the other are the Sabian sect, who are known to Europeans as the Christians of St. John. But the Salebi seem to be homeless and migratory dwellers in tents, and many races have used crosses; and the Sabians are a sect who have adopted portions of the Jewish, the Christian, and the Mahomedan beliefs. The Kaldi, however, of Mesopotamia are Christians, and have been styled Nestorian Christians, a term which they do not recognise. Throughout those regions, Christians of the Armenian, Romish, and Protestant forms have scattered representatives.

Christianity, according to tradition, was introduced into Armenia by St. Jude or Thaddeus, one of the twelve apostles of Jesus, who converted King Abgar. The Armenian Church separated from the Greek Church of Constantinople in the sixth century, on a dispute concerning the nature of Christ,—the former holding the Jacobite doctrine of his divine and human nature being monophysite,

or united in one; while the latter, like most other Christian churches, holds his divinity to be distinct from his humanity. Persian Christians are chiefly Nestorians, whose evangelical views have sometimes caused them to be termed the Waldenses of Asia. They trace their origin to the labours of the apostle St. Thomas. About 1870 they sent a deputation of two of their chief ministers, named Deacon Abraham and Deacon Marcus, to Britain to solicit aid from British Christians. In that region, the several sects have long been agitated by questions of belief and of church government. The Chaldæan Patriarch at Mosul, after the middle of the 19th century, consecrated a bishop for Malabar. The Oriental Catholic Church of the Armenians has entirely separated itself from the papal chair. The United Chaldæans are said to intend to break off all connection with Rome, and the Copts are ready to do the same, and withdraw, like the Maronites, Syrians, and Greek Melchites, from communion with Rome.

The British Indian Government provides funds for army ecclesiastical services of the Episcopal, Presbyterian, and Romish forms, costing in the three presidencies about three lakhs of rupees. The British Government has not alienated revenue for the support of the religions of the country, but maintains what was alienated by their native predecessors. In some cases the land has been resumed and cash payments substituted; but the grand result is as follows in the Madras Presidency: Payments in cash to native religious institutions, per annum, Rs. 8,68,000. The assessment of lands alienated, less quit-rent, equals Rs. 2,30,32,000. The total, therefore, is Rs. 3,20,00,000. This is exclusive of enormous grants of land revenue to Brahmans and others. In 1871 the total acreage for Hindu religious purposes was 1,347,000 acres, assessed at Rs. 22,23,100. The acreage for Mahomedan religious purposes was 137,000, with an assessment of Rs. 2,63,000. The acreage for Christian religious purposes was 2600 acres, and the assessments Rs. 5000. Consequently the total area and revenue alienated was little less than 1,500,000 acres, assessed at twenty-five lakhs.

On all the sea-coasts of the south and east of Asia, and on the great rivers, the people are largely fishers. Those along the coasts at Madras became Christians early; indeed, from the southern outskirts of the town at St. Thomé to its northern village of Ennore, nearly all the fishermen are earnest Christians of the Roman Catholic persuasion. The Koli tribe of fishers in Bombay are nearly all Christians, though they have occasionally wavered. There is something remarkable in the circumstance of the fisher races being amongst the earliest and most eager converts to Christianity in India,—so much so as to render it questionable whether it be only an accidental coincidence, or the result of some permanent and predisposing cause. The Parawa, or fishermen of Cape Comorin, were the earliest proselytes of St. Francis Xavier; and they have still a pride in alluding to the fact that they were the first, as they have since been the most faithful and abiding, of his converts. It was by the fishermen of Manaar that he was invited to Ceylon in 1544; and, notwithstanding the martyrdom inflicted by the raja of Jafna, and the persecution with which they were visited by the Dutch, that district and the adjacent boundary of the Wanny has to the present day been one of the strongholds of the Roman Catholics in Ceylon. Amongst the Parawa, or fisher caste of the Singhalese, the Roman Catholics have at all times been most successful in their efforts to proselytize.

There were many Christians in Ceylon in the 9th century, and in the 16th century St. Francis Xavier is said to have converted the inhabitants of Manaar. The king of Jafnapatam put 600 of the converts to death; to revenge which, Constantine de Braganza in A.D. 1560 invaded Jafnapatam, destroyed many villages, and is said to have carried off and destroyed the celebrated tooth of Buddha. Throughout the entire of the British territories in Southern Asia are small bodies of Nestorian, Armenian, Romish, and Protestant Christians, of Persian, Armenian, Portuguese, Dutch, Danish, English, and French descent. The census of 1871 showed 896,658 of Christians in British India, as under:—

Bengal,	90,763	Berar,	903
Assam,	1,947	Mysore,	25,676
N.W. Provinces,	22,196	Coorg,	2,410
Ajmir,	249	British Burma,	52,299
Oudh,	7,761	Madras,	533,760
Panjab,	22,154	Bombay,	126,063
Central Provinces,	10,477		

Besides these, there are numbers in the native States of India, and the total may be about 1½ million. The Œcumenical Council at Rome, however, obtained a statement of the numbers in India of the clergy and professing Catholics. It showed an archbishop of Goa, 19 bishops, who are vicars-apostolic, and 815 priests, besides the clergy resident in the island of Goa; and the laity were stated at 1,076,102. The Protestant missions of India, Burma, and Ceylon are carried on by 35 missionary societies, in addition to local agencies, and in 1873 employed 606 foreign missionaries in 3022 principal and subordinate stations. The Romish clergy of British India are almost fully occupied by the duties relating to their respective charges, but the Protestant missionaries are zealous educationalists and propagandists. In India in 1871-72 there were 25 Protestant mission presses. During the ten years between 1852 and 1862 they issued 1,634,940 copies of the Scriptures, chiefly single books; and 8,604,033 tracts, school-books, and books for general circulation. During the ten years between 1862 and 1872 they issued 3410 new works in 30 languages, and circulated 1,315,503 copies of books of Scripture, 2,375,040 school-books, and 8,750,129 Christian books and tracts. But throughout the S. and S.E. of Asia, and in the Archipelago, there may, in the latter third of the 19th century, be about ten millions of Christians, amongst about six hundred millions of Buddhists, Hindus, Mahomedans, and Shamanists, amongst Aryan, Semitic, Mongoloid, and Negro races. In proselytizing, much success has attended the efforts of the Portuguese and Spaniards in India and the Archipelago; and the same may be said of the labours of Dr. Mason and other Baptist missionaries amongst the Karens and other uncivilised tribes of Burma; also of those of Bishop Caldwell amongst the Shanar and other ruder Tamil races of the extreme south of the Indian Peninsula; and of others amongst the Kolarian and Dravidian races of the Central Provinces, and in the Chutia Nagpur province of Bengal. Mahomedans in S. Asia, of Arab and Persian and Moghul descent, adhere to the religious instruction

of their childhood, and very few Hindus of Aryan descent have accepted the Christian doctrines. They have not, however, been quiescent, but, rejecting their own polytheist legends, they have been, from time to time, following monotheistic reformers, and in the 19th century have been trying to construct, under a church, council, or society, bearing the designation of Brahmo Somaj, an unrevealed code, in which they recognise a first principle and the teachings of morality. In British India, amongst Hindu races, the educational efforts of the British Indian Government have been on the largest scale; but over-education has unspiritualized the educational efforts of Christian missionaries, and created a desire for mere worldly advancement, which has killed in some hopeful cases the inner life.

In Cochin and Travancore there have been Jews from prehistoric times, and Christians from the earliest years of the era. Some of them have adopted the Latin hierarchy, others serve under the rule of the Patriarch of Antioch, others under the Patriarch of Mosul, and others, again, are designated Nestorians. The disputes there led to, and followed, the arrival of the Patriarch of Antioch, and on the 4th March 1876 the Travancore Government issued a proclamation, declaring all matters connected with the churches to be adjudicable by the ordinary courts of the country. The Syrian Christians in Travancore are styled Nasrani Mopla, also Pullen Kar; and Mahomedans are Iona Mopla. The Palaya Kar is a convert from the Syrian sect to that of the Romish Church.

The seaboard regions of the Peninsula have many Christian sects meriting notice. One part of these, the Travancore state, is in alliance with the British Indian Government. Its population in 1875 was 2,311,379 souls, of whom 468,000 were Christians, 63 per cent. being Syrians, in part Roman Catholics of the Syrian rite, and the rest Nestorians; Roman Catholics of the Latin rite were 24 per cent., and the remainder Protestants. The Syrian Christians on the Malabar coast date from the earliest centuries of the Christian era.

Cochin is another tributary state on the Malabar coast, with a population over half a million, of whom 140,262 are Christians and 1278 Jews. The Christians belong for the most part to the Romano-Syrian Church, under the Archbishops of Malabar and Goa. The Jacobite and Nestorian Churches were established long before any European settlements there, and they acknowledge the Patriarch of Antioch as their head. The Christians are almost all fishermen and boatmen.

Tinnevelly is a British district in the extreme south-east of the Indian Peninsula. In 1871 it had a population of 1,693,979, 102,576 or six per cent. of whom were Christians, mostly of the Parawa race, and those of the Romish and Protestant persuasions were in nearly equal numbers. It was on the Tinnevelly coast that St. Francis Xavier landed in 1542, after a short stay at Goa. He found there a small body of Christians; but since his time their numbers have largely increased in Madura and along the coasts of Tinnevelly and Ceylon. They have not been free from persecution. In 1549 Father Antonio Criminale became a martyr at Punnākayal. In 1693 John de Brito fell a martyr at Madura; and after the middle of the 18th century (1773) the Portuguese suppressed the Jesuits in their own dominions, and greatly oppressed the Eastern and Italian missions. Robert de Nobili, in 1607, founded the missions at Madura. Early in the 18th century, Father Beschi, a great Tamil scholar, lived for some time at Kayatar. In 1846 was formed the vicariate-apostolic of Madura, including Tinnevelly. Beschi died in 1746. The Protestant missionary Schwartz was in Tinnevelly in 1770, Jænicke from 1792 to 1800; after him came Gericke, J. Hough, 1816, with Rhenius, a man of great ability, Schmid, Dr. E. Sargent, and Dr. R. Caldwell, all of them men of great intellectual ability.

Christianity made much progress in Japan from the time of Xavier and his fellow-labourers. Louis Almeyda, a Portuguese Jesuit, was everywhere welcomed among the territorial princes of Kew-sew. Sumitanda, prince of Omura, became a convert. In A.D. 1582, four noble Japanese went to Rome on an embassy to Pope Gregory XIII., from the princes of Bunga, Aroma, and Omura, and were for eight years absent from Japan. But the secular emperor, Tyco-sama, repressed the movement, and his successor, Eyayyes, issued an imperial edict, A.D. 1638, expelling and exterminating the Christian religion and foreign races. In 1638, 4000 Japanese Christians were thrown into the sea from the Papenburg rock near Nagasaki.

The first missionaries to China were Italians. In the middle of the 17th century, workmen at Sen-gan-fu, in the N.W. of China, found a Syrian inscription, which had been sculptured by the missionaries of the Nestorian Church in the 7th century, and native scholars regard it as a most valuable specimen of the caligraphy and composition of the Tang dynasty. Christianity seems to have penetrated three times into China, the first time in the 5th or 6th century. We learn from the Mahomedan travellers, who visited China as early as A.D. 850, that it then prevailed; and that, when Canton was taken and sacked in A.D. 877, by a rebel army, as many as 120,000 Mahomedans, Jews, Christians, and Parsees perished in the sack. The general who conquered Southern China is stated to have been a Nestorian Christian, and to have built a church at Nankin for those of his own faith. Marco Polo was himself in high favour, though a Roman Catholic. In the 13th it was very flourishing. At this epoch there existed at Pekin an archbishop with four suffragans. The Chinese have also for a long time had at their command a precious collection of books of Christian doctrine, composed by the ancient missionaries, and which, even in a purely literary point of view, are much esteemed in the empire. These books are diffused in great numbers throughout all the provinces. Chengiz Khan's wife was a Christian. She was the mother of his four sons, and he was liberal-minded in religious matters. Christianity was encouraged at the Moghul court during the reign of the emperor Jahangir. But Bernier mentions (i. p. 198) persecutions there. Père Ricci went from Macao into the interior of China in A.D. 1585, and established himself in the first instance at Nankin. He removed, after a few years, from Nankin to Pekin, where he was well received, and his doctrines made an impression on some nobles of the court. He lived there for many years, the recognised head of several missionary establishments

located in different parts of China, making many converts, and respected by all, until his death, which occurred at the age of fifty-seven, in the year 1610.

A popular uprising began in 1848. It originated in 1830, in the teachings of Mr. Roberts, an American missionary, and of an earnest Chinese disciple. It became blended with the national struggle of the Tae-ping, or the votaries of 'the divine kingdom of eternal peace.' According to the writings of Hung, once a schoolmaster, but afterwards the 'heavenly prince' and acknowledged head, the Tae-ping convert on coming to baptism had to pronounce a solemn vow to take the belief in the Father, Son, and Holy Ghost for his rule of life, and that he was resolved to dedicate this life to God, in love to the brethren; and visits to the tombs of ancestors were enjoined, in gratitude for the release of their immortal souls from this troublesome life, and to renew the vow of life-long devotion to the cause of God and the brethren. The Bible was their word of God, and the ten commandments the moral law; opium-smoking, a sin equal to adultery. The Chinese designate the Christian religion as the religion of the Lord of Heaven; and M. Huc observes that every one must be struck with the new doctrines with which the proclamation and manifestoes of the pretender and his generals have been filled. He styled himself Tien-ti, or Celestial Virtue. The unity of God has been distinctly expressed; and around this fundamental dogma have been grouped a number of ideas borrowed from the Old and New Testament. War was declared at the same time to idolatry and to the Tartar dynasty. A French missionary, who had been very much in the interior of China, states the total number of native Christians at 500,000. M. Huc's estimate was 800,000, which, as he correctly observes, is a mere nothing in the enormous population of the country. These Catholic Christians are, however, not collected in one place, but live scattered over all China proper in small communities, called by the French Chrétientes. The members of these Christianities are educated and trained as Christians from their infancy, being either foundlings or of Christian Chinese parentage. They are Chinese in the outward and more obvious characteristics of dress and features, but in other respects are more like Bavarians or Neapolitans than their own countrymen, from whom they differ in many of those social and domestic customs, and in all those mental peculiarities, which constitute the special nationality of the Chinaman.

The portion of India under British rule is divided by the Church of Rome into vicariates-apostolic, each under a vicar-apostolic, who is also a bishop *in partibus infidelium*. The Madras vicariate contains thirty-seven churches, sixty-seven chapels, and thirty-four priests are engaged at work in it. A very successful college in Calcutta, for the education of Europeans and natives combined, is one which belongs to the Jesuit sect of Christians; and there is a similar college at Bombay. At Negapatam, the Jesuit Fathers have a college which is worthy of being spoken of. This college, dedicated to St. Joseph, was founded in 1846 by the Jesuits in charge of the Madura Mission (attached to the province of Toulouse in France), and at a time when education was little appreciated by the people of India. It occupies the site of the Government House and compound of the Dutch governor, who resided in Negapatam prior to 1781, when the town was occupied by the British under Munro. The library of the college contains nearly 3000 volumes, comprising works in English, French, and other European tongues, Sanskrit, Tamil, and various vernacular languages, and a fair collection of ancient and modern writings in Latin. There is a printing office and a good laboratory. The chapel of the college, dedicated to the Sacred Heart, is a fine vaulted edifice, but rather small for its present requirements. The Catholic parish church near to the jetty at Negapatam is one of the most remarkable structures in the town. These buildings, together with others belonging to the mission, have been erected entirely under the direction of the Jesuits. The vicariate of Pondicherry has 68 European and 26 native priests. It contains 182,126 Christians. The French Government support a college at Pondicherry; and St. Joseph's College at Cuddalore is year by year rising into importance as an educational institution.

Romish, Armenian, Presbyterian, Episcopalian, Baptist, and other Christian sects have cathedral and other churches in every district of British India and the feudatory states, and British, French, Italian, German, and American missions are spread through the country.

The following table gives some interesting facts. We exclude Ceylon, but include Mysore, Pondicherry, Travancore, Hyderabad, and all the Madras Presidency:—

Priests,	.	1858, 689	1878,	810
Populations,	,,	668,689	,,	877,315
Pupils in school,	,,	4,936	,,	27,233

A French mission has settled in Perak, in the Malay Peninsula.

The Protestant Christians, early after the Reformation, sent missions to Ceylon and the south of India. Ziegenbald was the first arrival, followed by Schwartz, Gericke, Kohlhoff, Fabricius, Plutschau, and others. In 1705 Ziegenbald began at Tranquebar; in 1726 the Christian Knowledge Society made a settlement at Madras, under Schultz and Sartorius, Lutheran missionaries; in 1740 Kiernander arrived at Cuddalore, and in September 1758, at the request of Clive, he left Tranquebar to open a mission at Calcutta. Indeed, the missionaries from Europe of the past four centuries, who have devoted their lives to the diffusion of the Christian doctrines, are many,—St. Francis Xavier, Bartholomew Ziegenbald, and also Henry Plutschau Danes at Tranquebar, 1705; John Ernest Grundler at Tranquebar, to whom George I. of England addressed a complimentary letter of 23d August 1717; Schwartz at Trichinopoly and Tanjore; Schultz at Madras; Rottler, Dubois, Rhenius in the S. of India; John Anderson at Madras; Bishop Caldwell in Tinnevelly; Ward, Carey, Marshman, Duff, Brown, Buchanan, Thompson, Henry Martyn, Wilson, with Bower, Ellis, Hough, Marks, Mason, Miller, Pallegoix, Winslow of Bengal, Bombay and Madras Christian missionaries, pioneers of civilization, education, human progress and improvement, scientists, ethnologists, and philologists.—*Tennant's Ceylon; Meadows' Chinese*, pp. 52–337; *Prinsep's Tibet; Bunsen's God in History; Huc, Chinese Empire; Bishop of Victoria in Japan; Travancore Administra-*

tion Report; Playfair's Aden; Lane's Koran; Simmonds; Lord Lawrence, Lord Napier, Sir Bartle Frere, Sir R. Temple.

CHRISTIE, DR. TURNBULL, of the Madras Medical Service, gave the first account of porcelain clay at Mangalore, in Bl. As. Trans. 1841, x. part 2, p. 967. Also wrote on the Mineralogy and Geology of the Southern Mahratta Country, Mad. Lit. Trans. iv. pp. 135, 452, which was reprinted from Edin. Phil. Jl.; Instructions for Meteorologists, Observations on and Plan for New Instruments, ibid. ii. pp. 41, 70; Observations on the Geology of the Hyderabad Country, ibid. 1827. See memoir of, in Edin. Phil. Jl. xv. p. 165, and Mad. Lit. Trans. xv. p. 150.—*Dr. Buist's Catalogue.*

CHRISTOLEA CRASSIFOLIA, the Shangsho of Ladakh, grows at from 10,000 to 15,000 feet in Ladakh; is browsed by goats, but little by the yak.

CHRISTOPHER, CAPTAIN W., of the Indian navy, author of Memoir of the Maldive Islands, in Bom. Geo. Trans., reprint, i. p. 54; Account of Adam's Bridge and Ramiseram Temple in Ceylon, ibid. vii. p. 130; Account of Haines River and the adjoining Country, ibid. vi. p. 375; On a Voyage up the Indus and Sutlej, ibid. viii. p. 144; Journal of Ascent up the River Chenab, ibid. p. 236. He discovered the Haines River in 1842. He was mortally wounded by a cannon shot before Multan in 1848, and died on the 8th October of that year. —*Dr. Buist's Catalogue.*

CHROME IRON ORE, or chromate of iron, is a compound of oxide of chrome with protoxide of iron. It is met with massive, and in octahedral crystals of a blackish colour, and imperfect metallic lustre. It is found in Unst in Shetland, France, Baltimore in America, and in the Madras Presidency, in Salem and Vizianagram; but, as yet, nothing has been done in India to turn this mineral to useful account on a large scale, from the want of proper appliances. The consumption of this substance in Europe is in the manufacture of bichromate of potash for dyes, the chromates of lead for painting, and chromic acid for colouring pottery, porcelain, and glass. Chrome ore in Salem is abundant, but the raw material will not pay the expense of freight. It is of a dark-greenish or nearly black colour, granular. To decompose it by nitrate of potash requires more than a red heat; by caustic potash it is more readily acted on. Chrome yellow, or chromate of lead, is used in dyeing. Chromate of potash is a crystallized yellow salt of a bitter, disagreeable taste, used by calico printers.

CHRONOLOGY. The greater periods employed in the computation of time by the Hindus, though founded on astronomical data, are purely mythological. A complete revolution of the nodes and apsides, which they suppose to be performed in 4,320,000,000 years, forms a Kalpa or day of Brahma. In this are included 14 Manwantara, or periods, during each of which the world is under one Menu. Each Manwantara is composed of 71 Maha Yuga, or great ages, each of four Yuga, or ages of unequal length. These last bear a resemblance to the golden, silver, brazen, and iron ages of the Greeks. The Hindus are laboriously exact in astronomical observations and calculations, but have neglected history.

The only cycle in use among the Turanian races, in old India and Tibet, was that of 60 years, and in the form 12×5. In the Chaldee chronology, a cycle of 60×10 years was employed (10 Sossi being equivalent to 1 Saros); and Josephus styled the epoch of 600 years which grew out of it, the great patriarchal year. The earliest Chinese chronology rests upon a conventional basis peculiar to itself, that of limiting the lunar year of a cycle of 600 years, which was common to the whole of Northern Asia and the Chaldæans, and probably (as it is also met with in India) to the Bactrians also. This basis is historical. The communication took place before the Chaldees invented the cycle of 600 years. The Chinese observation is based upon the use of the Babylonian (Bunsen). The Chinese, from the time of the emperor Yaou, B.C. 2000, had a lunar year and a solar year.

The Saka, Kaliyuga, and cyclic years of the Hindus commence together about March, and terminate almost simultaneously.

The beginning and end of the day has varied. Among the Greeks and Etruscans the day began at noon; among the Romans, as with the British, at midnight; among the Persians, at sunrise; but among the Jews and Egyptians, as now with Hindus, Mahomedans, and Parsees, it began at sunset.

Three great epochs have been recognised, viz.:

In the history of Babylonia, the fixed point from which time was reckoned, was the era of Nabonassar, B.C. 746.

Among the Greeks, the reckoning was by Olympiads, the point of departure being the year B.C. 776, in which Corœbus was victor in the Olympic games.

Roman chronology started from the foundation of the city, B.C. 753 (various dates).

Of the writers who framed chronological lists, the earliest was Berosus, a priest of Belus, living at Babylon in the 3d century B.C., and who added to his historical account of Babylonia, a chronological list of its kings.

Manetho, a priest of Lower Egypt, gave an account of thirty dynasties of its sovereigns.

Eratosthenes, in the latter half of the 2d century B.C., was keeper of the Alexandrian library, and wrote an important work on geography, and a treatise on chronographia. This was the first attempt to establish an exact scheme of general chronology.

The great cuneiform inscription at Behistun, discovered in 1835 by Sir Henry Rawlinson, and subsequently copied and translated by him, threw a flood of light on some obscure passages of Persian history. And, in the year 1862, Sir Henry Rawlinson published the Assyrian Canon.

The authorities quoted below will show that the chronology of the south and east of Asia has received much attention in the later years of British supremacy; but on the plan of this Cyclopædia, the dates of battles and wars, of events in British India, the advent of reformers and learned men with their literature, will be found alphabetically, and the notice here is restricted to dynasties and eras:—

DYNASTIES, alphabetically.

Adal Shahi of Bijapur, A.D. 1489 to 1579.
Aindra or Vrispala of Andhra, B.C. 21 to A.D. 428.
Arsacidæ (Parthia), B.C. 255 to A.D. 235.
Arsacidæ (Armenian), B.C. 130 to A.D. 450.
Asof Jahi of Hyderabad, A.D. 1717, still reigning.

Bactrian monarchy, from the reign of Antiochus II., third of the Seleucidæ, B.C. 313?
Bahmani kings of Kulburga, A.D. 1347 to 1526.
Balabhi dynasty of Saurashtra, A.D. 0 to 523.
Belal rajas of Dwara Samudra, A.D. 984 to 1268.
Bengal rajas, A.D. 1378 to 1573.
Berid Shahi of Beder, A.D. 1498 to 1609.
Bharat Khandy dynasty, B.C. 915.
Bikanir, A.D. 1458, still reigning.
Bundi, a Chohan dynasty, A.D. 1578 to 1819.
Ceylon, B.C. 543 to A.D. 1798.
Chalukya of Gujerat, Kandesh, Kaliani, Warangal. See Chalukya.
Chera or Kong, ended A.D. 894.
China, Manchu, 1616, still reigning.
Chohan, at Ajmir, Dehli, Kotah, and Bundi, B.C. 700 to A.D. 1192, when Prithi-raj was slain. Rainasi, successor of Prithi-raj, was slain in the sack of Dehli.
Chola, ended A.D. 1407.
Delimi, A.D. 932 to 1055.
Faruki of Kandesh, A.D. 1370 to 1596.
Ghor, A.D. 1186 to 1206.
Gujerat kings, A.D. 1396 to 1572.
Ghazni, A.D. 961 to 1186.
Hara, a Chohan dynasty of Harauti, A.D. 1024 to 1575.
Imad Shahi of Berar, A.D. 1484 to 1568.
Irak Atabeks,—
  Mosul branch, A.D. 1127 to 1259.
  Aleppo branch, A.D. 1127 to 1197.
Jeysulmir, B.C. 94, still reigning.
Juanpur, A.D. 1394 to 1457.
Kandesh, A.D. 1399 to 1596.
Kashmir Musalman kings, A.D. 1326 to 1588.
Khalifs, A.D. 632 to 1242–43,—
  5 Abubakr, Usman, Umar, Ali, and Hasan, A.D. 632 to 661.
  15 Ommiades, A.D. 661–2 to 744–5.
  37 Abbassides, A.D. 749–50 to 1242–3.
Khorasan of Merv, Nishapur, Bokkar, A.D. 747 to 818.
  Tahirides, A.D. 819 to 862.
  Safarides, A.D. 873 to 900.
Kutub Shahi of Golconda, A.D. 1512 to 1580.
Lodi, A.D. 1450 to 1526.
Mahratta Governments,—
  Sivaji, 1644 to 1818.
  Hereditary Peshwas, 1740 to 1818.
  Bhonsla rajas of Nagpur, 1732 to 1818.
  Sindia, 1724, still reigning.
  Holkar, 1724, still reigning.
  Gaekwar, 1720, still reigning.
Malwa kings (Pr.), A.D. 1387 to 1568.
  ,, ,, (Cl.), A.D. 1401 to 1512.
Marwar or Jodhpur, 1210, still reigning.
Maurya dynasty, B.C. 315.
Mewar or Udaipur, A.D. 727, still reigning.
Moghul of Tartary, A.D. 1206 to 1226.
Moghul Tartar or Il-Khani of Persia, A.D. 1259 to 1346.
Moghul Sultans of Khorasan, A.D. 1393 to 1505.
Mohul Emperors of Hindustan, A.D. 1494 to 1857.
Mysore, A.D. 1530, still reigning.
Nayak dynasty of Madura, A.D. 1530 to 1731.
Nepal, B.C. 3803 to 3281.
  Kerrat tribe, B.C. 3240 to 1739.
  Suryavansa, B.C. 1658 to A.D. 27.
  Ahir, A.D. 43 to 178.
  Neverit, A.D. 218 to 1749.
  Gurkhali, A.D. 1768, still reigning.
Nizam Shahi of Ahmadnaggur, A.D. 1490 to 1607.
Oudh Nawabs and kings, A.D. 1756 to 1847.
Pandu dynasty of Magadha, B.C. 1400 to 915.
Pathan Ghori Sultans of Hindustan, A.D. 1193 to 1555.
Pathan Sultans of Bengal, A.D. 1203 to 1573.
Peshdadian dynasty, mythological.
Samanian dynasty of Bokhar, Khorasan, and Persia, A.D. 874–5 to 999.
Sassanian monarchy of Persia, A.D. 223 to 636.
Seljuk of Iran or Persia, A.D. 1037 to 1175.
Seljuk dynasty of Kerman, A.D. 1041 to 1169.
Seljuk dynasty of Rum or Anatolia, capital Iconium, 1077 to 1283.
Sesunaga dynasty, B.C. 777 to 415.
Sikh Government of Lahore.
Sind, Arab governors, A.D. 711 to 750.
  Sumera Rajputs, followed by the Sumera, Sama Rajputs, and the Afghans, till Akbar's time.
Slave Kings, 1206 to 1288.
Sofarides, A.D. 872 to 903.
Sufi Kings of Persia, A.D. 1499 to 1797.
Sunga dynasty, 110 years, B.C. 178.
Syria, Seleucidæ, B.C. 334 to A.D. 65.
Taghalaq, 1321 to 1412.
Tahirides, A.D. 820 to 872.
Tibet, B.C. 962.
Vijayanagar, A.D. 1034 to 1756 and 1829.

ERAS, chronologically.

Constantinople era, still used in the Greek Church, dates from the creation of the world. The Incarnation falls in the year 5509.
Kali Yuga, commenced B.C. 18th February 3102.
Era of Nabonassar, began B.C. 26th February 746.
Building of Rome, or Roman era, 752 (various).
Olympiads, year begins 1st July 776.
Jain era of Mahavira, B.C. 629.
Buddha's nirvana, B.C. 543.
Burmese sacred era, B.C. 543.
Era of the Seleucidæ dates from the time of the occupation of Babylon by Seleucus Nicator, B.C. 311.
Vikramaditya era derives its name from a ruler of Malwa, and is reckoned from B.C. 56. The term Samvatsaram (contracted to Samvat), meaning simply a year, is used for the Vikramaditya era.
Christian era. Its epoch or commencement is the 1st of January in the 4th year of the 194th Olympiad, the 753d from the foundation of Rome. It was A.M. 4004.
Java era, A.D. 74.
Salivahana era, called the Saka or Shuk, begins A.D. 78, and was so named from a prince who is supposed to have reigned at that period in the kingdom of Narsinga.
Bali era, A.D. 81.
Second of the Seleucidæ year begins B.C. 1st September, but according to the Arabs 1st October, 312.
Balabhi Samvat, March, A.D. 318.
Hijira year begins 16th July, A.D. 622, the day following Mahomed's flight to Medina, which took place on the night of Thursday, 15th July. Hijira begins Friday, 16th July, A.D. 622, according to the Hilali, or practical calculation. By the Hisabi, or astronomical calculation, the era commenced one day earlier.
Yezdejird era, or Parsee or Jalali era, commences with the elevation of Yezdejird III. to the throne of Persia, 16th June, A.D. 632.
Sur San, Soor San, or Arabian era, commences in the 13th year of the Hijira. It is a solar sidereal year. It is also written Suhur and Shuhur, all of them Mahratta corruptions of the Arabic shahr, a month. It was introduced A.D. 1344.
Kollam Andu era of Quilon commences about September. It is only used in the S. Tamil country and in Travancore, A.D. 824. A.D. 1800 was the 976th of the Kollam era. It is usually called the Parasurama sakam era.
Parasu Rama cycle of 1000 years. 1st year of 4th cycle, Sept. A.D. 825.
Nepal Newar era, A.D. 870.
Vrihaspati cycle of 60 years, established A.D. 966.
Jalali of Malik Shah, March, A.D. 1079.
Fasli San is four years behind the Hijira era, and is supposed to have been imposed on the people of India by the Mahomedan conquerors. The Hijira year 1200 was 1196 Fasli, and 1187 Sur San.
  Fasli of Hindustan, established A.D. 1556.
  Fasli of Peninsula, established A.D. 1638.
Bengali San and Valaiti of Orissa, 1556.
Julian era, invented by Joseph Scaliger, 1582.
Tarikh-i-Ilahi of Akbar, A.H. 992, A.D. 1584.
Jalus San of Bijapur of Adal Shah II., 1656.
Raj Abishek of Mahrattas, 1664.
Epoch of the Indian cycle of 90 years, or Grahaparivrithi, begins with the Hindu solar year 24. The first year of the 21st cycle was A.D. 1777.

—*Sharpe's Hist. of Egypt*, i. p. 58; *Lieut.-Colonel John Warren's Kala Sankalita; Bunsen's Egypt; Burnell's Indian Palæography; Prinsep's Useful Tables and Indian Antiquities; Cowasjee Potell's Chronology; C. P. Brown's Cyclic Tables and*

Carnatic Chronology, 1863; *Robert Sewell's Chron. Tables for S. India, from the 6th Century* A.D.; *Dictionary of East Indian Dates; T. M'Cudder's Oriental Eras; Bombay Chronological Tables; Chronology of the Hindus*, Cambridge, 1820. See British India.

CHRYSANTHEMUM ALBUM. Peh-kiuh-hwa, CHIN. The ashes of the flowers are said to destroy insects. The Chrysanthemum genus of plants belongs to the natural order Compositæ, and the sub-order Corymbiferæ or Asteraceæ. The species are very numerous in the temperate parts of the earth (Eng. Cyc. p. 1058). The name is from two Greek words, Chrysos, gold, and Anthos, flower. —*Smith.*

CHRYSANTHEMUM INDICUM. *D. C.* Guldawadi, HIND. Grows in several parts of India, and is used medicinally in calculus.—*Drury.*

CHRYSANTHEMUM PERUVIANUM turns continually towards the sun. As a general rule, however, all plants turn towards the sun. Hypochæris radicata and Apirgia autumnalis are seen in meadows turning towards the sun, and species of Melampyrum and Narcissus turn similarly.—*Winslow on Light.*

CHRYSANTHEMUM ROSEUM. *Adam.* Pyrethrum roseum, *Bieb.* A perennial herb of S.W. Asia, with C. coronopifolium, *Willdenow*, yields the Persian insect powder.—*F. von Mueller.*

CHRYSANTHEMUM ROXBURGHII. *Desf.*

C. senecioides, *Dun.*	Pyrethrum Indicum, *Roxb.*
Matricaria oleracea, *Buch.*	Pinardia Roxburghii, *Less.*
Glebionis Roxburghii, *Cass.*	
Bagaur, . . . CHENAB.	Gendi, ... HIND.
Christmas flower, . ENG.	Kalzang, . . LADAKH.
Gul dawadi, . . . HIND.	Chamanti, ... TEL.

The plants commence flowering generally in November, and continue for several months. The colours are mostly yellow, orange, and a purplish colour mixed with white. They are made into garlands, and offered at the shrines of Vishnu and Siva. They are commonly cultivated in gardens in the plains of India, in Kashmir, Upper Chenab to 9200 feet, and in Ladakh at 11,300 feet.—*Ainslie; Dr. J. L. Stewart.*

CHRYSANTHEMUM SINENSE is extensively cultivated in European gardens, and is the Chinese gardener's favourite winter flower, although it is generally past its full beauty at the Chinese new year. There is no other plant which he takes so much pains with or which he cultivates so well. His camellias, azaleas, and roses are well grown and well bloomed, but in all these the people of Britain excel him. In the cultivation of the chrysanthemum, however, he stands unrivalled. It is in great request among the people, and is used in the decoration of courtyards, halls, and temples. It is everybody's plant, and blooms alike in the garden of the lowly Chinese cottager as in that of the red-buttoned mandarin.—*Eng. Cyc.* p. 1052; *Fortune's Tea Districts*, p. 125.

CHRYSE, 'the gold land' of the Periplus, has been supposed to be Pegu, the Suvarna Bhumi or Golden Land of the old Indian Buddhists. Sonaparanta, a term of like meaning, is still the sacred or classical term for the central territories of Ava. Gold-scatterer, Zar-afshan, is applied by the people of Central Asia to the head-streams of the Oxus and Jaxartes ending in the inland sea of Aral.—*Periplus of the Erythræan Sea; Yule, Cathay*, i. p. 114.

CHRYSIDIDÆ, or golden wasps, do not sting, but possess the power of rolling themselves up into a ball, which is almost as hard and polished as if really made of metal. They are all adorned with the most gorgeous colours.

CHRYSOBALANACEÆ of *Lindley*, the cocoa-plum tribe of plants, has the genera Chrysobalanus and Prinsepia. Roxburgh mentioned C. racemosa of the Moluccas. C. icaco, the cocoa-palm tree of the West Indies, has been introduced into India.

CHRYSOBERYL, or prismatic corundum, is found among the Tora hills near Rajmahal, on the Bunas, in irregular rolled pieces, small, and generally of a light green colour. These stones are considered by the natives as emeralds, and pass under the name of 'punna,' but the natives are aware that they are softer than the real emerald.—*Gen. Med. Top.* p. 160.

CHRYSOPHYLLUM ROXBURGHII. *G. Don.*

C. acuminatum, *Roxb.*, star apple.

Hali mara, . . . CAN.	Tarsee phal, . . MAHR.
Pita-kara, . . . HIND.	Lawooloo-gass, . SINGH.

This tree, one of the Sapotaceæ, grows to thirty feet or more. In Canara and Sunda, it is very common in the jungles near the ghats above, particularly to the south. There are some trees in the Residency garden at Hyderabad. The wood seems straight and good, but the tree is chiefly noticeable from the gutta-percha-like incrustation common on the fruit. Fruit, about the size of a large crab-apple, ripens in October, and is edible but insipid. Not uncommon in the warmer parts of the island of Ceylon.—*Gibson; Thw.* iii. 174.

CHRYSOPOGON ACICULARIS. *Host.*

Andropogon aciculare, *R.*	Rhaphis trivalvis, *Lour.*
Gnung-myeet, . . BURM.	Lampa, ... HIND.
Spear grass, . . . ENG.	Shunini, ... SANSK.
Chor-kanta, . . HIND.	Katl-chettu, . . . TEL.
Soorwala, . . . ,,	Katle-gaddi, . . . ,,

Abundant in barren land; troublesome to the feet of those who walk among it; eaten by cattle when other grass is not to be had. Its seed stick in the stockings, and produce a disagreeable itching. A longer variety, known solely as 'soorwul,' is an excellent grass for cattle.—*Mason; Genl. Med. Top.* p. 176.

CHRYSOPRASE, from Chrysos, golden or beautiful, and Prason, leek, is a rare, pale apple-green chalcedony, which owes its colour to the presence of the metal nickel. It is found in many parts of India, in Upper Silesia, and Vermont.

CHRYSORRHŒA, or 'Golden Stream' of the ancient geographers, is the Barrada river of Damascus, which, so soon as it issues from the cleft in the mountains, is immediately divided into three smaller courses. The largest, which is the middle one, runs directly to the city, and is there distributed to the different public fountains, baths, and cisterns; whilst the other two, branching off right and left, contribute mainly to the luxuriant vegetation which adorns the environs. South-east of the city their scattered waters unite again into one channel, and, after flowing towards the eastern hills for two or three hours, are finally lost in a marsh which, from one side view, appears like a small lake. Well may Damascus be called Sham-i-Shereef, the noble and beautiful.—*Robinson's Tr.* ii. p. 115.

CHU, or Chu-ma, or Tchou-ma. CHIN., Bœhmeria nivea; China grass.

CHU. TIBETAN. Water. In Scythian, Ku; Assyrian, Hu; Greek, Eu.

CHUA. HIND. Rosa Webbiana. In Kulu, an amaranth cultivated for its grain; Amarantus oleraceus.

CHUAL. HIND. Staphylea emodi, also Euonymus fimbricata.

CHUAN-YUAN, in the classical education of the Chinese, is the highest in the annual examination,—the senior wrangler and senior classic from amongst 400 millions of people.

CHUBIRI. MALAY. Chillies.

CHUBREI. HIND. Dactyloctenium Ægyptiacum, also Eleusine flagellifera.

CHUCH. HIND., Juniperus communis. TURK., a thorny shrub in Balkh, grazed by camels.

CHUCH, a valley near Attock, on the Indus, where gold is washed.

CHUCHI. HIND. Polygonum polystachyum, also Rheum emodi.

CHUCHO. MALAY. Leaves used by the Jakun for thatch.

CHUCKERBUTTY, a class of Brahmans in Bengal, so called by the British in India. The word is a corruption of Chakravarti, meaning a prince or ruler over a large circle.—*Wils. Gloss.*

CHUCKLER. ANGLO-TAM. From Tamil, Chakili, a shoemaker, a tanner.

CHUCKOONDA. HIND. Beta vulgaris; beet.

CHUCKRANKETAM, also called Moodra dharanam; amongst Vaishnava Hindus, the rite of stamping with a hot iron stamp the emblem of Vishnu on the arm of a Vaishnava lad or man. It is equivalent to the confirmation of Episcopal Christians; it is an initiatory rite.

CHUCKRATA, a hill station in the Dehra Doon division, 1119 miles from Calcutta, 38 miles west of Mussoori.

CHUDA KARANAM. BENG. The ceremony of shaving a Hindu boy's head between the third and fifth year, leaving a single lock on the scalp, called Chuda, Chura, Chula, or Chonta.

CHUDDER, properly Chādar. HIND. A blanket, sheet, or shawl. Those of Rampur are famous. Also a dam across a river, as the Chadrghat.

CHUDRA KANTA KARI. BENG. Solanum jacquini, *Willd.*

CHUEN-SEE, taken 7th January 1841.

CH'UEN TSIAU. CHIN. Xanthoxylon alatum.

CHUHA. HIND. A rat. Kan-ka-chuha, the large-eared rat of Kaghan, the marmot or arctomys.

CHUHA, a people in the Chuha district on the river Hub, which falls into the sea at Cape Monze. They are said to be of Sumrah or of Brahui origin.

CHUHARA. HIND. Apricot; also Phœnix dactylifera.

CHUH-HWANG. CHIN. Tabashir.

CHUHRA. HIND. The humblest village servants, Bhangi, Halal-khor, Mihtar, etc.—*Wilson.*

CHUI. BENG. Piper chaba. Chui, of Chamba, Pyrus malus, apple tree.

CHUI SHUPA. Juniperus communis.

CHUJ. HIND. Fraxinus xanthoxylloides.

CHUK. HIND. A plantation, a reserve.

CHUKA. GUJ., rice. MALEAL., vinegar, sorrel. HIND., Sida cordifolia; Rumex vesicarius.

CHUKAN PALLAM. TAM. Bryonia, *sp.*

CHUKA-ZUM, a chain bridge stretched over the Tehintchieu river, a short distance above the castle of Chuka.—*Turner's Embassy*, p. 54.

CHUK DAR. HIND. A wooden frame sunk as the foundation of a well.

CHUKE, Chabai, Beya, and Sambutan are Malay customs.

CHUKKADUMPA. TEL. Habenaria platyphylla, *Spreng.* Chukka kada, Bigelowia lasiocarpa.

CHUKKALI CHETTU. Epicarpurus spinosa.

CHUKKAR or Chakra, a Sikh weapon resembling a quoit in size and shape, thrown from the finger with a rotatory motion.—*Herklots.*

CHUKKEE, a hand-mill. Chukkee nama, a song sung while grinding at the mill; at weddings.

CHUKMA, a race, in number 28,000, occupying the Toonia Joom mahals, a forest tract in the hills of the Chittagong district, along with Mug, Reang, and Tiperah races, all more or less nomadic. Some one of these hill races till lately performed human sacrifices annually, and in the year 1852 several were tried for murder by sacrificing. The place of sacrifice was a cleared district in the jungle, and staked round with bamboos about six feet high. The sacrificial pole was a Phula bans bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. During the celebration of these sacrifices at Agartollah, a gun was fired every evening at sunset, when every person hurried to his home.

CHUKOTARA. HIND. Citrus decumana.

CHUKRI. HIND. Rheum emodi, also R. palmatum; a powder of the dried acid stalks of the rhubarb.

CHUKUDDI PATTA. TEL. Cassia absus.

CHUKUL MORA. CAN. Acacia elata.

CHULA. HIND. Euphorbia Royleana.

CHULA or Chulla. HIND. A fire-grate made of mud or bricks; a fireplace, a hearth, and equivalent to the English hearth as a home. A native of India wishing to express his poverty, would say there was no fire in the hearth; or to indicate the number of his divided family, would observe that three fireplaces are burning.

CHULAH. HIND. A tribe of Taga in Baghpat.

CHULAI. HIND. Spinacia tetrandra; also Amarantus polygamus, *Linn.*

CHULCHILHERA, a lichen of the Himalaya, the Borrera ashneh, *Royle;* with ammonia it gives a reddish-brown colouring matter, and is used accordingly as a dye-stuff. Dr. O'Shaughnessy examined this and several other Indian lichens, but without success in the production of any valuable colour. It means, in the Panjab, a mixture of lichens employed for dyeing, contains Parmelia Kamtschadalis, Parmelia perlata and its variety sorediata, Usnea florida, Ramalina calicaris, and fragments of Physica leucomela.—*—O'Shaughnessy*, p. 672.

CHULI, a whirlpool. In the stream of the Chambal near Berolli, the whirlpools and eddies have given a sacred character to it, like the Nerbadda, at the whirlpools of the great god Chuli Maheswar. A multitude of round stones are found in these vortices, where they have been rounded by attrition into a perfectly orbicular form, are consecrated, and smeared with red lead, and are then called Bhyru, the god of war, the eldest son of Siva. The round stones of the Nerbadda whirlpools are called Ban-Lang, or whirlpool lingam, and Rori at the temple of Berolli. See Binlang.—*Tod's Travels.*

CHULI. HIND. Prunus Armeniaca, also Prunus padus and Villarsia Indica.

CHULI, a Mahomedan of Malabar; amongst the Malays, any native of S. India. The Chulia and Kling comprehend the traders and settlers, both Mahomedans and Hindus, from the Coromandel coast. These names have been given to them by the Malays from the earliest times of the ancient commercial intercourse subsisting between this part of Asia and India. Kling is from Kalinga, or is a corruption from Teling or Telinga; Chulia may be derived from the ancient Chola kingdom of the Peninsula.—*Newbold's British Settlements*, i. p. 8.

CHULLA, also Charz. HIND. Sypheotides auritus, *Latham;* the lesser florikin.

CHULU. HIND. Of Himalaya, Armeniaca vulgaris, *Lam.;* the apricot.

CHUM. HIND. Euphorbia Royleana; also Morus serrata; also Fraxinus xanthoxylloides.

CHUMANG, a low or out-caste race in the non-Bhot districts of Kunawar, with dark skins. The people of the lower hills call them Koli, and the Rampur people, Chamar. They till the soil and weave.

CHUMAYAN, a Gujar clan occupying twelve villages in Paniput Bangur.—*Elliot.*

CHUMBA. HIND. Artemisia sacrorum.

CHUMBA-GUDDEE, a race in the Chumba hills, in the Himalaya. They say they are Rajputs, and of the Guddee-jat. They are somewhat short, but strong, and cleanly in their habits. They are sharp, and able to impose on their less knowing neighbours. Most of the witch-finders are of the Chumba-guddee race; and the race may always be known by their peculiar conical caps, with lappets to turn down over their ears, like an English travelling cap. When Europeans made their first appearance in the Kangra valley, these men had very slight notions of caste, and would eat or drink anything the Europeans gave them, but since their contact with the natives of the plains they have become as bigoted as any Hindu.

CHUMBARA. MAHR. Premna tomentosa.

CHUMBELI. HIND. Jasminum grandiflorum.

CHUMBI SAG. HIND. Amarantus polygamus.

CHUMBRANUK, a single valve of the mussel shell without the mollusc, used in Ajmir as an aphrodisiac.—*Gen. Med. Top.* p. 132.

CHUMBUL, a tributary to the Jumna. It rises in Malwa in lat. 22° 26′, and long. 75° 45′, 8 or 9 miles S.W. from Mhow, which is 2019 feet above the sea. It rises on the cluster called Janapava. It runs north 105 miles, N.W. 6 miles, S.E. 10 miles, N.E. 23 miles, S.W. 25 miles, north to junction with Kalee Sind, N.E. 145 miles, S.E. 78 miles to Jumna; length, 570 miles; described in a form nearly semicircular, the diameter being only 30 miles. It receives the Chumbela, 70; Seepra, 120; Parbati, 220; Kalee Sind, 225; Banas, 320; Chota Kalee Sind, 104 miles. About 56,000 square miles drained. The average declivity of its bed, 2 feet 5 inches per mile. Its average volume of water is so considerable, that at its junction it has been known to raise the united stream 7 or 8 feet in twelve hours. The nominal source of the Chumbul is in a part of the Vindhya range, 9 miles S.W. of Mhow; but this part of the river is dry in the hot season, during which it owes its waters to other tributary streams. The current is in most parts gentle, its bed rocky, and its course through Malwa much obstructed by shallows; but, after entering Harrowtee by an opening in the Mokundra range, it becomes a fine and deep stream. The course of the Chumbul, not reckoning the minor sinuosities, is upwards of 500 miles; and along its banks nearly every race now existing in N.W. India may be found,—Sondi, Chunderawut, Sesodia, Hara, Gore, Jadoon, Sikerwal, Goojur, Jat, Tuar, Chohan, Bhadoria, Kutchwaha, Sengar, Boondela, each in associations of various magnitudes, from the substantive state to the little republic communes between the Chumbul and Cohari. The Chumbul runs through the territories of Sindia and Holkar, viz. Gwalior and Indore, and passes near Kotah.—*Tod's Rajasthan*, i. p. 16; *Rep. Royal Com.*

CHUM GADHAL. HIND. One of the Cheiroptera, the flying-fox, species of Pteropus.

CHUMIAH, a race to the north and east of Chittagong, dwelling in the lower hills between the Kuki and the plains. The Chumiah and the Kuki are described as having flat noses, small eyes, and broad round faces, and to differ from the Naga race both in appearance and customs.

CHUMIARI. PANJ. Cerasus puddum.

CHUMKI. HIND. Coloured and striped satins, red, white and red, and blue and red, value 1 rupee to 2½ rupees the yard.

CHUMLA, a valley near the Bunair or Bunnoor country in Afghanistan. The valley and the central plain of the Yusufzai are commanded by hills that descend from the Hindu Kush.

CHUMPA, properly Champa or Champaka, the Michelia champaca, *Linn.* The flower of the champa is one of the five with which Kama, the Hindu god of love, tips the arrows he uses.

CHUMPADA. MALAY. The small jack-fruit.

CHUMPA NUTIA. BENG. Amarantus polygamus.

CHUMPARUN, a town in the Patna division of Bengal.

CHUMPOUTE, the berry of a small plant, brought to Ajmir *via* Pali, used in perfumes and also in medicine; one seer is sold for one rupee.—*Gen. Med. Top.* p. 131.

CHU-MURTI, a Chinese district bordering on Ladakh.

CHUMWA, a tribe in Assam, exempt from manual labour.—*Wilson.*

CHUNA. BENG. Also Chuna-batoola and Chunai Butkale, Cicer arietinum, *Linn.* It is the Bengal gram of Europeans in India. Through the Italian cece and the French chicker comes its English name 'chick-pea.' The term 'arietinum' is derived from the resemblance of the seed to a ram's head. The word used by Europeans in India is gram, or Bengal gram, of which the origin has been much disputed, but is supposed to be from grana.—*Elliot.*

CHUNAM. ANGLO-TAMIL.

Chunna; Chunnam, HIND. | Sunamu; Choonnoo, TEL.
Chunambu, . . . TAM. |

Chuna or Chunam is a term applied to quicklime made from nodular limestone, from limestone rock, from marble, or from calcined shells; also applied to plaster and mortar. The chunam plaster of Madras, long famed for its marble-like polish, is prepared either from shells or limestone. The shells generally used at Madras are both recent and fossil, but the latter, of recent species, are found in extensive beds a few feet below the surface, on the banks of the Pulicat lake and other low marshy places on the sea-coast, which are covered by the sea at high water.

The shells are calcined with charcoal, one parah of charcoal being allowed to every two parahs of chunam. The kilns generally used are calculated to hold altogether 60 parahs, that is, 40 of shells and 20 of charcoal. A small arch, 1 foot 3 inches in height, the same in breadth, and raised 5 feet above the surface of the ground, runs longitudinally through the kiln; the top of this arch is a grating of brick on edge, which is partially covered with broken tiles, so that neither the shells nor charcoal can drop through them, but small apertures are left for the escape of the ashes and for the necessary circulation of air. Over this bed a layer of charcoal is first placed throughout, about 3 inches in thickness, and fire applied. When sufficiently kindled, the mixed shells and charcoal are laid in small heaps of not more than $\frac{1}{8}$ of a parah each at about 1 foot 6 inches apart, and when the fire has been communicated to them, the intermediate spaces must be filled up with more shells and charcoal to a level; and when the fire has thoroughly extended to them also, another row is to be laid in a heap upon this mass, as was done in the first instance; and in the subsequent operations are to be repeated in the same manner until the kiln is filled. The transverse arches are to promote the requisite current of air, and the windward ones are invariably to be kept open, whilst those on the opposite side must be closed. The kilns used at Madras are built of brick or clay, and require renewal every three years. The shells will be sufficiently calcined in 12 hours, and 24 more are required to cool them, so as to admit of their being moved and the charcoal sifted from them. It is found that chunam thus prepared and slaked to a powder is increased to double its original bulk when in the form of shells.

For plastering with chunam at Madras, if for one coat, the plaster is composed of one part of chunam and one and a half of river sand, thoroughly mixed and well beaten up with water. This operation is usually performed by women, who stand round a small stone trough prepared for the purpose, into which the ingredients are thrown and gradually moistened with water, as the process of mixing proceeds. The women use wooden pestles shod like a rice-pounder. The plaster, when mixed, is taken out of the troughs and made into conical heaps, where it remains till required, and may be kept without injury for several months; but when left for any time, a small cistern or hollow is made at the top of the heap, into which water is occasionally poured. Before applying the plaster, the wall is trimmed with a trowel and swept perfectly clean, and then slightly sprinkled with water. The wall being ready, the plaster is put into small wooden boxes at convenient places among the bricklayers, by whom it is mixed up with jagari water, $\frac{3}{4}$ lb. of jagari or coarse sugar being allowed to every parah of quicklime, until it is brought to the required consistency; it is then laid on with a trowel above half an inch thick, and levelled with a flat wooden rule, being afterwards smoothed with a wooden rubber till it acquires an even surface. During the process of rubbing, the plaster is occasionally sprinkled with a little pure white lime mixed with water, to give it a hard surface. If for two coats of chunam, the first coat is applied as already described, with the exception that the surface is left rough, and no pure lime is applied during the process of rubbing. A day or two after the first coat is applied, and while moist, the second is laid on. The plaster used for the second coat consists of three parts of lime and one of white sand. These are mixed as before, and afterwards ground by women on a flat stone with a small stone roller, till they are reduced to a fine paste. This is laid on a wooden rubber, and applied with care over the first coat about $\frac{1}{8}$ of an inch thick. It is then rubbed down perfectly smooth with a small trowel, and afterwards polished with a crystal or smooth stone rubber, and as soon as it has acquired a fine polish, a little very fine potstone (Ballapum) powder is sprinkled on it to increase the whiteness and polish, and the polishing continued. The second coat ought to be applied and finished in one day, for it usually hardens too much during the night to be polished the following day, except in damp weather. The practice is to continue polishing the plaster until it is quite dry, and a number of bricklayers are employed, in order that it may be well polished the first day. Moisture continues to exude from the plaster for some days after it is completed; this must be carefully wiped off with a soft cloth, and the wall kept perfectly dry till the moisture entirely ceases. For three coats of chunam, the first coat is as above, but it is left a fortnight or three weeks to dry before the second coat is applied. The plaster for the second coat consists of one part of lime and one of fine river sand, freed from the coarser particles and clay by sifting. It is well mixed and beaten up in a clean trough, and applied over the first coat about $\frac{1}{4}$ of an inch in thickness, the first being previously moistened with a little water. It is next rubbed down in the same manner as the first coat, but acquires a much smoother surface, the plaster being of a finer quality. A day or two afterwards, when it has had time to dry, the third coat is applied. It consists of four parts of lime and one of fine white sand. These, after being well mixed, are reduced by grinding to a very fine paste, quite free from grittiness. This is put into a large earthen jar, of the size nearly of half a hogshead, and mixed with the white of eggs, sour milk (tyre), and ghi, in the proportion of 12 eggs, $1\frac{1}{2}$ measures of tyre, and $\frac{1}{2}$ lb. of ghi to every parah of plaster. These are all thoroughly mixed, and rubbed between the hands till the ingredients are thoroughly incorporated, and the composition reduced to a uniform consistent paste a little thicker than cream, and perfectly free from grittiness. The plaster is now fit for use, and is put on with a wooden rubber about $\frac{5}{8}$ of an inch thick, and gently rubbed till it becomes perfectly smooth. Immediately after this, another coat of still finer plaster is applied, consisting of pure lime ground to a very fine powder, and afterwards mixed with water in a clean tub, till it is of the consistency of cream. This is put on about $\frac{1}{16}$ of an inch thick with a brush, and rubbed gently with a small trowel till it acquires a slight degree of hardness. It is then rubbed with a rock-crystal or stone rubber till a beautiful polish is produced, not forgetting to sprinkle the wall with fine potstone (Ballapum) powder during the process of polishing. If the plaster is not entirely dry on the second morning, the operation of polishing ought to be continued until it is quite dry. The moisture, as above directed, must

be carefully wiped off, and the wall kept quite dry till all appearance of moisture cease. The result of the process depends chiefly on the plaster for the upper coat being reduced to a very fine paste perfectly free from grittiness, and on its being, after it is applied to the wall, rubbed constantly with great care till it is quite dry and has acquired a very fine polish. The wall ought then to be frequently wiped with a fine clean cloth to remove the moisture, and it may be occasionally dusted with Ballapum powder. The stone used in polishing it is rock-crystal or a white quartz pebble about 3 inches long and 1½ broad, the face of which has a very fine polish. The wall is rubbed with this for one or two days, the moisture being carefully wiped off every morning, and potstone (Ballapum) powder sprinkled on it several times during the day. When the lime is prepared from sea-shells, these are first cleaned and washed, and then calcined with charcoal, care being taken to exclude everything likely to injure the whiteness of the lime; very white sand only is employed, as common sand destroys the brilliancy of the plaster. When white sand is not procurable, white rock-crystal or quartz pebbles reduced to a fine powder may be substituted. Mortar for building consists of one part of chunam and two of sand. Immediately before being used, the mortar is mixed with jagari water, 1 lb. of jagari being allowed to every parah of lime. It is used in a much more fluid state than is the practice in Europe. When shell-lime is used in situations requiring a hydraulic cement, it should be mixed with burnt clay in powder; fresh burnt tiles more or less broken are in general conveniently procured. In building the pier at Masulipatam, Captain Buckle employed a cement consisting of one part of lime, one of the tile dust, and two of sharp river sand, and it appeared to answer well. Jagari was used in the usual proportion of one pound to a parah of chunam. Limestone abounds in most districts of Southern Asia, but the qualities of the different varieties are best ascertained by experiment. When found in large blocks of very compact stone, the breaching of it forms a considerable item in the expense. Such stone as yields very hydraulic lime is not suited to the purposes of ordinary building, unless the precaution is taken of keeping the work constantly wet. The best form of kiln for burning stone with charcoal is given by Captain Smith in his translation of Vicat, plate 1, fig. 11 and 12. When wood is used, the spheroidal form of kiln is recommended. It will be found to facilitate the expulsion of carbon, if the stone is well moistened in water previous to placing it in the kiln. It should be remarked that nothing but clean sand should be added to the hydraulic limes; such limes should be used immediately after slaking. When used in situations requiring hydraulic cement, no more water should be used in slaking it than is sufficient to reduce it to a fine dry powder. Magnesian limes have been found at Salem and in the Tanjore district, where it was used with success by Captain Cotton in forming the anicuts; the cement formed with it was stronger than that formed with other lime. It should not be immersed immediately on being used. Much controversy has occurred in regard to the advisability of using the lime while hot; the generally received opinion is that it should be so used; but in regard to the pure limes, free from clay and iron, that is, without hydraulic properties, this course is questionable. It was not permitted in Rome; and lime mortar kept moist has been found suitable for building after the lapse of several hundred years; lime used hot is seldom thoroughly slaked. A common practice in India is to mix the slaked lime and sand, form it into heaps, on the summit of which is formed a hollow, which is kept constantly filled with water. Shell-lime, so kept and subjected to the usual beating when used, seemed to Mr. Rohde at least as good as when at first burned; hydraulic limes, including of course all which become hard under water, ought no doubt to be used hot. At Ternate, and other coral islands, coral is largely burned into lime for mortar.—*Rohde, MSS.*

CHUNAR or Chanar, an ancient rock fortress in the Mirzapur district in the valley of the Ganges. It is perched on the crest of a limestone spur that rises to the height of 150 feet abruptly from the edge of the stream, on the right or south bank. It fell to the British in 1764. The treaty of Chunar between the subahdar of Oudh and Warren Hastings was signed on the 19th September 1781. In the fortress is a state prison in which Trimbukji Danglia pined away his last days, hopeless of ever being able to give a second slip to his enemies.—It is 17 miles W. of Benares, and 490 miles from Calcutta.—*Trav. of Hind.* i. p. 132.

CHUNAR. HIND. The Platanus orientalis. Char-Chunar lake, the Shalimar garden, was one of the great works of Jahangir.—*Baron Hugel.*

CHUNARU, also Chunari. HIND. Lime-burners, or workers in lime, as plasterers.

CHUN-CHU. CHIN. Ailanthus fœtida and A. glandulosa; but also Cedrela odorata and species of Dryandra and Fraxinus.—*Smith.*

CHUND, a Hindu poet and religious reformer, but now known only in the former character. He lived in the time of Prithi-raja, the last Hindu king of Dehli. He was a monotheist, and, after having separately invoked the three persons of the Hindu triad, says that he who believes them distinct, 'hell will be his portion.' His work is a general history of the period in which he wrote. It consists of 69 books, comprising 100,000 stanzas, relating to the exploits of Prithi-raja; and every noble family of Rajasthan finds in it some record of their ancestors. It is accordingly treasured amongst the archives of each race having any pretensions to the name of Rajput. From this he can trace his martial forefathers, who 'drank of the wave of battle' in the passes of Kirman, when 'the cloud of war rolled from Himachil' to the plains of Hindustan. The wars of Prithi-raja, his alliances, his numerous and powerful tributaries, their abodes and pedigrees, make the works of Chund invaluable as historic and geographical memoranda, besides being treasures in mythology, manners, and the annals of the mind. They are entirely heroic; each book a relation of one of the exploits of Prithi-raja.—*Tod's Rajasthan*, i. p. 98, ii. p. 254.

CHUNDA. MALEAL. Solanum Jacquini.

CHUNDA GUDDA. TEL. Tacca pinnatifida, *L.*

CHUNDAO, Chundul, or Chandal. HIND. Antiaris saccidora.

CHUNDA SAHIB, a Mahomedan ruler with whom the French sided in their efforts to establish

themselves in the south of India. In the beginning of the 18th century, Saadut Allah was ruler of the centre of the Karnatic, from 1710 to 1732, and was succeeded by his nephew, Ali Dost. Ali Dost was killed in battle against the Mahrattas, and was succeeded by his son, Safdar Ali. Of his two daughters, one married Chunda Sahib. Chunda Sahib seized on Trichinopoly in 1736, but the place was besieged and taken by the Mahrattas, and Chunda Sahib was made captive, and lingered eight years in prison at Tanjore, where he was murdered by the raja. Safdar Ali was assassinated by his brother-in-law, Murtuzza Ali, leaving a minor son; but this youth also was assassinated while Anwar-ud-Din was his guardian, and Anwar-ud-Din succeeded to the throne as nawab of the Karnatic, but fell at the battle of Ambur, and is buried in the Jamma mosque of Hyderabad.

CHUNDEE-MANDAPA. SANSK. From Chundee, the goddess Chundee, and Mandapa, a house. This is a kind of temple, with a flat roof. It is often erected by rich Hindus adjoining to their houses, and is designed for the image of Durga or Kali. It is built on four sides, with an area in the middle.—*Ward's Hindus*, ii. p. 3.

CHUNDEKIA or Soondekia. TAM. Solanum pubescens.

CHUNDEL, a tribe of Rajputs scattered in various parts of the N.W. Provinces, who came from Mahoba in Bundelkhand. Before the Mahomedan conquest, Mahoba appears to have been the capital of a principality that extended to the Narbadda, and included the province of Chunderi, which is called after their name. They are styled Sombansi, but they are not considered to be of pure descent, and their sons are carefully excluded from marriages with the higher clans. This tribe expelled the Baland tribe from Ajori, Burhur, and Mirzapur.—*Elliot.*

CHUNDELI, a very fine cotton fabric of India, so costly as to be used only in native courts. It is made from Berar or Amraoti cotton. The chief care is bestowed on the preparation of the thread, which, when of very fine quality, sells for its weight in silver. The weavers work in a dark, underground room, the walls of which are kept purposely damp to prevent dust from flying about, Umraoti cotton is alone used.—*Elliot.*

CHUNDER KOOP, three hills in Las, of extremely light-coloured earth, which rise abruptly from the plain. The largest is 400 feet high, another about 200 feet, and the third is a broken cone. The last encloses a basin of liquid mud about 250 yards in circumference, in which the mud heaves and bubbles up continuously. They are called the basins of Raja Ram Chunder. The Koops are said to be altogether 18 in number, viz. seven in the neighbourhood of Kattyawara, and eleven between Kej and Gwaddel in Mekran.

CHUNDIGAR. GUJ. A bracelet maker; one who makes armlets of glass or ivory for married women.

CHUNDOO. HIND. Fried mince-meat.

CHUNDOO. HIND. A hanging lamp, made of bamboo framework covered with mica.

CHUNDOO LAL, a Khatri, who succeeded Mir Alam as Peshkar-i-Diwan, of the Hyderabad state. He was unsuccessful as a financier.

CHUNDRA, Soma, and Indu are epithets for the moon.

CHUNDRA or Chundraka. BENG. Ophioxylon serpentinum.

CHUNDRAGHERRI, a town and fortress 11 miles W.S.W. of the Hindu temple of Tripati, which seems to have been founded about A.D. 1490, by Narsing'ha, a raja of Vijayanagar of the Vaishnava sect. It was occupied as a seat of Government in 1570 by a successor, Timma raja, but in 1644 the ruling sovereign, Sri Ranga Rayel, who in 1640 had granted the site of Madras to the English, was driven from his throne by the Bijapur army, and in 1646 took refuge with a former feudatory at Bednore, and with him the last of the Vijayanagar dynasty disappeared.

CHUNDREE. HIND. A printed fabric of silk or cotton, made in Kutch, Kattyawar, and Gujerat. The design is stamped on the cloth, and is caught up and tied with a continuous thread, and the piece of cloth is then dyed of the wished-for colour.

CHUNDROOS. HIND. Copal resin. Fine shavings of it are used to stop hæmoptysis, made up into a medicine called 'Khairwa.' It is much used in varnishes.—*Gen. Med. Top.* p. 132.

CHUNDRUHASA. BENG. Solanum ferox. Chundru-moola, Kæmpferia galanga. Chundru mullika, Pyrethrum or Chrysanthemum Indicum.

CHUNDUN, Chandan, or Chandana, also Ghundasaru. DUKH. Sandal-wood. Safed chandan is sandal-wood. Lal-chandan is the red sanders wood, Cæsalpinia sappan.

CHUNDUNA SUN. HIND. Corchorus olitorius. Chundun-betoo, Chenopodium album. Chundun-moolee, Urtica tuberosa.

CHUNDUN HAR. HIND. A necklace, neck ornament.

CHUNDUS, a scented wood used for the mala or chaplets of Hindus.—*Tod's Rajasthan.*

CHUNDWASSA. Close to this place are the Buddhist caves of Dhumnar, with a Hindu temple behind. About 40 miles from Nemuch.

CHUNE. MALEAL. Cathartocarpus fistula.

CHUNERIA. HIND. An embroidered net fabric.

CHUNG. HIND. Hordeum hexastichum, also Pyrus malus; in Pangi and Chenab, Boucerosia edulis, also Salix alba, white willow.

CHUNG, a border race between Nepal and Sikkim. They are also called Limbu, Chung being the name given to them by the Lepcha. They are a hardy, hard-working tribe. They cultivate grain, and rear cows, pigs, and poultry. Their huts are made of split bamboo, and thatched with the leaves of the wild ginger and cardamom, guyed down with rattans. They drink to excess. —*Latham.*

CHUNGAR, a wandering houseless race in the Panjab, probably the same as the Chinganeh of Turkey, the Italian Zingaro, the Spanish Gitano, and the English Gipsy. About Dehli the race is called Kunjur,—a word which, in the Panjab, properly implies a courtesan or dancing girl.

CHUNGHA, also Chun. HIND. Euphorbia Royleana.

CHUNGI. HIND. Boucerosia aucheri.

CHUNGI. HIND. A tax gathered daily from grain merchants, being as much grain as a man can hold in his hand.

CHUNG-PEH-LAH. CHIN. Wax insect.

CHUNGSAKHAGO, a pass in Kunawar leading from Chetka to Neilung, on the Jankee or

Jannubee branch of the Ganges. It is a lofty pass, probably not under 18,000 feet.

CHUNG-TSEW. CHIN. The Chinese festival of middle autumn.

CHUNI-BADLI. HIND. A scarf of gold muslin.

CHUNNA, Bengal horse gram, Cicer arietinum.

CHUNNI-MARAM. TAM. Acalypha betulina.

CHUNNI-SAFAID. HIND. Abrus precatorius seeds.

CHUNSER. HIND. Cress, garden cress; Lepidum sativum.

CHUN-SHAW-CAP. CHIN. Manis Javanica.

CHUNUMEA, a tribe of Chanderbansi Rajputs in Jonpur, Azimgurh, and Gorakhpur.—*Elliot.*

CHUPAO. PERS. A foray; a charge of cavalry.

CHUPATHI or Chapatti. HIND. An unleavened wheaten cake. Chapathi-ki bhaji, Marsilea quadrifolia.

CHUPEIN. HIND. Potamogeton gramineus.

CHUPRA, the chief civil station of Sarun. It is on the left bank of the Ganges, in lat. 25° 45′ N., and long. 84° 48′ E., 30 miles above Patna, and 370 miles from Calcutta.

CHUPRI ALU. HIND. Dioscorea globosa; properly Safri-alu.—*Roxb.*

CHUPTA-LAC or Chapta-lac. HIND. Shell-lac.

CHUR. HIND. of Kishengunga. Quercus ilex.

CHUR, in the Panjab, the sweeper caste, many of whom have become followers of Nanak, and are commonly called Rungretha Sikh or Mazhabi Sikh. See Chura.

CHUR. HIND., BENG. Properly Chor. The shifting alluvial deposits of a great river are so called in Bengal.—*Yule's Embassy*, p. 26.

CHUR, one of the spurs of the Himalaya, 12,500 feet in height, composed chiefly of mica schist and clay-slate, with intrusive dykes or seams of granite. Boulders of the same rock are abundant in the valleys. The summit of the mountain is composed entirely of granite.—*Adams.*

CHUR or Churi. HIND. A crest, a top-knot, a tuft of hair.

CHUR. BALUCH. A small defile.

CHURA; Churi. HIND. A knife, a dagger.

CHURA, of the Panjab, are serfs. They are the direct descendants of the Chaura or military out-castes of the Mahabharata.—*W. W. Hunter.*

CHURA, a tributary state in Gujerat, with a population of 13,793 souls.

CHURA, a caste of sweepers; one of the Ghair Mulazim castes in a village.

CHURA. BENG. Xyris indica, *Linn.*

CHURA. HIND. Commelyna Bengalensis; also Angelica glauca.

CHURA and Tirah are fertile and well-peopled valleys, enjoying a cool climate; and it was not unusual for the Peshawar sirdars and others, who had an understanding with the inhabitants, to pass the warm weather in the former of these places, which also frequently became a place of refuge to the distressed. At Chura resided Khan Bahadur Khan, Afridi, who attained immense influence amongst his tribe from the circumstance of his attendance at court during the sway of the Sadozai. Shah Shuja married one of his daughters, too, and on more than one occasion found an asylum with him.

CHURAL. HIND. Lathyrus sativus.

CHURANG or Chor Ganga, the founder of the Gangavansa dynasty of Orissa. His name is also written Saranga-deva. He invaded Orissa in A.D. 1131, and his dynasty ended with raja Narsinh-deo, who in 1217 built Kanarak, the Black Pagoda. Churang was a benefactor to Jagannath, adorned it, and peopled its neighbourhood.

CHURAYKAI. TAM. Cucurbita lagenaria.

CHUR-CHE, of early European travellers, are the Yu-che or Niu-che of the Chinese, the ancestors of the modern Manchu.

CHURGH, the female; Churghela or Churghlo, the male bird. Hunting hawks, natives of Cuthee, black-eyed; fastens on the antelope, and also kills the 'tuboor,' a kind of florikin.

CHURI. DUKH. A bird; hence Khan-churi, a house-sparrow. Churi-mar, a bird-catcher.

CHURI. HIND. Bracelets of glass, or lac, or metal. Chur, Chura, or Churi, the bracelet put on a newly-married bride, which she wears till widowhood. Churgar, ivory bracelet maker.

CHURIAL. HIND. Aralia Cachemirica.

CHURI KI BHAJI. DUKH. Amarantus campestris, *Linn.* Churi-saroch, Artemisia scoparius; also Asparagus Punjabensis and A. elegans.

CHURKA or Charkha. HIND. A cotton-cleaning jin. It is worked by two people. Two men working day and night can clean about 160 lbs. each.

CHURMA. MALEAL. Phœnix dactylifera.

CHURO. SIND. An unleavened cake of wheaten flour made into dough with clarified butter, and mixed with brown sugar; supposed, in Sind, to increase the delicacy of the skin.—*Burton's Scinde.*

CHURRA, a sanatorium on the N.E. frontier of India. The mean temperature at 4000 feet is about 66°, or 16° below that of Calcutta; which, allowing for 2½° of northing, gives 1° of temperature to every 290 to 300 feet of ascent. In summer the thermometer often rises to 88° and 90°; and in the winter, owing to the intense radiation, hoar-frost is frequent.—*Hooker, Him. Jour.* ii. p. 284.

CHURWA. HIND. Bruised rice.

CHUSAN ARCHIPELAGO, including the Kweshan group, is a large assemblage of islands near the mainland of China, between lat. 29° 20′ and 31° N. The Kweshan group consists of 11 islands. Chusan island is 51½ miles in circumference, and the walled city of Ting-hae on the S. side of the island is upwards of one mile in circumference. The Chusan northern group consists of numerous islands, mostly barren or rocky. Chusan, the largest island, is the station of a sub-prefect, and, with the smaller neighbouring islands, forms a district called Ting-hae, the name by which it is always spoken of by the mandarins among themselves, and which it bears in all the works published by imperial authority.—*Horsb.; Meadows' Desultory Notes*, p. 89; *Marryat's Indian Archipelago*, p. 150.

CHUSBAL. HIND. Potamogeton crispus.

CHUSHM-i-MAIDAH. PERS. The cat's eye gem.

CHUSHUL, a place in Ladakh where is a hot spring of a temperature of 96°. The waters are without taste or smell, but are said to have medicinal properties.

CHUSSAEE. HIND. Arango, GUJ. Large rough carnelian beads of various sizes and shapes, made in Cambay, and formerly extensively used in the African slave-trade.—*Faulkner.*

CHUSSUM. HIND. Waste silk.

CHUTI. HIND. Asparagus Panjabensis.

CHUTIA, the dominant race in Upper Assam when the Ahom race from the south swarmed into the valley. The Chutia kingdom was overturned by the Ahom chief Chutupha about A.D. 1350, and great numbers of the Chutia were deported and forced to settle in other parts of Assam, as in Chutia of the Durrung district; and still a great many of the Sadya and Upper Assam population are Chutias. The Bihiya are of the same family, and, as a tribe of Lalong in Upper Assam, claim to be of Chutia descent. The Chutia, long before the appearance of the Ahom, had adopted Hindu customs. They are of a light olive complexion, but with a flatness of face and a want of sharpness in the features. The Deori Chutia are an isolated colony on the river Dihing in Luckimpur Their language contains words used by the Garo and Bodo, but their origin is unknown. They profess Hinduism, but are considered to be a low caste.—*Dalton's Ethn. of Bengal*, p. 78.

CHUTIAL. HIND. Rheum emodi.

CHUTIALLI, a plain in Cutch Gandava.

CHUTIA NAGPUR, or Chota Nagpore, is a province in Bengal and the Central Provinces, lying between lat. 21° 58′ 30″ and 24° 48′ N., and long. 83° 22′ and 87° 15′ E., with an area of 43,901 square miles, and a population in 1872 of 3,825,571 souls, two-thirds of them professing Hinduism, and upwards of a million following aboriginal faiths. The Kolarian and Dravidian aboriginal tribes number 230,034, the semi-Hinduized aborigines 101,849, and Hindus 71,749. Chutia Nagpur is on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damuda, and other rivers have their sources. It extends into Sirguja, and forms what is called the Upar-ghat or Highland of Jashpur; and it is connected by a continuous chain of hills with the Vindhya and Kymor ranges, from which flow affluents of the Ganges, and with the highlands of Amarkantak, on which are the sources of the Narbadda. The plateau is, on the average, about 3000 feet above the level of the sea, with an area of about 7000 square miles. It is on all sides difficult of access; is a well wooded, undulating country, diversified by ranges of hills, and it has a genial climate. The non-Aryan tribes had fallen back to that refuge from the plains, more than half of them, however, being of the race known to Europeans as Kol; the other races in Chutia Nagpur and its adjoining tracts are the Larka Kol, Ho, Bhumi, Mundah, and Santal. The Kol in former times possessed the whole of Chutia Nagpur, which may now be said to be divided between them and the Dhangar or Oraon, who came from Rotasghur. The chief men in most of the villages are still, however, of the old Mundah or Kol tribe, and they do not intermarry with the Dhangar or Oraon. The greater part of Singbhum is inhabited by Kol, and they are numerous in Bamanghotty, and dispersed to the vicinities of Cuttack (Katak) and Midnapur. They are in a confused mass of flat-topped hills called pāt, capped with a horizontal layer of trap. It is arranged, for revenue and administrative purposes, into the districts of Hazaribagh, Lohardaga, Singbhum, Manbhum, and the seven small tributary states designated the Chutia Nagpur mahals are Bonai, Chang Bahar, Gangpur, Jashpur, Korea, Sirguja, and Udaipur. The chiefs are tributary. The races have a strong belief in witchcraft.—*Imp. Gaz.; Dalton's Ethnology.*

CHUTKA. BENG. Bauhinia acuminata.

CHUTNEE is a warm condiment used in every family of India, either prepared fresh daily from ripe vegetables, or preserved. The following is a recipe for the Dehli or celestial chutnee:—Take of green mangoes, raisins, mustard-seed, salt, green singer, and garlic, each one seer; onions (none or) half a seer; dried red chillies, half to one seer; moist or soft sugar, one to two seers; white wine vinegar, four bottles. The ginger, garlic, and onions are to be peeled, and, together with the chillies, are to be cut into thin slices previously to being pounded; the mustard-seed to be washed and dried, then gently bruised and winnowed; the raisins to be washed and freed from the stones; the sugar to be made into a thick syrup; the mangoes to be picked of their rinds, cut into thin slices (some boil them in three bottles of the vinegar, adding the fourth when mixing them up with the other ingredients) and pounded; the remaining articles are to be separately pounded, and then the whole is to be incorporated, put into a stone jar, well closed, and placed in the sun for a month or two. If put into a glass bottle, it should occasionally be put out in the sun. It will keep good for years.

Love-apple Chutnee. Take the love-apple (Solanum lycopersicum, *Linn.*), a large plateful, the rinds and seed to be rejected, and only the pulp used; dried salt fish cut very fine (as if rasped), a piece about two inches square; six onions cut into thin longitudinal slices; eighteen green chillies chopped fine; dried tamarind, two pice weight (or one ounce), mashed up in about three or four ounces of water (stones and fibres to be rejected); salt, a teaspoonful; ghi or butter, five pice weight (or two ounces and a half). First put the ghi into a tinned copper vessel placed on the fire; when it is melted, add the onions; and as the latter begin to assume a reddish hue, add the chillies, stirring them well for five minutes. Then add the salt fish, and continue stirring the whole; when the ghi has nearly evaporated, add the love-apple, and stir it about for a good while. Lastly, add the tamarind water and salt, and mix the composition well until it acquires a pretty dry consistence (like that of brinjal chutnee or sambal). This chutnee is only for immediate use, and will not keep above a day or two.

CHUTOOR-ANANA. SANSK. Four-faced; from Chutoor, four, and Anana, a face.

CHUTSALEE. TIBET. Coarse borax from Ruthog. Chuwa Sirsa, first-class barilla or sajji.

CHUTSAO. CHIN. Ganjah.

CHUTTUR. BENG. Lands cleared for salt-making, a salt field.

CHUYAR, a hill tribe in the range bordering Bengal on the west, in Ramgurh and the neighbouring districts.—*Wilson.*

CHU-YU. CHIN. Yam.

CHYAVANA, in Hindu mythology, is the son of Bhriga, the son of Brahma, by his wife Puloma. A Rakshasa, or fiend, attempting to carry off Puloma, the child was prematurely born, whence his name, from Chya, to fall from. Upon his birth, his splendour was such as to reduce the insulter of his mother to ashes. Having adopted a life of ascetic devotion, he was so immersed in

abstraction, that he became completely covered with the nests of white ants. Sukanya, daughter of king Sariyati, wandering in the forest, observed what she thought two lights in an anthill, and thrust in two blades of kusa grass, which, when withdrawn, were followed by a flow of blood. Much alarmed, the princess repaired to her father and related what had happened. The king, conjecturing the truth, immediately went to the spot to deprecate the wrath of the rishi, and pacified him by giving him the damsel in marriage. After being married some time, the Aswini Kumara, passing by Chyavana's residence, conferred upon him youth and beauty, in requital of which boons he gave them a share in the soma juice offered at sacrifices to the gods. The gods, with Indra at their head, opposed this grant, and Indra lifted up his hand to strike Chyavana dead with his thunderbolt, when the sage paralyzed his arm. To appal the gods, he created the demon Mada, intoxication personified, in terror of whom and of the power of the saint, the gods acceded to the participation of the Aswini Kumara in divine honours. Indra was restored to the use of his arm, and Mada was divided and distributed amongst dice, women, and wine.—*Bhavishyat Purana and the Dana Dherma section of the Mahabharat*, p. 263.

CHYCHM. EGYPT. Cassia absus.

CHYEBASSA, the chief station of Singbhum.

CIANDU or Xanadu, a place in China 150 miles beyond the Great Wall, and ten days' journey from Pekin. It was called Che-min-fu, or by the Tartars Kai-min-fu. It was noticed by Marco Polo, as there stood that magnificent park and palace of the Tartar ruler of China, the great Kablai Khan, the description of which set Coleridge a-dreaming (or dreaming that he dreamt) that wonderful poem which tells how

'In Xanadu did Kublai Khan
A spacious pleasure dome decree.'

A later traveller mentioned how this lord passed the summer at a certain place which is called Sandu, situated towards the north, and the coolest habitation in the world.—*Yule, Cathay*, i. p. 134.

CICCA DISTICHA. *Linn.*

Phyllanthus longifolius, *R.* | Averrhoa acida, *Linn.*

Nuri, Nubari, . .	BENG.	Harfaruri, . . .	HIND.
Cheramella, . .	,,	Chirimi, Cheremin,	MALAY.
Hurriphal, Nubi, .	,,	Nelli, ...	MALEAL.
Them-bau-h'soke-gyee, ...	BURM.	Cherambola, . . .	PORT.
Country gooseberry,	ENG.	Rata nelli, . . .	SINGH.
Otaheite ,,	,,	Arunelli, . .	TAM., TEL.
Chelmeri, . . .	HIND.	Racha usirike, .	,, ,,

A small tree, leaves pinnate, from one to two feet long, scattered about the ends of the branches. Its flowers small, and of a reddish colour. It is commonly cultivated in the gardens of India, all over the Tenasserim Provinces, and is planted by the Burmese, who value its fruit highly. It bears some resemblance to a gooseberry both in appearance and taste, and yields a roundish subacid fruit about the size of a large marble. The fruit is largely used as an article of food, raw or cooked, or in pickles or preserves. Leaves are sudorific, and seeds cathartic. Wood inferior.—*Roxb.* iii. 672; *Ainslie*, 222; *O'Sh.* 551; *Mason.*

CICENDIA HYSSOPIFOLIA. *Adans.*

Gentiana hyssopifolia, *L.*	Gentiana verticillata, *L.*
Exacum hyssopifolium, *Willde.*	Slevogtia verticillata, *D. Don.*
Adenema hyssopifolia, *Don.*	Hippion hyssopifolium, *Spreng.*

Karaita, ...	BENG.	Valla rugu, . . .	TAM.
Charaita, ...	HIND.	Nellaguli, Golimidi,	TEL.
Chota charaita, .	,,		

This plant is common in various parts of Southern India, as at the mouth of the Adyar river in the environs of Madras. The whole plant is bitter, and much used by the natives as a stomachic, being also somewhat laxative. It is used as one of the Chiretta plants.—*O'Sh.* p. 460; *Cleghorn.*

CICER ARIETINUM. *Linn.* Chick-pea.

Himis, Humuz, .	ARAB.	Channa, ...	HIND.
Chunnai, But-kale,	BENG.	Cece, ...	IT.
Chunna, Batoola,	,,	Nakhud, ...	PANJ.
Ku-lo-pai, . . .	BURM.	Chola, ...	PERS.
Kadalay, . . .	TAM.	Cheunaka, . . .	SANSK.
Harbarah, . . .	DUKH.	Garvanzos, . . .	SP.
Homos, ...	EGYPT.	Sanaga, Sanagaloo,	TEL.
Bengal gram, . .	ENG.	Chanaka, . . .	,,
Chenna, ...	GUJ.	Hari-mandhakamu,	,,

This valuable pulse is much prized in India, and in the more northern provinces of Hindustan, where it is common. The natives use it, parched and ground, mixed with wheat flour. Split with the hand-mill and steeped, it forms there the principal food of horses and all cattle. These, and barley roasted and ground, form a mixture called suttoo, given to horses. Each pod contains a single pea. Col. Sykes counted 179 seeds on one plant. When parched it tastes not unlike the roasted cashew nut, and is often used by the people of Northern India for food. Its composition per cent. is,—moisture, 10·80; starchy matter, 62·20; nitrogenous, 19·32; fatty or oily matter, 4·56; mineral constituents (ash), 3·12. It constitutes, after wheat, the chief food of the lower class in Spain. It is grown extensively by the Burmese, especially in Burma. The fresh plant has an acid reaction; and if clothes are placed in a field of it in the dewy morning, and then wrung out, they give an acid infusion.—*Powell; Roxb.; O'Sh.; Ainslie; Mason.* See Chuna.

CICHORIUM INTYBUS. *Linn.* Chicory.

Shikoriah, . . .	ARAB.	Kichorion, . . .	GR.
Suchal-hand, .	CHENAB.	Kasni (seeds), . .	HIND.
Ku-tsai, Ku-ku, .	CHIN.	Hinduba, . . .	,,
Ku-mai-tsai, Tu, .	,,	Hand-gul, . .	KAGHAN.
Chicory, ...	ENG.		

Two varieties of this are grown in many parts of India, from Cape Comorin to the Himalaya. Wild chicory vegetates luxuriantly during the summer in Kashmir, and in the Panjab during the cold season. It grows there up to 5500 feet, and in Lahoul up to 9500 feet; and the young plant is used as a vegetable. The seeds are used in medicine, and are consequently kept in the bazars. Seeds of both varieties appear to be officinal, being considered carminative and cordial. The root also is used medicinally. The roots contain nitrate and sulphate of potash, mucilage, and some bitter extractive principle. An infusion of chicory mixed with syrup causes a thickening of the liquid. The root, Bekh Kasni, HIND., is used as a tonic and demulcent in fever and dyspepsia, and is largely used to adulterate coffee in England. This and C. endivia are raised and eaten by the Chinese as pot herbs.—*Honigberger*, p. 25; *J. L. Stewart, M.D.*, p. 408; *Smith.*

CICINDELIDÆ, a family of the Coleoptera. The genera common in India are Therates, Tricondyla, and Colliuris; the two former are characteristic of a southern range, while the latter is abundant throughout the eastern continent. The most splendid of the race abound in Nepal. Cicindela

heros and C. gloriosa also occur, the latter of a rich velvety green colour.

CICONIA, a genus of birds of the order Grallatores. Ciconia alba, the white stork, occurs in Europe, Asia, North Africa; is migratory, and is common in India during the cold season in immense flocks in Lower Bengal. Ciconia nigra, or black stork of Europe, Asia, North Africa, is not uncommon in India.

CICUTA VIROSA. *Royle.*

Kau-pen, . . .	CHIN.	Zahri gugal, . .	KASH.
Devil's salep, . .	ENG.	Salep-i-shaitan, .	PERS.
Poison turnip, . .	,,		

Occurs in Kashmir.—*Royle*, p. 426. See Conium.

CID of Spain, the Arabic term Sayyad, lord, by which all the descendants of Mahomed are styled. It was bestowed as an honorific distinction on a brave Christian knight, who opposed the Mahomedans in Spain.

CIDER or Cyder, the wine of the apple. It is made in Britain, on the continent of Europe, and in the United States. There was a manufacture of cider by the maharaja of Kashmir upon a large scale.—*Faulkner; M'Culloch.*

CIGARS.

Chutta, . . .	HIND.	Shruttu, ...	TAM.
Rokok, . . .	MALEAL.	T'sutta, ...	TEL.

Cigars are made all over the south and east of Asia, but the most celebrated are those of Manilla, of Chinsurah in Bengal, of the islands or Lunka of the Godavery, of Trichinopoly, and of Dindigul, in the peninsula of India.

CIMERII, Cimbri, or Camri, a Getic race, who entered Europe from Asia. Herodotus (Melpomene, p. 190) says the Cimmerians, expelled by the Massagetæ, migrated to the Crimea. Here were the Thyssagetæ or western Getæ; and thence both the Getæ and Cimbri found their way to the Baltic. Rubruquis, the Jesuit traveller, describing the monuments of the Comani in the Dasht-i-Kipchak, whence these tribes came, says 'their monuments and circles of stones are like the Celtic or Druidical remains of Europe.'—*Bell.*

CINCHONA, a genus of plants of the order Cinchonaceæ, natives of South America. Joseph de Jussieu, in his history of Peru, relates that in 1600 a Jesuit, who had a fever at Malacotas, was cured by Peruvian bark. In 1638 the Countess Anna of Chinchon was suffering from tertian fever and ague at Lima, whither she had accompanied the viceroy, her husband. The corregidor of Loxa, Don Juan Lopez de Canizaries, sent a parcel of powdered quinquina bark to her physician, Jua de Vega, assuring him that it was a sovereign and infallible remedy for tertiana. It was administered to the countess, who was 62 years of age, and effected a complete cure. This countess, returning with her husband to Spain in 1640, brought with her a quantity of the healing bark. Hence it was sometimes called 'countess' bark' and 'countess' powder;' and Linnæus, long after, named the whole genus of quinine-bearing trees, in her honour, Chinchona. By modern writers the first h has usually been dropped, and the word is now almost invariably spelled in that way, instead of the more etymological Chinchona. The Jesuits afterwards made great and effective use of it in their missionary expeditions, and it was a ludicrous result of their patronage, that its use should have been for a long time opposed by Protestants and favoured by Catholics. In 1679, Louis XIV. bought the secret of preparing quinquina from Sir Robert Talbot, an English doctor, for 2000 louis-d'or, a large pension, and a title. Under the Grand Monarch it was used at dessert, mingled with Spanish wine.

The British, in British India, Ceylon, and Burma, and the Dutch in Java, have successfully introduced several of the species,—at Neddiwattam, Pykara, Kalhatti, and Ootacamund, in many private plantations, also in Wynad, in the Bababooden, and hills of Biligiri Rangam; also in Ceylon; also at Darjiling, in the Doons of the N.W. Provinces, and in Sikkim; and the Travancore Government has likewise aided in their diffusion, by selling seed and seedlings; also in Burma it has been planted near Tounghoo, at Than-toung-gyee in the Sitang division; likewise on the Khassya hills. The better known species are C. Boliviana, calisaya, condaminea, cordifolia, lancifolia, lucumæfolia, magnifolia, micrantha, nitida, oblongifolia, officinalis, ovata, Pahudiana, Peruviana, purpurea, succirubra, and scrobiculata.

The commercially valuable species are,—

C. officinalis, var. α. condaminea, var. β. bonplandiana, var. γ. crispa, crown bark; of Loxa region.
C. succirubra, *Pavon.*, red bark; west slopes of Chimborazo.
C. Pitayensis, etc., C. lancifolia, C. cordifolia, Colombian bark; Colombian region.
C. nitida, C. micrantha, C. Peruviana, grey barks; of Huanuco region in North Peru.
C. calisaya, yellow bark; in Bolivia and South Peru.

Cinchona calisaya bark, of the best kinds, of South America, yields, on the average, 3·8 per cent. of quinine. That of the variety C. Josephiana, 3·2 per cent. One variety, grown in Java from seeds transmitted by Mr. Ledger, yields nearly 10 per cent. of quinine; but in Java and Ceylon 13 per cent. of quinine has been obtained, and from Ledgeriana plants grown on the Neilgherries, 11 per cent.; and it is recognised that the yield of the plants is the sole guide in planting. The treatment of the trees, by barking, mossing, and shaving their bark, adds greatly to their yield of quinine. Up to 1880, the quantity of quinine imported into British India was about 10,000 lbs., value about £40,000. In Madras there have been the following gratifying comparisons between expenditure and revenue:—

Year.	Expenditure.	Revenue.	Profit.
1876-77, .	Rs. 1,18,742	1,18,960	218
1877-78, .	1,34,228	3,71,071	1,36,843
1878-79, .	1,44,179	4,30,908	2,86,729
1879-80, .	1,56,708	4,89,731	3,33,023

Cinchona barks imported into London from June 1879 to June 1880 amounted to 6,002,330 lbs. from Colombia, and 959,030 lbs. from all other parts of South America. India and Ceylon, 1,172,060 lbs.; Java (to Amsterdam), 70,088 lbs.; Jamaica, 21,140 lbs. In September 1882, at a sale of barks from the Madras Government plantations, the following table shows the prices realized as compared with those of the sale on 11th Jan.:—

Description of Bark.	Weight of bales—lbs.	Jan. 11. Rs.	Sept. 4. Rs.
Mossed crown,	104 to 108	343 to 345	353 to 360
Natural, . .	102 to 107	243	245 to 267
Branch, . .	104 to 111	average	60
Natural red, .	102	111 to 120	121 to 126 bale of 100lb.
Mossed red, .	100	147 to 151	158 to 182
Do. .	102	none	170 to 172
Branch red, .	102	73	73
Do.	102	81½	80

In 1881, in Ceylon, almost all estates had trees planted along road-sides, or in the midst of the coffee, or in places where the coffee trees had died out; but in other estates almost the whole acreage had been planted with them, in regular rows between the lines of coffee. They are said to grow in the Yatiyantota district on the western slope, at 500 feet; and at Kalutura, about 30 miles S. of Colombo, nearly at the sea level. The number of cinchona plants growing in Ceylon at the beginning of 1881 was estimated in Fergusson's Handbook at from 50,000,000 to 100,000,000. C. succirubra was the most numerous, being reckoned at more than one half. The remainder consists of C. officinalis and C. calisaya, with such varieties as C. Ledgeriana and C. pubescens. The export from Ceylon of cinchona bark for the eleven years 1869 and 1871 to 1880, shows an increase from 28 oz., value Rs. 50, in 1869, to 1,161,989 lbs. in 1880, value Rs. 12,00,000 :—

1869,	28 oz.,	Value, Rs. 50
1871,	80 packages,	313
1872,	11,547 lbs. and 694 packages,	64,102
1873,	44,836 ,,	32,667
1874,	40,354 ,,	25,277
1875,	19,152 ,,	17,963
1876,	14,932 ,, and 1 package,	14,720
1877,	72,127 ,, and 1 ,,	88,738
1878,	186,797 lbs.	Value, Rs. 1,71,292
1879,	507,368 ,,	5,19,086
1880,	1,161,989 ,,	(say) 12,00,000

The organic constituents of cinchona barks are,—quina, chinchonia, aricina, quinidia, chinchonidia, quinic, tannic, and quinovic acids, chinchona red, etc.; in medicinal forms, quinine, chinchonidine, quinidine, chinconine. The quill bark stripped from saplings, just as cinnamon is prepared, is found to be rich in quinine. The bark that is obtained at Sikkim is all made into a febrifuge in a factory on the estate. This febrifuge is said to be quite as efficacious as quinine, and it is much cheaper, and very easily made. The cost is Rs. 9·3·10½ per lb., or about 9 annas per ounce.

On the Neilgherries, nearly every species has been planted in the several plantations, the preference being given to C. succirubra, C. officinalis, and C. pubescens. C. lanceolata was also cultivated during 1877–80. Succirubra and officinalis were the best of the available kinds for cultivation upon the high Neilgherry plantations. On 31st March 1882, there were 183,498 C. succirubra and 551,307 C. officinalis plants in permanent plantation, 552 plants of Ledgeriana, 1874 of C. micrantha, 44 of Pitayensis, 9613 of 'hybrids and others;' only 8 left of 120 C. Carthagena, and 5 of 15 C. Santa Fé plants raised early this year.

Statement showing the Out-turn and Disposal of Cinchona Bark at the Government Plantations in India during each of the official years 1876–77 to 1881–82.

Neilgherry Plantations.	1876–77.	1877–78.	1878–79.	1879–80.	1880–81.	1881–82.
Out-turn of bark collected during the year,	103,341lbs.	138,808lbs.	114,320lbs.	179,299lbs.	243,245lbs.	242,052lbs.
Exported for sale in England,	88,708	146,632	105,101	173,539	235,527	232,467
Issued to Madras Medical Department,	...	4,330	3,511	2,000	...	...
,, Calcutta,	...	...	100	...	...	...
,, Bombay,	952	1,000	1,500	2,000	2,000	1,000
,, Private parties,	...	...	...	20	5,096	10,278
Total,	89,660lbs.	151,962lbs.	110,212lbs.	177,559lbs.	242,623lbs.	243,745lbs.

Statement showing the Expenditure, Produce, and Receipts at the Government Cinchona Plantations in India for each of the official years 1876–77 to 1881–82.

Total expenditure,	Rs. 59,630	Rs. 69,771	Rs. 73,682	Rs. 79,724	Rs. 96,105	Rs. 1,12,392
Produce in bark,	103,341lbs.	138,808lbs.	114,320lbs.	179,299lbs.	243,245lbs.	242,052lbs.
Rate per lb. realized by sale,	Rs. 1·10·8	Rs. 3·13·5	Rs. 2·9·5	Rs. 3·0·0	Rs. 2·8·0	Unknown.
Receipts by sales in England,	Rs. 1,05,974	Rs. 3,41,272	Rs. 3,79,789	Rs. 3,21,963	Rs. 4,06,000	Unknown.
Miscellaneous local receipts,	4,483	17,479	20,564	21,852	26,200	Rs. 24,844
Total,	Rs. 1,10,457	Rs. 3,58,751	Rs. 4,00,353	Rs. 3,43,815	Rs. 4,32,200	Rs. 24,844

In the year 1880–81 the cinchona factory at Darjiling disposed of 8600 lbs. of febrifuge; the plantation harvested a crop of 348,560 lbs. of bark. The earnings for the year amount to 80,290 rupees, representing a dividend of 8 per cent. on the capital of the plantation; exclusive of the saving which Government derive from substituting the febrifuge for quinine in public hospitals and dispensaries. This saving Dr. King estimated at 4½ lakhs for the year,—almost the value of half the capital expenditure on the plantation. The Government encouraged competition by their free sale of seed; and in 1879–80 as much as 1711 lbs. of seed were distributed. They had 847 acres under cultivation; and at the end of 1879–80 there were 677,350 plants in permanent plantation. The people of India owe a deep debt of gratitude to Mr. Clements Markham for bringing cinchona to them, and they should exercise it while he still lives. It is one of the largest boons conferred on India and its people. He went and resided in South America. He published (1862) his travels in Peru and India, while superintending the collection of cinchona plants and seeds; and in 1880 his 'Peruvian Bark' gave a popular account of the introduction of cinchona cultivation into British India.

Cinchona calisaya is found to be a very variable species in Sikkim; and its variations are not confined to the form of leaves and flowers, but extend also to the chemical constitution of the bark, some of the varieties grown in Sikkim containing nearly eight per cent. of pure quinine, while the bark of others yields very little of quinine or of any other useful alkaloid. But the differences in external form and of richness in alkaloid are not related to each other in any very definite way; and trees, of which the leaves and flowers are so

much alike as to be undistinguishable from dried specimens, have been found to yield bark of quite different chemical composition. In Java the Dutch have a variety of calisaya, the bark of which is richer in quinine than any bark ever imported from South America; some of the Dutch samples having yielded on analysis the extraordinary amount of 13·7 per cent. of quinine. They had been raised from a parcel of seed purchased in 1866 by the Dutch Government from Mr. Ledger. Mr. Ledger got them from a half-caste, who would not tell where he collected them, and who was murdered soon after; the exact locality in Bolivia where they were gathered, therefore, remains unknown. Mr. Ledger's seed produced 6300 trees, which have since been largely propagated from. The 6300 plants all agree in being rather shabby-looking trees, averaging in height 25 feet, and girthing at 6 feet from the ground 27 inches. They have tall stems, and rather small, lax, conical heads, the branches of which are more or less distinctly arranged in tiers. The cinchonas under favourable circumstances become large trees, and have the handsomest foliage of the forest. The leaves are lanceolate, glossy, and vividly green, traversed by rich crimson veins; the flowers hang in clustering pellicles like lilacs, of deep rose-colour, and fill the vicinity with rich perfume. Nineteen varieties of cinchona were established by Dr. Weddell. The cascarilleros of S. America divide the species into a category of colours, according to the tinge of the bark; there are yellow, red, orange, violet, grey, and white cinchonas. The yellow, among which figure the Cinchona calisaya, lancifolia, condaminea, micrantha, pubescens, etc., are placed in the first rank; the red, orange, and grey are less esteemed. This arrangement is in proportion to the abundance of the alkaloid quinine, used in medicine instead of the bark itself. The following prices have been realized in London :—

C. succirubra, red bark, 2s. 6d. to 8s. 6d. per lb.
C. calisaya, C. frutex, C. vera, yellow bark, 2s. 10d. to 7s. per lb.
C. officinalis, var. (*a*) Uritusinga, Loxa bark, var. (*b*) Condaminea, select crown bark, 2s. 10d. to 7s.
C. crispa, fine crown bark, 2s. 10d. to 6s.
C. nitida, genuine grey bark, 1s. 8d. to 2s. 9d.
C. sp. undetermined, fine grey bark, 1s. 8d. to 2s. 10d.
C. micrantha, grey bark, 1s. 8d. to 2s. 9d.
C. Peruviana, finest grey bark, 1s. 8d. to 2s. 10d.
C. pabudiana.

Plants of the C. Ledgeriana from Java have been sold at 500 rupees a thousand; and price for seed paid for this variety, £226 per ounce. This seed was taken from trees of a superior kind, of a good age, the bark of which had been tested, and the firm advertised the seed in Java. The 1880–81 crop of Madras amounted to 250,271 lbs., against 183,984 lbs. in 1879-80. 234,736 lbs. were supplied to the home market, 5096 lbs. to a firm in Madras, and 2000 lbs. to the Bombay Medical Department, leaving a balance of 8439 lbs. in store. Experiments are still (1882) being made to determine the merits of the grassing and mossing systems. Low-country coolies were employed as labourers with success.

Cinchona calisaya, *Ruiz. and Pavon.*, grows on the Andes of Peru, New Granada, and Bolivia, at 5000 to 6000 feet above the sea. It attains a height of 40 feet. It yields the yellow bark, also part of the crown bark. It is one of the richest yielders of quinine, and produces, besides, cinchonidine, but yields little of other alkaloids. Its varieties do not all furnish bark of equal value. It grows under conditions more limited than those of C. succirubra, and it is not so easily propagated. The Santa Fé variety ascends the Andes of New Granada up to 10,000 feet, and produces the highly valuable soft Colombia bark.

Cinchona cordifolia, *Mutis.*, grows on the Andes of Peru and New Granada, at between 6000 and 8000 feet elevation, and yields the hard Cartagena bark, or West Pitaya bark, one extremely rich in alkaloids. It is hardy, grows with rapidity and vigour. The thickest bark is obtained in the highest altitudes, where it has the action of misty clouds.

Cinchona hasskarliana, *Miq.* In Java, some of the best results were obtained from this species, as yet not critically identified.

Cinchona lancifolia, *Mutis.*, considered by Weddell a variety of C. officinalis. It grows in places where the mean annual temperature is that of Rome, with, however, less extremes of heat and cold. It yields part of the Pitaya bark of commerce.

Cinchona micrantha, *Ruiz. and Pavon.*, grows on the Cordilleras of Bolivia and Peru to a height of 60 feet, and from it part of the grey and of the Huanuco bark as well Lima bark are obtained. It is comparatively rich in cinchonine and quinidine, and also contains quinine.

Cinchona nitida, *Ruiz. and Pavon.*, grows in the Andes of Peru and Ecuador to a height of 80 feet, and yields part of the grey and Huanuco bark, also the Lima bark. It contains predominantly cinchonine and quinidine.

Cinchona officinalis, *Lindl.*, is partly C. condaminea, *Humboldt.* It grows on the Andes of New Granada and Peru, at a height of 6000 to 10,000 feet, and yields the crown or brown Peruvian bark, besides part of Loxa bark. It is comparatively rich in quinine and cinchonidine. Superabundance of moisture is particularly pernicious to this species. The temperature of the middle regions of the Andes where this tree grows is almost the same as that of the Canary Islands. The crispella variety endures a temperature occasionally as low as 27° Fahr.

Cinchona pitayensis must also be referred to C. officinalis as a variety. It attains a height of 60 feet, and furnishes also a portion of the Pitaya bark. In Upper India it has yielded in some instances the unprecedented quantity of 11 per cent. alkaloids, nearly 6 per cent. quinine, the rest quinidine and cinchonine. This plant is now annihilated for bark purposes in its native forests.

Cinchona succirubra, *Pavon.*, a tree of the mid-Andes regions of Peru and Ecuador, yielding the red Peruvian bark, rich in quinine and cinchonidine. It attains a height of 40 feet. It is this species which is most largely cultivated in the mountains of Bengal. This has proved the hardest species in Sikkim; it grows under a wide range of conditions, and seeds freely; all its varieties produce bark of great value, yielding an average of 4 per cent. of alkaloids. Beetles (a male stag-beetle, family Lucanidæ) have been found feeding on the renewed bark (after shaving) of succirubra trees in Maskeliya. The female has much shorter mandibles, and is said to use them in forming a hole in the trunks of trees for the reception of its

eggs. Westwood says (i. p. 187) the perfect insect feeds on the honey-dew upon the leaves of the oak; they also feed upon the sap exuding from the wounds of trees, which they lap up with their finely ciliated maxillæ and lower lip. It has been supposed that the larva of this insect, which chiefly hides in the willow and oak, remaining in that state several years, is the animal so much esteemed by the Romans as a delicacy, and named cossus. The injury which it causes is often very considerable, boring not only into the solid wood, but also into the roots of the tree. The stag-beetle found in Maskeliya was a male, with immense mandibles, and greatly resembles Lucanus cervus, the common stag-beetle of Europe.—*Observer, Ceylon; Von Mueller.*

CINCHONACEÆ, the coffee tribe of plants, of which there are 233 genera and 870 species. Of these, 729 species are known to occur in the south and east of Asia, viz. in Zanzibar, Timor, Persia, Japan, each three; in Arabia four, and in India 695.

CINNABAR.

Zunjefer, ... ARAB.	Guluga, . . . MALAY.
Shwui-yin, Tan-sha, CHIN.	Sedilengam, . . MALEAL.
Chu-sha, Shin-sha, ,,	Shangarf, ... PERS.
Hung, ... ,,	Inghulum, . . SANSK.
Pak Shangharf, . DUKH.	Shadilingam, . . TAM.
Hingda, Hingra, . HIND.	Inghilikam, . TAM., TEL.
Durdar, Hingur, . ,,	

This is found in commerce, native and manufactured. It is the red or bi-sulphuret of mercury. The best native cinnabar is red, heavy, brilliant, of a high colour, and free from earthy or stony matter. It is found in various places, chiefly in quicksilver mines, being one of the ores of that metal. It occurs native in China abundantly in Shen-si; and all the quicksilver (shwin yin, water silver, *i.e.* hydrargyrum) not imported into China is there obtained from this ore, by a rude process of burning brushwood in the wells, and then collecting the metal after condensation. Cinnabar is brought from the mines of China in the form of a coarse shining powder, with a varying depth of red colour. The finest is used as a pigment, and in making red lacquer for varnishing. Cinnabar has been discovered at Bassein, in Borneo, in a mountain range called Bungo, extending between two branches of the Sarawak river. It yields 84 per cent. of quicksilver. For making artificial cinnabar, when two parts of mercury and one of sulphur are triturated together, the mercury gradually disappears, and the whole assumes the form of a black powder. When this is heated red hot, it sublimes, and if a proper vessel be placed to receive it, a cake is obtained of a fine red colour, which, when reduced to a fine powder, is known by the name of vermilion. Artificial cinnabar is largely manufactured in Calcutta, and in small quantities at Surat. It has been employed in medicine by the Hindus from time immemorial, to salivate their patients, causing them to inhale its fumes. Cinnabar is entirely volatile from a slip of talc, while the impurities remain behind. Compound cinnabar ointment is Captain Aitkin's useful ringworm ointment.—*Williams' Middle Kingdom; Mason; Beng. Phar.; Thomson's Chemistry.*

CINNAMOMUM, a genus of plants belonging to the natural order Lauraceæ, confined to Eastern and Southern Asia. The species are—

albiflorum, Nepal.
aromaticum, of China.
camphora, China, Japan.
caudatum, Nepal.
culitlawan, Moluccas, Cochin-China.
cassia, S. China.
dubium, Ceylon.
dulce, China.
eucalyptoides, Malabar.
iners, Peninsula of India, Malayana.
multiflorum, of Ceylon.
nitidum, Sumatra.
obtusifolium, of Ceylon.
ovalifolium, of Ceylon.
pauciflorum, of Sylhet.
recurvatum, China.
villosum, Ceylon.
Zeylanicum, Ceylon.

CINNAMOMUM ALBIFLORUM. *Nees.*

C. camphoratum, *Bl.*	Laurus cassia, *Roxb.*
C. tamala, *F. Nees.*	
Dalchini, Tajkalmi, HIND.	Tez-bal, Tejpat, HIND.

This tree grows in Tiperah, Nepal, Kumaon, and the Panjab; is not uncommon in the Himalaya east of the Sutlej; grows sparingly at about 5000 feet as far as the Ravi, and probably in Hazara. Part at least of the officinal bark and leaves are probably derived from this tree. The former is given for gonorrhœa, and the latter are used in rheumatism, being considered stimulant. Its timber does not appear to be valued.—*Voigt; Stewart; Powell.*

CINNAMOMUM AROMATICUM. *Nees.*

C. cassia, *Blume.*	Laurus cinnamomum, *Andr. Repst.*
Laurus cassia, *Nees*, t. 3.	

A tree of considerable size, said to grow in the dry sandy districts lying N.W. of the town of Fai-foe, between lat. 15° and 16° N. It is said to produce the cinnamon of China and Cochin-China, as also cassia bark and the aromatic fruits called cassia buds.—*Royle; Wight; Voigt.*

CINNAMOMUM CITRIODORUM. *Thw.* Pangaree Kurundu gass, SINGH. A tree of Ceylon, growing to a height of 20 or 30 feet in the Sufragam district, at an elevation of 1000 to 2000 feet. It is distinguished by the venation of its leaves, and by the truncated cup of the fruit. The bark has much of the odour of citronella oil, intermixed with something of the fragrance of common cinnamon.—*Thw. Zeyl.* p. 253.

CINNAMOMUM CULITLAWAN. *Nees.*

Laurus culitlawan, *Roxb.*	Cortex caryophylloides, *Rumph.*
L. caryophyllus, *Lour.*	

A native of Amboyna, especially in Leitimoo, near the villages of Sava Rutton and Ema. It also grows in Cochin-China. The bark when dry is aromatic like cloves, but less pungent and sweeter. It has some astringency, and owes its medicinal activity to a combination of volatile oil, resin, and bitter extractive. It is used in dyspeptic complaints, diarrhœa, etc. The natives of Amboyna use the oil in both as an internal medicine and as a stimulating liniment.—*Roxb.* iii. p. 299; *Voigt; Eng. Cyc.*

CINNAMOMUM DULCE. *Nees.*

C. Chinensis, *Bl.*	Laurus dulcis, *Roxb.*

A small tree of China, leaves and bark of a sweet aromatic taste and odour.—*Roxb.* ii. 203.

CINNAMOMUM EUCALYPTOIDES. *Nees.* Grows on the mountains of Malabar. Its leaves have a strong acrid clove-like odour, and taste somewhat tinctured with camphor. It is the Laurus Malabatharica. 'Sapor et odor foliorum fortis et acris caryophyllorum cum levi camphoræ tinctura.'—*Nees; Voigt; Roxb.; Wall. Cat.*

CINNAMOMUM INERS. *Reinw.*

C. nitidum, *Hooker.*	C. Rauwolfii, *Blume.*
C. eucalyptoides, *Nees.*	C. carna, *Rheede.*
Theet-kyam-bo, . BURM.	Ran-dal chini, . MAHR.
Len-kyau, ... ,,	Kat-karua, . MALEAL.
Kaddoo-lavanga, . CAN.	Sembela; Puli pilla, TAM.
Dar-chini, . . . HIND.	Pachaku, ... TEL.

This tall tree grows along the whole range of the W. Ghats, and in the hilly parts of Malabar and Konkans; also in Moulmein, Ataran, Chapedong, Penang, and Java. It is supposed to yield part of the cassia and cinnamon of commerce. Its leaves, on being bruised, have a strong spicy smell; the wood is fine, even-grained, and supposed very good, but the carpenters are not acquainted with it.—*Dr. Gibson; Wight, Ic.*

CINNAMOMUM LITSEÆFOLIUM. *Thw.*
Koodoo-Kurundu gass, SINGH. A tree of 50 or 60 feet, growing at Hapootelle, in the central province of Ceylon, at an elevation of 5000 feet. Its bark is quite inodorous.—*Thw.*

CINNAMOMUM NITIDUM. *Nees.*

C. cassia, *Nees, W. Ic.*	Laurus nitida, *Roxb.*
Kadigi-Hindi, . ARAB.	Putruj (bark), . HIND.
Tej-pat, . . . BENG.	Tamalpatra, . . SANSK.
Sadrus, ... HIND.	

Described as a tree in Sumatra, but as a small tree or shrub on the continent of India. Its flowers are small and of pale yellowish colour, and the bark is cinnamon-like in taste and odour. It is the plant which furnished the principal part of the Folia Malabathri of the old pharmacologists.—*Roxb.* ii. p. 300; *Eng. Cyc.; Voigt.*

CINNAMOMUM OBTUSIFOLIUM. *Nees.*
Laurus obtusifolia, *Roxb.* | L. Malabatharica, *Roxb.*

A tree of the mountainous countries immediately east of Bengal, with small greenish-yellow flowers. Its timber is very useful for various purposes. C. obtusifolium, C. pauciflorum, and C. tamala were found by Dr. Hooker up to 6000 feet in the Khassya mountains.—*Roxb.; Voigt.*

CINNAMOMUM ZEYLANICUM. *Nees.*
C. capparis-coronde, *Blume, Nees.*
Var. β. Multiflorum.

C. multiflorum, *W. Ic.*	C. dubium, *Nees.*
C. perpetuoflorens, *W. I.*	C. villosum, *W. I.*

Var. γ. Ovalifolium, *Wight.*

This exceedingly handsome variety of cinnamon is very abundant on the higher ranges of the Neilgherries, and in all sholas about Ootacamund, flowering in May. All the parts, when fresh, if crushed, have a powerful odour of cinnamon. The tree is very large, and has great girth. The timber is even-grained and good, but is not much in use. There are seven well-marked varieties of cinnamon found in the western (moist) forests of the Peninsula, growing up to the highest elevations. They differ much in size, and in the manner of growth of the tree itself, shape and size of the leaves, pubescence, etc.; but Colonel Beddome, after long observation, and with a very large collection of specimens, is inclined to look upon them all as varieties only of the C. Zeylanicum. They run almost imperceptibly into one another, and it is almost impossible to lay hold of any constant character worthy of a specific distinction; and many of the differences are, he believes, the effect of elevation and climate.—*Roxb.; Wight; Beddome.*

CINNAMON.

Darsini, . . . ARAB.	Kaiamanis, . . MALAY.
Theet-kya boh, . BURM.	Kulit manis, . . ,,
Yuh or juh-kwei, CHIN.	Katu karua, . MALEAL.
Kanil, ... DUT.	Darasita, . . . SANSK.
Cannelle, ... FR.	Kakynnama, . . SINGH.
Zimmet; Kanehl, . GER.	Kurundu, . . . ,,
Kinnamon, ... HEB.	Rassu kurunday, . ,,
Kinnamomon of HEROD.	Davoul kurundoo, ,,
Tuj, Dalchini, . . HIND.	Canela, ... SP.
Canella, IT., LAT., PORT.	Karuwa; Lawunga, TAM.
Cinnamomum, . . LAT.	Sanna lavanga patta, TEL.

The bark of Cinnamomum Zeylanicum, *Nees*, is the true cinnamon of the shops, and the true Kinnemon of Exodus xxx. 23. Two varieties of cinnamon are known in commerce, that of Ceylon and Cayenne, and the Chinese cinnamon, which is of far inferior quality. Cinnamon is exported from China, Siam, Cochin-China, and Java; but that which is of greatest value comes from Ceylon, which has been the chief place of production from the earliest period at which any record exists concerning the use of this spice, and which extends back to the days of the Roman republic. Up to the year 1760, during the latter portion of the Dutch rule in Ceylon, cinnamon grew in a wild state amongst the thick jungles of the low and hilly country, the best always having been cut upon the light soil of the maritime provinces. The tree is found only in the western, southern, and central provinces. The peelers recognise ten varieties of Kurundu or cinnamon, viz. Naga or snake, Kapuru or camphorated, Kahate or canalle or astringent, Savell or glutinous, Dawool or drum, Nika or wild, Mal or flowering, Toupat or trefoil, and We Kurundu or white ant cinnamon. The true cinnamon is often adulterated with the inferior barks of other species; and the volatile oil, on which its virtues depend, is sometimes fraudulently extracted. Besides the oil of cinnamon, a fatty substance called cinnamon butter and cinnamon suet is expressed from the ripe fruits.

CINNAMON BUTTER, or Cinnamon Wax, is obtained from Cinnamomum Zeylanicum. By strong decoction, the fruit yields a concrete oil, used for candles, and which exhales while burning a most delicious odour.

CINNAMON STONE, a precious stone found in Ceylon. It is a variety of lime-garnet of a clear cinnamon-brown tint, commonly occurring in masses, which are full of fissures. Translucent, seldom transparent.

CINNARA, in Hindu mythology, genii; and male dancers in Swarga, the heaven of Indra.

CIRCAETUS GALLICUS. *Gm.* Serpent eagle.
C. brachydactylus, *Meyer.*

Sap maril, . . . BENG.	Pamula gedda, . . TEL.
Mal patar, . . . CAN.	Rawul of . . . WAGRI.
Samp mar, . . . HIND.	Kondatelle of . YERKALI.
Pambu prandu, . TAM.	

This is found in the south of Europe, North Africa; is common all over India and Asia; has been killed in Denmark, but never in the British Islands; prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food. Hovering in the air, and pouncing down suddenly like a stone, it seizes the snake by the head with its talons, and the snake often twines its body around the bird, and so encumbers it that it is occasionally so caught. —*Jerdon.*

CIRCAR. In the Mahomedan land revenue system, a circar was a subdivision of a subah. The N.W. Provinces of India, excluding the Saugor and Nerbadda territories, comprised no complete subah, but only portions of the four subahs of Agra, Allahabad, Dehli, and Oudh. Each subah was divided into a certain number of circars, and each circar into parganas or mahala (which are used as equivalent expressions); and the parganas again were aggregated in dastoors or districts; and as the parganas of the same

dastoor are of course always contiguous, the dastoor statement in old registers, if copied with any regard to correctness, frequently forms a very important means of the verification of doubtful names. Subah is an Arabic word, signifying a head of money, or a granary. Circar (Sir-kar) is literally a chief, a supervisor. Dastoor, besides signifying a rule, is also a minister, a moonshee. Pargana means taxpaying land, as well as a perfume composed of various ingredients. The title of subahdar, or lord of the subah, is long subsequent to Akbar's time. Siphasalar was the only designation of the emperor's viceroy in each subah.

Circars is a political appellation of a large tract of country between lat. 15° 40′ and 20° 17′ N., running from the Chilka lake to Motapilli, along 470 miles of sea-coast, with a breadth of from 70 to 100 miles of low country, an area of 17,000 geographical miles, watered by the Kistna, the Godavery, and Gondecama; and three or four British districts have been formed out of it, viz. part of Ganjam, Vizagapatam, Godavery, Kistna, and Guntur, and part of Nellore district, between the Eastern Ghats and the bay. From the 5th to the 11th centuries, the Kesari, or Lion kings of Orissa, held sway there, followed by the Gajapati dynasty in the north, and Narapati in the south, then by the Bahmani, the Kutub Shahi, and the Asof Jahi. They were ceded to the French in 1753, and to the British E. I. Company in 1759, after Colonel Forde's successful attack on Masulipatam in April of that year. They contain the important towns of Ganjam, Chicacole, Vizianagram, Vizagapatam, Coringa, Yanoor, Masulipatam, Ellore, and Nizampatanam.—*Annals, Ind. Adm.* xi. p. 243; *Imp. Gaz.*

CIRCASSIA is the Cherkas of Asiatics. It is a mountainous country in the S.E. corner of Europe, on the northern face of the Caucasus, lying between lat. 41° 50′ and 45° 20′ N., and 37° and 47° 20′ E., about 550 miles long and 75 miles broad; area, 40,000 square miles. The highest summits for nine months are covered with snow. —*MacGregor.* In a small tract not less than seventy-two dialects are spoken. The Cherkess and the Che Cheu are the two great tribes. They take the common name of Adighe: but the Cherkess include amongst them the Khabard Abkhas, Ubiche, and other clans, and number from 400,000 to 500,000 souls. The Che Cheu number 150,000 souls. Their religion is a mixture of Christianity, Mahomedanism, and paganism. They reverence Merem, a benevolent deity, and Tschible, the spirit of thunder. There are three social classes, —Usdi or nobles, Tschfokot or freemen, and Pschilt or slaves,—and these grades are hereditary, like the castes of India. When their forts or villages have been surrounded, they have destroyed their women and children, set fire to their dwellings, and perished in the flames, rather than surrender.

Their young women are famed for their beauty, and are sought for in the neighbouring kingdoms. They are brought up in simple and domestic habits by their mothers, are taught the use of the needle in decorative works, and to make their own clothes, and those of the men of their family, and are otherwise very carefully reared. They are sold to the bridegroom and to traders.

The Cherkess or Circassians were typical representatives of the West Caucasian races. They were the most powerful and warlike of all the western nations. Since their final reduction, in 1864, by Russia, most of their lands on the left bank of the Kuban have been occupied by their conquerors, the great bulk of the Cherkess having withdrawn into Turkish territory, and dispersed over Armenia, Asia Minor, Syria, and the Balkan peninsula. Similarly, 20,000 Abkhasians migrated to Turkey at the close of the last Russian war, and both races have become predatory. Cherkess are to be found in Asia Minor, along with Lazi, where also are the Yuruk, a nomade Turk race occupying the uplands between Erzerum and the plains of North Syria. Kazzilbash also are there, and are scattered over Anatolia, Persia, and eastwards to Kābul. They call themselves Eski-Turk, or old Turks. The fertile plains of Raz Ova and Ard Ova, near Tokat, and the villages between Angora and Amasia, and between Kara Hissar and Tokat, are the Kazzilbash headquarters. They profess Islam, but avoid all inquiry into their doctrines. The Circassians and Abkhasians have never found a suitable home in Asia Minor, and are a serious disturbing element (Asia, p. 37), being indolent and predatory. The Cherkess and Abkhasians of West Caucasus are Sunni Mahomedans; the Kabard are Christians; and these three races number 138,000. In the time of Selim I., the Mameluks were all slaves of pure Circassian blood. More recently, only the Borgite Mameluks were of Circassian origin.—*Charles Tauschin, Circassians; Porter's Tr.* i. p. 141; *Lond. As. Trans.* i. p. 98; *MacGregor; A. H. Keane and Sir Richard Temple's Asia.*

CIRCASSIAN BEANS, seeds of the Adenanthera pavonina, used for ornamental purposes.

CIRCLE. Under the form of a winged circle, the Assyrians worshipped the supreme deity. The Buddhist wheel of the law, to be seen on the caves of Ellora and Ajunta, was probably borrowed from the Assyrians, as it reminds us of the wheel within wheel of Ezekiel. It is a symbol of the Hindu god Vishnu, under the Hindi term Chakram.—*Cal. Rev.* 1868. See Chakram.

CIRCUMAMBULATION.

Touaf, ... ARAB.	Parikarma, . . . HIND.
Deisol, . . . CELTIC.	Pradakshana, . . SANSK.

The circumambulation of sacred places has ever been part of the ritual of worship of Asiatic nations. The Mahomedan in circumambulation, Touaf, presents his left shoulder; the Hindu and Buddhist in Pradakshana walk round with the right side towards the fane or idol, and this would appear to be the original form of the rite. Its conjectural significance is an imitation of the procession of the heavenly bodies, the motion of the spheres, and the dances of the angels. These are also imitated in the circular whirlings of the Rafai darvesh. El Shahistani informs us that the Arab philosophers believed the sevenfold circumambulation to be symbolical of the motion of the planets round the sun. It was adopted by the Greeks and Romans, whose Ambarvalia and Amburbalia appear to be eastern superstitions, introduced by Numa, or the priestly line of princes, into their pantheism; and in Britain the processions round the parish preserve the form of the ancient rite. It is the processional of the Romish and other Christian churches, in which the clerical attendants perambulate the aisles, and is practised

in sanctifying a church or a churchyard. At the Holy Sepulchre, the Greek, Armenian, and other pilgrims circumambulate three times. In Ireland it is a very common practice to circumambulate the graveyard three times before proceeding with the corpse to the grave. See Parikarma. In Britain, at the time Christianity was established in Ireland by St. Patrick, and in the N. of Scotland by St. Columba, it was a practised rule. Hindus encircle with right hand to the shrine. The Buddhist Bhot, in passing the Mani, always leave it on the right.—*Northern Barrier; Burton's Mecca*, iii. 204.

CIRCUMCISION.

Khatna, ... ARAB.	Soontan, ... HIND.
Circoncision, . . . FR.	Circoncisione, . . . IT.
Beschneidung, . . GER.	Circuncision, . . . SP.

The Phœnicians had this rite in common with the Egyptians and the Jews, who acknowledge having derived it from the former. According to Bunsen, however (iv. p. 273), it was not followed amongst the Phœnicians. It seems to have been a Semitic rite, which Abraham revived, for he was ninety-nine years old when he circumcised himself, Ishmael his son was thirteen, and Isaac was one year old. This rite now is practised amongst all the Jewish people and most Mahomedans. With the latter the usual time is in infancy, though the poverty of the parents and other circumstances sometimes retard its performance. It is performed with some ceremonial, and in presence of the friends of the family. It was prohibited by Akbar until the age of twelve, when the person to undergo it could judge of the propriety of the rite. It is not even mentioned in the Koran. It is considered as an act of imitative practice founded on the example of the disciples, but not on that of Mahomed himself. In Oman, on the shores of the Persian Gulf, among the Christians of Abyssinia, and in Egypt among the Arabs and Copts, the custom is prevalent. At Bosra and Baghdad, all the women of Arabian blood circumcise their daughters as well as their sons. At Cairo the women who perform this operation are as well known as midwives. They are openly called into houses of the people, without any secret being made of the intention with which they are invited. This is noticed by several Mahomedan writers, viz. in the Dur-ul-Mukhtar, the Tahtavi, and Fattah-ul-Muain, and, according to the last book, it is the inner labia that are removed. The Spaniards, at the time of the conquest of Central America, found circumcision practised, and it is still observed by the Tecuma and Manaos tribes. Amongst the people in the Gulf of Carpentaria, all the males before the age of twelve or fourteen years undergo this rite. This custom is not derived from the Macassars, the latter affirming that it existed previous to the commencement of their intercourse with the coast. Flinders observed a case upon the Wellesley Islands, and the custom is also prevalent amongst the natives of certain parts of the south coast of Australia. Mr. Earl says a peculiar formation prevails among the aborigines of this part of Australia, and also of the adjacent coast of New Guinea, which renders the practice exceedingly conducive to comfort and health. — *Earl in Ethn. Lib.* i.; *Niebuhr, Travels*, ii. pp. 250, 251; *Malcolm's Hist. of Persia*, ii. p. 339; *Bunsen's Egypt*, iv. p. 273; *Herodotus*, ii. p. 36.

CIRCUS, a genus of birds of prey, known as the Harriers, found over all the world. They have a slender form, soft and downy plumage, and hence a noiseless flight. They are much on the wing, and hunt near the ground. They are of the sub-family Buteoninæ, family Falconidæ, and order Raptores.

True Harriers.

Circus cyaneus, *Linn.*

Falco albidus, *Gmel.* | F. pygargus, *Linn.*

The hen-harrier of Europe in the winter visits the N.W. Himalaya, the Panjab, Bhutan, Nepal, and Kamaon.

Circus Swainsonii, *A. Smith.*

C. albescens, *Less.*	C. pallidus, *Sykes.*
C. Dalmaticus, *Rup.*	Falco herbæola, *Tickell.*
Pandouvi, . . . BENG.	Pattai, ... HIND.
Tera, Dirajat, . . ,,	Puna-prandu, . . TAM.
Dastmal, ... HIND.	Tella-chappa-gadda, TEL.
Girgut-mar, . . . ,,	Pilli-gedda, . . . ,,

The pale harrier is pretty generally distributed over Asia, Africa, and southern Europe, and is abundant in India during the cold weather. The male is pale grey above.

Circus cineraceus, *Montag.*

C. Montagui, *Vieill.* | C. Nipalensis, *Hodgson.*

This visits every part of India.

Circus melanoleucas, *Gmel.*

Pahatai, ... HIND. | Ablaq pehata, . . NEP.

The pied harrier is common in Bengal and in the rice-growing districts.

Circus æruginosus, *Linn.*

Falco rufus, *Gm.* | C. variegatus, *Sykes.*

Mat-chil, ... BENG.	Safed Sira, . . . HIND.
Kutar, Kulesar, . HIND.	Tika, Bauri, . . ,,

The marsh harrier frequents the banks of rivers, lakes, marshes, inundated fields, and wet meadow-land, carrying off frogs, fish, water insects, rats, shrews.—*Jerdon.*

CIRRHATÆ, or Cirrhadæ, or Cirrodes, of classical history, are the ancient Kirata, the modern Kirauti of Nepal. Once a powerful dominant race, they have long since succumbed first to the Makwani, and then to the Ghorkali. In the Sanskrit tale of the Hero and the Nymph occurs the word Vedhaka. In some copies Rechaka is explained to be a Kirata, a forester, and the Kirata were known to the classical geography of ancient Europe as the Cirrhadæ or Cirrodes. They were the occupants of Sogdiana, near the river Oxus. The term Kirata, however, seems to have been general, and applied to the savage mountain non-Aryan tribes, to whom the Aryan races were opposed. Some of them were in the south of the Peninsula, on the Coromadel coast.

CIRRHIPEDIA. The balanus or barnacle of this class of molluscs occurs in India.

CIRRHOPETALUM, a genus of plants of the order Orchiaceæ. In India are C. albidum, caudatum, cæspitosum, cornutum, fimbriatum, grandiflorum, Lindleyanum, Maccræi? macrophyllum, Neilgherrense, Roxburghii, Walkerianum.

CIRSIUM ARGYRACANTHUM, C. horridulum and C. lanceolatum, flowering plants belonging to the order Matricariaceæ. The roots of C. lanceolatum, the Suh-twan or Ch'uen-twan of several parts of China, are used in diarrhœa and in urinary affections.—*Smith.*

CIS, a Latin word in use amongst geographers of Europe, to indicate a country on the hither side of rivers or mountains, as Cis-Himalaya, Cis-

Indus, Cis-Sutlej, etc. Trans, another Latin word, is used to indicate the further side, as Trans-Indus, Trans-Gangetic, etc.

CISSA, a genus of birds of the jay magpies, the sub-family Garrulinæ, and order Insessores. Cissa pyrrhocyanea and C. puella, *Blyth*, occur in India.—*Tennent's Ceylon.*

CISSAMPELOS, a genus of plants of the natural order Menispermaceæ. C. convolvulacea occurs in Dindigul, Rajmahal, and Nepal; C. obtecta, of the Garhwal mountains, yields an ardent spirit in distillation.

CISSAMPELOS PAREIRA. *Linn.* Pareira.

Dukh-nirbisee, . . HIND.	Pata, ... TEL.
Weni wæla, . . SINGH.	

The extract of pareira is a valuable astringent diuretic, in doses of twenty grains dissolved in water thrice daily. The extract and infusion of nemooka, C. hernandifolia, afford good substitutes for this useful article.—*Beng. Phar.*

CISSIA, mentioned by Herodotus, is the Susiana of Strabo, and the modern Khuzistan.

CISSUS CARNOSA. *Lam.*

C. capreolata?	Vitis carnosa, *Wall.*
Drakri, Vallur, . . BEAS.	Gidar dak, . . . RAVI.
Karik, Amal-bel, CHENAB.	

A pretty climber, in the valleys of the N.W. Himalaya, from 2000 to 8000 feet. It is eaten by camels; and in Jummoo, the root, ground with black pepper, is applied to boils.—*Dr. J. L. Stew.*

CISSUS DISCOLOR, a vine of Java, with leaves coral-red beneath, and variegated with silvery patches above, owing to the presence of a film of air under the epidermis.

CISSUS QUADRANGULARIS. *Wall.*

Vitis quadrangularis, *Wall.*

Nillur, ka binj; paat, DUK.	Perrandei, coddi, . TAM.
Harjora, ... HIND.	Nulleru tige, . . TEL.
Vajra valli, . . SANSK.	

Stems four-angled, winged, and jointed; it has all the properties of a parasite. The stems are succulent, and, beaten up into a paste, are given by the natives for asthma. The young, tender, and succulent stems are very generally eaten in India. When old this plant is deemed acrid, and a useful medicine; in Arabia it is used as an external application in rheumatic pains of the back and loins.—*Riddell.*

CIS-SUTLEJ, a political term applied in British India to the territory south of the Sutlej, occupied by Sikh chiefs during the last years of the Dehli empire, and now including the British districts of Ambala, Ludhiana, Firozpur, and Hissar, with the native states of Patiala, Faridkot, Maler Kotla, Chitrauli, Raikot, Buriya, Mandot, Jheend, and Nabha, which came under British protection in 1809. By the treaty with Ranjit Singh, of the 26th April 1809, he undertook not to make or allow any encroachment on the states on the left bank of the Sutlej. In 1849 the British abolished the sovereign powers of the various chieftains. Several states have lapsed to the British.

Patiala was formed by a Jat family of Sikh religionists, who emigrated from the Manjah about the early part of the 18th century. The area is 5412 sq. m., with a population of 1,586,000, and a revenue of Rs. 3,000,000.

Jheend has an area of 1236 sq. m., and a population of 311,000 souls, with a revenue of four lakhs of rupees. The maharaja is a Jat of the Sikh faith. In 1857 its chief was the first person who marched against the mutineers at Dehli.

Nabha territory has an area of 863 sq. m., a population of 276,000 souls, and a revenue of four lakhs. The chief is of the same stock as the maharajas of Patiala and Jheend, but is the elder branch of the family. The family behaved ill in the Sikh war of 1845–46, but did well in the revolt of 1857, and were rewarded by a grant of land out of the Jhujjur territory.

Kalsia territory has an area of 155 sq. m., and a population of 62,000 souls, with a revenue of Rs. 130,000. The family came from the village of Kalsia in the Manjah.

Maler Kotla has 156 sq. m., with a population of 46,200 souls, and a revenue of one lakh. The family came originally from Kābul.

Faridkot consists of Faridkot proper and Kotkupura; is S.W. of Firozpur, borders to the S.E. on Patiala. It has an area of 643 sq. m., and a population of 51,000 souls, with a revenue of Rs. 75,000.

Mumdote is a Mahomedan chieftaincy, and was re-established in 1863.

The minor Cis-Sutlej chiefs were deprived of their sovereign powers, and the police management of their estates was assumed by the British Government; all customs duties were abolished, without compensation, except in the case of the nawab of Konjpura and the mir of Kotahar, and the chiefs were reduced to the rank of ordinary jaghirdars. These were 80 in number, with revenues varying from Rs. 250 to 71,900.—*Imp. Gaz.*

CISTACEÆ, the rock-rose tribe of plants; one genus is the Helianthemum. Cistus creticus, of the Levant, one of the species which afforded Labdanum, collected formerly for medical use during the prevalence of the plague, by whipping the plants with leathern thongs, the resin adhering to the leathern straps. C. Cyprinus, *Lam.*, also yields this product.

CISTI TREES, the Cytinus hypocistus. See Balanophoreæ.

CISTUDO, a genus of reptiles of the family Chelonia. C. Amboinensis occurs in Amboyna, C. dentata in Java, and C. trifasciata in China.

CITHERN. ENG. A musical instrument. It obtained its name from the Sih-tara, the three-stringed lute of the East, supposed to be also the source of the word guitar.

CITRACEÆ, or Aurantiaceæ, the Citron worts, or Orange tribe, are dicotyledonous polypetalous plants, and the orange, lemon, lime, shaddock, pompelmoose, forbidden fruit, and citron are the chief fruits of the order. The wampee, a fruit highly esteemed in China and the Indian Archipelago, is produced by Cookia punctata. The fruit of Glycosmis citrifolia is delicious, and that of Triphasia very agreeable. The Ægle marmelos is used in medicine, and a perfume is made from its rind. The Indian genera are — atalantia, triphasia, limonia, glycosmis, sclerostylis, bergera, Murraya, Cookia, clausena, micromelum, paramignya, suvunga, polycyema, feronia, ægle, citrus.

CITRIC ACID, lime-juice, Acidum citricum.

Jus de limon, . . . FR.	Agro o sugo de limone, IT.
Zitronon saft, . . GER.	Jugo de limon, . . . SP.

This occurs in commerce either in the form of the pure juice of lemons and limes, or crystallized by a chemical process.

CITRON, Citrus medica, *Linn.*

Beg poora, . . .	BENG.	Ethrog, ...	HEB.
Sukkat, ...	DAN.	Turanj, ...	HIND.
Citronat verd, . . .	FR.	Cedro, ...	IT.
Succade, ...	GER.	Acitron verde, . .	SP.

The citron is cultivated in many parts of India. It grows freely in Pegu and Tenasserim ; and Dr. Mason met with citron trees in the jungles apparently indigenous. The fruit, however, is much inferior to the Bengal citron. The Jews at the feast of tabernacles carried the citron in their left hand as a sacrifice of a sweet smell.—*Smith ; Von Mueller ; Mason.*

CITRONELLA GRASS grows in the southern provinces of Ceylon and about Galle and several estates in the neighbourhood of that town are cultivated with it. The exports of its oil from Ceylon in the three years 1850 to 1852 were—

Year.	Ounces.	Value.	Year.	Ounces.	Value.
1850,	80,048	£3344	1852,	131,780	£2806
1851,	114,959	3742			

—*Simmonds' Products*, p. 513. See Andropogon.

CITRULLUS COLOCYNTHIS. *Schræd.*
Cucumis colocynthis, *Linn.*

Hanzal, ...	ARAB.	Maqal, ...	HIND.
Indrawan, Indrain,	DUKH.	Hanzil, ...	,,
Colocynth plant, . .	ENG.	Peikumati,	MALEAL., TAM.
Bitter apple, wild gourd,	,,	Kortumbah tummah,	PAN.
Kolukunthois, .	GREEK.	Patsa kaia, ...	TEL.
Pakyoth, . . .	HEB.	Papara budama, . .	,,

Grows in the Peninsula of India, Kamaon, near the Jumna, and in Japan. The rind is hard and yellow ; the fruit is about the size of an orange ; the pulp is light-yellow and spongy, containing the seeds.—*Roxb.; Powell.*

CITRULLUS CUCURBITA. *Schræd.*

Cucumis citrullus, *Serr.*		Cucurbita citrullus, *Linn.*	
Belikh-zichi, . . .	ARAB.	Hinduaneh, . . .	PERS.
Tarmuj, Titoo laoo,	BENG.	Tarbuzah, Turbuz,	,,
Turbuz, ...	HIND.	Chaya pula, . .	SANSK.
Pha-rai, . . .	BURM.	Kuttoo wombi, . .	,,
Water melon, . .	ENG.	Hindano ; Cauho, .	SIND.
Samoka, Jamauka,	HIND.	Pitcha ghadi, .	SINGH.
Lamuja, . .	LAMPUNG.	Komadu, ...	,,
Mandeki, . . .	MALAY.	Pitchakai, . . .	TAM.
Pataka, Samangka,	,,	Darbuje, ...	TEL.

The deeply-lobed and gashed leaves, and the round fruit, with a spotted rind and a cold watery pink or white flesh, in which lie a number of black seeds, sufficiently mark this species, which is most extensively cultivated all over the tropics of Asia, Africa, and America. In the Panjab plains it is apparently wild, and covers the ground for miles in sandy deserts near Sirsa, and in the Sind Sagur Doab, ripening in the cold weather.

The seed should always be preserved from the finest and richest-flavoured fruit, and is better for being three or four years old. The green melon is the finest flavoured, although many of the others are very good. Melons grow finer in the sandy beds of rivers, the temperature being more equal about the roots than it is in beds in the garden, especially during the night.

In India it is cultivated in river beds and in alluvial deposits of lakes, tanks, etc., where abundance of water can be had ; it is used as a fruit. It is generally considered to be the melon of the Jews, mentioned in many parts of the Bible. The juice is very cooling, and is said to do well for a cooling drink in fever. The seeds are used as the source of a mild culinary oil in Western India. It is eaten in abundance during the season, which is from May to July. It is gathered when ripe or almost decaying ; the juice is expressed, and mixed with sugar and rose-water.—*Roxb.; Stewart ; Riddell ; Powell ; Eng. Cyc.; Jaffrey.*

CITRULLUS FISTULOSUS. *Stocks.*

Tind, Albinda, . .	HIND.	Dilpasand, . . .	HIND.

A small round gourd, commonly cultivated along the line of the Indus from Lahore to Sind ; said to be merely a cultivated variety of C. cucurbita. It is cooked as a gourd, and has a pleasant flavour when young.—*Stewart.*

CITRUS, a genus of plants of the natural order Citraceæ. Several species grow wild or are cultivated in the south and east of Asia, and all of them furnish useful products. C. aurantium, *Risso*, yields its fruit, the orange ; one essential oil from the rind ; another from the flowers, the oil of neroli ; and the wood is also of value in the arts. C. decumana, *Linnæus*, furnishes the pumalo or shaddock fruit ; and the cum-quat fruit of China is from C. oliveæformis. The lime fruit of the C. limetta, *Risso*, is valuable for its juice, the lime-juice, which is used as a preservative from scurvy ; and C. limonum, *Risso*, furnishes the useful lemon fruit, the rind of which yields an essential oil, or is used in cookery as lemon peel, while the juice of the fruit forms a source of the lime-juice. Independently of the historical fact that citrons and lemons at least were obtained from the Persians, it is certain, from the researches of Wallich and other Indian botanists, that it is among the lower ranges of the hills in Nepal, and extending most probably into China also, that the wild plants of the genus Citrus find a home.

CITRUS AURANTIUM. *Linn.* The orange.
C. nobilis, *Lour.*

Naranj, . .	ARAB., PERS.	Simao, Jeruk manis,	MALAY.
Lieng mau, . . .	BURM.	Madra ; Narranji,	MALEAL.
Sung zen, . . .	,,	Swadu naringa, .	SANSK.
Kan, Kiuh, . .	CHIN.	Nagranga, Jambira,	,,
Orangen, . . .	DUT.	Narangas, ...	SP.
Oranges, ...	FR.	Kitchili, Kolinjy,	TAM.
Pomeranzen, . .	GER.	Kamala, Narija, .	TEL.
Narangi, . . .	HIND.	Kichidi, Kittali, .	,,
Konla, Kamla neeboo,	,,	Narangamu, . . .	,,
Melaranee, ...	IT.		

The orange is not mentioned by the ancient authors either of Europe or Arabia, and is supposed to have been introduced into Europe after the middle ages. Dr. Royle states that the orange and lemon are natives of India, the orange being found on the Neilgherries, on the borders of the sal forests of Sylhet, and perhaps also in China. Mr. (Sir) W. Elliot states that a very small variety of the orange (Ida-chettu, TEL.; Chota kichili, HIND.; Kiri kittali, CAN.; which is the C. variatro of Heyne) grows both cultivated and wild in all the hilly country of the Circars, and he asks if it be the original of the cultivated Citrus aurantium. The orange tree is extensively cultivated. The finest sorts are the cintra, cowlah, and a small sweet orange which grows on a tree more like a creeper. The principal method of culture is by budding, the stocks generally being either seedlings or cuttings from the sweet lime. The best cintra, with a thin close rind, is produced upon the seedling stock ; and it is said that the fruit grown upon the sweet lime stock is generally close and soft ; this is very perceptible with some of the oranges. The best time for budding is in the cold season.

In Central India a variety is under cultivation

producing two crops a year. The blossoms of February and March yield their ripe fruit in November and December; and from the flowers of July mature fruits are obtained in March and April. To prevent exhaustion, only alternate fruiting is allowed. The leaves are rather bitter, and contain essential oil. A still more fragrant oil, called oil of neroli by the perfumers, is afforded by the flowers. The berries, while unripe, are gathered, dried, and turned in the lathe to the size of peas, and are used in issues on account of their fragrant odour. The rind or peel of the orange is bitter and aromatic, and affords a very useful stomachic tincture and syrup. The juice of the ripe fruit contains sugar, malic and citric acids, citrate of lime, mucilage, albumen, and gum. Like the lemon juice, it makes an excellent cooling drink, and is an invaluable specific in the treatment of scorbutic diseases. The seeds of the orange yield oil by expression, but not available in any quantity.

Citrus aurantium, *var.* Scabra, Hwa-kuih-hung of the Chinese, a variety of sweet orange largely cultivated in China.—*Smith; O'Sh.; Eng. Cyc.; Voigt; Elliot; Ainslie; Royle; Riddell.*

CITRUS BERGAMIA. *Ri. and P.* Acid lime.

Citrus limetta, *D.C.* | Citrus acida, *Roxb.*

Nibu, ... BENG. | Eru mitchi nara-kam, . . . MALEAL.
Than-ba-ya, Shouk, BURM. | Nimbooka, . . . SANSK.
Tan-pu-lo, . . . CHIN. | Dehi, ... SINGH.
Chin-p'o-lo, . . ,, | Elimitcham, . . TAM.
Limboo, . . . DUKH. | Gaja-nimma, . . . TEL.
Bergamotte lime, . ENG. | Nimma-chettu, . . ,,
Common sour lime, ,, | Jambira-nimma, . . ,,
Limu, Nimbu, . . HIND.

This is grown in Peninsular India, Bengal, Assam, the Sunda and Molucca islands. There are many varieties,—round, small, spongy, smooth, thick-skinned, and yellow-juiced. The Arab variety from Muscat is large. Bergamotte oil is obtained from the fruit rind, and also oil from the flowers. The Mellarosa variety furnishes a superior oil and exquisite compilures. Large varieties of the acid lime are diffused all over the Tenasserim Provinces; and Europeans usually call them citrons. The varieties known in Hindustan are,—

Pati neboo, common round lime.
Gora neboo, thick-skinned, small, oval lime.
Kaghazi neboo, long, small lime.
Cheena-gora neboo, China lime, yellow-juiced lime.
Kamurali neboo, large, oval, smooth-skinned lime.
Rungpore neboo, round, smooth-skinned lime.
Taba neboo, a large globose spongy-skinned lime.

—*Drs. Roxb., Mason, O'Sh.; Voigt; von Mueller.*

CITRUS BIGARADIA. *Duhamel.*

Mae fadyn, . . . ARAB. | Bitter Seville orange, ENG.
Kau-kiuh, . . . CHIN. | C. vulgaris.

The leaves differ from those of the sweet orange by the petiole only. The flowers are alike in both species. The rind of the fruit is bitter, acrid, and hot to the taste, the pulp acid and bitter, the seeds excessively bitter. The bark of the tree participates in these qualities. The rind of the fruit is used in making the celebrated Curaçoa liqueur. Its flowers yield the costly neroli oil. An acre will annually yield flowers to the value of £50. The rind is used for candied orange peel.—*O'Sh.; von Mueller.*

CITRUS DECUMANA. *Linn.* Pummalo.

Bator nibu, Batavi, BENG. | Maha-naram, . SINGH.
Shouk tung, . . . BURM. | Jamboola, . . . ,,
Hiu, Yu, ... CHIN. | Pumpalimas, . . TAM.
Shaddock, Pummalo, ENG. | Bambalimas, . . ,,
Chakotra, ... HIND. | Bombarimasa, . . TEL.
Poomplemoos, . MALAY. | Pampara panasa, . ,,
Bambali-naringi, MALEAL. | Pulla pampara panasa
Paravata, . . . SANSK. | (acid var.), . . ,,

The shaddock, the largest of the orange tribe, is cultivated in Southern Asia in gardens. The varieties are red and white, the former being preferred by some persons. The tree grows to a large size in a rich soil, and requires much pruning; the best time for doing this is when the crop of fruit is off. Fine fruit has been produced from the seed. The tree, when planted, should have a space of twelve feet all round it. The blossom is used for flavouring sweetmeats. It is a fine fruit, cooling and aperient, and in taste somewhat resembles a fine orange. It has been cultivated in China from the time of the great Yu, who mentioned it in his tribute roll. It flourishes near Amoy, and much pains are taken in grafting the tree upon other species of Citrus, so that the character of the fruit has been greatly improved. Its peel is very bitter, but aromatic.—*Ainslie; Riddell; Mason; Roxb.*

CITRUS DULCIS. *Volkamer.* The sweet orange. Of this are many varieties. One tree, in a sheltered place of the St. Michaels, in the Azores, has been known to bear 20,000 fruits in one year. Neroli oil is obtained from the flowers of this and other varieties. The oil of orange peel may be used for distilling with it costly odorous substances.—*von Mueller.*

CITRUS FUSCA, *Smith*, the Chih-koh or Chi-shih of the Chinese, an orange tree of several parts of China.—*Smith.*

CITRUS JAPONICA. *Fortune.* Cum-quat.

C. olivæformis.

Kin-kiuh, . . . CHIN. | Golden orange, . . ENG.
Lu-kiuh, ... ,, | The fruit—Cum-quat, CH.

The Cum-quat is extensively grown by the Chinese in pots, and at one season of the year the plant is covered with its small, oval, orange-coloured fruit. This, as well as various other species of the orange, is mixed with the forced flowers, and together produce an excellent effect. It is grown in Chusan in groves on the sides of the lower hills. The plants are all arranged in rows about four feet apart, average three or four feet high, and do not exceed six feet. It is much more hardy than any other of its tribe. It produces its flowers and fruit in great abundance. In China, all the plants of the orange tribe which bear fruit in a small state are grafted.—*Fortune*, p. 122.

CITRUS LIMONUM. *R. and P.*

C. medica, *Roxb.* | Korina-neboo, . HIND.

The true lemon. Fruit yields the lemon juice, peculiarly rich in citric acid. Its aromatic peel a volatile oil. A large variety is the Rosaline lemon.—*von Mueller.*

CITRUS LUMIA. *Risso.* The sweet lemon. It includes the pear lemon, with large pear-shaped fruit. Pulp not acid; rind thick, and peels.—*von Mueller.*

CITRUS MEDICA. *L.* Citron, common citron.

Beg-pura, ... BENG. | Leemoo, . . . HIND.

The citron was described by Theophrastus as occurring in Northern Persia (Media), and culti-

vated by the Jewish nation in Syria while under Roman dominion. Cultivated, and grows to a large size. The outer rind very rough, and covered with excrescences, and when ripe of a deep yellow colour and fragrant. Used to form a preserve, and the juice is made into lemonade. It is propagated by cuttings, layers, or seed. Essential oil and citric acid are obtained from the acid tubercular fruit. The candied thick rind of a variety is the Citrionate or Succade. Cedra oil comes from a particular variety. The variety C. digitata is cultivated in China.—*Voigt; Roxb.; Riddell.*

CITRUS MICROCARPA is the Tsing-kiuh-pi or Tsing-pi of the Chinese.

CITRUS MONOPHYLLA grows wild along the Western Ghats of the Peninsula of India.—*Riddell.*

CITRUS PLANCHONI. *F. von Mueller.*
C. australis, *Planchon.*

A noble tree, 40 to 60 feet high, in the coast forests of E. Australia. Its globular fruits, the size of a walnut, are called native oranges. Its wood is beautiful, takes a high polish, and is used for furniture. Might be introduced into India.—*von Mueller.*

CITRUS TOROSA. *Mason.* Grows at Tavoy, with a leaf that looks like two leaves joined together, the wings on the petiole being as broad, or even broader, than the leaf itself. The fruit is small, and there are two varieties,—one with a smooth and another with a rough skin. Dr. Pickering met with a similar tree on the Samoan Islands, a member of the Philippine floras.—*Mason.*

CITRUS TRIFOLIA, a native of China; fruit about the size of a marble.

CITRUS WOOD of the Romans was extravagantly prized for tables, and is supposed to have been the Callitris quadrivalvis, *Vent.*, or jointed arbor-vitæ, the conifer which yields the gum sanderach. The wood was distinguished as striped 'tigrinæ,' spotted 'pantherinæ,' or speckled 'apiatæ.' Cicero gave £9000 for a citrus wood table.

CITTURA CYANOTUS is the forest kingfisher of Celebes. Along with it occur the Meropogon Forsteni; Carpophaga Forsteni, a fruit pigeon of North Celebes; Buceros cassidix, the great hornbill of Celebes; Trichoglossus ornatus, a beautiful brush-tonged parrakeet; Corvus advena, a rare black and white crow.

CITY.

Pur, ur, basti, . . HIND.	Buri, ... SIAM.
Shahr, ... PERS.	Ur, ... TAM., TEL.

With all nations the eastern end of a house is the more honourable part; the west end, of a city. The towns of the south and east of Asia are small compared with those of Europe.

CITY of the Willows, name of a secret political society amongst the Chinese.

CIVET, Castoreum.

Zabad, ... ARAB.	Dedes, Jabat, . . MALAY.
Ashbutchegan, . „	Castoreo, . . . PORT.
Javad, ... DUKH.	Babuwaja struga, RUS.
Bivergeil, . . . DUT.	Ghenda-malay-alu-
Civette, ... FR.	beeyum, . . . SANSK.
Zibeth, Bibergeil, GER.	Algalia, ... SP.
Gond-badustar, . HIND.	Kasturi, Munai, . TAM.
Castora zibetto, . IT.	Pullughoo-shuttum, „
Rase, Kusturi, . MALAY.	

The civet perfumes of commerce are obtained from two sources. One of the civets is a concrete substance obtained from two small bags in the preputial follicles of the beaver, Castor fiber, of both sexes. This is the commercial civet castor of N. America, and it is imported into India for medicinal purposes. The civet cats (Viverra), a genus of carnivorous animals, approach nearest in their form and habits to the fox and the cat. But the distinctive character of the civets consists in an opening near the tail, leading into a double cavity of considerable size, furnished with glands for the secretion of this odorous substance. When the secretion is in excess, the animal frees itself from it by a contractile movement, which causes the civet to ooze from the bag. This is carefully collected, and sold (not without adulteration with butter or oil to increase its weight) at a very high price. In Malay and Javanese this perfume is known by the names of rase and dedes, but the Sanskrit kasturi and the Arabic zabad, corrupted jabad, are also used as synonyms; and doubtless the Dakhani javad, Malay jabad, English civet, French civette, and German zibeth are all from the Arabic zabad. In the Eastern Archipelago, two species—Viverra rasse and V. zibetha—are kept in a half domesticated state for the purpose of yielding it. The first is a native of Java, and the last of the other large eastern islands, where the natives of rank are partial to the use of this perfume,—a not generally acceptable one to Europeans. A variety of this is an inferior sort of musk-bag procured from V. zibetha, found in many parts of Lower Hindustan, and called in Tamil Pullughoo poonay, and in Telugu Poonghoo pilli. The article is chiefly used by the people as a perfume, and in the preparation of certain liniments. These animals are carefully kept and tended in North Africa for the sake of the perfume. They are also common in South America and in the forests of Japan. Civet contains free ammonia, resin, fat, and extractiform matter, and a volatile oil, to which its odoriferous properties are due. It is imported into Britain from the Brazils and from Guinea. When genuine, it is worth from 30 to 40 shillings an ounce.—*Crawfurd, Dic.* p. 100; *Ains.; O'Sh.; Eng. Cyc.* See Viverra.

CIVIL SERVICE, the usual designation of the civil department of British India, including the members of it in the performance of political, magisterial, revenue, and judicial functions. There are two distinct branches, the higher being Covenanted officers, and almost all of this class are natives of Great Britain, and several of them, as Lord Clive, Warren Hastings, Sir George Barlow, Mountstuart Elphinstone, Sir Charles Metcalfe, have risen to be Governors-General of India, and Governors of Presidencies. The next grade are termed Uncovenanted, and comprise many Europeans, East Indians, and Natives, and, generally speaking, are in offices with lower powers than those of the Covenanted, as munsif, magistrate, tahsildar, mamalatdar, deputy collector, assistant commissioner, serishtadar. Many military officers have distinguished themselves as civil administrators.

CLADOBATES, found in the Malay countries, is an insectivorous genus of mammals. Several species very closely resemble squirrels.

CLADONIA RANGIFERINA. *Hoff.* Reindeer moss. See Lichen.

CLAM. ENG. A mollusc of the genus Tridacna, common in many parts of the world. There are six recent and one fossil species known, and the great clam shell of the Archipelago is used in Europe for church fonts.

CLANSHIP, somewhat resembling the form it assumed in Scotland, prevails amongst several of the Afghan and Baluch races, where the adjoining tribes have not as yet amalgamated into nationalities. Moral worth, national pride, love of country, and the better feelings of clanship, are the chief grounds upon which a great people can be raised. These feelings are closely allied to self-denial, or a willingness on the part of each man to give up much for the good of the whole. By this, chiefly, public monuments are built, and citizens stand by one another in battle; but all these are wanting from most of the races occupying British India at present. Many of the Rajput races are in clans, and Mahomedanism has given a bond, but even it is not strong; and China has three distinct races, the Chinese, the Manchu, and the Mongol, wholly separate in civilisation and in aspirations.—*Sharpe's Egypt*, i. p. 278.

CLARET, a term generally used to designate the red wines, the produce of the Bordelais. The most esteemed are Lafitte, Latour, Chateau-Margaux, and Haut-Brion. Claret is a general name for all rose-coloured wines, and in France what the English call claret is styled Bordeaux.

CLARIFIED BUTTER is the ghi of Hindustan and the yennai of the Tamil.

CLAUDIUS CÆSAR. The first authentic account of Ceylon, or Taprobane, extant, is given by Onesiculus, the Macedonian admiral, who lived B.C. 320 or 330. Diodorus Siculus, B.C. 44, gives an account of it. Strabo also mentions it; and Dionysius, who flourished A.D. 36, confirms former accounts, and alludes to its elephants. Sinbad also speaks of it in a volume, perhaps a compilation and in part a romance, as does Abdoor Razak. Ribiero also gives a notice of it. In the reign of Claudius Cæsar, a Roman publican, who farmed the custom duties of the Red Sea, was driven from Arabia by storms on to Ceylon, where he found a flourishing kingdom and an enlightened sovereign, whom he persuaded to send an embassy of four envoys to Rome, by way of the Red Sea, for the purpose of negotiating a commercial treaty.

CLAUDIUS PTOLEMY, author of the Almagest, lived A.D. 140–160.

CLAUSENA, a genus of shrubs or small trees belonging to the natural order Citraceæ. C. heptaphylla (Karan-phal, HIND.) grows in Bengal, has small flowers, greenish-yellow and anise-scented, and its bruised leaves have the fragrance of fresh anise seeds. C. nana grows in the Moluccas, C. punctata and C. suffruticosa grow in Chittagong; and the fresh leaves of C. Sumatrana, when bruised, have the fragrance of a lemon leaf. C. Wildenowii, *W. and A.*, grows near Chingleput, and C. pubescens, *W. and A.*, in the Peninsula.—*Roxb.; Voigt.*

CLAVIJO. Don Ruy Gonzales de Clavijo was appointed, A.D. 1403, by Henry III. of Castile on an embassy to Timur. He quitted Constantinople 14th November, and passed through Armenia, Azerbijan, Teheran, Damghan in Khorasan, and reached Samarcand 8th September 1404; but Timur was too ill to receive them, and they returned 21st November by Trebizond and Genoa (3d January 1406); Clavijo reached Seville in March.

CLAY, Fireclay.

Chomar, ... HEB.	Sangi-i-dalam, . HIND.
Gil; Chikni mitti, HIND.	Tannab, white clay, MALAY.

Clay is a compound, or perhaps only a mixture, of the two earths, alumina and silica, with water.

Pipe-clay, Nāmam, TAMIL, Kharra, DUKH., is of a greyish-white colour, with an earthy fracture, and a smooth, greasy feel; it adheres to the tongue, and is very plastic, tenacious, and infusible. When burnt, it is of a cream colour, and is used for tobacco-pipes and white pottery. This is found in abundance in several parts of India; and Hindus employ it for making the distinguishing marks on their foreheads, and (moistened with water) it is often applied round the eye in certain cases of ophthalmia, as well as to parts of the body that are bruised.

Potter's clay is of various colours, chiefly reddish or grey, and becomes red when heated. Mixed with sand, it is formed into bricks and tiles. It is abundant in many parts of South-Eastern Asia.

Stourbridge clay resembles potter's clay to a certain extent, but is far more refractory in the fire. It is of a dark colour, owing probably to the presence of carbonaceous matter. It is extensively used in making crucibles, glass pots, etc.

Brick-clay or *loam*, abundant in S.E. Asia, varies greatly in appearance, texture, and composition; its colour depending on the proportion of oxide of iron contained in it.

Porcelain clay, the kaolin of China, is very abundant in S.E. India, produced by the decomposition of felspar, and of binary granite.

Fireclays are procurable at Streepermatoor, Tripasoor, Chingleput, Metapolliam, and Cuddapah; indeed, are very common in many parts of India, and bricks can be made that resist the action of great heat. A clay found at Beypore, 20 to 30 feet below the surface, is used for firebricks and for lining furnaces.

Unctuous clay is excavated from a pit near Kolat'h in large quantities, and exported as an article of commerce, giving a royalty of Rs. 1500 yearly. It is used chiefly to free the skin and hair from impurities; and the Cutchi ladies are said to eat it to improve their complexions. The clay used for making pottery in Sind is obtained from situations washed over by the Indus river, 10 feet under ground. It is reduced to a fine powder, and soaked in water for 24 hours; after which it is kneaded with the hands and feet, and when it becomes dough-like, it is divided into lumps of the required shape.—*Tomlinson; Drs. Mason and Hunter; Tod's Rajasthan*, ii. p. 203.

CLEAN and Unclean, terms often occurring in Scripture, as in Leviticus xi.–xv., have reference to unclean creatures, unclean persons, and personal and ceremonial uncleanness. As in Lev. xii. 2, after childbirth a Brahman mother is unclean for eleven days, a princess sixteen, merchant's wife seventy-one, and a Vellala Sudra thirty-one days. As with the Hebrew women, the Hindu mother in her days of uncleanness cannot touch any hallowed thing nor any domestic article. When the days of her purification are over, she takes or sends an offering to the temple. In the matter of clean and unclean things and persons, Mahomedans follow the Mosaic law.

CLEARING NUT. The ripe seeds of Strychnos potatorum are dried and sold in every market in India to clear muddy water. Natives of India never drink clear well water if they can get pond or river water, which is always more or less muddy. One of the seeds is rubbed very hard for a minute or two round the inside of the vessel containing the water, which is generally an unglazed earthen one, and the water left to settle; in a very short time the impurities fall to the bottom, leaving the water clear and perfectly wholesome.—*Roxburgh.*

CLEAVELAND, AUGUSTUS, a Bengal civil servant, who in a brief space won over the wild races near Rajmahal. He died while still young; and the Government of India decreed a monument to his memory at Bhagulpur, with the following inscription:—To the memory of Augustus Cleaveland, Esq., late collector of the districts of Bhagulpur and Rajmahal, who, without bloodshed or the terrors of authority, employing only the means of conciliation, confidence, and benevolence, attempted and accomplished the entire subjection of the lawless and savage inhabitants of the jungleterry of Rajmahal, who had long infested the neighbouring lands by their predatory incursions; inspired them with a taste for the arts of civilised life, and attached them to the British Government by a conquest over their minds, the most permanent, as the most rational mode of dominion; the Governor-General and Council of Bengal, in honour of his character and for example to others, have ordered this monument to be erected. He departed this life on the 13th day of January 1784, aged 29.—*Tr. of Hind.* i. p. 101.

CLEGHORN, HUGH, M.D., a medical officer of the Madras army; a learned botanist, contributor to scientific journals of articles on botanical subjects; Conservator of Forests at Madras and Northern India, founder of the Indian Forest Department. He wrote on the Hedge Plants of India, and the circumstances which adapt them for special purposes in particular localities, Rep. Brit. Ass. 1850; on the Grass Cloth of India, ibid. 112; on the Physical Effects of the Destruction of Tropical Forests, ibid. 1851, London Athenæum 1851, p. 781; also on the Forests and Gardens of Southern India; in 1864, upon the Forests of the Panjab and the Western Himalaya; and the article Forests in the Encyclopædia Britannica.

CLEIDION JAVANICUM. *Bl.*

Lasiostyles salicifolia, *Presl.* | Rottlera urandra, *Dalz.*

This middling-sized glabrous tree is common in the moist forests on the Animallays, elevation 2000 to 3000 feet, Travancore below Ghats, in the western forests of the Peninsula, Ceylon, Bengal, Burma, Java, etc.; timber hard, and good for building purposes.—*Beddome, Fl. Sylv.* p. 272.

CLEMATIDÆ. The name is derived from Clema, a vine branch, from the climbing properties of the family. The tribe is acrid and poisonous; the leaves and fresh stem, if bruised and applied to the skin, cause vesication. Griffith notices the virgin's bower in the Tenasserim Provinces, with simple fleshy leaves. C. Gauriana is abundant among the ruins of Gaur. It forms, with Porana paniculata, extensive lovely festoons. It is the Moriel, the Indian traveller's joy; is scandent and perennial. It grows all over India, from Dindigul and the Neilgherries up to Dehra Doon, along the foot of the Himalaya. Its flowers are white at the close of the rains, and give out a very strong perfume. It is a hardy plant, and grows in any soil. C. grata, Biliri, HIND., is a plant of Kaghan and Nepal, and has small yellowish fragrant flowers; C. florida is of Japan. In France the Clematis vitalba is used by mendicants to cause artificial sores for the furtherance of their impostures. In Cochin-China, according to Loureiro, the C. Sinensis is used as a diuretic and diaphoretic. At the Mauritius, the C. Mauritiana is employed to blister the cheek for the relief of toothache. C. Wightiana, *W. and A.*, is scandent, perennial, with very soft villous leaves, coarsely serrated. It also is called Moriel, and grows common at Mahabaleshwar and the adjoining ghats, flowering after the rains. Wallich's C. grata, *Asiat. Pl.* t. 98, much resembles it, and is perhaps identical. Hedges and thickets where these plants grow have the appearance of being covered with hoar-frost, from the white feathery tails of the seeds. They are very ornamental, and worthy of a place in gardens for trellis work.—*Roxb.; Gr. Cat.; Riddell; Mason*, p. 671.

CLEMATIS VITALBA? *Smith*, the Tung-tsau or Muh-t'ung of the Chinese, is a climbing plant of Shan-si, Shen-si, China, has a yellow bitter wood, and vascular tissue arranged in plates passing from the centre to the circumference, and open enough to allow air to be blown through. The wood, root, and fruit are used medicinally.—*Smith.*

CLEODORA, a luminous mollusc, with a vitreous shell.

CLEOME, a genus of plants belonging to the Capparidaceæ or caper tribe. Species formerly placed under this genus have been transferred to the genera Polanisia and Gynandropsis. C. monophylla, *Linn.*, the C. cordata, *D. C.*, grows in Ceylon and the Peninsula, and has small, pale, rose-coloured flowers.—*Roxb.; Linn.; D. C.*

CLEOPATRA'S NEEDLE, a monolith, so called by the British; by the native ciceroni it was called Massallat-ul-Firaun, Pharaoh's packing needle. It was granted to the British nation, and in 1878 was brought to London, and erected on the left bank of the Thames.—*Burton's Mecca.*

CLEOPATRIS, an ancient town near the modern Suez.

CLEPSYDRA, the Ghatka-patra of the Mahratta race. A hollow vessel for measuring time. It has an aperture in it, and when placed in water the vessel gradually fills and sinks, and the final submergement indicates the measure of time.

CLERODENDRON, a genus of plants belonging to the Verbenaceæ. One species in the Terai forms a large shrub beneath every tree, generally intermixed with ferns, as polypodium, pteris, and goniopteris, and its sweet odour is borne far through the air. Clerodendron leaves, bruised, are used to kill vermin, fly-blows, etc., in cattle, and the twigs form toothpicks. Its flowers are presented to Siva (Mahadeo), milk, honey, flowers, fruit (ambrosia), etc. being offered to the pacific gods, as Vishnu, Krishna, etc.; while Mudar (Calotropis asclepias), Bhang, Cannabis sativa, Datura, flesh, blood, and spirituous liquids are offered to Siva, Durga, Kali, and other destroying deities. The Burmese cultivate a fragrant double clerodendron. One species, supposed by Dr. Stewart to be C. infortunatum, *L.*, called Kali basuti on the Beas, occurs in the Siwalik tract, and occasionally in the plains, and is probably the one

that Edgeworth mentions as being used in the Ambala tract to give fire by friction.—*Mason; Hooker, Him. Jour.* i. p. 387; *Dr. J. L. Stewart.*

CLERODENDRON INERME. *Gærtn.*

Volkameria inermis, *Linn.*

Ban juen, . . . BENG.	Nalla kupi, . . . TEL.
Sang-kupi, . . . DUKH.	Pisangi, Pisingha, . ,,
Nir-notsjil, . . MALEAL.	Eru-pichcha, . . . ,,
Sangam kupi, . . TAM.	

A plant of India, China, the Moluccas, and N. Holland.

CLERODENDRON INFORTUNATUM. *Linn.*

Volkameria infortunata, *R.*	C. viscosum, *Vent.*
Bhant, ... BENG.	Barangi, . . . PANJAB.
Peragoo, . . MALEAL.	Bokada, ... TEL.

A cheap and useful substitute for chiretta as a tonic and antiperiodic (?). The fresh juice of the leaves is given as an anthelmintic, also as a bitter tonic, in the malarious fevers of children of India. The bark is used by Indian and Arabian physicians. —*Beng. Pharm.; Honigberger.*

CLERODENDRON NUTANS. *Wall.*

Gan-yan-pa-too, ... BURM.

The Karen mountain glens of Tavoy and Mergui are embellished with the elegant flowering nodding clerodendron. The flowers are tinged with rose, but nearly white, growing in long panicles at the extremities of the branches, from which they make a graceful curve, and hang down perpendicularly from ten to fifteen inches, like an inverted cone, so that the soft green foliage seems canopied with rosy-white veils. It grows in Sylhet, blooms in the dry season, and rarely exceeds ten feet in height.—*Mason; Voigt.*

CLERODENDRON PHLOMOIDES. *Linn.*

Volkameria multiflora, *Burm.*

Taludala, ... TAM. | Tekkali, Tilaka, . . TEL.

Grows in the Dekhan, Coromandel, Bengal, and Lower Kamaon.

CLERODENDRON SERRATUM. *Blume.*

C. macrophyllum, *Sims.*	Volkameria serrata, *Linn.*
Jaru teka, . . MALEAL.	Brahmari mari, . . TEL.
Chiru dekku, . . TAM.	

Grows in Salsette above the Bombay ghats, in Nepal, Morung mountains. The flowers and leaves are said to be eaten as greens; but in the northern Circars the root is known as Ganta-baringa, and is largely exported for medicinal purposes, being used for febrile and catarrhal affections. The leaves and seeds are also used medicinally.

CLERODENDRON SIPHONANTHUS. *Br.*

Siphonanthus Indica, *Linn.*	Arni, . . HIND. of BEAS.
Arnah, ... HIND.	Dawa-i-mubarak, . PERS.

Grows in both Peninsulas of India, in Bengal and Sylhet. Its root and leaves are officinal; the Persian name means the blessed medicine. It is slightly bitter and astringent; yields resin. Employed in syphilitic rheumatism.—*Stewart; Voigt.*

CLERODENDRON SQUAMATUM.

Volkameria Kæmpferiana, *Jacq.*

Scarlet clerodendron. | Bu-gyee-nee, . . BURM.

The Burmese gardens are ornamented with this species, which bears a large cone of superb scarlet flowers. Although said to be originally from China, it appears to be naturalized in Burma.—*Mason.*

CLERODENDRON VISCOSUM. *Vent.*

C. infortunatum, *Linn.*	Volkameria infortunata,
C. infortunata, *Roxb.*	*Roxb.*
Bhant, ... BENG.	Bokada, ... TEL.
Bu ghyee-phyoo, . BURM.	Gurrapu Gatte aku, ,,
Peragu, . . . MALEAL.	Manduka-bramhi, . ,,
Saraswati aku, . TEL.	

Grows in both the Indian Peninsulas, also in Bengal and Oudh.

CLEYERA GYMNANTHERA. *W. and R.* A large tree of the Neilgherry hills, timber of a reddish colour, strong and durable.—*Drury.*

CLIMATE OF INDIA. The Hindu races familiar with the tropical countries in which they dwell, use 'water' as the term for describing the effects of a climate on health. In this sense it is the salubrity of a locality that is alluded to. Mahomedans of Asia treat of seven climates, the Haft aklim. This applies to the northern hemisphere, which they partition with zones of various breadth from east to west. When alluding to the salubrity of a locality, the Mahomedans of India and Persia use the words Ab-o-Howa, water and air. In Hindustan the people usually arrange the year into three periods, the Choumasa or Bark'ha, which is the rainy season, of four months' duration; after which is the Seeala, or Jara, or Mohasa, the cold season; followed by the Dhoop-kala or K'hursa, or hot season. This division indicates generally the course of the seasons in India, though in one locality the rains or the hot or cold seasons may be somewhat more prolonged. The primary divisions of continental India are four:—Hindustan, including in which term the whole Peninsula of India, and the Gangetic plain to the base of the Himalaya. 2. The Himalaya, a mountain chain which rises abruptly from the Gangetic plain, and is connected with a still loftier mountain mass (of Tibet) to the north, and beyond India. 3. Eastern India ultra Gangem, including native and British Burma and the Malay Peninsula. 4. Afghanistan. These divisions are marked out by great mountain barriers and by the ocean. The Himalaya mountains on the north are nowhere under 15,000 feet, usually exceed 17,000 and 18,000 feet, and rise in isolated peaks or groups of peaks to 21,000 and to 28,000 feet.

From the western extremity of the Himalaya, the Afghan mountains descend parallel with the Indus, with a gradually decreasing elevation from above 15,000 feet to the level of the ocean at the Arabian Sea. Throughout Afghanistan the climate is excessive. The cold of the winter is intense, the spring is damp and raw, and the summer, during which hot west winds prevail, is intensely hot at all elevations. The general aspect of the whole of Afghanistan is that of mountains with broad flat valleys. The crops are chiefly wheat and barley, even up to 10,000 feet elevation. Rice is cultivated in great quantity at Jalalabad 2000 feet, at Kābul 6400 feet, and to a considerable extent at Ghazni, 7730 feet. Poplars, willows, and date-palm trees are extensively planted, as well as mulberry, walnut, apricot, apple, pear, and peach trees, and also the Elæagnus orientalis, which bears an eatable fruit. The vine abounds as in all warm and dry temperate climates. The majority of the Afghan and Tibetan plants are also on the one hand natives respectively of the Caspian steppes and N. Persia, and of Siberia on the other.

The date is cultivated in Baluchistan up to 4500 feet; and a dwarf palm, Chamærops Ritchieana of Griffith, perhaps identical with the Chamærops humilis of Europe, occurs abundantly in many places, but with a somewhat local distribution.

The Burma and Malayan mountains, being given off from the snowclad mountains of East Tibet,

run to the south, and, though rapidly diminishing in elevation, are continued almost to the equator. The mean temperature of the Malay Peninsula is probably about 80° at the level of the sea, and in its general humidity it also approaches to uniformity; but dry and rainy weather are more distinctly separated in the northern countries than in the southern. The latter are not subject to the occasional violent rains and prolonged droughts which visit the former, and the former are not exposed to the frequent tracts of damp, foggy, rainy weather which are experienced in the latter. During the N.E. monsoon, which ordinarily blows from November to March, the weather is generally settled in the Straits of Malacca, and N. and N.E. winds prevail, particularly on the coast of the Peninsula, but are not of great strength save towards the northern end of the Straits. Breezes usually blow from the peninsular shore at night. The equable character of this season is attributable to the monsoon being broken by the mountains of the Peninsula, which stretch transversely to its direction.

The S.W. monsoon, which prevails from April to October, blows against the northern part of the west coast of both Peninsulas, and these consequently, in some measure, participate in the rainy climate which characterizes the eastern shore of the Bay of Bengal during this monsoon. Further south it is broken by the mountain belt of Sumatra, so that, in the Straits, land and sea breezes generally prevail in the vicinity of the coasts, and an equable climate is experienced. The Sumatra sides of the Straits, and the southern portion of the Peninsula, at night are exposed to occasional sudden squalls from the S.W., accompanied by lightning and heavy rains, called Sumatrans. North-westers are also experienced, but more rarely. They occur chiefly in the northern part of the Straits as far as the Arroas, but sometimes blow right through them to the Carimons. During this monsoon the east coast of the Peninsula, having a leeward exposure, and being, for the greater part of its length, protected by the double wall of the Sumatran and Peninsular ranges, is perfectly sheltered, and dry weather prevails.

The Aravalli mountains extend from Hansi and Dehli to Gujerat. The Vindhya chain stretches across the centre of Hindustan, from the Gulf of Cambay to the Ganges, and is three to four thousand feet high.

A peninsular chain, called the Western Ghats, extends from Cape Comorin to the Tapti river, for upwards of 900 miles running parallel to the coast line, and perpendicular to the direction of the monsoons. This chain divides the Peninsula into two distinct climates, of a narrow western one in Malabar and the Konkan, and a broad eastern one, in which are the Karnatic, Mysore, and the Dekhan, traversed by all the peninsular rivers.

The Travancore mountains present a striking analogy to the island of Ceylon. They are loftiest at the extreme north of the district, where they stretch east and west for sixty or seventy miles, separating the districts of Dindigul and Madura. Notwithstanding the perennial humidity, the rainfall at Courtallum is only 40 inches; on the hills around, however, it is doubtless much greater. The Pulney or Palnai mountains west of Dindigul, the Animallay south of Coimbatore, the Shevagherry mountains south-west of Madura, and the ranges near Courtallum, are all well known. The remarkable palm, Bentinckia, so common on its mountains, is, however, not known in Ceylon. The other palms are Caryota urens, an Areca, Phœnix farinifera, and one or two species of Calamus.

To the north of Coimbatore the peninsular chain rises abruptly to 8000 feet, as the Neilgherry range, and continues northward as the mountains of Coorg. The rainfall, which is great on the western coast, is less on the Neilgherries, being 100 inches at Dodabetta, and 46 inches at Ootacamund. Further north, in the Nagar district of Mysore, there are many rounded or table-topped hills 4000 to 5000 feet high, often cultivated to that height, and rising in some places to upwards of 6000 feet. The climate of the western part is very humid, and particularly so at the town of Nagar or Bednore, 4000 feet high, on a spur of the western chain, where inclement rain is said to last for nine months.

The S.W. monsoon comes from the southern ocean, and is loaded with vapour. It strikes on the W. coast of India, passes over the plains of Bengal, and strikes on the Khassya mountains and the whole length of the Himalaya, discharging itself in heavy rains. From April till August it blows from the east of south, in August S.S.E., and in September more easterly, lowering the temperature of Bengal and of the northern plains, though the plains of the Panjab continue excessively heated.

From the vernal till the autumnal equinox, the heat of a great part of India continues great; but after the autumnal equinox the great mass of the Himalaya becomes intensely cold, and the plains of India generally become cool. Where the north-east monsoon prevails, it is everywhere a land wind, except on the east coast of the Karnatic and in the Malayan Peninsula. In Malaya it blows over a great extent of sea, and is therefore very rainy; but at the Karnatic the width of sea is not great, so that the rainfall, though well marked, is less, and terminates long before the end of the monsoon, probably from the wind acquiring a more directly southerly direction, after the sun has reached the southern tropic.

The rainfall varies prodigiously in different parts of India, from almost none to six hundred inches; but the quantity affords no direct criterion of the humidity of any climate, for the atmosphere may be saturated with moisture without any precipitation taking place. Thus, while in Sikkim 1° for 300 feet is the proportion for elevations below 7000 feet, on the Neilgherry Hills it is about 1° for 340 feet, in Khassya 1° for 380 feet; and the elevations of Nagpur and Ambala produce no perceptible diminution in their mean temperature, which is as great as that which would normally be assigned to them were they at the level of the sea.

At Mahabaleshwar it amounts to 248 inches annually. In the Southern Konkan, especially in the Sawantwari district, the rains are as heavy as in Canara. At Bombay the rains last from June till the end of September, and the fall is only eighty inches, which is considerably less than at any point further south on the coast. At Tannah, however, the average fall is more than 100 inches. In the Himalaya, the truly temperate vegetation supersedes the sub-tropical above 4000 to 6000

feet, and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, humidity, and many local circumstances. In Ceylon and the Western Peninsula, whose mountains attain 9000 feet, and where considerable tracts are elevated above 6000 to 8000 feet, snow has never been known to fall. On the Khassya mountains, which attain 7000 feet, and where a great extent of surface is above 5000, snow seems to be unknown.

Sikkim occupies an intermediate position between Nepal and Bhutan, and unites the floras of Nepal, Bhutan, East Tibet, and the Khassya mountains, being hence, in a geographico-botanical point of view, one of the most important provinces in India, if not in all Asia. In Sikkim snow annually falls at about 6000 feet elevation, in Nepal at 5000 feet, in Kumaon and Garhwal at 4000, and in the extreme W. Himalaya, lower still.

East Tibet is an enormously elevated mountain mass, and many of the large rivers of Asia flow from it in several directions.

The Eastern Archipelago, from consisting of large islands separated by belts of sea, possesses a humid and equable climate; but the great continent of Australia, being a vast expanse of low land, becomes enormously heated when the sun is in the southern hemisphere, and presents extremes of climate. The common characters of Sind are great summer heat but little tempered by rain, great winter cold, a dry soil. Its flora resembles those of Egypt, Arabia, and the countries bordering on the Persian Gulf.—*Dr. Stocks; Journ. of the Ind. Archipelago*, ii., February 1848.

CLIMBING PLANTS are exceedingly numerous in the damp forests of India. At Tonglo, in Sikkim, at an elevation of several thousand feet, Dr. Hooker found great scandent trees twisting around the trunks of others, and strangling them; the latter gradually decay, leaving the sheath of climbers as one of the most remarkable vegetable phenomena of these mountains. These climbers belong to several orders, and may be roughly classified in two groups,—(1) Those whose stems merely twine, and by constricting certain parts of their support, induce death. (2) Those which form a network round the trunk by the coalescence of their lateral branches and aerial roots, etc.; these wholly envelope and often conceal the tree they enclose, whose branches appear rising far above those of its destroyer. To the first of these groups belong many natural orders, of which the most prominent are leguminosæ, ivies, hydrangea, vines, pothos, etc. The inosculating ones are almost all figs and Wightia; the latter is the most remarkable for its grasping roots.—*Hooker, Him. Journ.* i. p. 163.

CLISOBORA, now called also Muzanagar and Calisapura.

CLITORIA TERNATEA. *Linn.*

Niluparajita, . . BENG.	Dhanattar, . . . PUSHT.
Shwet Upurajita, . ,,	Nilaghiria; Khurne, SANSK.
Oung-mai-phyoo, . BURM.	Aparajita; Asphota, ,,
Kali zar? . . . DUKH.	Nilkata rodu, . . SINGH.
Khagin, Aparajita,	Karka-kantun, . . TAM.
Kowatheti, . . HIND.	Kara-kartan, . . ,,
Shlonga-kuspi, . . MAHR.	Tella dintena; Nalla
Shunku puspa, . MALEAL.	dintena, . . . TEL.

The most common varieties of this cultivated flowering plant are the blue and white. They blossom all the year round, and, being shrubby twining plants, are well suited for covering trellis work. They are of easy growth. Dr. O'Shaughnessy does not recommend its use in medicine. Its flower is sacred to Durga. A variety is C. cæruleoflora.—*Riddell; Hooker, Him. Jour.* ii. p. 291; *Mason; O'Sh.; Powell.*

CLIVE, ROBERT, LORD, a Madras civil servant, who became a great military commander, was Governor of Madras and of Bengal, and Commander-in-Chief of India. Amongst the many eminent men who have served and ruled in British India, he alone has been styled 'Great;' and whether his deeds as a military commander be considered, or his successes in the civil administration of India, posterity has conceded that title to him alone. He entered the service of the E. I. Co. in 1744 as a writer, but shortly afterwards obtained an ensign's commission. In September 1748 he distinguished himself as an ensign before Pondicherry, and again in August 1749 at Devicottah. In May 1751 he was present in the fight at Volcondah, and in July defeated the French at Condore. In 1751 he laid siege to Arcot, with only 120 Europeans and 200 natives; in August, took it. Arcot fort was invested by Chanda Sahib, with an army 4000 strong, but Clive withstood and repelled all assaults, and his opponents ultimately withdrew. This defence made a powerful impression on all the native races. In November he defeated Basin Rao at Arni; in December took the pagoda of Conjeveram; in 1752 he defeated the French and Chanda Sahib at Cauverypak, destroyed the town of Dupleix Fattehabad, defeated the French army, took Covelong, and commanded the land forces against Gheriah. In 1756, after the loss of Calcutta and the imprisonment by Suraj-ud-Dowla in the guard-room, since known as the Black Hole, he left Madras with 900 Europeans, recaptured Calcutta, and made peace. But war again broke out, and Clive with 3000 British and native soldiers defeated Suraj-ud-Dowla on the 23d June 1757 at Plassey, 40 miles south of Murshidabad. Mir Jafar was then declared subahdar of Bengal, Behar, and Orissa. Clive revisited Britain in 1760, with the rank of colonel. Mir Jafar was restored in 1763. Clive subsequently returned to India, corrected abuses in the government, obtained the dewani of Bengal, Behar, and Orissa, and assumed the civil and military government of the country, as Governor and Commander-in-Chief. His retrenchments caused a mutiny amongst the officers and men, which he quelled with severe measures. He returned to Britain in 1767, and at first was well received, but was subsequently impeached before Parliament, and only escaped trial by voluntary death in November 1774. In the ungrateful and final treatment by his country, his fate resembled those of La Bourdonnais, Dupleix, and Warren Hastings. Lord Clive was the territorial founder of British India. Warren Hastings reorganized every branch of the public service, created courts of justice, and reformed the revenue collections. Lord Clive's life has had several historians, amongst whom are Caraccioli and Malcolm.

Clive, Lord, Governor of Madras in 1801, was a relative. The descendant of Lord Clive's family is now styled Earl Powis in the peerage of Great Britain.—*Malleson; Orme.*

CLOAK. Many races in the south and east of Asia wear cloaks. That of Egypt is called burnoos. The cloaks of Afghanistan are the postin, postaki, postinchi, choga, and khosai; and the aba is worn in Arabia.

CLOCK.

Uuren; Uurwerken, DUT.	Orologgi; Oriuoli, . . IT.
Horologien; Horologes, FR.	Tschasii, ... RUS.
Uhren; Grosse-uhren, GER.	Relojes, ... SP.

The clocks to be seen in the south and east of Asia are wholly of European manufacture. Prior to their introduction, the clepsydra or water-clock was in general use. These were of copper, with a small aperture at the bottom, through which, when placed in water, the clepsydra filled and sank, the sinking marking an hour. The water-clock of the Malay sailors is half of a cocoanut shell, with a small hole, through which, when placed in a bucket, it fills and sinks in an hour. Pendulum clocks were invented about A.D. 1260. —*M'Culloch.*

CLOTHING. The materials used for clothing, and the forms of dress of the peoples of the south and east of Asia, differ according to the climate, the pursuits, and the customs of the races. Through a thousand years, seemingly, the south-eastern races continue to wear clothing similar to what their forefathers put on; but Andamanese live wholly without apparel, and Chinese dress in a very elaborate manner. Hindu men and women, until the middle of the 19th century, wore only cloths without seams; and even yet their women's bodice (choli) and the men's jacket (angrika) alone are sewed, the lower garment of both sexes being cloths which are wrapped round the limbs, and often as neatly so as sewn trousers. In this form Hindu clothing is not called clothes, but cloths. Most Hindus wear trousers when on horseback; but the prevailing Hindu custom illustrates Mark x. 50, where mention is made of the blind man throwing off his upper garment, which was doubtless a piece of cloth. It is not considered at all indelicate among the Hindu people for a man to appear naked from the head to the waist, and servants thus attired serve at the tables of poor Europeans. In Arabia, a coarse cloak of camel or goat's hair is generally worn, often as the sole attire. It is called an aba, and its material is cameline. Amongst men of the very humblest classes of Southern India, at work, the simple loin-cloth is the sole body clothing; but almost all have a sheet, or a cumbli, or coarse blanket of wool or hair, as a covering for warmth. The Nair women move about with the body uncovered down to the waist, as an indication of the correctness of their conduct. The women of the Patuah or Juanga, in the Denkenāl district of Orissa, also called Patra-Sauri or Leaf-Sauri, till 1871 wore a covering of a bunch of leaves, hanging from the waist, both in front and behind. Forest races in Travancore also wear leaves as covering. Hindu children, both boys and girls, up to three or four years of age, have no clothing; the Abor young women have a string of shell-shaped embossed bell-metal plates, and Miri women wear a small loin kilt made of cane. Throughout British India, however, almost every Hindu and Mahomedan woman, however humble in circumstances, is wholly covered, from the neck to the ankles, with choli and gown or trousers, or cloths of kinds. This seems to have been the practice from remote antiquity. In Vedic times the women seem to have dressed much like the present Rajputni. They had a gogra or petticoat, a kanchali or corset, and a do-patta or scarf. In the Rig Veda there is an allusion to Indrani's headdress as being of all forms, and several passages are indicative of considerable attention having been paid to personal decoration (Calcutta Review, No. 109, p. 30). Weaving is frequently alluded to in the Vedas. The Yajur Veda mentions gold cloth or brocade as in use for a counterpane. In the Ramayana are mentioned the wedding presents to Sita as consisting of woollen stuffs, fine silken vestments of different colours, princely ornaments, and sumptuous carriages. The Mahabharata mentions furs from the Hindu Kush, woollen shawls of the Abhira of Gujerat, cloths of the wool of sheep and goats, etc.; and weaving and dyeing are repeatedly mentioned in the Institutes of Menu.

The best representations of ancient costumes in India are the celebrated fresco paintings in the caves of Ajunta, some of which are still very perfect, and in the Buddhist caves of Ellora some paintings in a similar style had been executed. It is difficult to decide the date of these paintings, which represent scenes in Buddhist history; and the series may extend from the 1st or 2d century before Christ, to the 4th and 6th century of this era. In either case they are upwards of a thousand years old, and as such are of much interest.

One very large picture, covered with figures, represents the coronation of Sinhala, a Buddhist king. He is seated on a stool or chair, crowned with a tiara of the usual conventional form. Corn, as an emblem of plenty and fertility, is being poured over his shoulder by girls. He is naked from the throat to the waist. All the women are naked to the waist; some of them have the end of the cloth or sari thrown across the bosom, and passing over the left shoulder. Spearmen on foot and on horseback have short waist-cloths only.

In another large picture, full of figures, representing the introduction of Buddhism to Ceylon, and its establishment there, all the figures, male and female, are naked to the waist. Some have waist-cloths or kilts only, others have scarfs, or probably the ends of the dhoti, thrown over their shoulders. Female figures, in different attitudes around, are all naked, but have necklaces, ear-rings, and bracelets, and one a girdle of jewels round her loins.

Some writers have maintained that the ancient Hindus were ignorant of the art of preparing needle-made dresses. It has even been said that there is no word for tailor in the language of the Hindus; but there are two—one, tunnavaya, which applies to darning, and the sauchika, which applies to tailoring in general. The Rig Veda mentions needles and sewing, and the Ramayana and Mahabharata allude to dresses which could not have been made otherwise than with the aid of needles. In the ancient sculptures at Sanchi, Amraoti, and Orissa, several figures are dressed in tunics which required needles. Amongst these garments are discoverable what may be called the ancestors of the modern chapkan and jama. The dress differs so entirely from the chiton, the chlamys, the himation, and such other vestments as the soldiers of Alexander brought to India,

that they cannot be accepted as Indian modifications of the Grecian dress. In many ancient sculptures of Buddhist times, queens, princes, and ladies of the highest rank are represented without any garments; and it has been suggested that there prevailed either a conventional rule of art, such as has made the sculptors of Europe prefer the nude to the draped figure, or a prevailing desire to display the female contour in all its attractiveness, or the unskilfulness of early art, or the difficulty of chiselling drapery on such coarse materials as were ordinarily accessible in this country, or that a combination of some or all of those causes exercised a more potent influence on the action of the Indian artist than ethnic or social peculiarities in developing the human form in stone.

Allusion is made to 'saffron-tinted robes' and to 'red-dyed garments' in occasional passages of the early writings, but even these are comparatively rare as regards men, and there is little more in respect to women. In the drama of Vikram and Urvasi, written probably in the reign of Vikramaditya, B.C. 56, Puraravas, one of the characters, says of Urvasi, a nymph who has fainted,—

'Soft as the flower, the timid heart not soon
Foregoes its fears. The scarf that veils her bosom
Hides not its flutterings, and the panting breast
Seems as it felt the wreath of heavenly blossoms
Weigh too oppressively.'—Act i. Sc. 1.

Again,—

'In truth she pleases me: thus chastely robed
In modest white, her clustering tresses decked
With sacred flowers alone, her haughty mien
Exchanged for meek devotion. Thus arrayed,
She moves with heightened charms.'—Act iii. Sc. 2.

In the drama Mrichchakati, attributed to king Sudraka of Ujjain, who reigned, according to the traditional chronology, in the first century before the Christian era, and is certainly not later than the 2d century after Christ, Act iv. Sc. 2 says,—

'*Maitrena.* Pray who is that gentleman, dressed in silk raiment, glittering with rich ornaments, and rolling about as if his limbs were out of joint?
'*Attendant.* That is my lady's brother.
'*Maitrena.* And pray who is that lady dressed in flowered muslin?—a goodly person, truly,' etc.

The following passage, taken from the Uttara Rama Charitra, by the same author, affords an idea of the costume of a warrior race. Janaka, the father of Sita, the heroine, in describing the hero Rama, says,—

'You have rightly judged
His birth; for see, on either shoulder hangs
The martial quiver, and the feathery shafts
Blend with his curling locks. Below his breast,
Slight tinctured with the sacrificial ashes,
The deer-skin wraps his body, with the zone
Of Murva bound; the madder-tinted garb
Descending vests his limbs; the sacred rosary
Begirts his wrists; and in one hand he bears
The pipal staff, the other grasps the bow.
Arundati, whence comes he?'

The clothing of the Mahomedan races, who came from the north-west, has been of wool and of cotton, to suit the changing seasons, and the articles of dress were cut out and sewed in forms to fit the body. The Rajput and other martial races have always dressed similarly.

Most of the Hindu women of the present day appear in public, and at their numerous religious festivals opportunities for seeing their holiday clothing are numerous. On such occasions the wealth of the mercantile classes admits of much display. In Bombay, a brilliant and picturesque array of women drifts along the streets and ways. The large and almost bovine Banyan and Bhattia women roll heavily along, each plump foot and ankle loaded with several pounds' weight of silver. The slender, gold-tinted Purbhu women, with their hair tightly twisted, and a coronal of mogra flowers, have a shrinking grace and delicacy that is very attractive; and, barring the red Kashmir chadar, their costume is precisely that in which an artist would dress Sakuntala and her playfellows. The Marwari females, with skirts full of plaits, tinkling with hawk-bells, their eyes set in deep black paint, and the sari dragged over the brow so as to hang in front, are very curious figures, seldom pretty. Sūrati girls, with their drapery so tightly kilted as to show great sweeps of the round, brown limbs, smooth and shapely, that characterize those Venuses of the stable and kitchen, stride merrily along, frequently with a child on their rounded hips. There is a quaint expression of good-humour on their features, which have a comely ugliness unlike that of any other race. Then the trim little Malwen girls, who are already growing fairer and lighter in colour from their confinement in the cotton factories, sling quickly along with a saucy swing of their oscillant hips; and the longer-robed Ghāti, scarcely to be distinguished from women of the Marathi caste, go more demurely. The Brahman woman is best seen at Poona, Wye, and at Nasik. In Bombay she is scarcely distinguishable from Sonar, Sontar, and others. Those odd, gipsy-like wenches, the Wagri beggar women, each provided with a plump baby, carried in a tiny hammock slung on a stick, and handed to the spectator as if it were something to buy or to taste, are to be seen in numbers, sometimes twanging on a one-stringed sitar, but more often playing the tom-tom on their plump forms, with that frank simplicity of pantomime which is the supreme effort of Hindu eloquence, and the art of suiting the action to the word. Gosains, with their little stalls of shells, brass spoons, bells, and images. Everybody very happy, and all differently clad.

In the present day, before a Hindu puts on a new garment, he plucks a few threads out of it and offers them to different deities, and smears a corner with turmeric to avert the evil eye. The Cloth of a married Hindu woman has always a border of blue or red, or other colour. The dress of a Hindu widow is white.

Arab (men's) dress has remained almost the same during the lapse of centuries. Over the shirt, in winter or in cool weather, most persons wear a *sudeyri*, a short vest of cloth without sleeves; *kaftan* or kuftan of striped silk, of cotton or silk, descending to the ankles, with long sleeves extending a few inches beyond the finger-ends, but divided from a point a little above the wrist or about the midde of the forearm. The ordinary outer robe is a long cloth coat of any colour, called by the Egyptians *gibbeh*, but by the Turks *jubbeh*, the sleeves of which reach not quite to the wrist. Some persons also wear a *beneesh* or benish robe of cloth, with long sleeves, like those of the kuftan, but more ample. It is properly a robe of ceremony, and should be worn over the other cloth coat, but many persons wear it instead of

the gibbeh. The Farageeyeh robe nearly resembles the beneesh; it has very long sleeves, but these are not slit, and it is chiefly worn by men of the learned professions. In cold weather, a kind of black woollen cloak, called *abayeh*, is commonly worn. Sometimes this is drawn over the head. The abayeh is often of the brown and white striped kind.

In British India the ordinary articles of clothing of Hindu and Mahomedan women comprise *the bodice*, called choli, angia, kachuri, koortee, and kupissa; *the petticoat*, called lahunga, luhinga, ghagra, and peshgir; and the *sari*, or wrapping loin-cloth.

Men's clothing consists of—

Loin-cloth, dhoti or loongi;

Trousers, called paijama, izar, turwar, gurgi, and shalwar;

Jacket, *coat*, and *vest*, called anga, angarka, chapkan, dagla, jora, koorta, kuba, kufcha, mina, mirzai, jama, labada;

Skull-cap, topi, taj;

Head-dress, pagri, turban (sir-band), shumla or shawl turban, rumal or kerchief, dastar;

Kamrband or waist-belt, sash.

The women of Burma wear a neat cloth bodice, and, as an under garment, a cloth wrapped tightly round from the waist downwards; but so narrow that it opens at every step, and all the inner left thigh is seen.

Fabrics used for the clothing of the masses of the people of India are plain and striped dooria, mulmul, aghabani, and other figured fabrics have established themselves; the finest qualities of muslins must necessarily be confined to very rich purchasers.

Long cloths or panjams of various qualities were formerly manufactured to a great extent in the Northern Circars, as well as in other parts; the great proportion consisted of 14 panjam or cloths containing fourteen times 12 threads in the breadth, which varied according to local custom from 38 to 44 inches. 14 lbs. was considered the proper weight of such cloths, the length 36 cubits, half-lengths being exported under the denomination of salampores. The manufacture of the finer cloths, which went up to and even exceeded 50 panjam, has long been discontinued.

Other articles of dress of *women of Bombay* are the bungur-kuddee, chikhee, choli or khun, choonee or head-cloth, doorungu-pytanee, guj (covering for breast), guzzee or long robe, izarband, kempchunder (widows), kurch-chunderkulee, peshgir, paijama, saris of kinds, silaree.

In *Cutch*, the khombee, sadlo, for women; for men, pairahan, paijama, izarband.

Other articles of dress of the *men* of Bombay,—angarka, chaga, dhoti, izarband, koortah, labada (in Baluchistan), pairahan, paijama, turban, ujruk or coloured sheet (in Sind).

Men's Cloths are manufactured all over British India, and those of the Madura district have lace borders; they are sold as high as 70 rupees for a suit of two pieces. Conjeveram is noted for its silk-bordered cloths, which are sold for not more than 15 rupees a pair.

Women's Cloths of cotton form an article of manufacture in every district. Madras manufactures a nicely coloured women's cloth called oolloor sailay, sold for 7 rupees and upwards. Arnee is noted for its manufacture of a superior quality of white cotton cloths of various patterns. Those of Sydapet, in the outskirts of Madras, are of ordinary quality, and of different colours. Ganjam also fabricates a common sort, with a few of more value worked with lace borders, but not sold for more than 50 rupees.

Women's Silk Cloths.—The principal places for the manufacture of native female silk cloths are the towns of Benares, Berhampore, and Tanjore. Those of Benares are generally of superior quality, with rich lace borders, and they are sold at from 50 to 350 rupees or upwards. Berhampore cloths are wholly silk, but nicely finished. Tanjore cloths are also neatly finished, with nicely-worked borders, both of lace and silk, of various colours; they are sold at from 15 to 150 rupees.

Silk Cloths, called pethambaram, are chiefly brought from Benares and Nagpur; they are also made at the town of Combaconum. The Benares cloths are highly prized for their superior quality; they measure 12 by 2½ cubits a-piece; two pieces make one suit of an upper and under garment. Hindus wear these cloths during their devotions and holiday time. They are sold from 50 to 350 rupees, or even more. The silk fabrics of Combaconum are good, although not equal to those of Benares.

White Cloths were manufactured all over Southern India, but those of Manamadu, in the district of Trichinopoly, were very superior in quality, and used by the more respectable of the inhabitants as clothing, under the name of Manamadu sullah. That at Arnee, in the district of Chingleput, known as Arnee sullah, is of different quality.

Women's coloured cotton Cloths.—These coloured cotton cloths are largely made in the Madura district. They are of various sizes, with or without lace-worked borders. Those with lace vary in price from 15 to 200 rupees each; they are generally purchased by the wealthier natives, by whom they are highly prized. These fabrics are known in the market as vankey, thomboo, joonnady, and ambooresa, all of them lace-bordered.

Women's silk Cloths are made chiefly in Benares and Nagpur; but they are fabricated also at Berhampore, Tanjore, Combaconum, and Conjeveram, in the Madras Presidency. Those of Benares and of the Mahratta countries are celebrated for their superiority, and are highly prized for their lace borders; their size is 16 by 2¼ cubits, and they are sold at 50 to 300 rupees and upwards; those made at Berhampore, Tanjore, and Combaconum are not equal to the Benares cloths, but are well made, and sold at from 15 to 70 rupees each. The women's cloths of Tanjore and Madura manufacture, and men's head-cloths, also from Madura, will compete with the production of any other loom in the world.

Printed Cloths are worn occasionally, as in Berar and Bundelkhand, for sarees; and the ends and borders have peculiar local patterns. There is also a class of prints on coarse cloth, used for the skirts or petticoats of women of some of the humbler classes in Upper India; but the greatest demand for printed cloths is for palempores, or single quilts.

In the costlier Garment Cloths woven in India, the borders and ends are entirely of gold thread and silk, the former predominating. Many of the

saree or women's cloths, those made at Benares, Pytun, and Burhanpur, in Gujerat, at Narrainpet, and Dhanwarum, in the territory of His Highness the Nizam, at Yeokla in Kandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson or yellow, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of, or approach to, glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as any lady of Britain or France. Another exquisitely beautiful article of Indian costume for men and women, is the do-patta scarf, worn more frequently by Mahomedan women than Hindu, and by the latter only when they have adopted the Mahomedan lunga or petticoat; but invariably by men in dress costume. By women this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head; by men, across the chest only.

Do-pattas, especially those of Benares, are perhaps the most exquisitely beautiful and prized of all the ornamental fabrics of India; and it is quite impossible to describe the effects of gold and silver thread, of the most delicate and ductile description imaginable, woven in broad, rich borders, and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns, of the ribbon borders, or broad stripes. How such articles are woven with their exquisite finish and strength, fine as their quality is, in the rude handlooms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colours,—the creamy white, and shades of pink, yellow, green, mauve, violet, and blue, are clear yet subdued, and always accord with the thread used, and the style of ornamentation, whether in gold or silver, or both combined. Many are of more decided colours,—black, scarlet, and crimson, chocolate, dark green, and madder; but whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to its original beauty, at least to a very wearable condition. The do-pattas of Pytun, and indeed most others except Benares, are of a stronger fabric. Many of them are woven in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Dekhan,—not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares.

Scarfs are in use by every one,—plain muslins, or muslins with figured fields and borders without colour, plain fields of muslin with narrow edging of coloured silk or cotton (avoiding gold thread), and narrow ends. Such articles, called sehla in India, are in everyday use among millions of Hindus and Mahomedans, men and women. They are always open-textured muslins, and the quality ranges from very ordinary yarn to that of the finest Dacca fibres. The texture of the dhotees, sarees, and loongees manufactured in Britain and sent to India, is not that required by the people, nor what they are accustomed to. It is in general too close,—too much like calico, in fact,—which of course makes the garment hot, heavy in wear, and difficult to wash. Again, the surface becomes rough, and, as it is generally called, fuzzy in use, while the native fabric remains free.

Few native women of any class or degree wear white; if they do wear it, the dress has broad borders and ends. But all classes wear coloured cloths,—black, red, blue, occasionally orange and green, violet and grey. All through Western, Central, and Southern India, sarees are striped and checked in an infinite variety of patterns. Narrainpet, Dhanwar, and Muktul, in the Nizam's territories; Gudduk and Bettigerry in Dharwar; Kolhapur, Nasik, Yeokla, and many other manufacturing towns in the Dekhan; Arnee in the south, and elsewhere, send out articles of excellent texture, with beautifully-arranged colours and patterns, both in stripes and checks. For the costly and superb fabrics of cloths of gold and silver (kimkhab), and the classes of washing satins (mushroo and hemroo), even if European skill could imitate them by the handloom, it would be impossible to obtain the gold and silver thread unless it were imported from India. The native mode of making this thread is known, but the result achieved by the Indian workman is simply the effect of skilful delicate manipulation. The gold and silver cloths (kimkhab) are used for state dresses and trousers, the latter by men and women; and ladies of rank usually possess petticoats or skirts of these gorgeous fabrics. Mushroo and hemroo are not used for tunics, but for men's and women's trousers, and women's skirts; as also for covering bedding and pillows. They are very strong and durable fabrics, wash well, and preserve their colour, however long worn or roughly used; but they can hardly be compared with English satins, which, however, if more delicate in colour and texture, are unfitted for the purposes to which the Indian fabrics are applied. For example, a labada or dressing gown made of scarlet mushroo in 1842, had been washed over and over again, and subjected to all kinds of rough usage, yet the satin remained still unfrayed, and the colour and gloss as bright as ever. Many of the borders of loongees, dhotees, and sarees are like plain silk ribbons, in some instances corded or ribbed, in others flat. The saree, boonee, bafta, jore, ekpatta, gomcha, etc. of Dacca, have latterly been made of imported British yarn. Fabrics of a mixed texture of cotton and silk, are in Dacca designated by various names, as nowbuttee, kutan, roomee, apjoola, and lucka; and when embroidered with the needle, as many of them frequently are, they are called kusheeda. The silk used in their manufacture is the indigenous muga silk of Assam and Sylhet, but the

cotton thread employed was lately almost entirely British yarn, of qualities varying from Nos. 30 to 80. These cloths are made exclusively for the Jedda and Bussora markets, and a considerable stock is yearly imported in the Arab vessels that trade between Calcutta and these ports. Pilgrims, too, from the vicinity of Dacca, not unfrequently take an investment of them, which they dispose of at the great annual fair held at Meena, near Mecca. They are used by the Arabs chiefly for turbans and gowns. The golden colour of the muga silk gives to some of these cloths a rich lustrous appearance; pieces made of native-spun cotton threads and of the best kind of muga silk, are admired.

The export trade of the Madras Presidency in madapollams and long cloths has been annihilated by the goods laid down by the British manufacturer in all the bazars of India.

The dress of *Hindu* men is of white muslin or cotton cloth, and their upper coat is now generally sewed. The under garment for the lower part of the body, the *do-wati* or *dhoti*, is a loose unsewed wrapper or Cloth. Hindu women of all classes mostly wear unsewed Cloths of green, red, or yellow-coloured cotton, edged with silk or gold embroidery, and a bodice of cotton or silk.

The dress of the *Bhattia* men consists of a jama or tunic of white cloth or chintz, reaching to the knee; the kamrband or cincture, tied so high as to present no appearance of waist; trousers very loose, and in many folds, drawn tight at the ankle; and a turban, generally of a scarlet colour, rising conically full a foot from the head. A dagger, shield, and sword complete the dress. The Bhattiani wears a fine woollen brilliant red *gogra* or petticoat, and scarf thirty feet in width. They also wear the *chaori*, or rings of ivory or deer-horn, which cover their arms from the shoulder to the wrist, of value from sixteen to thirty-five rupees a set; and silver *kurri* (massive rings or anklets) are worn by all classes, who deny themselves the necessaries of life until they attain this ornament.

John xix. 23 says, 'Without seam, woven from the top throughout;' and the clothes of a Hindu, who is not employed in the service of Europeans or Muhammadans, are always without a seam; have neither buttons nor strings, being merely cloths wrapped round the upper and lower parts of the body. A Brahman, strict in his religious observances, would not on any account put on clothes which had been in the hands of a Muhammadan tailor.

The *angarkha* or undress coat, and the *jama* or dress coat, are worn only by men.

The *anga* is a sleeveless vest.

Buchhanee, in Dharwar, is commonly worn as a waist-cloth by children of respectable people; also worn by adults of the same class while sleeping. Price one rupee two annas.

Chādar is a sheet. A chadar made to the order of Kunde Rao, the Gaekwar of Baroda, for a covering of the tomb of Mahomed at Medina, cost a kror of rupees. It was composed entirely of inwrought pearls and precious stones, disposed in an arabesque pattern. The effect was highly harmonious.

Chanduse, a cotton scarf, coloured border and ends, used in Khyrpur.

The *Choli* or bodice of women is of silk or cotton, and is usually fastened in front. Many women of Gujerat also wear a gown. The choli is an under-jacket worn by women. The thans or choli pieces of Dharwar, of a description used by women working in the fields, cost three annas for each choli, or twelve annas the piece.

Cumbli are blankets of goats' hair or wool. Every labouring family in the Peninsula has them. They cost from one to three rupees.

Kamrbands are sashes worn by men. They are of cotton and of silk.

The *Dhotee*, a flowing cloth for the body, from the waist to the feet, is worn by men, and is generally bordered with red, blue, or green, like the toga prætexta (limbo purpureo circumdata). Dhotees are usually worn so as to fall over and cover the greater portion of the lower limbs. One of a coarse cotton, commonly worn by cultivators and labourers in the field, may cost about two rupees.

Izarband is of silk or cotton, and is a tie for trousers.

Khess, a chintz scarf in use in Hyderabad (Sind).

Labada, a dressing-gown.

Loongee, or scarf of cotton, of silk, and of silk and cotton, is worn by men. Where of silk, it is usually enriched with a border of gold and silver.

Mundasa, a cloth worn by the poorer classes in Dharwar; costs $1\frac{1}{4}$ rupees.

The *Paijama*, or trousers, is worn both by men and women.

Panchrangi of Dharwar has a warp of silk and weft of cotton, worn ordinarily by dancing women, not considered proper for respectable women; 1 than, 1 rupee 12 annas.

Panjee of Dharwar is a cloth used by well-to-do people to dry themselves after bathing, but also worn as a waist-cloth by poor people.

Patso of Burma is a cloth worn by men of all classes. In Akyab it is worn by the Mug race.

Pitambara means clothed in yellow garments. Hindu hermits, and many of the Hindu and Buddhist ascetics, are required to wear clothes dyed of an ochrey yellow.

The *Rumal* or kerchief, the *kamrband* or waist-belt, and the *do-patta* or sash, are men's garments.

Salendong, a silk scarf of Singapore.

Salimote, a silk scarf of Singapore.

Saree, the Hindu woman's lower cloth, costs from two rupees and upwards. Each woman generally has a new one once a year. It is often used also as an upper garment, in the form of a scarf for enveloping the person, one end being usually brought over the head as a covering. The saree, as used by women to cover the whole body, is the kalumma of Homer.

Selya, in the south of India, is a sheet or body covering in use amongst the poorer classes, cultivators, and labourers, wrapped round their shoulders and body when employed in the fields. Their usual cost is about $1\frac{1}{4}$ to $1\frac{3}{4}$ rupees. In Dharwar one is always presented to the bridegroom by the relations of the bride, together with a turban.

Turbans of all kinds are worn by Hindus and Mahomedans, and known as dastar, pagri,—turban being from the Persian words, Sir-band, head-binder. The Arabs and Turks call it Imamah. The other head-dresses are the rumal, the taj, and the topi. — *Ward, Hindus*, iii. 186; *Drs. Taylor and Watson, Ex. of* 1862; *Calcutta Review; Pioneer Newspaper.*

CLOTHS manufactured in India:—

Cotton fabrics of Bombay comprise the bafta, bochun, carpet, chadar, chael, chandni, choli, do-patta, dhota, dhoti, dungaree, dustoorkhana, horni, khes, khoji, khurwa a coarse red cloth, kurchar, loongee, mussoti, pagga, peshgir, phatka, pichoree, quilt or razai, rumal, saree, soussee, soot, soojunee, tablecloths, table napkins, towels, turbans.

Silk fabrics of Bombay are,—bochun, bulbuls, cholepun, doorungee-pytanee, gul-badan, gown pieces, hemroo, karrah, katchia, khun, khudruf, kootnee, kud, kunawaz, meenia-sari, mukhmul, petambar-zanani, petambar-mardana, paijama, rowa, rumal, senna, shalwar, tasta, uddrussa, yeolah.

Silk and cotton made fabrics of Bombay are the dariyai-sari, ghaut, khunjree, lake, lake-meenia, loongi, luppa, with silk and gold and silver embroidery, mukhtiar-khunee, meenia-ghaut, mushroo.

Bhangarah, a very coarse and strong sackcloth, made from the inner bark of trees, and much used in Nepal as grain sacks.

Bhim Poga of Nepal, a fabric, half woollen, half cotton.

Changa, a coarse cotton cloth manufactured by the natives of Newar.

Chintz (Chinti, HIND., a drop) or pintado, printed calicoes.

Dalmiyan, or net.

Dariyai, plain silk.

Deogun, a coarse cloth of silk, with gilt tissue.

Elaicha, a fabric of mixed cotton and silk.

Susi and *Khesi*, striped calico, woven with coloured thread. The silken *khesi* is also edged with gold or silver.

Kashidas-tussur, embroidered muslins made at Dacca, and largely sold in India, Persia, Arabia, Egypt, and Turkey.

Kassa, a Newar imitation of the Indian malmal, used for turbans.

Khadi, a coarse cotton cloth.

Kurchar, felt for pillows.

Kimkhab, or gold and silver brocaded silk; a silk brocade. The kimkhab brocades are distinguished as suneri or golden; ruperi or silvery; chand-tara, moon and starry; dup-chan, sunshine and shade; maz-char, ripples of silver; palimtar-akshi, pigeons' eyes; bulbul-chasm, nightingale eyes; mohr-gala, peacock's neck; par-i-taos, peacocks' feathers.

Malida, red woollen cloth, woven like shawl cloth.

Mushroo, a fabric of cotton mixed with silk, with a cotton warp or back, and woof of soft silk in a striped pattern, having the lustre of satin or atlas.

Muslins, the finest or malmal-i-khas of Dacca were known as ab-rawan, running water; baft-howa, woven air; shabnam, evening dew.

Malmal-i-khas means special (king's) muslin.
Doria or striped muslin.
Charkhana or chequered muslin.
Jamdani or figured muslin.
Chikan or embroidered muslin.

Mundel, a cloth of cotton and gold, obtainable in Kutch; costs Rs. 8·4·11.

Nimbu, a woollen pile fabric.

Palampore (palang-posh), or bed-covers.

Panchan, white woollen cloth.

Pankhi, woollen twill.

Paranda, a silk material used as a hair ornament in Lahore.

Pashmina, or woollen fabrics.

Punika of Nepal, an imitation of the Dinapur tablecloth.

Purbi-khadi, a coarse cotton cloth manufactured by the Khassya hill tribes (Purbi, eastern).

Putasi, a blue and white check worn by Newar women.

Sianah, a woollen stuff of Nepal.

Sufi is the striped (gulbadan) silks, called also Shuja khani of Bahawulpur. They differ from mushroo in having no satiny lustre, and look like a glazed calico. They can scarcely be distinguished from sufi, and are glazed with a mucilaginous emulsion of quince seed. Mushroo and sufi are made plain, striped, and figured.

Tafta, a fabric of twisted thread.

Tappu, coarse cotton cloth of Nepal.

Tasar, *Tussar*, *Tassah*, eria and munga, are made of wild silks.

Tusa, a coarse woollen fabric.

CLOVE, Mother clove.

Polang, . . . MALAY.	Ibu-changke, . MALAY.

'Mother clove' means seed-clove, clove fruits that have been allowed to grow to full maturity.

CLOVE BARK of eastern commerce is the bark of several species of cinnamon trees.

CLOVE OIL.

Huile de girofle, . FR.	Warala-tel, . . . SINGH.
Lavang ka tel, . . HIND.	Lavangoo tailam, . TAM.
Oleo de garafano, . IT.	Kirambu tailam, . ,,
Minak-changke, MALAY.	Lawanga tailamu, . TEL.

This is obtained from cloves by distillation. When new it is of a pale reddish-brown colour, which becomes darker by age. It is extremely hot and fiery, and sinks in water. The smell is agreeable, and not unlike that of koolfa, or Malabar cassia oil. The kind met with in Bombay is chiefly made at Surat.—*Faulkner*.

CLOVE PEPPER. Allspice, clove-pepper, or pimento, are Pimenta vulgaris berries, gathered while still green and dried in the sun; this well-known spice is also called sometimes Jamaica pepper, from its cultivation being chiefly confined to that island. The ripe berries, when dry, are almost devoid of flavour.

CLOVER, or trefoil, a name given to several species of the genus Trifolium grown in Europe. In India, a species of Hedysarum supplies the place of the species of Trifolium and Medicago in Europe.

CLOVER SEED.

Klaver-zaad, . . . DUT.	Trifolium, ... LAT.
Semence de trefle, . FR.	Trilistnik, ... RUS.
Kleesaat, Klee, . . GER.	Trebol, ... SP.
Trifoglio, ... IT.	

Red and white clover seed, Trifolium pratense, *L.*, and T. repens, *L.* Upwards of 155,000 cwts. were imported in 1870. Frequently adulterated with old and dead or kiln-dried seed, and with the cheaper hop clover, T. procumbens, *L.*, etc.

CLOVES. Clavus, LAT.

Karnful, ... ARAB.	Clous de girofle, . . FR.
Buwah-luvung, . BALI.	Girofles, ... ,,
Lang-yen-bwen, . BURM.	Naglein, ... GER.
Theng-hio; Theng-ki, CHIN.	Gewurznelken, . . ,,
Ting-tsze, Ki-cheh, ,,	Luvung, ... GUJ.
Ting-hiang, . . . ,,	Long, ... HIND.
Kruid-nagelen, . . DUT.	Garofani, ... IT.
Nageln-boomen, . ,,	Chiovi di Garoffoli, . ,,

Woh-kayu-lawang,	JAV.	Lavanga,	SANSK.
Chenki, Chankee,	MALAY.	Warrala,	SINGH.
Bungalawang,	,,	Clavillos,	SP.
Bunga changke,	,,	Clavo de especia,	,,
Mehue, Meykhek,	PERS.	Lavangam,	TAM.
Cravos da India,	PORT.	Lawangama,	TEL.
Gwosdika,	RUS.		

In a law passed by Aurelian the First, in A.D. 175 and 180, cloves are mentioned. The cloves of commerce are the unopened flower-buds of the clove tree, Caryophyllus aromaticus, which was originally a native of the Moluccas and of China, but is now cultivated in Penang, Sumatra, S. India, Bourbon, Zanzibar, Guiana, E. Africa, and the West India Islands. The clove tree may be seen in a few gardens on the Tenasserim coast, and in Travancore, Tinnevelly, Canara, Cochin, and near Oodagherry, 1800 feet above the sea. They have the form of a nail, and when examined are seen to consist of the tubular calyx with a roundish projection, formed by the unopened petals. The flowers, produced in branched peduncles at the extremity of the bough, are of a delicate peach colour. The elongated calyx, forming the seed-vessel, first changes to yellow, and when ripe to red, which is from October to December, and in this state it is fit to gather. If left for a few weeks longer on the trees, they expand, and become what are termed 'mother cloves,' fit only for seed or for candying. In the gathering, the ground under the tree is first swept clean, or else a mat or cloth is spread. The nearest clusters are taken off with the hand, and the more distant by the aid of crooked sticks. Great care is taken not to injure the tree. The cloves are then prepared for shipment by smoking them on hurdles near a slow wood fire, to give them a brown colour, after which they are further dried in the sun. They may then be cut off from the flower branches with the nails, and will be found to be purple-coloured within, and fit to be baled for the European market. In some places they are scalded in hot water before being smoked, but this is not common. The tree begins to bear from the seventh to the fifteenth year, and is fruitful till it is 75 or 150 years old. The annual yield of a good tree is about 4½ lbs.; and the annual crop from Amboyna, Haruku, Saparna, and Nasalaut, was 350,000 lbs. of Amsterdam (Bikmore, p. 154). The companions of Magellan loaded two ships with cloves at the single island of Tidor, after a stay, from their arrival to their departure, of no more than forty-four days. The Portuguese made their first appearance in the parent country of cloves in the year 1512, and, until expelled by the Dutch in 1605, they had the principal share of the clove trade for 93 years, a period of rapine, violence, and bigotry. The main object of the Dutch was the exclusive monopoly of spices, by the expulsion of all rivals. They extirpated the clove trees in their native islands, and endeavoured to limit their growth to the five Amboyna islands, in which the clove is an exotic. Periodical expeditions for the extirpation of young plants, that might spontaneously have sprung up, or been propagated by birds, formed part of that system. The periodical exterminating expeditions became merely nominal after the year 1820, and have been discontinued. —*M. E. J. R.; Bikmore, Archip.* p. 115; *Simmonds, Com. Prod.; Crawfurd's Dictionary; M'Culloch's Dictionary.*

CLUB-WOOD of Tahiti, Casuarina muricata.

CLUPEIDÆ, a family of fishes of the order Physostomi, placed by Cuvier between the Salmonidæ and the Gadidæ, and they form the fifth and last division of his section 'Malacopterygiens Abdominaux.' The family contains the following eighteen genera, the number of species of which are indicated :—

Cetengraulis,	2	Pristigaster,	7
Engraulis,	37	Chirocentrodon,	1
Coilia,	10	Spratelloides,	3
Chatoessus,	10	Dussumiera,	2
Clupea,	61	Etrumeus,	2
Clupeoides,	3	Albula,	1
Pellonula,	1	Elops,	2
Clupeichthys,	1	Megalops,	2
Pellona,	14	Chanos,	2

There are about 100 recognised and doubtful species of clupea. They inhabit every part of the globe, and several are found in the seas of south and east of Asia. One species in Ceylon is called the poisonous sprat. C. pilchardus, the pilchard, frequents the coast of Japan in the latter part of the month of June and commencement of July. They are taken by the seine nets. When fresh, they are sweet and nutritious; but they are chiefly valued for their oil, to obtain which they are piled up in heaps for twenty-four hours, are then boiled for some time in sufficient water to prevent their burning, then ladled into strong square presses, and the lever action of a lid presses out the oil. The oil after cleaning is used for lamps, and the refuse for manure.

CLUPEONIA PERFORATA, *Cantor*, inhabits the seas of Penang, Malayan Peninsula, Singapore, and Sumatra. Total length, 5¾ inches. They are of delicate flavour, and pass in the Straits Settlements as sardines, in imitation of which they are sometimes preserved in oil. The general form, the yellow dorsal fin with a small black spot, give this species a certain resemblance to Meletta venenosa (C. et V. xx. 377). In 1822, at Sumatra, great numbers of what was supposed to be this species, presented the unusual appearance of having red eyes. Many natives, having eaten these fishes, were suddenly attacked with violent vomiting, which, in cases where remedies were not immediately applied, was known within an hour to terminate fatally. At the same time, the fishes with the ordinary silvery eyes were, as formerly, eaten with impunity. This phenomenon recurred at Bencoolen during the seasons of 1823 and 1825, but not of 1824. It was surmised that the poisonous fishes had fed on a gelatinous substance which at that season exudes from the beautifully-coloured coral reefs on that part of the coast of Sumatra. It is, however, more probable that the poisonous fishes were shoals of Meletta venenosa, an inhabitant of the Seychelles and the neighbouring seas, which happened in those seasons to visit Sumatra. M. Valenciennes describes this fish as being poisonous, and producing effects as noted above. In the Straits of Malacca, Clupeonia perforata has never been known to produce bad effects.—*Cantor.*

CLUSIACEÆ, one of the orders of plants according to the natural system of Lindley. The genera, Garcinia, Mammea, Mesua, Calophyllum, and Kayea are now usually arranged under Garciniaceæ. The genus Clusia was named after Charles de l'Ecluse, or Clusius, one of the most celebrated botanists of the 16th century. C.

flava, the yellow-flowered balsam tree, the mountain mango or wild mango of Jamaica, might well be introduced into India.

CLUYTIA COLLINA. *R.* Amanoa collina, *Baill.*

Madara-gass, . . SINGH.	Vodisa, ... TEL.
Woadugu maram, . TAM.	Kurseea, ... ,,
Wodisha, Kadishen, TEL.	Kursee, ... ,,

A small tree of the Euphorbiaceæ, of Ceylon and the Peninsula of India, frequent in the Walliar jungles of Coimbatore; flowers in the hot season; seeds ripen in December and January. Bark or outer crust of the capsule said to be exceedingly poisonous. Wood red-coloured, exceedingly hard and durable, but of small size. Notwithstanding its hardness, being very even-grained, it is easily worked, and is, from its fine close grain, a pretty wood.—*Roxb.; Mr. Rohde's MSS.; Wight; O'Sh.; Thw.*

CLUYTIA OBLONGIFOLIA. *Roxb.* A tree of Assam and Sylhet; wood hard and durable.—*Roxb.; Voigt.*

CLUYTIA PATULA. *Roxb.*

Amanoa Indica, *W. Ic.*	Cleistanthus patulus, *Muller.*
Bridelia patula, *Hook.*	
Pala, ... TAM.	Jegura, ... TEL.

A tree of Southern India; grows to a large size, and logs measuring four to five feet in girth are purchasable in the market. The wood is pale red, the colour of dried rose-leaves, hard and durable, very brittle, sp. gr. 75·8, and when broken the fracture seldom shows a fibre. It is used for rulers, knobs, handles for tools, such as chisels, etc., and in turnery. It flowers during the hot season.—*Roxb.; Mr. Rohde's MSS.; Voigt.*

CLYDE, LORD, longer known as Sir Colin Campbell, whom Sir William Napier styled the war-bred Sir Colin. He was a military officer of the British army, and commenced his career as a volunteer with the 9th Regiment of infantry in the British army, which he accompanied to Portugal. He afterwards served in Holland at the disastrous expedition to Walcheren, and again in the Peninsula under Sir John Moore, and he was present at Vimiera, Corunna, Barossa, Vittoria, and San Sebastian, at the siege of which he led the storming party, where he was again severely wounded, having been previously wounded at the passage of the Bidassoa. He was in the expedition of 1814 and 1815 to America. In 1842 he served in the war of China. In 1848 and 1849 in the Panjab campaign, at the passage of the Chenab, at Chillianwalla and Gujerat, and he was engaged against the hill tribes up to 1852. In the war in the Crimea he commanded the Highland Brigade, and to him was due the success of Alma; and he preserved Balaclava against an attack of the Russian forces. The triumphal termination of his long career of war, however, was in India, to which he was sent in 1857, when the Bengal native army revolted, and much of Northern India was in rebellion. He gathered troops about him until he could advance, and he did so without a single check. He died at Woolwich at the close of the mutiny. A statue has been erected to his honour in Waterloo Place, London. See Battles of India; British India.

CLYPEA GLABRA. *W. and A.* This is the Cissampelos glabra, *Roxb.*, and Cocculus Roxburghianus, *D. C.* It is a native of Sylhet; root large, acrid, and used medicinally.

CLYPEA HERNANDIFOLIA. *W. and A.* This is the Cissampelos Hernandifolia, *Willde.*, and C. hexandra, *Roxb.*, the Nimuka and Nimi muka, HINDI. It is a valuable diuretic.

COACH. Conveyances of kinds have been used from very early times in Tartary, Southern and Western Asia, in Hindustan, Asia Minor, Northern Africa, and Europe. See Carriage.

COAL.

Stinkull, ... DAN.	Carvoes de pedra, . PORT.
Steenkoolen, . . DUT.	Carvoes de terra, . ,,
Steenkull, . . . ,,	Ugolj, Kamenoe, . RUS.
Charbon de terre, . . FR.	Carbones de tierra, . SP.
Steinkohlen, . . GER.	,, ,, piedra, . ,,
Valaiti kuela, . . GUJ.	Stenkol, ... SW.
Carboni fossili, . . . IT.	Simai Karri, . . TAM.
Arang-tanah, . MALAY.	Sima Boggu, . . TEL.

Coal differs considerably in its physical properties, and its varieties obtain various names in the markets. The mineralogist generally classes it as coal without bitumen, and coal with bitumen. The first variety is known by the general name of anthracite. It is sometimes very hard, has a high lustre, and is often iridescent. It is used for fuel, but it is often made into small inkstands, boxes, and other articles of use. This is more especially the case with the anthracite of America. Anthracite is the most common form of coal in the Welsh beds. The kinds are known in commerce as splint, caking, cherry, cannel, and brown or wood coals, also lignite and jet.

Coal was worked in Bengal in 1774 by Messrs. Heatly and Sumner of the Bengal civil service, who obtained a monopoly. Their operations were in the Raniganj coal-field, but they found it unprofitable, and the mines remained unworked till 1815, when Mr. Jones commenced operations. He too was unsuccessful; and in 1820 Messrs. Alexander & Co. undertook them. From that date collieries increased in number; and in 1859 so many as fifty were at work, employing 27 steam-engines, producing then 304,094 tons of round coal. During 1878 and 1879, in the Raniganj fields, 388,931 men and 196,627 women, with 27,277 children, were supported by mining operations, the out-turn of coal being 528,001 tons (Tr. of Hind. i. p. 170). The quantity of coals brought down in 1840 was about 15 lakhs of maunds. In 1850 it was nearly its double, and in 1860 it had become its quadruple. The supply and the consumption of coal in India during ten years was as under, in maunds of 80 lbs.:—

	Coal raised in all India.	Coal raised in Bengal.	Coal imported into Calcutta.	Total consumption in Bengal.
1859	99,61,928	99,61,928	12,29,160	1,11,91,088
1860	1,00,88,113	1,00,88,113	4,96,585	1,05,84,698
1861	78,06,252	77,85,085	12,85,203	90,70,288
1862	86,43,843	86,30,843	6,76,687	93,07,530
1863	95,12,174	95,04,975	10,36,407	1,05,41,382
1864	90,46,147	90,32,405	18,18,132	1,08,50,537
1865	88,37,953	88,10,425	16,16,143	1,04,26,568
1866	1,08,34,551	1,07,90,035	9,14,427	1,17,04,462
1867	1,18,61,031	1,18,47,178	11,46,734	1,29,93,902
1868	1,35,62,274	1,34,65,829	19,28,591	1,53,94,420

Of the coal raised in 1868, almost the whole was from the Raniganj field. One-half of the supply was consumed by the East Indian Railway, and was used for locomotives as far as Ambala.

Coal of British India occurs in the lower Gondwana system, palæozoic rocks, in which three series have been recognised, viz.,—

(*a*) Damuda, Raniganj, or Kamthi.
(*b*) Ironstones, shales, and Barakar.
(*c*) Karharbari and Talchir.

The Karharbari group yield coal, but, except in some of the eastern fields of the Damuda valley series, the Barakar group includes all the valuable coal of Peninsular India. In the Jhariah coal-field its thickness is estimated at 3800 feet, and at Raniganj 2000 feet.

The Raniganj group consist of sandstones, carbonaceous shales, and coal. The coal is of good quality, and comparatively uniform in composition and in the closeness of it seams.

In the rocks of the Kamthi group coal rarely occurs.

The areas of the 37 separate Indian coal-measures and associated younger rocks, which may conceal coal-measures, have been drawn up by Mr. Hughes as under, total 35,000 sq. m.:—

	sq. m.		sq. m.
Godavery and affluents,	11,000	Nerbadda and affluents,	3,500
Sone,	8,000	Damuda,	2,000
Sirguja and Orissa,	4,500	Rajmahal area,	300
Assam,	3,000	Unsurveyed, etc.,	2,700

The rocks which in Peninsular India probably correspond, as regards the time of their formation, to the true carboniferous rocks of Europe, are not coal-bearing; and the oldest coal-measures in British India belong to a period which is well included within the limits of the upper palæozoic or permian and the lower jurassic formations.

The separate coal-fields are :—

(*a*) North of Damuda river, in Bengal, viz. Birbhum, Deogarh, Karharbari, and Rajmahal hills.
(*b*) Damuda valley, viz. Bokara, Jhariah, N. and S. Karanpura, Ramgarh, and Raniganj.
(*c*) West of Damuda valley, viz. Aurunga, Chopé, Daltonganj, Hutar, and Itkuri.
(*d*) Sone and Mahanadi valleys, viz. Bisrampur, Jhilmilli, Lakhanpur, Raigarh, and Hingir; Rampur, S. Rewa and Sohagpur; Udaipur and Korba, Tattapani; and in Orissa, Talchir.
(*e*) Central Provinces, viz., (1) Satpura region, Mopani, Pench, Tawa; (2) Godavery valley, Bandar, Kamaram, Singareni, Wardha or Chanda.
(*f*) Sikkim.
(*g*) Assam, in valley of Brahmaputra, viz. Disai, Jaipur, Jangi, Makum, Nazira.

There are other places in the N.W. Provinces, Assam, and Burma, where tertiary coal occurs, but it is not in sufficient quantity to constitute workable coal-fields. Of the above 37 separate coal-fields, five only (Raniganj, Karharbari, and Daltonganj in Bengal, and Mopani and Wardha in the Central Provinces) are at present (1881) worked with regularity.

Rajmahal hills form a series of low plateaus, which are situated at the point where the Ganges turns southwards to form the head of its delta. The coal-measures are exposed over 70 sq. miles, at Hura, Chuparbhita, Pachwara, Mhowagarhi, and Brahmani, but doubtless extend over a vastly greater area underneath the younger formations. —*Ball*, p. 68.

Birbhum and Deogarh have small detached basins in which coal occurs, but it is of little economic importance.

Karharbari has a field of coal of 11 square miles. It occurs in three principal seams, which have an average total thickness of 16 feet, spread over an area of 8½ square miles. The amount of coal is estimated at 1,360,000,000 tons, and the available portion of it at 80,000,000 tons. It is worked by three companies.

Raniganj coal-field, of 11,200 sq. miles, is on the rocky frontier of W. Bengal, 120 to 130 miles from Calcutta. The coal is in five groups, viz.,—

	sq. m.		sq. m.
Upper Panchet or Mahadeva,	500	Ironstone shale,	1,400
Panchet,	1,500	Barakar,	2,000
Raniganj,	5,000	Talchir,	8,000

It is the largest and most important of the areas in which coal is worked in India. It is worked by several European companies.

Jhariah coal-field is in the valley of the Damuda river. It is 16 miles west of the Raniganj field, and has an area of 200 sq. miles. The estimated available coal here is 465,000,000 tons.

Bokara coal-field is in the valley of the Damuda. Its area is about 220 sq. miles, and the estimated available coal is 1,500,000,000 tons. One seam is 88 feet. Its position renders it difficult to be worked.

Ramgarh coal-field, in Damuda valley, has an area of 40 sq. miles. The coal is mostly of poor quality, and the field is unfavourably situated.

Karanpura coal-fields, S. and N., are at the head of the Damuda valley, and have areas of 72 sq. miles and 472 sq. miles respectively. The estimated amount of coal in N. Karanpura is 8,750,000,000, and in S. Karanpura 75,000,000 tons.

Chopé, on the Hazaribagh plateau, 2000 feet above the sea, has a small coal-field of less than one square mile.

Itkuri coal-field, 25 miles N.W. of Hazaribagh, has a few seams of inferior coal.

Aurunga coal-field, in Lohardagga district, W. of the sources of the Damuda, in the valley of the Koel, a tributary of the Sone, has numerous seams of coal, some of large size, estimated to contain 20,000,000 tons.

Hutar coal-field, in the Koel valley, has an area of 78·6 miles.

Daltonganj coal-field, in the valley of the Koel, in the Lohardagga district, has an area of 200 sq. miles; has a few coal-seams, estimated to contain 11,600,000 tons.

At Tattapani there is some coal, also a remarkable series of hot springs.

In S. Rewa and Sohagpur, a tract in the Sone valley, covering 8000 sq. miles, coal occurs; also at Jhilmilli (35 sq. miles), at Bisrampur, a land-locked site in the central basin of Sirguja, its area being 400 sq. miles, and 1800 feet above the sea. Lakhanpur is S. of Bisrampur, and Rampur adjoining it.

Raigarh and Hingir, Udaipur, and Korba are in a wide extent of coal-measures, which cover an area of 1000 sq. miles, in a country difficult of access, with seams up to 168 feet thick.

Talchir coal-field is in the valley of the Brahmani river, a tributary of the Mahanadi. It has an area of 700 sq. miles in extent, but the coal is of inferior quality, chiefly carbonaceous shale.

In the Satpura region, some good coal has been found at Mopani, and has been worked for the railway; and coal also occurs at Tawa and Pench.

In the Godavery valley, there are coal-fields at Bandar, in the Chanda district at Wardha; and Mr. Hughes gives the following estimate :—

	Actual Quantity. Tons, in millions.	Amount available. Tons, in millions.
Warora basin,	20	14
Ghugus,	90	45
Wun,	2100	1500
Between Wun and Papur,	105	50
Between Junara and Chachole,	150	75
Sasti and Paoni basins,	60	30

And there are small areas at Dumagudium and Mudavaram.

At Kamaram, 40 miles N.E. of Warangal, is a small field; also at Singareni, 30 miles S.E. of Kamaram.

In the Darjiling district in Sikkim is a crushed coal, not of promising character; one seam is 11 feet thick.

In Assam, coal-fields have been explored at Makum, Jaipur, Janji, Nagira, and Desai. The coal is of good quality; and it has been discovered in the Khassya hills.

The coal of Dundeli, in the Jummoo territory, has proved to be like the rest of Eocene origin among nummulitic limestones. A large lump of it was in the Lahore Museum, and might pass for 'Wallsend,' so good is its appearance.

Coal at Bunnu, from the Waziri hills, has been mentioned with some hope.

Coal of good quality is obtained from the Koh-i-Meeriah, a hill a day's journey north of the Oxus.—*Wood.*

The coal-fields of China occupy 400,000 sq. miles, and of Australia 240,000 sq. miles.

Messrs. Medlicott and Blandford describe as follows the coal-fields of British India, according to the epochs at which they were deposited:—

Jubbulpur has jet coal.

Rajmahal hills, Hura, Chuparbhita, and Brahmani coal-fields have occasional beds of inferior coal, poor and shaly, though of considerable thickness.

Tangsuli, carbonaceous shales of no economic value.

Kandit Karaya field, thin 14-inch seams of coal.

Jainti or Karaun field, some thin coal-seams.

Karharbari, coal seams of variable thickness; coal equal to the best Raniganj coal; is the main supply for the E. I. Railway.

Raniganj coal-field, rich in coal-seams, some 20 feet thick. Jhariah coal-field, 13 to 16 miles from Raniganj, large quantity of very fair coal. Bokara, 2 miles W. of Jhariah. Raniganj coal is composed of layers alternately bright and dull, as in the Barakars. The Bokara coal-field is near Hazaribagh. Ramgarh coal-field, 3½ miles S. of Bokara. The S. Karanpura fields, W. of Bokara and Ramghar. Karanpura field is second only to the Raniganj field.

Chopé, a small coal-field on the top of the Hazara plateau.

Itkuri coal-field, 25 miles N.W. of Hazaribagh; inferior coal.

Daltonganj or Palemow coal-field; coal formerly worked and sent down the Sone.

Latiahar, 26 miles S.E. of Daltonganj; a little coal.

S. Rewa coal-field.

Jhilmilli field, a very thin seam of good carbonaceous coal; several seams.

Bisrampur field, coal seams in several places, not very promising, 5 or 6 feet thick.

Lakhanpur field has several seams of coal, the best 5½ feet thick; part of excellent quality.

Chutia Nagpur, at E. Sirguja, Palemow, Jashpur, Udaipur, Khurea.

Korba (Bilaspur), an immense seam of coal, and in many places on the Mand and near Udaipur.

Raigarh-Hingir field, formerly called the Gangpur field, shaly beds, with coal-seams.

Talchir coal-field, on the Brahmani river, some beds of inferior coal.

Lametaghat.

Satpura basin; useful coal in the upper Tawa, the Kanhan and Pench valleys, in thin seams, and at Mopani on the Sita.

Bandar coal-field, 30 miles N.W. of Wardha, in the Chanda district, has three seams of coal, with 38 feet of maximum thickness.

Wardha or Chanda coal-field, in the basin of the Wardha, Pranhita, and Godavery; has a seam of coal and shale between 30 and 50 feet thick, but rising up to 90 feet, with thinner seams, from which efforts have been made to supply the E. I. P. Railway.

Godavery valley has the Madaveram coal-field below Bhadrachelam, also the Bedda-danol field, 35 miles N.E. of Bhadrachelam, and N. of Ellore; some poor coal has been discovered by boring.

Kamaram coal-field, 40 miles E. from Warangal, has beds of coal, with coal of fair quality, in seams 6 to 9 feet thick.

Singareni coal-field, 25 miles N. of Khamamet, in the Godavery valley, has seams of coal, one of them 21 feet thick.

Ranikot group, in the Laki range, in Sind, has a bed of coal nearly 6 feet thick, but poor, with pyrites liable to spontaneous combustion, in cretaceous rock.

The Salt Range, amongst jurassic rocks, has thin strings and seams of tertiary lignite at Bhaganwala, Pid, and Samundri.

Suliman range, thin layers of coal of no economic value.

Sabathu, in the Lower Himalaya, carbonaceous shale, has 25 per cent. of fixed carbon, and 11 per cent. of volatile matter partly hydro-carbon.

Khassya hills area, Cherrapunji plateau, amongst cretaceous rocks is a thick seam of bright coal, found in little basins near Cherra.

Garo area, cretaceous series, has coal of serviceable quality and thickness, immediately W. of Jadu Kata, in Umblai, in the Hublang, Garo hills, and in the coal basins of Rongreng and Darang, on the Upper Sumesari, of valueless coal; also at Salkura, Champagiri, and Mirampura, S.E. of Singmari.

Assam coal-fields are in the form of basins in the low Tipan hills, alternating shales, sandstones, and coals, known as the coal-fields of Jaipur, Makrum, and Nazira. There is a seam 100 feet thick, containing at least 75 feet of solid coal, a true coal of superior quality.

Tenasserim, on the Len-Ya river, is a bed of coal of a laminar structure, containing amber-like mineral resin. The coal is in thin laminæ in isolated basins at Thathay-kyoung and Hein-lap, on the Great Tenasserim river, at places 7 feet thick of workable seam, and of fair quality, and 8 feet thick at Kau-ma-pying. It is also found 3 feet thick on the Little Tenasserim river.

British Burma, 5 miles S. of Thayat-myo, a bed of coal of so irregular thickness as to be of no value.

Independent Burma, 50 miles above Ava, near Thinga-dau, are coal-seams 3 to 5 feet thick.

The Raniganj or Bardwan coal-field lies in the valley of the Damuda river, and is about 500 sq. miles. Some of the coal-seams are 20 feet thick, and one of the seams of the Barakar group is 33 to 35 feet; and in a section seen in the Kudia and Pasai streams, 175 feet of coal is exposed in a total thickness of 833 feet of rock, though much of it is of inferior quality. The Jeriah (Jhariah) coal-field has seams up to 60 feet in thickness.

The coal found in the Talchir group, in the Jhilmilli field in Sirguja, is a very thin seam of inferior quality; and, as a rule, the Talchir formation is marked by an absence of coal-seams, and even of carbonaceous shale. Part of the Karharbari beds rest in apparent conformity on the Talchir group. Karharbari coal is dull-coloured, and tolerably homogeneous in structure, and the coal of some of the seams in the Barakar and Raniganj subdivisions of the Damuda series is more distinctly laminated, but is equal in quality to that extracted at Karharbari.

Carbonaceous shales, and one or two thin bands of jet coal, are met with in the Jubbulpur group, but it is very different from the coal of the Damuda valley.

The principal coal tracts of the rocks in the Rajmahal hills are the coal-fields of Hura, Chuparbhita, and Brahmani. Their seams are thick, but the coals are poor and shaly.

In the Gondwana series, Tangsuli and the

Kandit Karaya field, and the Sahajori field, have small seams of coal of no economic value.

The general characters of the S. Rewa, the Jhariah coal seams, the Bokara coal-field, and the Karanpura field, are the same as those of Raniganj. The quality of the coal is very variable; some seams yield good coal, others little better than shale.

The Ramgarh coal-field lies due S. of Bokara; the coal seams are numerous, and there are some good beds, but the quality as a rule is inferior.

The Chopé, Itkuri, and Daltonganj coal-fields are in the Hazaribagh district, and the coal of Daltonganj was formerly mined, and sent down the Sone river.

Good coal has been found in a few places in the Bisrampur field, and at Lakhanpur, but that of many of their seams is poor, and the seams only 5 or 6 feet thick.

Coal occurs in Chutia Nagpur in many places on the Mand and near Udepur, of fair thickness and average quality; and a seam 90 feet thick is exposed in the bed of the Hasdo, much of it very shaly, and yielding much ash.

The Talchir coal-field is near the Brahmani river, and within the Mahanadi watershed.

In the Peninsula, the coal of the Wardha field is of rather inferior quality, giving 14 to 20 per cent. of ash. The Warora coal is of high mineral value. There may also be mentioned the Madavaram coal-field on the Godavery, and those of Kamaram and Singareni.

The coal beds of Tenasserim are not traceable continuously over any extensive area. The most important are at Thathay-kyoung and Hein-lap, on the Great Tenasserim river, the workable seam at the former place being 7 feet, and at the latter 17½ and 18½ feet thick, the quality fair; and at Kau-ma-pying, nearly a mile N. of Hein-lap, is a seam 8 feet thick. A seam 3 feet thick occurs on the Little Tenasserim.

Deposits of coal have been found along the Siamese coast from Penang to the vicinity of Junk-Ceylon. In 1836, specimens of coal were brought from Trang, one of the lower provinces of Siam; and subsequently a deposit was discovered at Tama, not Gurbie. Coal was found at Sungei-Kamuning, about 16 miles above Trang, and at a place also nearly east of Pulo Mutiara, or Pearl Island, about 12 miles to the southward of Sungei-Kamuning. It was also found at the Pulo Tiga island, lying off Purlis, on the coast of Keddah. Another coal was found in the bay north of Tanjong Bumbong, on the coast of Trang, betwixt the last place and Kamuning.

The coal in Ligor and Kedah, on the west coast of the Malay Peninsula, is identical in composition, in the proportion of volatile matter to charcoal, with some kinds of cannel coal,—sp. gr. 1·245; volatile matter, 46·746; charcoal, 52·071; ash, 1·183 = 100. That found on the southern coast of the island of Junk-Ceylon (well known for its tin), and which occurs near the bank of a river, and about two or three hundred feet from its mouth, was reported by Professor Ansted as adapted for every purpose to which coal is economically applied.

A position indicated as a deposit of coal, is in lat. 7° 44′ N., and long. 99° 15′ E., the southern point of Pulo Lontar bearing S.W. by S., Telebon S.S.E., and Tanjong Cotton N.E. by N. Some of it takes on the polish of fine jet. The Ligor specimens of this jet are the best.

In the coal of Ligor and Kedah, on the west coast of the Malay Peninsula, one portion of jet had a beautiful lustre and high polish. The fracture shows a fine velvet black or brownish-black.

On the Malay Peninsula, along the western coast at Katani, Ayer Ramni, and Bencoolen, at the entrance of the river Reteh, and along the banks in the Batang Gansal and the Ingragiri, with, it is supposed, the Kampar, coal occurs.

Coal has been found in Sumatra, Java, and Luzon, and in Borneo, of good quality, suited to economical uses. Coal found at Rettie, on the south-east coast of Sumatra, bears a strong resemblance to that from Junk-Ceylon,—sp. gr. 1·23; volatile matter, 51·43; charcoal, 48·57; ash not determined. Coal of serviceable quality exists also in Banka and Madura (New Rotterdam Courant, Sept. 23, 1851), in Borneo proper (Low, Sarawak, p. 12), on Pulo Keng Arang, near the north end of Labuan, at various places on the west, south-west, and south-east coasts of Borneo, at the Bunut, on Pontianak, the country of Banjarmassim, where immense deposits are found; Pagattan, and on the Koti river, mines are worked. A small field has been found near Macassar in Celebes, but the coal is of a worthless description (Singapore Free Press, July 19, 1850, which describes the coal treasures of the Archipelago). It is said that fine specimens have been obtained from the Philippine province of Alley (Mallat, Les Philippines, i. p. 122), but the existing notices of them are slight.

In Borneo, coal was first discovered in one of the islands in the river of Brunai, afterwards near the banks of the river, and subsequently in the island of Labuan. In these places it is mined by European skill and capital, and has been found, on ample trial, superior to any Asiatic coal hitherto tried. The coal on the left bank of the Borneo river has been traced for several miles into the interior, and on the southern coast of the island in the territory of Banjurmasin, and mined by the Dutch. These may be continuations of the same field, which would make the Borneo coal-fields the largest in the world, after those of North America. Steam navigation has given a value to the coals of Borneo, which, without it, in a country inhabited by rude people and covered with forest, might have lain for ages as useless as the lime and sandstones in which it is imbedded.

In Borneo, coal is associated at Pulo Chirmin, which is about 200 feet high, with a ferruginous sandstone, and overlaid by a mass of red sand and clay. At Pulo Kang Arang, again, the coal is overlaid by white sandstone. Borneo, as a mineral conntry, is perhaps the richest in the East, producing gold, coal, antimony, and iron; while caoutchouc and gutta-percha are amongst its vegetable products. The coal and iron fields of the Balawi or Rajang are more extensive than any yet discovered on the island. From the river Baram, coal is traced to the upper parts of the Bintulu, and thence southward to the Rajang river, on the left bank of which, at Tujo-Nang, there is a seam exposed upwards of 13 feet in thickness. At different other parts of the river, and also in several of its branches, coal is found in abundance.

In China, coal is largely used for fuel. The

boats on the north river, below Nan-hiung, lie near the mouth of a horizontal drift worked into the mine, above which the cliffs are scraped down as the shaft advances. The mountains of Shan-si and Chih-li supply large quantities of this valuable mineral; and many boats find constant employment in bringing a coarse anthracite from Kai-chan in Lia-tung to Tien-tsin. One locality of the mine in Liau-tung is about 39° 10′ N., and 121° 25′ E. Anthracite and bituminous coal have been seen in marts at the north; and coal-dust and refuse is mixed with a little moistened clay at Pekin, and made into cakes for the fires of the poor. That which is brought to Canton is hard, and leaves a large proportion of ashes after combustion; during ignition, it throws off a suffocating sulphureous smoke, which prevents the natives using it for cooking. It is employed in the manufacture of copperas from hepatic iron pyrites, according to Du Halde, but is less frequently employed in the arts than it would be if the people knew better how to use it.

Coal is found abundantly at Ke-Lung in Formosa; also in the districts around Negata in Japan. The Russians, under the command of a Russian officer, have opened coal-mines rather lower than Tonquin Bay.—*Singapore Free Press*, April 2, 1852; *St. John's Indian Archipelago*, ii. p. 349; *Colonel Low*, No. 3, *Journ. Ind. Arch.*; *Williams' Middle Kingdom*, p. 242; *Hodgson's Nagasaki*, p. 227; *M'Culloch's Dict.* p. 287; *Journ. Ind. Archip.* iii. pp. 153, 161, 738; *Eng. Cyc.*; *Calc. Rev.*; *Annals, Ind. Admin.*; *Mason; Geology of India, by Messrs. Medlicott, Blandford, and Ball; Dr. Oldham in Yule's Embassy*, p. 335; *Hook. Him. Jo.*; *Powell*; *Crawfurd's Dict.* p. 195; *Ball on Diamonds, Coal, and Gold*, pp. 58–94.

COBALT.

Ta-t'sing, ... CHIN.	Pien-t'sing, . . . CHIN.
Yang-t'sing, . . . ,,	

In China it is prepared by roasting the native arseniate of cobalt, said to come from Cambodia. It contains silica and potash, and is used in colouring glass, painting on porcelain, and glazing copper vessels, and in distemper. Cobalt ore occurs near Jeypore in Rajputana, and is used for colouring enamel. Cobalt and nickel occur in Ceylon, at Saffragam.—*Smith.*

COBRA, the ordinary Urdu name of the Naga genus of venomous colubrine snakes of the family Elapidæ. There is only one species, the Naga tripudians, which has a moderate body, with rather short tail. It has a small or moderate eye, with a round pupil, a poison fang in front of the maxillary, which is but little moveable or erectile, and only one tooth behind. The anterior ribs are elongate and erectile, and the skin of the neck is dilatable. When the cobra rises in play, or for amusement, it spreads out the skin of the neck, from which it gets the Spanish name of cobra di capello, in English the hooded snake. Its bite, if the poison be fairly in, is almost certain death. It is said that the poison can be combated by injecting potash into the veins, but, owing to the rapidity of the poison's action, this, even if true, is valueless. Several instances have occurred of grown-up men recovering from the bites of the chain, etc., or Russel's viper (Daboia elegans), simply by applying ligatures above the wound, and burning the punctures with a live coal; but the after-swelling was very painful, and lasted for some months. The cobra and chain viper are the commonest and deadliest. Notwithstanding this, the natives of Ceylon do not kill the cobra when caught, but enclose it in a mat bag with some boiled rice for food, and place it thus in a flowing stream. In Gujerat the Hindus do not kill this or any other snake. There are two varieties.

Var. *a*. The spectacled or binocellate cobra has its neck, on the steel-brown skin, marked with a white, black-edged ⊐ or ⊲ enclosing at either extremity a black ocellus. This is only seen when the hood is expanded. It is found in Southern India and in Burma (?). It grows to 5½ feet.

Var. *b*. The monocellate, or one-marked cobra, has a plain white ocellus, with black centre and margin, and grows to 4 feet in length. It is the cobra of Central India and Burma.

The fangs of the cobra are not perforated like those of vipers, but they have a groove or slit right down the anterior part of the fang, and although the sides of the groove may often meet in close contact about the anterior centre of the tooth, and form a sort of a channel, yet they never join or amalgamate together. The fangs of cobras are fixed to the maxillary bones, while those of vipers are erectile.

Permanganate of potash has been recommended in cobra bites. When permanganate was mixed with cobra poison and hypodermically injected, no fatal result followed, although a fatal dose of cobra poison was used, and the mixture injected into the vein. It is supposed that the mongoose is not affected by the cobra poison.

In the mythologies of India, the cobra figures as a protecting agent, spreading its hood over the lingam and over royalty. The cobra is worshipped by all Hindus; and its form, as an idol, with three to nine heads, in stone or brass, may be everywhere seen in India, often bending over the idol of the lingam. The cobra is often personified in Indian story. In many parts of Western India, after killing a cobra, the non-Aryan races give it all the honours of a cremation, assuring it, with many protestations, that they are guiltless of its blood; that they slew it by order of their master; or that they had no other way to prevent its biting the chickens.—*Nicholson.*

COBRA-TEL, a term applied in Ceylon to a decoction of the heads of cobras and saliva of the iguana or Kabragoya, and supposed by the Singhalese to be deadly poisonous.

COCA of the Andes and Peru is Erythroxylon coca, *Lam.*, extensively cultivated by the Indians,—the annual produce there having been estimated at 30,000,000 pounds. The leaves are either infused as tea, or, as is usual, chewed with a little unslaked lime. The immediate effect is a gentle excitement, with sensations of high enjoyment. Its use lessens the desire for food, and enables the chewer to undergo an enormous amount of fatigue, from an increased nervous energy.

COCANADA, a seaport town in the Godavery district, in lat. 16° 57′ N., long. 82° 13′ E.; population, 17,839.—*Imp. Gaz.*

COCCIDÆ of Leach, the Gallinsecta of Latreille, a family of insects placed by Latreille and others at the end of the Homoptera. See Coccus.

COCCINEA INDICA. *W. and A.*

Coccinea grandis, *W.*	Momordica monadelpha, *R.*
Bryonia grandis, *L.*	

Beemboo, . . .	BENG.	Kanduri, Gol-kundru,	PAN.
Tela kucha, . .	,,	Vimbika, Jivika,	SANSK.
Ken-bung, . . .	BURM.	Golaroo, ...	SIND.
Tsa-tha-khwa, . .	,,	Kovay, ...	TAM.
Bhimb, ...	HIND.	Donda, Bimbika, .	TEL.
Kovel, Govel, .	MALEAL.	Kakidonda, Kai-donda,	,,

A climbing shrub, grows all over India; in flower and fruit the whole year; green fruit used in chatni and curries; ripe fruit eaten raw, and greedily sought after by birds. The leaves are applied externally in eruptions of the skin, and the plant internally in gonorrhœa.

The juice of the leaves is used as an application to obstinate ulcers produced by the bites of animals. The fruit when unripe has a slightly acid but not unpleasant taste. When ripe, it is sweetish but insipid. It is smooth, oblong, and about an inch and a half long. It is a common troublesome weed in hedges and gardens.—*Jaffrey; Roxb.; Voigt; Stewart; O'Sh.; Ainslie.*

COCCOLOBA, a genus of plants belonging to the natural order Polygonaceæ. C. crispata, *Buch.*, grows in Nepal. Wight, in Icones, figures C. Indica, C. excoriata, C. pubescens. C. uvifera is a West Indian plant. The fruit of the last is sweetish, its wood is used for cabinet work, and it yields the Jamaica kino.—*Voigt; Eng. Cyc.*

COCCOTHRAUSTES, a genus of birds belonging to the order Insessores, family Fringillidæ, and sub-family Fringillinæ. Three species occur in South-Eastern Asia. C. vulgaris, the hawfinch of Europe, occurs in Siberia, China, Japan (C. Japonicus, *Schlegel?*).

COCCULUS, a genus of plants belonging to the natural order Menispermaceæ, consisting of climbers, whose leaves are usually more or less heart-shaped, and the flowers small, and either white or pale green, in loose panicles or racemes; in most cases they are dicœcious, and are always very minute. The species are usually powerful bitter febrifuges. The following occur in the south and east of Asia: acuminatus, calophyllus, cordifolius, crispus, hexagynus, incanus, laurifolius, macrocarpus, Malabaricus, megaspermus, oleracea, Plukenetii, tomentosus, villosus. In Arabia, an ardent spirit, called Khamr-ul-Majnun, is said to be distilled from the berries of C. Cebatha.

COCCULUS ACUMINATUS. *D. C.*

C. radiatus, *D. C.*		M. polycarpon, *Roxb.*	
C. polycarpus, *Wall.*		Tiliacora racemosa, *Coleb.*	
Menispermum acuminatum.		T. acuminata, *Miers.*	
		Braunea menispermoides, *Willd.*	
M. radiatum, *Lam.*			
Tila kora, . . .	BENG.	Vulli kaniram, .	MALEAL.
Baga-luta, . . .	HIND.	Tiga mushadi, . .	TEL.

A trailing shrub; grows in both Peninsulas, Oudh, Assam; has small cream-coloured, sweet-scented flowers.—*O'Sh.* p. 202; *Voigt*, 331.

COCCULUS CORDIFOLIUS. *D. C.*

C. convolvulaceus, *D. C.*		Menispermum glabrum, *K.*	
C. verrucosus, *Wall.*		M. cordifolium, *Willd.*	
Tsin-tha-ma-nway,	BURM.	Sitamerdu, .	MALEAL.
Gul-bel, Gulwail,	DUKH.	Shendi kodi, . . .	TAM.
Guluncha, . . .	HIND.	Tipatinggé, . . .	TEL.
Cit-amerdu, . .	MALAY.		

A valuable plant, growing in the Peninsula, of Bengal, Burma, and Assam. Its stem is succulent, twining, and perennial, running over the highest trees. The root, stem, and leaves are used in medicine in decoction. The root is large, soft, and spongy, and is given fresh in gonorrhœa; in powder, 15 to 30 grs. are emetic; the decoction is called Pachuna. An extract called palo is prepared from the stem.—*Roxb.* iii. p. 81; *O'Sh.*

COCCULUS CRISPUS. *D. C.*

Menispermum crispum, *L.* | M. verrucosum, *Flem.*

A twining plant of Sumatra, Java, and the Moluccas, with a tubercled or warted stem; it is employed by the Malays for the cure of intermittent fevers.—*O'Sh.*

COCCULUS FIBRAUREA, of Cochin-China and China, used by the Malays in agues and liver diseases.—*O'Sh.*

COCCULUS INDICUS.

Hong, ...	BURM.	Tuba-bidji, . .	MALEAL.
Indian berry, . .	ENG.	Mahi-zahra, . . .	PERS.
Coque de Levant, .	FR.	Grana orientis of Ruellius.	
Fischkormer, . .	GER.	Kakamari, . .	SANSK.
Jermai, ...	GUJ.	Kaka colli verei, .	TAM.
Kakmari-ki-binj, .	HIND.	Kaki-chempu vittulu,	TEL.
Galla di Levante, .	IT.		

This is the fruit of the Anamirta cocculus, *W. and A.*, a powerful climbing plant, common in the mountainous parts of the Malabar coast; in commerce its fruit is obtained through Bombay, Madras, and Ceylon. The berry is highly poisonous, and is not used internally in medicine. Even externally, as an ointment, though useful in Porrigo capitis, its use requires great care. It is used to poison fish, and a weak decoction to destroy ticks in sheep. In 1850, 2359 bags were imported into Britain, value 19s. to 24s. the cwt.—*O'Sh.; Royle; Roxb.; Eng. Cyc.; M'Cull. Dict.; W. and A.*

COCCULUS PALMATUS. *D. C.*

M. polmatum, *Lam.* | M. columba, *Roxb.*

This plant produces the columbo root of commerce, a valuable tonic medicine. It grows in the Mozambique forests, and is cultivated in the Mauritius.—*Roxb.* iii. 807.

COCCULUS VILLOSUS. *D. C.*

C. sepium, *Coleb.*		M. hirsutum, *Linn.*	
Menisper. villosum, *Lam.*		M. myosotoides, *Linn.*	
Huyer, ...	BENG.	Chipura tige, . . .	TEL.
Dier, Farid-buti, .	HIND.	Dusara-tiga, Katle tige,	,,

A decoction of the fresh roots is given in native medicine in rheumatism, and is considered heating, laxative, and sudorific. A curry of the leaves is used for the same object. The juice of the ripe berries makes a good, durable, bluish-purple ink. The withes are woven into small baskets, and are used for cords by the cultivators.—*Voigt*, 331.

COCCUS, a genus of insects belonging to the family Coccidæ, of the order Hemiptera. The insects belonging to this family live upon trees or plants of various kinds; they are of small size, and in the larva state have the appearance of oval or round scales. They are closely attached to the plant or bark of the tree they inhabit, and exhibit no distinct external organs. At certain seasons, when about to undergo their transformation, they become fixed to the plant, and assume the pupa state within the skin of the larva. The pupa of the male has the two anterior legs directed forwards, and the remaining four backwards; whereas in the female the whole six are directed backwards. When the males have assumed the winged or imago state, they are said to issue from the posterior extremity of their cocoon. In the spring-time the body of the female becomes greatly enlarged, and approaches more or less to a spherical form. In some the skin is smooth, and in others transverse incisions or vestiges of segments are visible. It is in this state that the

female receives the embraces of the male, after which she deposits her eggs, which are extremely numerous. In some, the eggs are deposited by the insect beneath her own body, after which she dies, and the body hardens and forms a scale-like covering, which serves to protect the eggs until the following season, when they hatch. The females of other species cover their eggs with a white cotton-like substance, which answers the same end. Of the species of this genus known in S. Asia, are the C. cacti, the cochineal insect, the C. lacca, which yields the stick-lac of commerce, and the C. maniparus of Arabia, that punctures the Tamarix gallica, and causes the exudation of the Arabian manna. There are two varieties of Coccus cacti, the true Grana fina, and the Grana sylvestris; and, after prolonged efforts on the part of Drs. James Anderson and Barry of Madras in 1795, the C. sylvestris, or wild species of the cochineal insect, was introduced into Bengal by Captain Neilson of H.M. 74th Regiment. It throve rapidly on the Cactus Indica, the indigenous opuntia, the country Nopal, and between 1800 and 1807, 74,633½ lbs. of the cochineal, amounting to 142,916 rupees in value, were shipped to England, but at a loss, as the wild species was found greatly inferior to the true. The cochineal insect was introduced into Java about the year 1825 as a Government experiment, and apparently with more success in its production than in British India, for so long ago as 1844 it was exported from Batavia to the estimated value of 93,319 guilders. The species introduced into India swarms at certain seasons, and settles on one of the species of cactus, which they immediately destroy. The whole neighbourhood of Homanabad was surrounded with prickly pear, but disappeared in 1865, under one of these swarms.

The fine cochineal insect differs from the wild not only in size, but also in being mealy and covered with a white powder; while the wild one is enveloped in a thick cottony down, which causes its value to diminish greatly, it being impossible to separate it from the insect in the preparation of the dye; the females only yield dye. It is the cottony covering which enables the wild kind to stand the vicissitudes of climate, while the fine or domesticated kind require to be kept under cover during the rainy season, and sheltered from high winds, as they early in their growth throw off the cottony covering.

The fine cochineal insect lives on several cultivated kinds of cactus without thorns, of which the Cactus cochinillifer has been introduced into India. It will not grow on the wild prickly pear.

There are three periods of life of the cochineal insect. It is viviparous, and at its birth is a mere speck, and at that time no difference can be detected by a microscope between the sexes; they are all equally active, seeming to profit eagerly of the short period during which motion is allowed them. After a few days they attach themselves to the cactus plant, and from that moment the female never quits her hold. A cottony coat grows over her, which falls off in 13 to 15 days. This is the first period.

The male also adheres to the plant, and in about 12 days becomes enveloped in a cottony cylindrical purse, open at the bottom; the insects huddle together, one upon another to appearance, so that at a little distance nothing is seen but a white patch of cotton of uneven surface; they continually increase in bulk. After remaining in this state for a month or thereabouts, the sexes become distinctly recognisable. The male becomes a scarlet fly, with two transparent wings about three times the length of his body, which exactly cover each other, when at rest appearing only as one; he is also provided with two poisers or tails and two hairy antennæ; he has six legs and six immoveable eyes. He is now again become active (particularly an hour after sunrise), but rarely takes to the wing, being easily carried away by the wind; he jumps and flutters about, and, having impregnated the female, dies in a few days.

The females go on increasing in roundness. They appear generally so enormously overgrown, that their eyes and mouth are quite sunk in their rugæ or wrinkles; their antennæ and legs are almost covered by them, and are so impeded in their motions from the swellings about the insertions of their legs, that they can scarce move them, much less move themselves, and the insect to the casual observer looks more like a berry than an animal. When they are about three months old they begin to yield their young. In this state the insect is in a torpid state, and may be detached from the plant. She had previously formed on her extremity an amber-coloured liquid globule, varying in size according to the abundance of juice in the cactus, and this is supposed to indicate the maturity of her pregnancy.

It is remarkable that from the moment of her fixing upon the plant, she loses her eyes and the form of her head; instead of a mouth, she has an extremely fine proboscis, which it is supposed she introduces into the imperceptible pores of the leaf she feeds on; and such is her excessive torpor, that once removed she will not attach herself again. After shedding the whole of her young, the mother dies, and becomes a mere shell, turning black. It is therefore at the time that the female commences to shed her young that measures are taken to remove the young to other cactus leaves. A nest is formed in the shape of a sausage or purse, of cotton gauze or other tissue pierced with small holes, in which 8 or 10 of the females are put, and the purse is fastened at the bottom of a leaf of cactus by a thorn. The young escape and spread themselves over the surface of the leaf. The mid-day is found to be the best time for this operation, to enable the newly-born insects to get rid of the glutinous matter which they bring from the parent. On this account nesting is not recommended in damp or cloudy days.

When the female insects are not required for breeding purposes, they are brushed off the cacti leaves at the commencement of their shedding their young, or immediately before that time, into baskets, and killed either by exposure to the sun or by immersion in boiling water, then dried and put into bags for dye.

As the cochineal insect is destroyed by heavy rains and high wind, they are reared outside only in the dry and cold season; during the rainy season a sufficient number of the females are either artificially kept in baskets shut out from light and heat, and so remaining torpid till the proper weather returns, or an entire generation is raised on cactus plants under cover in the house or a shed, and the fresh young ones put out on the

leaves outside when all danger from the heavy rains and wind are over.

The common belief is that the cochineal insect lays eggs; this is not the case. The young insects, whilst contained within the mother, appear to be all connected one after the other by an umbilical cord to a common placenta, and in this order they are in due time brought forth as living animals, after breaking the membrane in which they were at first probably contained as eggs. Being thus brought forth, they remain in a cluster under the mother's belly for two or three days, until disengaged from the umbilical cord. Every cochineal mother produces above a hundred young ones; but the mortality is great, and three or four mothers are required to cover one side of a cactus leaf with sufficient young for cultivation.

25,000 insects dead and dry make up one pound of cochineal, the ordinary value of which is 1 rupee 12 annas.—*Colonel Boddam; Royle, Prod. Res.* p. 57; *Crawfurd, Dict.* p. 112.

COCCUS LACCA, *Kerr*, produces the substance called lac. It inhabits India; is found on various trees in great abundance on the Ficus religiosa, F. Indica, Croton lacciferum, Butea frondosa, and Rhamnus jujuba. When the females of this coccus have fixed themselves to a part of the branch of the trees on which they feed, a pellucid and glutinous substance begins to exude from the margins of the body, and in the end this substance covers the whole insect with a cell which, when hardened by exposure to the air, becomes lac. So numerous are these insects, and so closely crowded together, that they often entirely cover a branch, and occasionally the tree is killed; and the groups take different shapes, as squares, hexagons, etc., according to the space left round the insect which first began to form its cell. Under these cells the females deposit their eggs, which, after a certain period, are hatched, and the young ones eat their way out. It is found encircling twigs and branches. The broken twigs covered with these incrustations are called 'stick-lac' in commerce. After the colour has been extracted and further purified, shell-lac results.—*Kirby and Spence*, iv. p. 142; *Eng. Cyc.*

COCCUS POLONICUS is used in dyeing a red colour. It is now chiefly employed by the Turks for dyeing wool, silk, and hair, and for staining the nails of women's fingers.—*Kirby and Spence*, i. p. 320; *Eng. Cyc.* p. 44.

COCHIN, a small feudatory state on the western side of the Peninsula of India, with a seaport capital of the same name, lying between lat. 9° 48′ and 10° 50′ N., and long. 76° 5′ and 76° 58′ E.; the area, 1361 square miles, and population in 1881, 600,278 souls. It has many marine lagoons, extending for 120 miles, and communicating with the sea; and its ghat forests have much valuable poon, angely, etc. Its rajas claim to be descended from Cheruman Perumal, who ruled over the whole country of Kerala, including Travancore and Malabar, as viceroy of the Chola kings, about the beginning of the 9th century, and afterwards established himself as independent ruler. Cochin fell to the Portuguese in the 16th century. In 1662 the city was taken by the Dutch; in the 18th century the Zamorin of Calicut held it for a short time; in 1776 Hyder Ali, and in 1790 Tipu, overran the country. On the fall of Seringapatam in the end of the 18th century, it became tributary to the British. By a treaty in 1791, the British guaranteed the integrity of the kingdom; but in 1809, after the overthrow of the Mysore government, a faction made common cause with the Travancore people, and carried on an unsuccessful war against the British, and in 1819 the British assumed all military control. The principal races are,—Maleali, 535,191; Konkani, 15,113; Tamular, 33,628; Teling, 9905. Of the population, 140,262 are Christians, 426,922 are Hindus, 12,499 Mahomedans, and 1278 Jews; the chief Hindu castes being Brahman, Kshatriya, Ambalavasi temple servants, Nair cultivators, Pillai government servants, Ottar contractors, Kanaka boatmen, Mopla polygars, Vallamar freshwater, and Marakan saltwater fishermen and artisans, Ezhuwan labourers, Cherumar predial slaves, and Kada and Maleali hillmen and Jews.

The Jacobite and Nestorian Christians are under the Archbishop of Antioch, the Romano-Syrians, under the Archbishop of Malabar, and the Romish Christians under the Archbishop of Goa. The cocoa palm is vastly cultivated; fish is very abundant; its ornamental work in metals, and its wood and ivory carving, are famed. The raja's family claim Kshatriya descent, but follow the rule of mari makatayum, or descensus ab utero, the children of sisters succeeding. If the raja's younger brother be senior to all his nephews, he becomes elliah raja, or heir-apparent; but if the raja's eldest sister have a son older than the raja's brother, the nephew ranks in the line of succession before the uncle.

The higher castes only are permitted to approach the royal dwelling, and handsome well-fed Brahmans, etc., thus form the entire population of that locality; and these are so clean and neat in appearance, and of so fair a colour, that one seems to have been transported among an entirely new and superior nation. The princesses and their ladies wear an abundance of snow-white muslin around the hips, but no upper garment. The neck is decorated with valuable ornaments, and the ears support very large and beautifully chased pendants. The hair is either worn in a large double knot on the crown, or on the right side of the head, and a band of gold strains it from off the face. The raja and all the princes are indistinguishable, in private, from the people around, for their dress consists simply of the muslin round the middle. The cocoanut palm grows abundantly, and, while yielding large returns, allows leisure for other avocations.—*Imp. Gaz.*

COCHIN-CHINA, the name given in Europe to a country occupied by the Annam people. The derivation of the European name is obscure, but Kachao is the name given by the Annam people to the capital of Tonquin; and Cochin-China is known to the Malay navigators as Kutchi. It has been supposed by D'Anville that the Sin-hoa of Ptolemy, the geographer, is Cochin-China, and that the Aureo Chersonesus of Ptolemy is the Malay Peninsula. Leaving out of view the vast unexplored region of Laos, the peninsula commonly denominated Cochin-China is now composed of Cambodia in the north, French Cochin-China in the south and west, and Annam on the eastern coast, this latter kingdom extending northwards to the Chinese provinces of Yun-nan and Quang-si, its own province of Tong-king adjoining them.

French Cochin-China, conquered or annexed from Annam, comprises an area of about 30,000 square miles, and a population estimated at some 1,750,000 persons, nearly all of them of Annamese nationality. The colony is divided into four provinces,—Saigon, Mytho, Viuh-long, and Bassac. Each of these is under inspectors and administrators, who are educated for the purpose in a college at Saigon, where they are taught the native language, characters, history, and law, and are instructed generally in the principles of executive government. They are commissioned by the President of the French Republic. The revenue for the year 1878 was estimated at 14,300,000 francs. The kingdom of Annam has a population estimated at 20,000,000 persons. There is a French resident at the Court of Hue, and also one at Hanoi, the ancient capital in Tong-king, and three ports in Tong-king have been opened under treaty. Europeans are only allowed to trade in the actual open ports, but they are allowed to pass through the country by means of the great river Sang-koi (but not to land on its banks) for purposes of trade with Yun-nan. The kingdom of Cambodia is an absolute monarchy, and has a population estimated at only 1,000,000, which gives but six to the square mile. It is under the protection of France, and that nation has an official residing at Nam-vang, the capital, with the title of Représentant du Protectorat Français. The revenue is estimated at 3,000,000 francs. There is but one port, Kampot, situated on the Gulf of Siam, its principal traffic being with Siam and Singapore by native vessels. In appearance, language, and most other characteristics, the Cambodians differ entirely from the Chinese, Annamites, and even Siamese. If there be any resemblance, it is to the latter.

Saigon, the capital of French Cochin-China, on the Saigon river, in lat. 10° 50′ N., and long. 104° 22′ E., was conquered by the Franco-Spanish fleet, 17th February 1859, by the force under Admiral Rigault de Genouilly at the close of the last Chinese war, but Lower Cochin-China was not occupied until the treaty of 1862.

About the reign of Louis XVI., the reigning emperor, Gyalong, lost his throne, and a Roman Catholic missionary, Bishop Adran, persuaded the deposed sovereign to ask the help of France, and escorted his son to the Court of Versailles. The request was granted, on condition that France should have a right of protectorate over native Christians, and the further right to occupy certain points of Annamese territory, from whence this protectorate might be better exercised. A treaty was concluded at Versailles on the 28th of November 1787, embodying these conditions, and the prince and bishop returned to the East with French officers and appliances of war, by whose aid Gyalong was restored to power, and gave him countenance and support, and the church grew and flourished; but his successors, jealous of its organization and influence, commenced a persecution.

On the 5th of June 1862 was signed the treaty which laid the foundation of French rule in Cochin-China, Annam thereby ceding the three provinces of Bienhoa, Giadinh, and Dinh Tuong, which constituted the original territory of Saigon. Twelve years later, the Duc Decazes, then minister for foreign affairs, was able to announce to the French Chamber the signature (on the 15th of March 1874) of a treaty by which the whole country was placed under the protectorate of France. It has been mentioned that in 1867, five years after the first treaty, Admiral de la Grandière, the then governor, found it necessary to occupy the three additional provinces of Vinlong, Chandoi, and Hatien, in order to protect the colony from the incursions of 'agitators' from the neighbouring territory. The kingdom of Cambodia, embedded between Siam and the new colony, fell early under its influence, and by a treaty signed in 1868, accepted the protectorate of France.

In 1866–7, under the control of M. Doudart de Lagrée, an expedition explored the course and sources of the river Mei-kong, which, taking its rise amid the mountains of Tibet, impinges on the western provinces of China, flows through the whole length of the Indo-Chinese promontory, and discharges itself, in French territory, into the southern waters of the China Sea. It was hoped that in this river might be found a channel of intercourse with the west of China, and that Saigon might by its means be made to rival or eclipse the claim of Rangoon as an outlet for the commerce of those regions. In 1881 the boundaries were, on the north the kingdoms of Annam and Cambodia, on the east and south the China Sea, on the west the Gulf of Siam and the kingdom of Cambodia, 80 leagues long and 50 broad, with a population of 1½ millions. The Mei-kong passes through French Cochin-China by two rivers, to disembogue into the China Sea. In 1880 the revenue was 18,800,000 francs. —*Chin. Jap. and Phil. Chron. and Der.*, 1881.

COCHIN-CHINA MONKEY, Pygathrix nemœus, *Geoffr.*

COCHINEAL.

Ya-lan-mi, . . . CHIN.	Cochenilha, . . . PORT.
Conchinilje, . . . DUT.	Konssenel, . . . RUS.
Cochenille, . . . FR.	Cochinilla Grana, . SP.
Koschenilje, . . . GER.	Cochinil puchi, . . TAM.
Kermij, GUJ., HIND., PERS.	Cochinil purugu, . TEL.
Cocciniglia, ... IT.	

This valuable dye and colour material consists of the dried bodies of the female of the Coccus cacti, a native of Mexico. About 1200 tons are imported into Britain, price 3s. 6d. the pound. It forms a very fine and permanent dye of red, crimson, scarlet. It answers on wool and silk, but not on cotton. Efforts were made by the E. I. Company to introduce the insect into India, and at the close of the 18th century it was supposed that Drs. Anderson and Barry of Madras had succeeded in doing so, but it is said that an inferior variety, C. cacti sylvestre, was the one brought, not the variety designated C. cacti grana fina. Whether from the stock introduced in 1799, or from an indigenous variety, the Coccus cacti is at seasons plentiful in many parts of India. They swarm to localities where the prickly pear grows, and in a brief time the plant wholly disappears. The fine variety was introduced into Mysore from Teneriffe; and at the Madras Exhibition of 1857, the cochineal exhibited from Chittaldroog and Oossoor was said to be the silver grain, and to be procurable in several districts in Southern India; but it only destroys the plants with red flowers and few prickles, and will not propagate on the yellow-flowering prickly

pear. It has been exhibited from Java at the exhibitions in Europe. The people have also been successful in introducing it into the Canary Islands, where it has of late been much cultivated; and in 1856, 1,511,617 lbs. were exported. About 1200 tons are imported into Britain, valued at £400 the ton. The insects are about 70,000 to the pound. They are detached from the plants on which they feed by a blunt knife; are dipped in boiling water to kill them, and then dried in the sun. The female is placed on the leaf, and kept in its position by a white rag tied round the lobe. From the travels of Lieutenant Burnes and Dr. Gerard, we learn (Journ. As. Soc. of Bengal, ii. p. 652) that an insect, supposed to be of the coccus genus? is found on the root of a plant which flourishes in a marsh (near Herat), but the natives being unable to dry it, import it from Bokhara and Yarkand, paying about 32 sicca rupees per Indian seer. Coccus polonicus, the scarlet grain of Poland, is also found on the roots of a plant, the Scleranthus perennis.—*Royle; Mad. Ex.* 1857; *Powell, Panj.* p. 194; *Crawfurd's Dict.* p. 112; *M'C. Dict.; Moral and Material Progress; Colonel Beddome.*

COCHLEARIA ARMORACIA. *Linn.*

Radish, horse radish, ENG.	Muli, ... HIND.
Cran de Bretagne, . FR.	

COCHLOSPERMUM GOSSYPIUM. *D. C.*

Bombax gossypium, *L.*	Silk-cotton tree, . ENG.
Shima-punji, . . MALEAL.	Tanaku maram, . . TAM.
Ela-imbul, . . SINGH.	Konda gogu chettu, TEL.

This silk-cotton tree grows in Travancore, on the Coromandel coast, is common on the Arakan mountains, and occurs also in Bundelkhand, on the hills round and near Adjigurh and Kalingur, as well as on those near Hurdwar and the Kheree pass. The leaves are used for the curious rude leaf-bellows with which the natives of the hills near the Assam valley smelt iron. It has curious thick branches, which spread out somewhat awkwardly, each tipped with a cluster of golden-yellow flowers, as large as the palm of the hand, and very beautiful. The bark abounds in transparent gum, of which the white ants seem fond, for they kill many trees. This is the gum katira of the N.W. Provinces of India, and is substituted for tragacanth. Wood soft, and only used as firewood. The cotton of its pods is used for stuffing pillows, etc.—*Roxb.; O'Sh.* p. 225; *Stewart; Hooker, Him. Jour.* i. p. 53; *Voigt*, p. 91.

COCK, the male of the domestic fowl of the genus Gallus. One species of Gallus is found in the wild state in the Malay Peninsula, two in Sumatra, two in Java, and one in the Philippine Islands. But no bird of the genus in the wild state is found in Borneo, Celebes, or any island of the Molucca Seas. The two of Java are distinct species; they will pair, and the progeny is a beautiful bird, kept by the wealthy Javanese as an ornament of their poultry-yards, under the name of pakiser. The wild fowl of the Philippines are sometimes tamed, are very brave, and always come off victors with the large cocks of China; and they will contend with the famous gallant breed of the Loguno. Most of the advanced nations of the Asiatic islands are gamblers, and the favourite shape which gaming takes with them is cock-fighting. This includes the people of Bali, Lombok, Celebes, and all the Philippine Islands, the only material exception being the Javanese. The passion for cock-fighting is impressed on the very language of the Malays. Thus there is a specific name for cock-fighting, one for the natural spur of the cock, and another for the artificial; two names for the comb, three for the crow of the cock, two for a cockpit, and one for a professional cock-fighter. The passion is nowhere carried further than in the Spanish dominions in the Philippines. There it is licensed by the Government, which derives from it a yearly revenue of about 40,000 dols., or about £10,000. Nations of Central Asia seem, from time immemorial, to have used the cock in sacrifice, being especially sacred to the sun in Sabæan worship. And this still continues. It is offered in sacrifices on the new-year's day by the old Parsee fire-worshippers. The Aryan Hindu and the non-Aryan races all sacrifice the cock at the shrines of the earth goddesses.—*Crawfurd, Dict.* p. 113. See Birds.

COCKATOO, birds of the Moluccas and Australia, of the tribe Scansores and sub-family Cacatuinæ. See Birds.

COCKLE, one of the mollusca. The cockle of Job xxxi. 40 is a species of Solanum. See Chamidæ.

COCK'S CLAW FRUIT.

Ki-chau tsze, . . CHIN.	Kim ponnass, . . . JAP.
Ki-ku-tsze, . . . ,,	

This is the fruit of the Hovenia dulcis.—*Smith.*

COCK-UP, the Begti fish of the Ganges.

COCOA.

Ko-ko, Kwo-kau, CHIN.	Kakao, ... GER.
Cacao, ... FR.	Cocao, . IT., PORT., SP.

Cocoa, also written Cacoa, is the nut or seed of the Theobroma cacao, a plant of the W. Indies and the continent of America. Lindley mentions also T. bicolor, and T. Guineensis. T. cacao has been introduced into India, Ceylon, the Philippines, Celebes, Amboyna, and China. The cocoa tree flourishes best in the alluvial soil of mountain valleys, though it will grow well at some elevation on mountain-sides. The varieties are numerous, some producing very superior fruit to others. The plants begin to bear at from 5 to 7 years of age; during this period the inter-spaces between the rows of trees can be rendered productive by planting yams and vegetables in them. A free ventilation of air should be ensured to each tree, and this cannot well be attained with a smaller space than 30 feet. Large forest trees of favourable sorts require to be scattered amongst them, to protect them; the tree used for this purpose in the W. Indies and S. America is one of the Bombaceæ. There are two crops in a year. The average return, when the trees are planted close together, is from 1 to 3 lbs.; but as much as from 9 to 16 lbs. may be procured by proper planting and cultivation. Great care is required in curing the cocoa, after it is separated from the pod; and on the method of fermenting and drying depends very much the production of a good or bad article. According to its preparation, it realizes from 60s. to 120s. per cwt. in bond. 17,000,000 lbs. of cocoa were imported into Britain in 1871, upwards of 7,300,000 lbs. being entered for home consumption. Cacao seeds were made use of by the Mexicans, previous to the arrival of the Spaniards, boiled with maize, and roughly bruised between two stones, and eaten seasoned with capsicum or honey. The seeds are contained in a husk 4 or 5 inches in length; and dried, roasted,

and ground, they constitute cocoa; mixed with starch and finely ground, soluble cocoa. Chocolate is the same flavoured and made up into a paste. As seen in the market, cocoa is in the form of flake, granulated, soluble, rock, dietetic, homœopathic cocoa, broma, etc., largely adulterated with 5 to 50 per cent. of sugar and starch. Flake cocoa generally contains the worthless husk, which forms about 12 per cent. of the seeds; but genuine flaked cocoa of good quality cannot be purchased under tenpence or one shilling per pound, yet it is no uncommon circumstance to see, in London shop windows, samples ticketed fivepence and sixpence per pound; such samples at this price must either be damaged or adulterated. Cocoa contains the alkali theobromine, in which there is a larger amount of nitrogen than is in theine, so that tea, coffee, and cocoa may all be regarded as containing the same nutritious principle.—*M. E. J. R.; Hassall; Simmonds; Crawfurd; Kew Museum; Royle.*

COCOACEÆ, the palm tribe of plants, the Palmaceæ of Lindley, are inhabitants of the tropics of both worlds, and hardly range beyond lat. 35° S. and 49° N. They are local plants; only Cocos nucifera, Acrocomia sclerocarpa, and Borassus flabelliformis being found in many lands. There are supposed to be about 1000 species, but scarcely a fifth part have been described. The Oreodoxa oleracea, or edible cabbage-tree of the W. Indies, has been introduced into the East. The Areca catechu is well known for its betle-nut; the Arenga saccharifera for its sago, palm-wine, sugar, and black horse-hair like fibres. Caryota urensis valuable for the immense quantity of its sap, which is fermented into toddy or palm-wine, or distilled into arrack. Canes and rattans are from the various species of Calamus. The Sagus lævis and S. farinifera yield much of the sago of commerce. The Borassus or palmyra is of great value for its palm-wine, its fruit, and its leaves, as also is the fan-palm Corypha umbraculifera, the talipat palm of Ceylon and the Moluccas; while C. taliera is of great value for its leaves, which are formed into the palm books, on which the people write with an iron style. The date fruit, on which so many of the Arabs subsist, is from the Phœnix dactylifera; the P. sylvestris of India furnishes sap which is made into palm-wine, sugar, or arrack; and the widely-spread cocoanut tree, Cocos nucifera, with its multitude of uses, all belong to this order. Recently, the following have also been noticed:—Plectocomia elongata, *Mart.*, of Java; Ceratolobus glaucescens, *Bl.*; Dæmonorops melanochætes, *Bl.*; Lodoicea Seychellarum, *Labill.*, Seychelles; Hyphæne coriacea, *Gærtn.*, of Egypt.

The better known of this order are as under:—

A. *Areceæ or Arecineæ.*

Chamædorea gracilis, *Willde.*, introduced.	A. Dicksonii, *Roxb.*
Hypophorbe Indica, *Gært.*, Bourbon, introduced.	A. triandra, *Roxb.*
Oreodoxa oleracea, *Endl.*, W. Indies, introduced.	A. gracilis, *Roxb.*
O. regia, *Homb.*, introduced.	Seaforthia elegans, *R. Br.*
Areca catechu, *Spr.*	Harina caryotoides, *Buch.*
A. crinita, *Bory.*	Arenga saccharifera, *Labill.*
C. extensus, *Roxb.*	Caryota urens, *Linn.*
C. quinquenervius, *Roxb.*	C. horrida, *Jacq.*
C. rotang, *Linn.*	C. sobolifera, *Wal.*
C. fasciculatus, *Roxb.*	C. monoicus, *Roxb.*
C. polygamus, *Roxb.*	C. hostilis, *Wall.*
C. tenuis, *Roxb.*	Zalacca edulis, *Reinw.*
C. gracilis, *Roxb.*	Z. Asamica, *Wall.*
	Sagus lævis, *Rumph.*
	S. farinifera, *Gærtn.*

B. *Lepidocaryeæ.*

Calamus humilis, *Roxb.*	C. latifolius, *Roxb.*
C. erectus, *Roxb.*	C. rudentum, *Lour.*
C. draco, *Willde.*	C. verus, *Lour.*

C. *Borasseæ or Borassineæ.*

Borassus flabelliformis, *L.*	Bentinckia condapana, *Berry.*
Latania borbonica, *Lam.*	

D. *Corypheæ or Coryphinæ.*

Corypha utan, *Lam.*	Sabal Adansonii, *Guerns.*
C. umbraculifera, *Linn.*	S. hystrix, *Nutt.*
C. taliera, *Roxb.*	Chamærops humilis, *Linn.*
C. elata, *Roxb.*	C. mitis, *Mayer.*
C. rotundifolia, *Lam.*, Moluccas.	C. Griffithiana, *Wall.*
Livistonia Mauritiana, *Wall.*	C. Martiana, *Wall.*
Licuala peltata, *Roxb.*	Rhapis flabelliformis, *Ait.*
L. pumila, *Bl.*, Java.	Phœnix acaulis, *Buch.*
L. spinosa, *Wurmb.*	P. dactylifera, *Linn.*
L. rotundifolia, *Bl.*, Java.	P. farinifera, *Roxb.*
	P. sylvestris, *Roxb.*
	P. paludosa, *Roxb.*

E. *Cocoeæ or Cocoinæ.*

Elæis Guineensis, *Jacq.*	C. flexuosa, *Mart.*
Cocos nucifera, *Linn.*	

COCOANUT.

Hu, ... ACHINESE.	Noce de Cacao, . . . IT.
Narikal, ... BENG.	Kalapas, . . . MALAY.
Cocos, ... FR., SP.	Tengai, . TAM., MALEAL.
Kocos-baum, . . . GER.	Tenkaia, ... TEL.
Narel, ... HIND.	Narekadam, . . . ,,

Cocoanut, the fruit of the Cocos nucifera, is a word supposed to come from the Portuguese term Macaco or Macoco. Its fruit-bearing power may be considerably improved by extracting toddy from the blossom shoots for the manufacture of jagari during the first two years of its productiveness, after which it may be discontinued. The subsequent annual produce may be safely reckoned at fifty nuts per annum. From ten to twelve large nuts may be seen on each bunch. In good situations, the fruit is gathered four or five times in the course of the year. The albuminous substance within the 'copra' or kernel is used as an article of food, and when dried is largely exported to other places; and the clear, sweet liquid which the nut encloses when young, is a very agreeable drink; it is the albumen in a liquid state. House plasterers attribute an adhesive quality to this, and mix it with their white and other washes, in which lime forms a chief ingredient. The full ripe nut contains a small quantity of oily milk, and is then used for making oil. Cocoanut milk is extracted by pressure, and is used in making curries, etc. It is from the husk of the cocoanut that the well-known 'coir,' khoir, or roya fibre of commerce is prepared, and used for the manufacture of coir rope, matting, brushes, etc. Cocoanut husk, from which the fibres have not been separated, is used in lieu of a scrubbing-brush for the floor, and for polishing wood; brooms, mats, and bags are likewise manufactured from it. Cocoanuts, both in the raw and dried state, form a prominent feature amongst the exports at Galle and Colombo, in value to about £14,000 yearly. Cocoanuts valued at £50 a ton are imported into Great Britain. The shell is very brittle, and its structure is somewhat fibrous; but it admits of being turned for the bodies of cups and vases, the feet and covers being made of wood or ivory. Common buttons are also made of the cocoanut shell, and are considered better than those of

horn, as they do not, like that material, absorb moisture which causes them to swell and twist. The hollow shells, called 'gari' or 'naryel,' are used for the water-holder of a particular kind of hookah. The nuts are made into hookahs, goblets, and cups, and when mounted with silver, polished and carved, are very handsome; but for everyday household use they are made into lamps, ladles, skimmers, and spoons. The shells make good lamp-black, and when reduced to charcoal and pulverized, an excellent dentifrice. The cocoanuts are hourly used as offerings for Hindu idols. The cocoanut, when fully ripe, can be hollowed and cleaned, by being filled with salt water and buried for some time in the sand, when the albumen decays, and is washed out. In the Travancore and Cochin kingdoms, the kernel is variously cut for making garlands for state occasions. The uppermost and tender shoots of the cocoanut tree, when boiled, eat like cabbage, and are much prized both by Europeans and natives.—*Ainslie*, p. 245; *Seeman; M. E. J. R.; Royle; Tredgold.*

COCOANUT CRAB, the Birgus latro, or robber crab of the Keeling islands, is a kind of intermediate link between the short and long tailed crabs, and bears a great resemblance to the Paguri. Darwin observed that they live on the cocoanuts that fall from the trees. The story of their climbing these palms and detaching the heavy nuts is merely fabulous. Its front pair of legs are terminated by very strong, heavy pincers, the last pair by others narrow and weak. To extract the nourishment, it tears off the husk, fibre by fibre, from that end in which the three eyes are situated, and then hammers upon one of them with its heavy claws until an opening is effected. It then, by its posterior pincers, extracts the white albuminous substance. It inhabits deep burrows, where it accumulates surprising quantities of picked fibre of cocoanut husks, on which it rests as on a bed. Its habits are diurnal; but every night it is said to pay a visit to the sea, perhaps to moisten its branchiæ. It is very good to eat, and the great mass of fat accumulated under the tail of the larger ones, sometimes yields, when melted, as much as a quart of limpid oil. They are esteemed great delicacies, and are fattened for the table.—*Darwin; Hartwig; Bikmore.*

COCOANUT DAY occurs on the full moon of the Hindu month, generally falling in August. Along the Malabar coast, at every seaport town, Cocoanut day is one of the great feasts. It is supposed to mark the termination of the S.W. monsoon, the date when the Hindu trader may safely trust his ships and goods to the ocean. At Bombay, the natives, clad in their holiday attire, go in procession from their houses in the town to the sea-shore, preceded by bands of music. On the beach, after numerous ceremonies, a cocoanut, generally covered with gold and silver leaf, is then cast into the sea, as an offering, by the principal person present. Every trader or boat-owner there makes a similar offering on his own account. The first boat of the season generally puts to sea directly after, gaily decorated with streamers. In former days, the chief civil functionary at the E. I. Company's factories, at such places as Tanna, Surat, and Broach, used to attend and sometimes cast in the first cocoanut; but this practice was stopped by orders from the Court of Directors.—*Mad. Lit. Jo.; Elph. Ind.* 414; *Chow-Chow*, 290.

COCOANUT, DOUBLE. The double cocoanut of the Seychelles or Mahe islands, is the fruit of the Lodoicea Seychellarum. When preserved whole, and perforated in one or two places, the nut serves to carry water, and some of them hold six or eight pints; and by slicing them in different directions they are formed into plates, dishes, drinking cups, etc., known in the French islands as Vaisselle de l'île Praslin. The half of a double cocoanut is a favourite scallop of the Mahomedan fakir in India. The crown of the trunk is eaten, like the American cabbage-palm; the down attached to the young leaves serves for filling mattresses and pillows; the ribs of the leaves and the petioles are fabricated into baskets and brooms; and the young leaves are plaited to form hats. The Lodoicea attains a height of 80 or 90 feet. It might be largely introduced into India with advantage. Germinating nuts were sold in London in 1854 at £10 a-piece.—*Seeman.*

COCOANUT FIBRE, or Coir, is obtained from the outer rind of the nut. This is bruised and steeped in water for two or three days, after which it is taken up, and the fibres separated by the fingers, scraped gently with a blunt knife, and then dried in the sun. If steeped in water too long, they get coloured.

COCOANUT MILK. To make this, the kernel is grated, a little warm water is poured over it, and the liquid is then poured through an open cloth. This milk is excellent with coffee, and is indispensable for curry.

COCOANUT OIL.

Narel ka tel,	HIND.	Kalambir,	MALAY.
Minak nur,	MALAY.	Tengai yenne,	TAM.
Minak kalapa,	,,	Tenkaia nuna,	TEL.

The kernel, having been removed from the shell and dried, is subjected to pressure in a mill, and the oil is expressed; but when prepared in small quantities, the kernel is boiled in water for a short period; it is then pounded in a mortar, taken out and pressed. The milk, as it is called, which exudes, is then boiled over a slow fire, when the oil floats to the top, and, being skimmed off, is afterwards boiled by itself. Two quarts of oil may be procured from fourteen or fifteen cocoanuts. When fresh, the oil has an excellent flavour. It is used as an unguent on the bodies of the natives after bathing, and as an oil for the hair; it is employed as a lamp oil, and is manufactured into soap, and it is said to have all the virtues of cod-liver oil. The purest oil is obtained by grating the kernel, and depositing it in some hollow vessel, to expose it to the heat of the sun during the day, and the oil drains away through hollow spaces left for the purpose. The Malabar method of making the oil is by dividing the kernels into two equal parts, which are ranged on shelves made of laths of the betel-nut palm or split bamboo, spaces of half an inch wide being left between each lath. Under these a charcoal fire is lit, and kept up for two or three days, in order to dry them, after which they are exposed to the sun on mats, and when thoroughly dried are subjected to pressure in an oil-press. The remains of the cocoanut, from which the oil has been extracted (Posknakkull, HIND.; Tenga poonak, TAM.; Tenga pindee, TEL.; Poonnak, SINGH.), affords an excellent material for feeding pigs, poultry, etc. The best oil exported is from Cochin, and the neighbouring ports on the Malabar coast. It usually

fetches 20s. per ton more than the Ceylon or Coromandel coast article. In Europe it is used for the candle and soap manufacture, for lubricating machinery, etc. In India, for making soap, for cookery, lamps, and as medicine. This oil forms the foundation of Price's patent candles. It becomes solid at about 70° Fahr. It is one of the fixed or fatty oils, and consists of solid and fluid constituents, the latter, or oleine, being separated by pressure from the solid parts, called stearine or cocein, used in the manufacture of the stearic candles. It is also much used by pomatum manufacturers. In Borneo, the only oil used by the women in the dressing of their hair is that freshly expressed from the cocoanut; and this is perfumed by allowing the flowers of various plants to remain in it. The native oil-mill is similar in shape to the mortar and pestle of the druggist, the latter being worked by a shaft, to the end of which a pair of bullocks are attached. The cattle travel in a circle of about 18 feet diameter, and make three complete revolutions in a minute. Half a hundredweight of the dried kernel is a charge for a full-sized checkoe (mortar), and a pair of stout, well-fed bullocks will get through four such charges in a day; so that twenty mills are required to get through two tons in the twenty-four hours. The man who drives has usually a boy to assist him in taking the oil, which is got out of the mortar by dipping a piece of rag into the fluid and squeezing it into an earthen vessel. The cost of the native oil-mill, with serviceable bullocks, is rather under than over Rs. 200.—*M. E. Jur. Rep.; Cal. Rev.*, Sept. 1861; *Low's Sarawak*, p. 145.

COCOANUT PEARLS, said to be concretions existing free in the interior of the cocoanut in the East Indies, particularly at Singapore, where the rajas esteem them as precious stones. Mr. J. Bacon published a notice of them in the Proceedings of the Boston Society of Natural History, U.S. It is said that they occur sometimes as large as a cherry; but Mr. Bacon's are about 2-5ths of an inch in diameter. These vegetable pearls are smooth and white, like animal ones, but are harder, and not quite so brilliant. Like ordinary pearls, also, they are composed of carbonate of lime, but have only a very small proportion of organic matter. The former contain considerable quantities of an albuminous animal substance. Examined microscopically, the cocoanut pearls are found to be composed of numerous regular concentric layers, which adhere to each other very energetically. Their origin is at present uncertain. In the analysis of the cocoanut milk, a little phosphate and malate of lime is found, but no carbonate, which hitherto has not been found in any part of the nut.

COCOANUT TODDY. Cocoanut trees of vigorous growth send forth nine, ten, and even twelve clusters of buds every year. But those on which little care has been bestowed, and which are consequently feeble, produce only four or five of these spathes, called in Tamil 'palai.' The 'Sanar,' or toddy-drawer, when accoutred, has first in importance among his appointments, the arivalpatty (lit. knife-box), made from the sheath of the spathe, and bound round tight with two binders of rattan. A strongly plaited rope is permanently fastened to one side of the arivalpatty. The short arm of it has a much smaller loop; when fastened round the waist, the longer arm is passed inside the small loop of the short arm. Through the loop of the long arm, the toddy-drawer passes the end of his waist-cloth, and ties it into a knot. Next in importance is the eropetty, into which the toddy-drawer empties the toddy collected in the pot or chatty up the tree. It is made of palmyra fibre closely plaited, and, when moistened, is water-tight. Two wooden collar shavings, about two inches broad, encircle the mouth of the eropetty, one inside and one outside; between them the plaited wicker-work is run up and made fast. To keep the eropetty in its bulged, bottle-like form, a piece of rattan about half-way down is woven in, and encircles the vessel like the hoop of a barrel. The eropetty hangs suspended over the hoop of a barrel. It takes nearly a year's practice to make a man master of the curious mode of climbing, after which the loftiest trees are ascended in a minute with surprising ease. After a hard morning's work, the left arm always aches more than the other limb, showing that there is more strain on it than anywhere else. When an accident befalls a toddy-drawer, it is usually occasioned by his left hand missing its hold on the tree and slipping aside, which brings him to the ground instantly, often with fracture or injury of that limb.

When the spathe is a month or a month and a half old, the toddy-drawer begins his labours by binding the sheath to prevent its expansion, after which he cuts about an inch off the end, then gently hammers the flowers which are thereby exposed. Finally, he binds up the end with a broad strip of fibre, and descends. This process he continues morning and evening for fifteen days, a thin slice being cut away on each occasion. During this time, also, by shaving away a little of the under part of the sheath, he trains it to bend over. It is probable that the exact term of days during which the spathe undergoes this initiatory preparation varies in different places, and depends upon surrounding circumstances. Mr. Berthold Seeman, in his Popular History of Palms, mentions five or six days as sufficient. Near Madras, a toddy-drawer gave fifteen days as the usual time; but the time when a spathe is ready to yield toddy will be easily known by the chattering of birds, the crowding of insects, the dropping of the juice, and other unmistakeable signs. When ready, the end of the spathe is fixed into a kudave or small pot, and a small slip of leaf is pricked into the flowers to catch the oozing liquor, and to convey the drops, without wasting, clear into the vessel. When the spathe begins to yield toddy, he ceases to hammer it. It will give toddy for about a month, during which time, every morning and evening, he mounts the tree, empties the toddy into his eropetty, binds the spathe an inch lower down, smears the end of it with his palai mattai, and shaves a little away, then pricks in the slip of leaf, and ties the kudave on again. The man who ascends the tree is generally a paid servant, receiving about Rs. 7 a month. He will attend to thirty or forty trees. Forty trees yield about twelve measures (Madras) of juice, seven in the morning and five in the evening. During the heat of the day the spathe does not yield so freely as in the night. Twelve measures for forty trees is at the rate of a little more than one-fourth of a measure to each tree.

A first-rate tree in a good soil, and carefully tended, will produce one measure during the night, and three-fourths or one-half of that quantity during the day; but, taking one tree with another, a quarter of a measure is a fair average. Some trees, under favourable circumstances, continue yielding at this rate throughout the year, others only for six months. It is not prudent, however, to draw all you can from them, as they will be exhausted, and become barren. Every morning and evening, when the Sanar goes to draw the toddy, a servant or some one connected with the owner or contractor for the trees, usually accompanies him with a chatty, into which is emptied the toddy from the eropetty. When all the trees have been visited, and the toddy measured into the chatty or cullu-pani, it is carried away to the bazar rented by the contractor from Government at a fixed price. In Madras there are about 58 first-class toddy shops, to each of which 330 cocoanut trees are allotted, the contractor paying daily Rs. 2·12·10 to Government for each such shop; also 63 second-class toddy shops, to each of which 247 cocoanut trees are allotted, each shop yielding daily Rs. 2·2·10 to Government; and also 205 third-class shops. There is nothing very peculiar about the habit, custom, or dress of the Sanars to separate them from other Hindu castes, apart from their occupation. Around Madras the Sanars are divided into two classes, the higher and the lower; the latter are called Pully Sanar, and permit their widows to marry.—*Dr. Cleghorn, in No.* 23, *Edinburgh New Philosophical Journal*, 1861.

COCOANUT TREE BEETLE, Butocera rubus.

COCO-MEAL is prepared in the West Indies from the starchy tubers of Colocasia esculenta, *Schl.* The labouring population of the West Indies largely depend for a supply of food on this root. Long droughts may disappoint the hope of the yam crop, storms and blight may destroy the plantain walks, but neither dry nor wet weather materially injures the coco. Previous to their emancipation, whole families of Negroes lived upon the produce of one provision ground, and the coco formed the main article of their support. Where the soil is congenial to the white and black Bourbon coco, the labour of one industrious person once a fortnight will raise a supply sufficient for the consumption of a family of six or seven persons. The coco begins to bear after the first year, and with common care and cultivation the same plant ought to give annually two or three returns for several years.—*Simmonds.*

COCOON. Indung sutra, MALAY. The covering spun by the silkworm, and in which it wraps itself.

COCOS. There are three groups of islands known by this name. The Cocos Islands, in lat. 14° 10′ N., and long. 93° 10′ E., 45 miles distant from the north-east point of the great Andaman, are two little isles. The larger of them is six miles long and two broad, the smaller two miles and a half long and nearly a mile broad. They are sheltered by the Andamans from the heavy south-west swell of the Bay of Bengal. They are unhealthy.

The Cocos, near Hog Island, in lat. 3° 6′ N., and long. 95° 30′ E., on the west coast of Sumatra, are two small islands covered with trees.

The Cocos or Keeling Islands, south of Java, lie in two distinct divisions north and south of each other. The channel between the two is 15 miles broad; the northern division consists of one island only, in lat. 11° 49¼′ S., and long. 96° 51′ E., but the islets in the southern one are numerous.—*Rec. Gov. of India*, xxv. p. 64; *Horsb.*

COCOS NUCIFERA. *L.* Cocoanut tree.

Palma Indica major.		Calappas, *Rumph.*	
Ba,	ACHIN.	Narikela,	SANSK.
Narjil,	ARAB.	Tœmbili,	SINGH.
Narikal,	BENG.	Pol nawasi,	,,
Theinghana,	CAN.	Tennam maram,	TAM.
Ye-tsze,	CHIN.	Kobbari chettu,	TEL.
Narel ka jhar,	HIND.	Erra bondala,	,,
Kalapa; Nur,	MALAY.	Tenkaia chettu,	,,
Tenga,	MALEAL.	Gujju narekedam,	,,

The Nut.

Jouz-i-hindi,	ARAB, PERS.	Cocchi,	IT.
Narjil, Nargil,	,, ,,	Kalambir,	MALAY.
Kokosnuten,	DUT.	Kokos,	RUS.
Cocos,	FR., SP.	Tengai,	TAM.
Kokosnusse,	GER.		

The Palm Wine or Toddy.

Nargilli,	ARAB.	Tennam kallu,	TAM.
Narilli,	DUKH.	Tenkaia ,,	TEL.

Its Cabbage.

Narel ka krute,	HIND.	Tenkaia gurtu,	TEL.
Tennam kurtu,	TAM.		

Its Water or Albumen.

Yel nir ka pani,	DUKH.	Yella-nir, Yella-niru,	TAM, TEL.

Its Fibre.

Coir,	HIND.	Tennam nar, Tenkaia nar,	TAM, TEL.

The cocoanut palm does not seem to have been known to the ancients, though it is said to be indigenous in the East, from which they received ambassadors; and is said by the Hindus to have been brought by Viswamitra from Ceylon to India. The first allusion to it in Ceylon is of A.D. 1153, in the time of king Prakrama I. It now grows in great abundance in the Maldive and Laccadive islands, on the Malabar coast, in Ceylon, on the eastern side of the Bay of Bengal, though scarce in Arakan, whence it ascends both the Brahmaputra and Ganges rivers to a considerable distance. It grows in the Nicobars, in China to lat. 20° N., in most parts of the Eastern Archipelago, from the Sunda to the Molucca Islands, and in those of the Pacific Ocean, and is now cultivated in various tropical parts of the New World. It grows to a height of 1000 feet above the sea, though flourishing in greatest luxuriance in the vicinity of the ocean. It rises sixty to a hundred feet high; its cylindrical trunk, three feet in diameter, is crowned with numerous waving, feathery leaves, forming an elegant object of intertropical scenery. It is self-propagating. Its keel-shaped nut, protected from the salt water by its tough and thick though light covering, sails on the ocean to barren spots, where it germinates, and causes even the smallest islets to become covered with clumps of the cocoanut palm. They are surmounted by numerous wavy leaves, called fronds by botanists, and their footstalks are often called branches by travellers. The leaves are gigantic in size, being about 20 feet in length, with a strong tough stalk, which forms the midrib, and has a number of narrow and long leaflets ranged along the two sides.

It is a tree of great value to the people, who utilize it in upwards of a hundred ways. The

wood is applied to various purposes, such as rafters, fences, shears, laths, shingles, chairs, and ladies' work-boxes, etc.; but during the period of its most abundant bearing (considered to be between ten and thirty-five years' growth), the heart-wood is of so soft and spongy a nature, that it is then merely used for fences, water-pipes, etc. Its wood is also used for reepers, for which purpose it is, however, inferior to the palmyra, though, in Ceylon and on the western coast, hard and durable rafters are procurable. The Cochin planks are prettily striped, and of remarkable size. The wood is strong and durable; a cubic foot weighs 70 lbs., and it is esteemed to last for 20 to 50 years. It is used for ridge-poles, for temporary roofs, aqueducts, etc.; for small boats; for the beams, posts, and rafters of houses; for spear handles, paling, and walking-sticks; for fancy boxes and furniture; for boats' frames, bridges, ramparts, water butts, conduits, gutters, and drums. It forms one of the porcupine woods of commerce, and is used for fancy articles. A farinaceous substance is contained in the stem, which forms a good substitute for sago. Each tree produces annually from 50 to 60 cocoanuts, but up to 300 nuts have been obtained from a single tree, but some trees never fruit at all. From the appearance of the flower until the fruit drop, a period of fourteen months elapses. These are enclosed in a thick fibrous husk, from which the coir of commerce is obtained by maceration and beating. The husk is employed as a scrubbing brush and polishing brush; it is converted into cordage of various kinds, employed for the rigging of ships, fishing-nets, matting, and brushes; and in India, in its loose state, it is the usual material with which mattresses, pillows, and sofas are stuffed. Within the fibrous husk is the shell, which is very brittle, though its structure is somewhat fibrous. Cut in various ways, it is formed into cups and drinking vessels, into pitchers, funnels, and lamps. It is susceptible of a high polish, and admits of being turned in an agreeable manner. Those shells which are tolerably circular are used for the bodies of cups and vases, the feet and covers being made of wood and ivory. Common buttons are also made of the cocoanut shell, and are considered better than those of horn, as they do not, like that material, absorb the moisture, which causes horn buttons to swell and burst. The shell forms a valuable charcoal.

In its young and green state, the cocoanut contains a clear albuminous fluid, with a sweetish taste and a slight degree of astringency, which makes it a very agreeable, refreshing beverage; and it is also used by house plasterers as an ingredient in their whitewashes made of pure lime. But as the nut advances to its full maturity, the fluid disappears, and the hollow is filled by the almond-like dried albumen, which is the germinating organ. This pulp or kernel, when young, can be easily removed by a spoon. When cut in pieces and dried in the sun, it is called copra, which forms an extensive article of commerce throughout the south and east of Asia. It is used grated in curries, or its milk is expressed from it; and from copra a valuable oil is expressed, which is employed in anointing the body, is used in lamps, is largely converted into the stearine candles of England, and forms an invaluable substitute for cod-liver oil. The refuse oilcake, 'poonac,' forms an excellent manure. The white and solid albumen is often cut into ornaments of flowers and fruits, meant to represent the garlands given to visitors of distinction. They are worn by Tanjore ladies at particular festivals.

The very young or heart-leaves of this palm are called the cabbage, and form an excellent vegetable, either cooked or dressed in stews, hashes, or ragouts. In the Laccadive Islands, the heart-leaves of the tree, just before they unfold, are cut out and plaited into mats of fine quality, which are there used as sails for the smaller boats, and are much esteemed when exported. In India, the leaves, dried, and called by Europeans cadjans, are plaited and used as thatch, and for the outer and inner linings of walls of houses. The leaves are also made into mats, baskets, both fancy and plain; into fans, combs, brooms, screens, buckets, and lanterns; into articles of dress; and into leaf-books, torches, and fuel. The footstalks of the fronds are used for fences, yokes, shoulder-poles, and fishing-rods. The midribs of the leaves or fronds are fibrous, but brittle, and are used as brooms. The roots of the tree are chewed as a substitute for betel-nut.

One of the beverages known to Europeans as palm-wine or toddy, is obtained from the flower spathes. Before the flowers have expanded, the spathes—and these are themselves astringent and used medicinally—are tied with the young leaves, and then cut transversely from the top downwards, and beaten daily with the handle of the knife or a piece of hard wood, and the sap, after a few days, exudes into a calabash or earthen pot. In the early morning this is a pleasant, refreshing drink; but it ferments towards night, and becomes an intoxicating fluid, which is largely drank, and is used as a ferment. It is to a great extent artificially brought to the vinous and acetous fermentations, and, in the former state, an alcoholic spirit is distilled from it, which forms one of the arracks of commerce. One hundred gallons of toddy produce, it is said, by distillation, twenty-five gallons of arrack: eight gallons of sweet toddy, boiled over a slow fire, yield two gallons of a luscious syrup, from which, by further boiling, a coarse brown sugar is produced, known in commerce as jagari. The net-like substance Peynadi, TAM., Jalla mitta, HIND., at the base of the petiole, when very young, is delicate, beautifully white, and transparent; but when it attains maturity, becomes coarse and tough, and changes to a brown colour. Portions of these are everywhere used as strainers and sieves, for straining fluids, sifting arrowroot, etc.; and the Tahitian fishermen convert it into a garment when fishing.

The flowers contain a powerfully astringent property, which is used medicinally; and it is from the flower and spathes, before the flower has expanded, that the toddy or palm-wine of this tree is obtained. The Tahitians extract a gummy substance, called Pia-pia, from the trunk of the tree.

George Herbert, writing of the cocoanut, has said,—

> . . . 'The Indian's nut alone
> Is clothing, meat and trencher, drink and can,
> Boat, cable, sail and needle, all in one.'

In Malabar and Ceylon, every available spot

within the influence of the sea-breeze is being devoted to the growth of the cocoanut. Along the western coast of the Madras provinces, the wavy downs near the sea borders, which have hitherto produced only a stunted and worthless crop of grass, are being everywhere levelled, broken up, and manured, so as to form the beds of future plantations. Cocoanut trees have great enemies in the shape of two beetles. One of these is a large Curculio (Rhynchophorus Sach) called the red beetle, nearly as big as the stag-beetle of Britain; the other is the Oryctes rhinoceros, so called from its projecting horn. The red beetle is so called from the red mark on the upper part of its breast. Its attacks are said to be on the nut, but those of the rhinoceros beetle are on the terminal bud of the palm stem. When so injured, the bud dies, and the crown of the leaves falling off, leave the cocoanut tree a mere bare stem. The same result occurs to other palms, the palmyra, the betle, in which the top bud, or cabbage, as it is called, is destroyed.—*Collingwood; Simmonds; Royle's Fib. Pl.; Madras Exh. Jury Reports; Seeman on Palms; Ainslie; Madras Lit. Soc. Journ.; J. Ind. Arch.; Eng. Cyc.; Elliot's Flora Andhrica; Cal. Review; Malcolm's Tr.* ii. p. 176.

COCOTIER DE MALDIVES. Fr. Sea cocoanut; Lodoicea Seychellarum.

COCOYA. Malay. Sleeping mats made from the leaf of the Pandanus odoratissimus.

COCUM OIL or Butter is obtained from the seeds of Garcinia purpurea, and used in various parts of India to adulterate ghi or butter. It is said to be exported to England for the purpose of mixing with bear's grease in the manufacture of pomatum. It is a white or pale greenish-yellow solid oil, brittle, or rather friable, having a faint but not unpleasant smell, melting at about 95 degrees, and when cooled, after fusion, remaining liquid to 75 degrees.—*Simmonds.*

COD.

Kabliau; Bakelau, . Dan.	Baccala; Baccalare, . It.
Skrei torsk, ... ,,	Gadus, ... Lat.
Kabeljaauw; Baukaelja, Dut.	Bacalhao, ... Port.
Morue; Cabillaud, . Fr.	Bacalao, ... Sp.
Kabljau; Bakalan, Ger.	Bakelau; Kabeljo, . Sw.

In China the consumption of salted provisions is very general. Fish, cured with salt and dried in the sun, is one of their most generally used articles of food; and on salted cod being introduced for two or three years in English ships, the somewhat decayed condition in which it reached China was anything but a drawback. But this cargo, besides its disagreeable nature and the injurious effect on some delicate articles of shipment during the voyage, bred a peculiar insect, which, from the readiness with which it bored into the planks and timbers of a ship, was considered as dangerous, and accordingly the import was greatly discontinued. Cod sounds, brought into Britain in great quantities from Newfoundland, are the salted air-bladders of these fishes. They are also largely imported into England from the east coast of Scotland. Cod-liver oil is largely in use throughout the world in cases of threatened phthisis.—*M'Culloch's Com. Dict.* p. 302; *Morrison, Compendious Summary.*

CODILLA or Tow, the short fibres of hemp or flax, separated or picked out in cleaning.

CODO. Hind. Paspalum frumentaceum, *Kœn.* This is sown early during the rainy season. Its small grain frequently has inebriating properties, when made into bread. Such codo is known by the name of mutouna, from Mutt, drunk, intoxicated. In appearance it resembles ordinary codo; it is sown as ordinary codo, and comes up as mutouna, but only in those fields on which codo has been previously grown; and even in such case, only, perhaps, in one instance out of ten. These curious properties of codo have invested it with a degree of mystery in the eyes of the natives of India, and the Kakun Rajputs of Ghazipur are said to worship it as a divinity. They never cultivate or eat codo,

'Nefas violare et frangere morsu;'

and the reason assigned is that, while under the influence of mutouna, they were set upon by some of the neighbouring tribes, and thus lost the greater part of their once extensive possessions. Kisaree (Lathyrus sativus) is another grain which is found to have injurious properties.—*Elliot.*

CŒCILIIDÆ, a family of curious reptiles of the order Batrachia apoda. The family contains two genera, Cœcilia oxyura, *D. et B.*, which is found in Malabar, and the genus Epicrium, of which E. glutinosum, *Linn.*, is found in Ceylon, and E. monochroum, *Bleeker*, in Pegu. Linnæus gave to the Ceylon species the name Cœcilia glutinosa. This is an inch in diameter, and nearly two feet in length. Its eyes are so small and imbedded as to be undistinguishable to ordinary observers, who believe the reptile to be blind. Like snails, eels, and some salamanders, it secretes a viscous fluid from minute pores in its skin. The skin is furrowed into 350 circular folds, in which are imbedded minute scales. The head is tolerably distinct, with a double row of fine curved teeth for seizing the insects and worms on which it is supposed to live.—*Sir J. E. Tennant*, p. 318.

COEL. Hind. A bird of the family Cuculidæ. It is the Eudynamys orientalis, and inhabits Ceylon, India, Malay countries, and China, and is called Coel, Hind., Kokil, Beng., Chule, Malay, and Cowdecoha, Singh., all of the names being obtained from its ordinary call, which closely resembles the word Koil. Like the cuckoo of Europe, this is, in India, the harbinger of spring; and its call, though shrill and disagreeable, is associated with all the joys and labours of husbandry of that season, and is quoted in the rhymes and proverbs of the people. Thus Coel bolee, Sebundee dolee, the cry of the coel is the grief of the sebundy soldier; meaning that the disbanding of the armed men gathered together for collection of revenue depends on the coel's note,—Sebundee being a corruption of Sipah Hindee, in distinction to Moghul or foreign troops, who were always kept up. The coel, indeed, occupies much the same place in India that the cuckoo does in Europe. The European names, even, are all derived from the Sanskrit name Cuculus. Pliny says that the vine-dressers deferred cutting their vines till the cuckoo began to sing. There is the cuckoo-ale of England, which the labourers leave their work to partake of, when the first cuckoo's note is heard. There is also the vulgar superstition in England, that it is unlucky to have no money in your pocket when the first cuckoo of the season is heard; and the amorous Hobnelia tells us that in love omens its note is equally efficacious.—*Elliot.*

COEL, the ancient name of Alighur, where M. Perron built a fortress.

COELAGOERYP, a race in Cochin who make bows, arrows, shields, and other weapons. The Canniargoeryp race teach fencing and the use of weapons. The Coelady are trumpeters.

CŒLOGYNE, a genus of plants belonging to the natural order Orchiaceæ. The most gaudy of the plants of Borneo are perhaps the various species of Cœlogyne, called collectively by the natives the bu-nga ka-sih-an, or the flowers of mercy; their white and orange-coloured flowers are exceedingly delicate and beautiful, and they are all highly fragrant. About 20 species occur at the foot of the Himalaya, Nepal, the Khassya Hills, and China, namely, angustifolia, barbata, cristata, decora, elata, fimbriata, flavida, Gardneriana, interrupta, longicaulis, maculata, media, nitida, ocellata, ovalis, præcox, procera, prolifera, rigida, undulata, Wallichiana. Borneo has C. Lowii, *Paxton*, pandurata, *Lindley*, the last with large green and black flowers.

CŒLOPS, a genus of the mammalia, of the sub-family Rhinolophinæ, of the sub-order Cheiroptera or bats.

COEPANG, a Dutch settlement in the S.W. part of the island of Timor.

COFFEA, a genus of plants belonging to the natural order Cinchonaceæ. There are several species, viz. C. Arabica of Arabia, from which it has been introduced into many countries; C. Bengalensis, the Bun-kahwa or wild coffee, which grows in Assam, Nepal, and the Khassya Hills; C. elliptica, *Thwaites*, a small tree of Ceylon, growing to 10 or 12 feet high in the Hinidoon Corle; C. Guianensis, *Aubl.*, of Guiana and Trinidad; C. Mauritiana, *Lam.*, of Bourbon; C. Mexicana, *D.C.*, and C. obovata of Mexico; C. Liberica, *Bull.*, of Liberia; also C. tetrandra of the Khassya mountains; and Wight describes C. alpestris, Grumelioides, and Wightiana. The Coffea Arabica trees are now grown in Abyssinia, and in tropical Africa generally; in Arabia, on the slopes of the Neilgherry Hills, in the Peninsula of India, at Lohardugga in Bengal; in Ceylon, Siam, Burma, Sumatra, Java, Manilla; in Queensland, in the Mauritius; in the West India Islands, Central America, Brazil, and Peru. The seeds known as the bean, from the Arabic 'boon,' are the economic product of this tree, and Great Britain obtains its supply of them from many of the above-mentioned countries,—from Ceylon, British India, Brazil, and Central America. In 1880 its imports reached 1,555,939 cwt., valued £7,062,016; and 290,802 cwt. were retained for home consumption. In British India, Mysore, and Cochin, there were in 1880, 47,978 coffee plantations, with 162,373 acres under mature plants. The approximate yield is 33,100,778 lbs.; and the yield per acre of mature plants ranged up to 447 lbs., being smallest in Mysore and highest in the Neilgherries. Seven cwt. per acre have been claimed for the yield occasionally on some of the Coorg estates, but reliable information was furnished in the fifth issue of the Statistical Tables for British India. In 1879 there were 17,351 estates in British districts, with 62,729 acres under mature plants, and the average yield per acre of mature plants was 325 lbs., the greatest crop being on the Neilgherries, where 462 lbs. or 4 cwt. 14 lbs. was the average. The crops per acre in Mysore were only 14, 22, and 30 lbs. respectively in the Kolar, Hassan, and Shimogah districts. The plantations in these three districts numbered 10,965, and 44,116 acres were under mature plants. The Kadur district of Mysore had 13,802 plantations, but the other data are not given. Coorg had 4248 plantations, with 39,150 acres of mature plants, and its yield averaged 328 lbs. In the Feudatory States of Cochin and Travancore there were 140 plantations, with 16,340 acres of mature plants, yielding 246 lbs. per acre.

COFFEA MAURITIANA. *Lam.*

C. Arabica, β., *Willde.*	C. sylvestris, *Willde.*
C. myrtifolia, *Roxb.*	Café Marron, . . . FR.

A plant of the Mauritius, Bourbon.—*Voigt.*

COFFEE BERRY.

Boon, . . AR., BOMBAY.	Bun, Kahwa, Kapi, VERN.
Kia-fi-cha, . . . CHIN.	Kafi, Kofi, . . . ,,
Eleane, ... EGYPT.	

The coffee tree is supposed to be indigenous to the mountain regions of Enarea and Cuffa, to the south of Abyssinia, whence about the 16th century it was introduced into Arabia, in the 17th century into Ceylon and Mysore, into Mauritius and Bourbon in 1718, and Batavia in 1723, and subsequently into the West Indies. Abd ul Kadar Mahomed ul Azari ul Jeziri ul Hanbali, who wrote in Egypt about A.D. 1587, relates that in the middle of the 15th century Jamal ud Din Abu Abdulla Mahomed bin Saeed ud Dubani was Kadi of Aden, and, having occasion to visit Abyssinia, he found his countrymen there drinking coffee, and on his return to Aden introduced it, whence it passed into Arabia generally. Shaikh Ali Shaduli ibn Omar settled near the sea about A.D. 1630, on the plain now occupied by the town of Mocha, and his reputation drew people around him, till a village was formed. He greatly recommended the use of coffee, and he has ever been regarded as the patron saint of Mocha, the people having, on his demise, erected over him an elegant tomb. Tavernier, in the 'Collection of Several Relations,' etc., published in London in 1680, has stated (page 64) that 'coffee grows neither in Persia nor in India, where it is in no request; but the Hollanders drive a great trade in it, transporting it from Ormus into Persia, as far as Great Tartary, from Balsara into Chaldea, Arabia, Mesopotamia, and the other provinces of Turkey. It was first found out by a hermite, whose name was Sheck Siudeli, about twenty years ago, before which time it was never heard of in any author either ancient or modern.'

Coffee has been grown in part of Mysore almost from the same time that the Arabs have known it. It was brought there from Arabia by a Mahomedan pilgrim, named Baba Booden, who formed a college on a spur of the hills now called after him, and from there the coffee plants spread. He is said to have brought with him only seven coffee beans, which he planted, and it is now one of the most valuable of the plants which have been distributed by man. Its large, pure white, sweet-scented flowers appear in March, April, and May, and it fruits in November, December, and January. Its fruit contains an active principle called caffeine, which has been found to be identical with theine; and a decoction of the roasted berries, or an infusion of the berries, is a well-known article of diet, and with tea, cocoa,

matao, Paraguay tea, guarana, and kola nuts, constitute the beverages of the European, American, Asiatic, and African peoples. Each of these plants contains the alkaloid theine. Different in botanical characters, varied in genera, yet not very unlike in flavour, they all contain this valuable active principle. The theine in dried kola nuts is about 2 per cent., coffee has 0·5 to 2·0 per cent., and tea from 0·5 to 3·5 parts in 100. The coffee berry consists almost wholly of albumen, which surrounds the small embryo of the seed, and in infusion or decoction is a stimulant. In Arabia, the decoction and infusion is often prepared from the husk and the bean, and often from the husk alone. Lane says Kahwa is an old Arabic term for wine. Dr. Shortt, in his Handbook to Coffee Planting, described the process of wine and spirit making with the fresh coffee pulp, but also from the dried husks of the fruit.

Coffea Liberica, *Bull.*, the Liberian coffee plant, is of almost arboreal growth. It has a larger leaf, and its berries also are larger, and of superior flavour to those of C. Arabica, and it is more productive. It was at one time hoped that this plant would be less affected by the Hemileia mould, known as the leaf disease, as it is said to have an immunity from the cemostoma fly.

The import of coffee into Great Britain from Ceylon and other British possessions, from Brazil, Central America, and other countries, was as under:—

Years.	Cwt.	Value.	Years.	Cwt.	Value.
1877,	1,609,717	£7,788,014	1879,	1,617,389	£7,247,568
1878,	1,273,410	6,012,977	1880,	1,555,939	7,062,016

Liberian coffee grows at elevations unsuitable to the Arabian species. At the end of 1877 there were in Ceylon about 500 acres planted with Liberian coffee. Estimates of the area under cultivation at the end of 1880 varied from 4000 to even 10,000 acres. Though not enjoying complete immunity from the attacks of leaf disease, the growth and productiveness of the trees have not so far been affected by it. London dealers are said not to appreciate its bean very highly, but it has been favourably received in America.—*M'Culloch; Waring; Royle; Birdwood; Voigt; Journ. Ind. Arch.; Statistical Tables; F. von Mueller.*

COFFEE PLANTING, as a branch of agricultural industry, although only introduced into India in comparatively recent times, has attracted many persons. The outlay has been great, but both in Ceylon and Southern India the losses have been considerable, often ruinous. In Netherlands India, coffee planting has been a Government monopoly, and there has been a large exportation of coffee from Java; but the most recent information is to the effect that the monopoly is not, or was but little, remunerative. In British India coffee is grown along the summits and slopes of the Western Ghats, from the northern limits of Mysore south to Cape Comorin; in Coorg, Travancore, in the Wynad, on the slopes of the Neilgherry Hills, and also on the Shevaroy Hills and Pulney Hills. Major Bevan introduced coffee into the Wynad about the year 1822, as a curiosity. Mr. Cannon, somewhat later, formed a plantation in Mysore; Mr. Glasson, in 1840, formed a plantation at Manautoddy; and in 1842 it was growing well at Belgaum. The extension has since been great; and in 1880, in the Cochin, Travancore, Mysore, and Madras districts, and at Lohardugga in Bengal, 412,947 acres had been taken up for coffee, of which 162,847 acres had mature plants. The yield per acre on exceptional estates, in exceptional seasons, is said to be greater. The cultivation in British India has increased in extent year by year, and the exports, chiefly to Europe, have been as under:—

Years.	Cwt.	Value.	Years.	Cwt.	Value.
1850-51,	64,797	£100,509	1865-66,	309,823	£785,103
1851-52,	77,772	84,306	1866-67,	...	...
1852-53,	70,227	97,490	1867-68,	296,332	761,342
1853-54,	...	109,761	1868-69,	433,288	1,121,032
1854-55,	66,072	82,794	1869-70,	325,831	870,189
1855-56,	82,197	120,201	1870-71,	301,935	809,701
1856-57,	...	132,819	1871-72,	507,296	1,380,410
1857-58,	54,677	99,727	1872-73,	375,887	1,146,219
1858-59,	104,421	135,036	1873-74,	367,132	1,499,496
1859-60,	128,088	188,532	1874-75,	312,874	1,307,918
1860-61,	170,706	337,433	1875-76,	373,499	1,633,395
1861-62,	192,015	467,991	1876-77,	304,158	1,353,588
1862-63,	187,908	513,257	1877-78,	298,587	1,344,638
1863-64,	238,866	657,672	1878-79,	342,268	1,548,481
1864-65,	289,178	801,908	1879-80,	361,037	1,633,032

Ceylon.—The coffee tree was introduced into Ceylon by the Arabs before the arrival of the Portuguese, but the Singhalese only employed its tender leaves for their curries, and its delicate jasmine-like flowers for ornamenting their temples and shrines. The Dutch carried the coffee tree to Batavia in 1690, and about the same time they began its cultivation in Ceylon, but again ceased in 1739. Its culture, however, continued to be prosecuted by the people; and, after the British occupation, the Mahomedans collected it in the villages, and brought it to Galle and Colombo, to be bartered for cutlery, cotton, and trinkets. It was extensively diffused over the country by the agency of birds and jackals. From 1821 the quantity of coffee shipped to Britain yearly increased,—native grown, badly prepared berry, and ranking below almost every other kind of coffee. In 1830 the first attempt at careful coffee cultivation and curing was made on a considerable scale by the governor of the island, Sir Edward Barnes, and the success induced others to apply for waste forest land. During 1836 and 1837 upwards of 7000 acres of Crown lands were purchased, and partly cleared and planted; and in 1836 the crop was 60,330 cwt. It had become widely extended through the Kandyan provinces. On the Himasgaria mountains, in 1840, a small plantation was formed. In 1846 there were fifty estates there, averaging each 200 acres of planted land, and yielding an average crop of 80,000 cwt. of coffee. On the 31st December 1847, there were 50,070¾ acres cultivated. The gross outlay of this is said to have amounted to £5,000,000 sterling. In the seventeen years 1855 to 1872, the extent of coffee land cultivated in Ceylon increased 175 per cent., the number of plantations rising from 404 to 1087, the crop from 374,000 to 760,000 cwts. The out-turn of produce increased 100 per cent., but the average yield per acre decreased from 5·5 cwt. to 4·88 cwt. (Standard, Nov. 17, 1873). In 1875 coffee was under cultivation in 37 districts of Ceylon, containing in all 1351 properties, of a total 481,539 acres, of which 249,604 acres were cultivated. From 1856 to 1875 the crops per acre have ranged from 2·75 cwt. in 1874, to 5·07 cwt. in 1868, the general average being rather under 4·25 per acre.

Coffee interests in Ceylon were injured by the over-eagerness of the early planters to obtain coffee property, leading them to pay unremunerative prices. The coffee crop of 1870-71 was generally a bumper. The season of 1871-72 was one of short crops, caused by irregular blossoming showers, and by the leaf disease, which then made its first appearance. From 1871 to 1878, on the average, 707,590 cwt. of coffee were exported from Ceylon, and the average production per acre was 3·79 cwt. In 1879 the export was 774,774 cwt., and the out-turn per acre cultivated was 3·60. In the three years 1878 to 1880, the average export was 658,575 cwt., and the average yield per acre was 3·01 cwt. Since these unremunerative results followed, the planters have been directing their attention to cacao, cinchona, and tea.

In *Arabia Felix* the culture is principally carried on in the kingdom of Yemen, towards the cantons of Aden and Mocha. Although these countries are very hot in the plains, they possess mountains where the air is mild, and the coffee is generally grown half-way up on their slopes. When cultivated on the lower grounds, it is always surrounded by large trees, which shelter it from the torrid sun, and prevent its fruit from withering before its maturity. The harvest is gathered at three periods; the most considerable occurs in May, when the reapers begin by spreading cloths under the trees, then shaking the branches strongly, so as to make the fruit drop, which they collect and expose upon mats to dry. They then pass over the dried berries a heavy roller, to break the envelopes, which are afterwards winnowed away with a fan. The interior bean is again dried before being laid up in store. The principal coffee districts are Henjersia, Tarzia, Oudein, Aneizah, Bazil, and Weesaf. The nearest coffee plantations are three and a half days' journey (about 80 miles) from Aden. Coffee is brought into the Sana market in December and January from the surrounding districts. The varieties are Sherzee best, Ouceaime, Muttanee, Sharrazee, Hubbal from Aniss, Sherissee from Aniss. The nearest place to Sana where the coffee tree grows is at Arfish, half a day distant. The coffee plant in Arabia is mostly grown near the sides of mountains, valleys, and other sheltered situations, the soil on which has been washed down from the surrounding heights, and carefully protected by means of stone walls, so as to present to the traveller the appearance of terraces. The plant requires a moist soil, though much rain does not appear necessary. It is always found in greater luxuriance at places where there is no spring; yet an abundant supply of water to the root of the plant seems necessary for the full growth and perfection of its bean. Mr. Palgrave says the best coffee is that of Yemen, exported from Mocha, but Arabia, Syria, and Yemen consume two-thirds of it, and the other third finds its way to Europe, to the west of Constantinople, and is used by Turks and Armenians. The rounded, half-transparent, greenish-brown berries are deemed the best. It is also exported by the Red Sea into the Hejaz and Kasim in Shimer. It was stated by Niebuhr to have been brought by the Arabs from Abyssinia to Yemen, from a country similar to their own plains and mountains; that people had for ages cultivated it in the hilly range (Jabal) in a healthy temperate climate, watered by frequent rains, and abounding in wells and water tanks.

In *Ceylon*, the coffee plant will grow and reproduce itself on a level with the sea; and at 2000 feet above it, the trees, whilst young, will have the most luxuriant appearance, come soonest into bearing, and yield the greatest measurement quantity per acre, but the bean is light, and of an inferior quality. The best Ceylon properties are situated on the mountains at from 3000 to 4500 feet above the sea, where rain is frequent, about 100 inches annually, and the temperature moderate, the maximum 80° and minimum 15°. The aromatic properties (and consequently fine flavour) of the coffee plant are best developed in Ceylon between 3000 and 5000 feet above the ocean. The higher it is cultivated, with care, below frost, the better has been the quality of the produce, although the yield is less. The appearance of high mountain beans is long, blue, the longitudinal seam curved, with its sides close and compact; its specific gravity is greater, and its aromatic principle more abundant and finer, than that produced on low lands, which is attributed to its being grown slowly in a cold climate. The best plantations are situated in the Kandyan province, where the thermometer ranges at noon about 76°, and in the morning not higher than 60°. The coffee berry in those elevated regions has therefore to be conveyed to Colombo, where a constant high temperature enables the merchant to complete the drying process, which the planter had but commenced. Coffee planting failed over a considerable portion of the southern province of the island. The temperature was found to be too equable, not descending sufficiently low at any time to invigorate the plant, which, though growing luxuriantly at first, soon became weak and delicate. The chief crop ripens in October and November, and a small second gathering is looked for in May. The following have been the average quantities and values of quinquennial exports from Ceylon:—

Years.	Cwt.	Value.	Years.	Cwt.	Value.
1837-41,	54,872	£151,320	1857-61,	600,942	£1,506,406
1842-46,	140,220	284,473	1862-66,	785,998	2,009,342
1847-51,	315,049	537,348	1867,71,	973,975	2,514,389
1852-56,	411,264	861,269	1872-76,	799,124	3,444,233

In Ceylon, suitable coffee land has been costing £8 to £20 the acre; and £25 to £30 the acre was the estimate for bringing the purchased land into bearing, and providing proper buildings, suitable paths, roads, and drains. In Ceylon it is considered better to choose an easterly or northerly aspect; for though the morning sun falling on the dew is said to injure the plant, and the setting sun to improve its fruit, the advantage of shelter outweighs these considerations. The south-west monsoon is apt to exercise a blighting influence, curling up and withering the few leaves it does not beat off the trees. In Ceylon, the best soil is of a deep chocolate colour, friable, and abounding with blocks and small pieces of stone. Such patches of land are generally found at the bottom of the escarpments of the hills, or in elevated valleys, and rarely on the slopes. Quartzose land must be carefully avoided, and clay is equally bad. A good surface soil should have at least two feet of depth, as the coffee tree has a long tap root. A nursery must be proportioned to the extent of land to be culti-

vated, and situated with regard to proximity to the extended fields. The seed-grains are sown six inches asunder; if the land become parched, it will be well to shade it with green branches, and irrigate it night and morning; should a long continuance of rain follow the sowing, the seed sometimes decays in the ground. It requires from six weeks to three months, according to moisture and warmth, before it germinates, and in four months more the seedlings are ready to be transplanted.

The labourers on the Ceylon coffee estates, about 220,000, are principally from the districts of Madura, Tinnevelly, Tanjore, Trichinopoly, and Mysore. They arrive between May and October, and return in January and April *via* Manar. Kandyans and the lowland Singhalese were found unsuitable for the work, besides being too few; and the arrivals at and departures from the ports of Ceylon of Tamil coolies, from 1841 to 1873, were—

	Arrived.			Departed.		
	Men.	Women.	Children.	Men.	Women.	Children.
1841	4,523	363	164	4,243	274	117
1842	9,025	279	166	10,691	345	228
1843	6,298	162	248	18,977	194	482
1844	74,840	1,181	724	38,337	825	535
1845	72,526	698	177	24,623	145	36
1846	41,862	330	125	13,833	48	23
1847	44,085	1,638	417	5,897	79	33
1848	12,308	504	229	12,749	229	15
1868	55,121	...	...	...	...	...
1869	57,671	...	...	...	...	...
1870	65,224	...	...	...	...	...
1871	88,229	...	...	...	...	...
1872	80,121	...	...	...	...	...
1873	85,000	...	...	...	...	...

During the years 1841-46 the Tamil labourers must have saved or remitted to their country from £385,000 to £400,000. But against this pecuniary advantage a great loss of life had to be placed. During the eight years above enumerated no less than 70,000 Malabar coolies died.

In *Southern India*, Cannon's Mysore was grown on a range of hills from 3500 to 4000 feet above the sea, having the benefit of the south-west monsoon, which very seldom fails at all, never entirely, and it has also the tail-end of the north-east monsoon. Its peculiar qualities were closeness of texture and richness of flavour. From the year 1832, Europeans entered into the agriculture, and Cannon's Mysore coffee soon attracted the attention of dealers, for it rose from 1846–47 to an average of 96 shillings the cwt., and had fetched so high as 115 shillings; and the selling price of native-grown coffee in Mysore rose from one rupee per maund of 28 lbs. to six and eight rupees per maund. The first plantations by Mr. Cannon were at Chikmoogloor, near the Baba Booden hills; the next were at the Munzerabad Ghat; and for many years the Mysore coffee districts were confined to the region of the Western Ghats and the Baba Booden hills. Attempts were made to cultivate coffee in the open country, but without success; it seemed to require forest land, and considerable elevation and moisture.

In the year 1862 the demand for coffee lands in Southern India was at its highest. Coffee plantations two years old were then selling at £12 to £14 the acre; of three years' growth, £15 to £17; of four years, £18 to £20; and in full bearing, £20 to £25,—when coffee was worth 75 to 95 shillings the cwt. From that year commenced doubts in the minds of planters, but ultimately, in some districts, the result was disastrous. From those yielding three cwt. per acre, and they were the great bulk, there were no returns. In Coorg, the enemies of the coffee tree—the bug, the rot, the borer, insufficient capital, and the want of the owner's eye—were numerous. In Coorg there were cheap labour, cheap food, and good roads, yet in the autumn of 1866 the estates were unsaleable.

In the south of India land was sold from Rs. 10 upwards to Rs. 50 per acre from Government. In 1876, some natives of Wynad asked Rs. 30,000 for 150 acres of forest land, equal to Rs. 200 per acre. In *Travancore*, in 1875-76, 7817 acres were sold for Rs. 2,14,761, or Rs. 28 per acre; the highest price in a single lot realized was Rs. 82 an acre. It was estimated that an acre of jungle on the Neilgherries could be brought into bearing for Rs. 200, including all expenses. A good dwelling-house will cost Rs. 4000; the pulping house, machinery, and godowns, Rs. 4000 more. The entire cost of bringing 100 acres into bearing was generally reckoned at Rs. 30,000.

Soil.—In *British South India* the soil recommended is a good rich garden land, the situation high, and not liable to inundation, and well sheltered from prevailing storms. A hill affording shade to the shrub has been found beneficial in all tropical climates; if grown fully exposed to the sun, the berries ripen prematurely. A beautiful species of Strobilanthes, which grows in Coorg, is called the coffee plant, because thought to indicate soil suited for coffee trees. Coffee delights in a moderately warm and moist atmosphere; but Coorg is deluged with rains during six months of the year, and scorched by the sun for the other half. In hilly country, planters protect the soil from being washed away, by terracing, and cutting level drains across the hill face. Ceylon is peculiarly adapted to the growth of coffee, being a mountainous island, with three sides open to a vast expanse of ocean. Droughts do occur, but even in the driest seasons the hills attract clouds, which frequently pour down refreshing showers. The heavy mists and dense clouds, which sometimes shut out the sun for days together, or roll sluggishly along the mountain-sides, are amongst the planter's best auxiliaries. The shrub luxuriates in a rarefied, temperate, and moist climate, and delights in frequent but not heavy rains on the slopes, where there is a good natural drainage, for any lodgment of water about its roots soon proves fatal.

Sowing.—The seed reserved for sowing must be put into the ground quite fresh, as it soon loses its power of germination. The quality of the seeds from young stems is not so good as that from stems four or five years old. Clean, well-formed berries, free from injury by insects or the decay of the pulp, should be selected. These berries must be sown in a nursery, either in small, well-manured beds (or in pots in a sheltered spot), not too close, as it is well to leave them where sown until they acquire a good growth; indeed, it is better if they are removed at once from the bed where they are sown, to the plantation. The seedlings appear in about a month after the seed is sown. Coffee seedlings from the nursery may be planted out in seven

months. A bushel will rear 10,000 plants, covering ten acres. Coffee trees should be planted in rows six or eight feet apart, in holes 20 inches deep by 18. They should be regularly lopped and pruned, so as to admit the sun to ripen the fruit on every branch. The trees are generally in bearing in the third or fourth year.

The coffee tree, if allowed, attains 15 feet in height, but to facilitate plucking it is kept down to 3 or 3½ feet above the ground. This makes the shrub shoot out laterally, and produce at least 25 per cent. more than it would do if permitted to attain its natural height and to occupy more land. In topping, care must be taken to cut off the uppermost pair of branches, as their weight when in fruit would split the head of the stem. Nature is constantly throwing out young shoots, which try to grow upwards, but they must be carefully broken off, as they are a great and useless drain on the juice of the plant. Never cut a sucker or branch off a tree, but always break it. It is necessary to protect the trees from being burned up by the sun, by planting them sufficiently close to form a good cover, and protect the soil from exhaustion by systematic weeding and substantial manuring.

The age to which the coffee tree will survive has not been ascertained. Native plantings are to be found in many parts of Ceylon, Wynad, Mysore, etc., containing trees of an age far beyond the power of the oldest inhabitant to define, and which have very probably been flourishing for generations.

Fruit.—From flowering to harvest is from eight to nine months. A field in full bloom is a beautiful sight. The clusters of white blossom contrast prettily with the deep green leaves, and the whole at a distance looks as if it had been snowed on. The flower only lasts one day. If the atmosphere be dry, the bloom is sometimes lost, as it will not set without moisture; mists and light drizzling rains are the most favourable weather at this time. The fruit grows on a footstalk of half an inch, in clusters round the joints of the lateral branches, and when of full size, but still green, resembles small olives. A month before ripening it turns yellow, and through different shades to ruby red when it is ripe, and from its likeness to a European fruit is technically called 'cherry.' During the latter part of its growth, particularly, it requires a great deal of moisture, otherwise the bean will be shrivelled, not perfectly formed, light, and of inferior quality. When the fruit becomes blood red it is perfectly ripe, and should be gathered. Once ripe, the sooner it is plucked the better. Within the pulp is the parchment surrounding the two beans, then the semi-transparent silver skin, and then the two berries,—occasionally only a single berry, generally small and deformed, called pea-berry, which realizes in Britain 10s. to 12s. per cwt. more than the best quality of the usual sort. The parchment and silver skin comprise about 1 per cent. of the fruit. The pulp has a sweet, sickly saccharine flavour. In 1875 it was proposed to ferment the pulp into a spirit.

Ceylon coffee is known in the market as washed coffee. Mocha coffee is designated husked coffee, and is perhaps a better coffee bean.

Mocha coffee is cultivated in very small fields of a few acres in extent, and on level ground; the fruit is allowed to remain on the tree until it drops or is shaken down, and is gathered from the ground. In that hot, dry climate the pulp shrinks and becomes rather hard, and then by pounding by the hand, the berries, of a light grey colour, are separated from the silver skin, the parchment, and the dried pulp, at one operation.

In *Ceylon*, after the berries are plucked and brought in baskets to the warehouse, the pulp or fleshy part is removed. The berries are placed in heaps in a loft, above the pulper. They are then sent down a shoot, into which a stream of water is conducted, and are thus washed into the pulper. The pulper is a roller covered with a sheet of copper, made rough like a nutmeg grater. The berries follow it as it goes round, but there is only room for the seed to pass, so that the pulp is squeezed off and carried away by a stream thrown of by the water wheel, while the naked coffee drops on the other side. The seeds are still covered with glutinous matter, to remove which they are washed in a cistern, the inferior ones floating, while the good ones sink. The coffee seeds are then laid out on the barbecus (which are square platforms of brick, plastered with chunam, with sides a foot high), where they dry in the sun for about three days, and are afterwards stored in godowns. In the moister parts of Ceylon, the curing process is not completed on the estate. After removing the pulp, the beans, enclosed in parchment, are dried for about three days, and are then forwarded to Colombo, where, by means of special machinery, the parchment and the silver skin are removed from the berries, which are of a bluish colour when they are ready for shipment.

The commercial value depends on the size, form, and colour of the beans, and their flavour. Apart from tasting, which should always be done when practicable, one of the best and most simple tests by which the merits of coffee may be approximately arrived at, is the amount of aroma which arises when the berries are freshly ground. In the better qualities the bean will grind with a dark appearance. In some kinds, especially those of the Mysore and Peninsular growths, the berries when roasted are perfect, owing, in a great measure, to their hardness and thickness when in a raw state, which would account for their resisting the application of heat better than the less bulky berry of Plantation Ceylon. Mocha, on the contrary, not only presents a most ragged appearance after it has undergone the process of roasting, but often exhibits many different shades of colour.

Coffee is one of those articles of which, though the inferior qualities may be unsaleable in Europe, a superior sample will always meet with purchasers about its real value, as it is consumed by a class who will have it, and who consequently must pay for it as a luxury. In 1847 and 1848, although 'Ceylon plantation' was sold from 35s. to 50s. per cwt. as a general price, a few samples from the highest estates brought 85s. and 92s.

The Abyssinian coffee berry, also excellent, is inferior in qualities to that of Yemen; it is larger. The Indian berry ranks next. In Arabia the picked berries are roasted in a ladle until they crackle, redden, and smoke a little, and are carefully withdrawn from the heat long before they are black or charred, and are then put to cool on a glass platter. They are then bruised (not powdered) in mortars, poured into hot water, and

boiled gently and not long, all the time stirring with a stick; add when boiling a few aromatic seeds, 'Heyl,' and a little saffron and cloves. The liquor is then strained.

In Ceylon and Southern India, mechanical contrivances have been largely applied in the process of preparing the coffee bean for the market. Amongst others, Mr. Clerihew's fanners and Greig's pea-berry machine may be mentioned.

Manure.—The returns obtained from manured plantations have been richly repaid by a high standard of bearing. Cattle manuring is the most generally available. A good manure is found in the decayed leaves that fall from the trees themselves, to which may be added the weeds produced in the plantation, dried and burnt. These, dug in, are always useful as a manure, and should be utilized. Cow-dung is the best manure for the seed-beds. The pulps of the coffee can be added to the fertilizing mass; indeed, rotting wood, weeds, burned dolomite, and anything which will produce ammonia, should be taken care of. But it has been supposed that many of the coffee plant enemies, fungi and insects, are germinated in the decaying manure. The manuring of a whole estate at one time is seldom required, but every part of the plantation should be brought under its operation every second or third year. One Ceylon estate, which was wholly manured without limit as to expense, is said to have returned about 20 cwt. to the acre; lime, cattle manure, and mould from the neighbouring forest were used in a compost, and the soil turned up everywhere round the plant to apply it (Coffee Planting in Ceylon, p. 52). The richest mould cannot yield crop after crop for years, unless a proportionate return be made to it. The plant and its fruits are differently composed, and it is more necessary to provide for the fruit than the stem which supports it. A large proportion of the bean is nitrogen, which science teaches may be produced by certain phosphates, etc., under particular circumstances. A chemist can in a few days and at trifling cost produce what the uninitiated might spend a lifetime and a fortune over without attaining.

About 1849, Mr. Herepath gave the following analysis of 150 grains of fine West India coffee berries, for the purpose of determining the best manure for the West India coffee estates. Deducting the carbonic acid, 100 grains of ash gave,—phosphate of lime, 45·551; phosphoric acid, 12·801; potash, 16·512; soda, 6·787; magnesia, 5·942; lime, 2·329; sulphate of lime, 1·751; with small quantities of sulphuric acid, chloride of sodium, and silicic acid.

In searching for a manure, where bone-dust, cow-dung, and wood ashes can be cheaply procured and applied, nothing can be better; a little powdered gneiss might be an improvement. Failing bone-dust and cow-dung, recourse must be had to ammoniacal manures, such as guano, and to lime. The dolomite of the interior of Ceylon contains, according to Dr. Gygax, the proper proportion of phosphoric acid, in the shape of apatite or phosphate of lime. Dolomite is plentiful in Southern India.

In a subsequent communication from Mr. Herepath, of date 13th June 1858, addressed to Mr. Walters, regarding a chemical analysis of Ceylon coffee, he reported that 1000 pounds of raw coffee berries of Ceylon plantation's growth, contained the following mineral ingredients:—Potash, 37 lbs.; lime, $2\frac{3}{4}$ lbs.; magnesia, $5\frac{3}{4}$ lbs.; peroxide of iron, $\frac{1}{4}$ lb.; sulphuric acid, $2\frac{1}{2}$ lbs.; chlorine, $\frac{3}{4}$ lb.; carbonic acid, $11\frac{3}{4}$ lbs.; phosphoric acid, 7 lbs. And he mentioned phosphoric acid, sulphate of lime, and carbonate of magnesia as the principal ingredients required for manure. About 100 pounds of Peruvian guano, with 7 or 8 pounds of ground gypsum, 10 pounds of magnesian limestone, and 1 pound of salt, mixed up with Ceylon vegetable mould or the ashes of the wood clearances and some pounded granite or quartz, would make a good manure for 1000 pounds of raw berries. (Bom. Stand. Jan. 1859.)

Profits — Losses. — In Southern India and in Ceylon there has been money made in coffee planting by Europeans, but chiefly in their land speculations. But there have been great and general losses, sweeping away the little savings of servants of Government and speculative persons, and in 1880–81 and 1882 there was a general loss. The yield of coffee varies greatly with the seasons; but the trees have insect and vegetable enemies which have caused ruin,—the white, brown, and black bug, the black and white grub, the leaf disease, the coffee rat, the mole cricket. The first regularly worked Ceylon estate was opened in 1825, but the bug does not seem to have appeared in large quantities till 1845; then, however, it spread with such rapidity, that in 1847 a very general alarm was taken by the planters, about the same time that the potato, vine, and olive diseases began to create alarm in Europe. The coffee bugs seem, however, to be natives of Ceylon, for the white bug has been found on orange, guava, and other trees, as also on beetroot and other vegetables; and the brown bug attacks the guava, hibiscus, ixora, justicia, and orange trees,—indeed, every plant and tree, and even the weeds, on a coffee estate, particularly such as are in gardens.

When a coffee tree is attacked by the bug, it is deprived of its sap and its nourishment, while the fungus, which never fails to attend on the bug, prevents restoration, by closing the stomates through which the tree breathes and respires. Bug, Mr. Nietner tells us, exists on all the estates; none are believed by Mr. Nietner to be quite free from it, and he reasonably asks, 'Am I wrong in saying that if there was no bug in Ceylon, it would, at a rough guess, produce 50,000 cwts. of coffee more than it actually does?' and that quantity represents a value of £225,000. The brown and white bug, and the black and white grub, he adds, are the only important enemies of the coffee tree, and the destruction caused by arhines, limacodes, zeuzera, phymatea, strachia, and the coffee rat appear to be of a more local and occasional nature. The three chief pests are the white bug, the brown bug, and the black bug.

The appearance and disappearance of the coffee bug is most capricious. It comes and goes, now rapidly spreading over a whole estate, now confining itself to a single tree amongst thousands; here, leaving an estate in the course of a twelvemonth, there remaining permanently; sometimes spreading over a whole estate, sometimes attacking a single field, then leaving it for another and another. But the white bug prefers dry, and the brown damp localities, the latter being found

more plentiful in close ravines and amongst heavy rotting timbers than on open hillsides, and it is probably to this predilection that the shifting of the insect is attributable. The bug seeks out the softest and most sheltered parts of the tree, the young shoots, the under-sides of the leaves, and the clusters of berries.

The injury done by the white bug seems more severe than that from the brown, but, not being so plentiful as the latter, it is of less general importance. The white bug is especially fond of congregating amongst the clusters of berries, which drop off from the injury they receive, and trees often lose their entire crop in this manner. The injury produced by the brown bug is the weakening of the tree, and is thus more general, but the crop does not drop off altogether nor so suddenly. With white bug on an estate, the crop can hardly be estimated; with brown bug it can.

The *White* or *Mealy Bug* is the Pseudococcus adonidum. The male insect is of a dirty brownish colour, and slightly hairy. It is very minute (very much smaller than the female, only about half a line long), and resembles certain small Ephemeridæ or May-flies. The female is oval, brownish-purple, covered with a white mealy powder, which forms a stiff fringe at the margin, and at the extremity of the abdomen two setæ. The larvæ and pupæ are active, and move about. The insects, in all stages of development, are found in Ceylon all the year round, chiefly in dry and hot localities, on the branches of trees, and on the roots to one foot under ground. Mr. Nietner says it is identical with the species naturalized in the conservatories of Europe. It is preyed upon by the Scymnus rotundatus, a minute beetle of the ladybird tribe, of the size of a pin's head, black and pubescent; also the yellow-coloured and common Encyrtus Nietneri and the black-coloured scarce Chartococcus musciformis, two minute Hymenoptera (wasps), only $\frac{1}{2}'''$ long, and the minute whitish mite, Acarus translucens. Of the members of this family of insects, the Coccidæ, some, as the cochineal and lac insects, are of great economical importance, but others, as the sugar-cane blight of the Mauritius, the Aspidiotus, and the coffee bug, are excessively baneful to the gardener and agriculturist.

The *Brown Coffee Bug*, Lecanium coffeæ, *Walker*, establishes itself on the young shoots and buds, which it covers with a noisome incrustation of scales, enclosing its larvæ, from the pernicious influence of which the fruit shrivels and drops off. It is a Coccus, and a number of brownish wart-like bodies may be seen studding the young roots, and occasionally the margins on the outside of the leaves. Each of these warts is a transformed female, containing a large number of eggs (700), which are hatched within it. When the young ones come out of their nest, they may be observed running about on the plant, looking like wood-lice; but shortly after being hatched, the males seek the under-sides of the leaves, while the females prefer the young shoots as their place of abode. The larvæ of the males undergo transformation into pupæ beneath their own skins, and their wings are horizontal, and their possession of wings may possibly explain the comparatively rare presence of the male on the bushes. The female retains her powers of locomotion until nearly of full size, and it is about this time that her impregnation takes place. The pest does not produce great injury until it has been two or three years on an estate; but at length the scales on the plants become numerous, the clusters of berries assume a black, sooty look, and a great number of them fall off before they are mature. The young shoots have a disgusting look from the number of yellow pustular bodies forming on them, the leaves get shrivelled, and on many trees not a single berry forms. The coffee bug first appeared in 1843 on the Lupallu Galla estates, and it, or a closely-allied species, has been observed on the Citrus acida, Psidium pomiferum, Myrtus Zeylanica, Rosa Indica, Careya arborea, Vitex negundo, and other plants, and most abundantly on the coffee bushes in moist places. It reappears though eradicated, and is easily conveyed on cloths from one place to another. Dr. Gardner, whom Sir J. E. Tennent quotes (ii. p. 246), was of opinion that all remedies had failed, and that it must wear itself out, as other blights do. The male of the brown or scaly bug, Lecanium coffeæ, is of a clear light pinkish-brown colour, slightly hairy, and very pretty. It is more delicate than the male Pseudococcus. The females when young are yellowish, marked with grey or light brown; and old individuals are light brown, with a dark margin. It affects cold, damp, and close localities, 3000 feet in height, and the propagation, as in the white bug, is continuous. The brown bug is much infected with parasites, amongst which the most common are eight minute Hymenoptera (wasps) with brilliant colours; but a mite, the Acarus translucens, and the larva of the Chilocorus circumdatus, a kind of ladybird, also feed on the bug. In the larva state, the male and female brown bug are not distinguishable. The number of eggs produced by a female brown bug is about 700. Those of the white bug are not so numerous, but their propagation in Ceylon is continuous throughout the year, and this explains their great abundance compared with cold countries, where the produce is one generation of young annually. The brown bug, particularly the full-grown female, is dreadfully infested with parasites, which thus greatly help the planter. Indeed, it is a question whether coffee planting could be carried on without their aid in the destruction of the bug.

The *Black Bug* is Lecanium nigrum, but the female only is known. In colour it is from yellowish-grey to deep brown, and almost black in age, and of a shield-like shape. It occurs alone, but also intermixed with the brown bug; but it is much less abundant, and therefore not demanding the planter's attention. Its occupation of a coffee or any other tree gives rise to the appearance of a glutinous saccharine substance, which has received the name of honey-dew. This is either a secretion of the bug, or the extravasated sap which flows from the wounded tree, or probably a combination of both. A fungus, or two fungi, the Syncladium Nietneri and Triposporium Gardneri, seem to depend on this for vegetation, as the honey-dew and the fungus disappear with the bug.

Another bug, the *Strachia geometrica*, of a yellowish colour, but marked with grey and orange on the upper side, was found at Badulla. It feeds upon the juice of the young berries, three per cent. or more of which were said to have suffered from it. It is allied to the green or fœtid

bug; but though it may occasionally cause destruction, there is no fear of it ever becoming a serious nuisance.

One of the Aphidæ, *Aphis coffeæ*, the Coffee Louse, is found in small communities on the young shoots and on the under-side of the leaves of the cocoanut tree, but the injuries it occasions are insignificant.

Several *caterpillars*, the Aloa lactinea, the Orgyia Ceylanica, Euproctis virguncula, the Trichia exigua, Narosa conspersa, the Limacodes graciosa, and a species of Drepana, are found on the coffee trees, but they do not cause much injury. Another caterpillar, however, though fortunately not abundant, the Zeuzera coffeæ, destroyed many trees, both young and old, by eating out the heart. It resembles the caterpillar of the goatmoth of England, and is as thick as a goose quill. It generally enters the tree 6″ or 12″ from the ground, ascending upwards. The sickly drooping of the tree marks its presence.

Black Grub.—The larva of the moth called Agrostis segetum is the very destructive black grub. This pest is about an inch long, and is most abundant from August to October. The caterpillar lives in the ground, but comes out at night to feed, and is very common and injurious. It attacks not only coffee trees, but all sorts of vegetables and flowers, and is very destructive to gardens and in the field, as it eats everything that is artificially raised, despising grass and weeds. It generally appears only on certain fields, and will not go over an estate. The insect is not confined to Ceylon; its ravages are well known in India, at the Cape of Good Hope, and in Europe, where it injures the grain and beetroot crops. In Ceylon it only attacks young coffee trees, gnawing off the bark round the stem just above the ground. Where the trees are very small, they are bitten right off, and the tops sometimes partially dragged under the ground, where the grubs may easily be discovered and dislodged. The damage which they inflict on plantations may be estimated, when it is mentioned that Mr. Nietner lost through them in one season, in certain fields, as many as twenty-five per cent. of the young trees he had put down.

The larva of a little moth, the Galleriomorpha lichenoides, and three caterpillars of the Boarmia leucostigmaria, B. Ceylanica, and Empithecia coffearia, are found on coffee trees and other plants from September to December.

The larva of the Gracillaria coffeifoliella mines the coffee leaves; it is very common, but of no importance to the planter.

The ravages of the large, well-known, beautiful *locust*, the Phymatea punctata, with its scarlet abdomen and yellow and bronze above, are not continuous in the coffee trees, but are occasionally very annoying. A swarm settled on a field of one-year-old coffee, and gnawed the bark off the stems, causing them to throw out many shoots, and permanently disfigured five per cent. of the trees. They do not touch the Illuk grass, Saccharum Konigii, *Retz.*, but seem only to attack cultivated plants and trees. At Tangalle they destroyed tobacco plantations, and at Matillee in Kandy the native grain crops were injured by these locusts. The larvæ and pupæ are as destructive as the perfect insects; but this seems, fortunately, the only species of locust that does any real injury in Ceylon, and this injury is in importance not to be compared with that done by other species in other countries.

White Grub.—Under this name are included the larvæ of various Melolonthidæ, the cockchafers of Ceylon, which do much harm to coffee plantations, young and old, by eating the roots of the trees. Mr. J. L. Gordon of Rambodde considered the white grub to be by far the greatest enemy of the coffee trees which the planter had to contend with, as he never knew a single tree recover after their attack; and he adds that they had destroyed, at Rambodde, in two years, between eight and ten thousand trees of fine old coffee. Mr. Gordon used to dig up the soil at the foot of the trees, and take out such grubs as he could find.

Weevils.—The family of the weevils is one of the most extensive amongst the beetles; and in Ceylon, as in Europe, many of its members do much injury to agricultural produce. Mr. Nietner had seen nearly the whole crop of sweet potato (Batatas edulis) of the Negombo district destroyed by one of them, the Cylas sturcipennis. The common rice weevil, Sitophilus oryzæ, is another instance; and one of the cocoanut destroyers of the Ceylon low country, the Sphænophorus planipennis, belongs also to this family. The Arhines? destructor, a beautiful green weevil, Mr. Nietner had not found do any injury to coffee trees; but Mr. J. Rose of Matturattee, writing to him, said, 'The mischief they do is plentiful, and if they were as plentiful as the bug, they would be the planter's worst enemies. Five or six acres were completely covered with them, and they consumed almost every leaf. Year after year they appeared upon the same place. One year they appeared upon a neighbouring estate in great force, and ran over at least forty acres. The same thing occurred on three other estates.'

The Acarus coffeæ, or *coffee* mite, is so small as to be hardly perceptible to the naked eye. It is closely allied to the Red Spider of the hothouses of Europe. Nearly all the year round, but chiefly from November to April, it feeds on the upper side of the coffee leaves, giving them a brownish, sunburnt appearance. Individual trees suffer from its attacks, but the aggregate damage from it is not great.

The *Coffee Rat* of Ceylon, the Golunda Ellioti, occasionally commits much damage, seemingly to get the bark, for they do not seem to eat the berries. With their long sharp incisors they bite off with great smoothness the smaller and younger branches, generally an inch from the stem; and should the plants be quite young, just taken from the nursery, they bite them right off a few inches from the ground, and carry them to their nests in hollow trees. They appear irregularly, at intervals, from the jungles, and there is hardly an estate in Ceylon that does not now and then receive a visit from them. The natives of Ceylon say that their food in the jungles is a species of Strobilanthes, called Nilu in Singhalese, and that the rats only issue from their forest residence and attack the coffee estates when their forest food fails.

The injuries from other animals is not serious. A *squirrel*, the Sciurus Layardi, which eats the coffee berries, is common on Ceylon estates; the pulp alone is digestible, and the coffee beans are dropped on logs of wood and on the ground. Jackals and monkeys occasionally do the same;

this is called parchment coffee. A deer will now and then come from the forest and nibble the tops of the young trees.

Mantis tricolor, *Nietner*, the Mantis of the coffee tree, is green, lower wings reddish, with large blackish spot at the posterior margin. The female is 1 inch long, with 1½ inch of an expanse of wings. The male is considerably smaller. The eggs are deposited upon coffee leaves, in cocoon-like masses of ⅝ of an inch in length, but drawn out further at each end.

And what are the remedies to all these coffee plagues?

Mr. Nietner tells us that several means of checking the extension of the bug have been proposed and tried. Amongst these, the introduction of the red ant; but their bites are so fierce and painful, that the coolies refused to go amongst the trees while the ants were there. Rubbing off the bug by hand has been tried, but it can only be attempted upon young trees without crop; and Mr. Nietner, although allowing that an immense quantity of bug is thus destroyed, is nevertheless of opinion that the effect is but trifling. He thinks that the application of tar to the roots is a good suggestion, although he is obliged to admit that hitherto no important results have been achieved by it. He adds that high cultivation seems to have the effect of throwing it off. But as the bug seems to depend on locality, Mr. Nietner does not look for any beneficial result so long as the physical aspect is unchanged. He thinks that if the open, warm, airy pattenas were cultivated, which the experiments on a large scale, tried at Passelawa, show that they can be, the brown bug, which is the great destroyer, would not find the conditions favourable to its existence; or perhaps, if estates as a rule were made smaller than they generally are, if the reduction in acreage were counterbalanced by a higher system of cultivation, universally carried out, the bug would not be so numerous as it now is.

In the southern parts of the Peninsula of India, the *Borer* is a name given to the larva of a coleopterous beetle, the Xylotrechus quadripes of Chevrolat, which injures coffee trees. The insects are generally about the diameter of a small quill, are always confined to the wood, and never enter the bark until the larva has done its work, passed through the pupa stage, and is about to escape in the form of a beetle. The eggs are deposited by the female near the root of the tree, and the pupa borers tunnel up the heart of the plant. It does not stop short at the destruction of crop, but actually kills the trees. This enemy has been confined to the Madras Presidency and Mysore, leaving Ceylon unscathed. The borer carries on the work of destruction entirely in the interior of the stem, the wood of which it rapidly reduces to a sawdust-like powder, leaving the bark intact. At first the only signs of the presence of the foe are a few small round holes in the bark, but gradually these holes increase in number as the grubs get more numerous, the leaves get sickly and fall off, and finally the tree withers and dies. If this devastation were confined to a hundred or even a thousand or two of trees, the planter could afford to grin and bear his loss; but instances are numerous in which an entire estate has been completely denuded of trees by this tiny but formidable insect. For a time the borer seemed destined to defy all attempts to arrest its ravages; but it was observed that the beetle, which lays the eggs from which the grubs are hatched, avoided shade, and affected light and sunshine. Thus much known of the habits of the foe, the protection of the coffee plants by the shade of larger trees naturally suggested itself, and has been found a most effectual remedy.

The *Leaf Disease*, or Coffee Leaf Disease, of the coffee plant seems first to have appeared in Ceylon in 1869, and prominently in S. India in 1870. It is the Hemileia vastatrix, a fungus which fixes on the under-sides of the leaves, causing spots or blotches, at first yellow, but subsequently turning black. These blotches are covered with a pale orange-coloured dust, which is easily rubbed off. The blotches gradually increase in size, until at last they have spread over the entire leaf, which then drops off, leaving the trees in a short time perfectly bare. The trees seem to recover in the spring of the year, but the fresh foliage is in its turn attacked, and the crop falls off. The yearly crop in Ceylon is said to have diminished 300,000 cwts. since its appearance, causing a loss of about 1¼ millions sterling. The leaf disease is a true endophyte, developing in the tissues of the leaf, and expanding outwards, as is the case with red rust of corn and grapes. Sir Joseph Hooker, writing to the Colonial Office, 6th August 1874, says the Hemileia belongs to a class of most minute parasitic plants, which includes the oidium of the vine and peronospora of the potato. Recent observations appear to establish the fact that similar plants are also present in the tissues of sheep affected with small-pox, and may probably be found to be sources of some familiar diseases in man and the lower animals. Hitherto no means have been discovered of extirpating these plants, whose seeds, of inconceivable minuteness, float in inconceivable numbers in the air, and whose growing parts are of such tenuity, that they can penetrate the most delicate living tissues of plants, which they kill by feeding on their substance. The spread of some of the kinds has, however, been effectually checked by the use of flower of sulphur, which it would not be difficult to apply to the coffee plant in Ceylon.

The Hemileia vastatrix has been termed the coffee leaf disease, as it confines its depredations to the leaves of the shrub. When suffering from this, the leaves are on their upper surface speckled with brownish spots, while the under surfaces are covered with orange-coloured dust, which consists of the spores of the fungus, or bodies by which it is propagated. The fungus itself consists of fine myceloid filaments, which permeate and live amongst the tissues of the leaf. When the spores are ripe, the shaking of the leaves by the wind is sufficient to disperse them, and each spore thus liberated is capable of germinating, and may become a fresh focus of the disease. Dr. Thwaites of Ceylon watched this process of germination. For some time the presence of the leaf disease caused little or no anxiety in India; but as its disastrous effects on crops became apparent, the planters began to realize the serious character of the distemper. Nearly all are now in accord in the view that manuring is the best remedy. Confident hopes were at one time entertained that the Liberian plant, which has been recently introduced, would defy the enemy, but unfortu-

nately this expectation has not been realized. It is very destructive in localities. It comes most suddenly and unaccountably in an estate, and disappears apparently without any reason. The effects of it are obvious: the leaf of the tree alone is attacked, after a little drops off, leaving the bough bare and unsheltered. The disease does not seem to attack the health and vitality of the tree; but when the shade afforded by the leaf to the berry is removed, the bud, blossom, or fruit is unduly exposed to the scorching sun, or to the wind, and the crop is lost. The disease often affects whole plantations simultaneously. Up to 1872 the Ceylon estates had suffered but little from this fungus. In Wynad, however, scarcely an estate escaped this leaf disease, whilst in the fifty-two estates of Travancore only one suffered, and that in a most insignificant degree.

Mr. G. Anderson, writing from Munzerabad in 1880, gave the opinion that potash, magnesia, and ammonia, in the form of sulphates, check and destroy Hemileia in coffee. He said he had used it in his experiments with excellent results,—¼ to ½ potash, ¼ to ½ magnesia, and ½ to ½ ammonia,—and thinks that the cessation of growth which precedes an attack of leaf disease, is caused by a want of ammonia and other valuable food-constituents in an available form; that lime exerts a marvellous effect in setting free all the alkalies, and in converting nitrogen into ammonia; that potash, magnesia, and lime are required for the production of coffee, and are therefore removed from the soil, and that certain forms of potash and magnesia (especially those combined with sulphur) are inimical to the growth of fungi. He concludes that sulphates of potash, magnesia, and ammonia should be used immediately before the occurrence of disease; and lime should be employed early in the season to sweeten the soil, and set free its resources. He also recommends that phospho-nitrogenous manures, combined with other forms of potash, be applied to sustain and invigorate the trees.

Several learned botanists have suggested remedies for these plagues.

Baron F. von Mueller says that in 1878 the parasitic fungus growth on coffee plants in Ceylon caused a loss of £2,000,000.

In America the coffee plantations suffered not only from erysiphoid fungi, but also from the cemiostoma fly.

In the Karen hills, experimental cultivation of tea and coffee was introduced north-east of Tounghoo. Mr. J. Petley says in his report: 'Towards the end of the rains of 1880 large numbers of the Mole Cricket made their appearance, and much destruction was done amongst young tea and coffee plants, killing them by nipping off the tops, principally amongst the coffee, and boys were employed to catch and kill these destructive insects.'

Dr. Thwaites, in his report for 1874, says: 'Judicious cultivation enables the coffee tree to produce a succession of profitable crops, notwithstanding it may suffer from periodical attacks of leaf disease.' Nowhere has the disease committed such havoc as in native plantations, where cultivation is almost entirely neglected. Previously to 1870, planters were divided into two opposite camps,—the party that advocated manuring, and the party that opposed it. The inroads of leaf disease have led to the matter being speedily and practically settled in favour of high cultivation.

In Ceylon, leaf disease first showed itself in 1869, in Madulsima, in the extreme eastern division of the coffee districts. Next year it spread to the Kandy side, and in 1871 it became general. During the seven years previous to 1870, the out-turn ranged from 4·10 cwt. per acre in 1864, to 5·22 in 1869. In 1870 the export was nearly 900,000 cwt., and the average per acre 5·53 cwt. In 1871, 1873, 1875, and 1877, the export rose above 800,000 cwt.; but (1881) the average per acre has never again reached 5 cwt., while in four years it has fallen below 3 cwt. The leaf disease has undoubtedly caused a falling off of production.

Colonel Beddome, the Conservator of Forests, is of opinion that the remedies proposed by Mr. Anderson in his Essay on Fungoid Diseases might be tried on small given areas, but considers the expense attending the trial prohibitive as regards large estates.

Leaf Rot, the Kole Roga of the Tamil race, is from another fungus, to which the name 'Pellicularia koleroga' has been given. It appeared on the coffee trees of Mysore. It is an epiphyte, growing and developing upon the leaf, and only superficially attached to it. This enemy has been long in existence, although it is only quite recently that it has attracted attention. This disease is most common during the rains; and the leaves of the plants affected by it turn black and fall off, on which many of the berries also fall down, and those which remain are imperfectly ripened. On examining one of these leaves, the under surface will be seen covered with irregular greyish-white blotches, which, on being put under the microscope, are found to be filmy fungus patches, with the filaments of the fungus interwoven into a sort of web. This fungus has received from Mr. Cooke the name of Pellicularia koleroga, but it seems very doubtful whether it is not rather a result than the cause of the black rot. There can be little doubt that rot is partly caused by imperfect drainage, and overcrowding of the branches; and such being the case, the remedies will obviously be improved drainage and free pruning.

Stump.—Mr. Hull mentions that between 1860 and 1870, in Coorg, a blight appeared on the coffee plants, to which the name of stump was given, because of it being due to the stump of a particular forest tree peculiar to that district, felled in the process of clearing. Sooner or later all the coffee trees in the immediate neighbourhood of these stumps began mysteriously to die out, and the only remedy for the mischief was to remove the offending stumps as quickly as possible (Hull, p. 274). It has not been examined by any entomologist; but a great habitat of the coleopterous insects is below the bark of decaying wood, and such homes should not be left to them.

Dr. Shortt, a scientific planter, recommends carbolic acid as a protective agent against the leaf disease and other enemies of the coffee plants.

The Gardener's Chronicle also mentions having received from Dr. Thwaites of Ceylon a specimen of a minute fungus. A few trees were first noticed to be infected in May, but at the time of Dr. Thwaites' communication (24th July) two or

three acres were showing the fungus upon the leaves. These latter fall off before their proper time. Amongst more than a thousand species of fungi received from Ceylon, this does not occur; and it is not only quite new, but with difficulty referable to any recognised section of fungi. Indeed, it seems just intermediate between true mould and Uredo, allied on the one hand to Trichobais, and on the other to Rhinotrichum. Though the fungus is developed from the parenchym of the leaf, there is not any covering to the little heaps, such as is so obvious in Uredo and its immediate allies, while the mode of attachment reminds one of Rhinotrichum. A new genus for its reception was therefore proposed. As the fungus is confined to the under surface of the leaves, and the mycelium is not superficial, it may be difficult to apply a remedy; but sulphur applied by means of one of the instruments which are used in the hop grounds in Kent, or syringing with one of the sulphureous solutions which have been recommended for the extirpation of the hop mildew, has been suggested.—*Rev. M. J. Berkeley; Colombo Observer.*

The Sydney Morning Herald describes an experiment on the aphis or coffee-moth, which shows that by a very simple application coffee plants may be freed from these destructive insects. A number of the insects were placed on a leaf under a powerful microscope. A drop of a simple solution of soda in water was let fall among them. They instantly left their hold on the leaf and fell dead. Such a solution could be applied without injury to coffee plants. Sulphur has hitherto been the favourite treatment.

The following is a list by Mr. Nietner of some of the enemies of the coffee plant in Ceylon:—

1. Pseudococcus adonidum, White or Mealy Bug.
   Parasites.
   Scymnus rotundatus, *Motch. Er. Ent.* 1859.
   Encyrtus Nietneri, *Motch.*
   Chartocerus musciformis, *Motch.*
   Acarus translucens, *N.*
2. Lecanium coffeæ, *Walk. List. Ins. B. M.*, Brown or Scaly Bug.
   Parasites.
   Scutellista cyanea, *Motch.*
   Cephaleta purpureiventris, *Motch.*
   C. brunneventris, *Motch.*
   C. fusciventris, *Motch. in lits.*
   Encyrtus paradisicus, *Motch. in lits.*
   E. Nietneri, *Motch.*
   Cirrhospilus coccivorus, *Motch. in lits.*
   Marietta leopardina, *M. in lits.*
   Chilocorus circumdatus, *Schonh.*
   Acarus translucens, *N.*
3. Lecanium nigrum, *N.*, Black Bug.
4. Syncladium Nietneri, *Rabh. Dresd. Hedwig*, 1858; Trisposporium Gardneri, *Berk. J. Hort. Soc. Lond.* 1849; a fungus.
5. Aphis coffeæ, *N.*, Coffee Louse.
   Parasites.
   Syrphus Nietneri, *Schiner in lits.*
   S. splendens, *Dolesch.*
   Micromus australis, *Hag;* Verz. Wien., *Z.*, 1858.
6. Strachia geometrica, *Motch. in lits.*

Lepidoptera.

7. Aloa lactinea, *Cram. pap. ex.*
8. Orgyia Ceylanica, *N.*
9. Euprocitis virguncula, *Walk.*
10. Trichia exigua, *Feld. in lit.*
11. Narosa conspersa, *Walk.*
12. Limacodes graciosa, *Westw. Ent. cat.*
13. Drepana?
14. Zeuzera coffeæ, *N.*
15. Agrotis segetum, *Wien. V.*, Black Grub.
16. Galleriomorpha lichenoides, *Feld. in lit.*
17. Boarmia Ceylanica, *Feld. in lit.*
18. C. leucostigmaria, *Feld. in lit.*
19. Eupithecia coffearia, *Feld. in lit.*
20. Fortrix coffearia, *Feld. in lit.*
21. Gracillaria? coffeifoliella, *Motch.*

Diptera.

22. Anthomyza? coffeæ, *N. in Motch.*

Orthoptera.

23. Phymatea punctata, *D.*

Coleoptera.

24. Ancyloncycha, *spec.?* White Grub.
25. Arhines? destructor, *N.*

Aptera.

26. Acarus coffeæ, *N.*

Mammalia.

27. Golunda Ellioti, *Gray in Kel. Prod.*, Coffee Rat.

—*Agri-Hort. Soc. Madras Proceedings; Rev. M. J. Berkeley; Bidie, Coffee Planting; Bonynge's America; Eng. Cyclop.; Madras Exhibition Jur. Rep.; Gardener's Chronicle; Hassal, Food and its Adulterations; Sir J. D. Hooker, Despatch from Governor of Ceylon; Report of Dr. Thwaites on the Coffee Disease*, 6th August 1874; *Hull on Coffee Planters; Journ. Ind. Archip.; Mason's Burma; Newspapers—Madras Times, Madras Statesman, Colombo Observer, Bombay Standard, Agricultural Gazette of India; Nietner on the Enemies of the Coffee Plant, Ceylon*, 1861; *Colonel Onslow on Mysore Coffee Planting; Playfair's Aden; Royle, Prod. Res. of India; Shortt; Simmonds' Colonial Magazine; Simmonds' Commercial Products; Sir J. E. Tennent's Ceylon; Baron von Mueller.* See Drepana.

COHUNE OIL, a product of the kernel of the Attalea funifera, *Martius*, a palm tree, native of S. America. It is something like cocoanut oil, but is more oleaginous. Its introduction into S. Asia merits attention.—*Seeman.*

COILADDY. About a mile to the west of Coiladdy is a mound that prevents the waters of the Cauvery running into the Colerun.

COILGUDDY, a pagoda eight miles east of Madura.

COIMBATORE, a collectorate of the Madras Presidency, in the south of the Peninsula. Its chief town of the same name is in lat. 10° 59′ 41″ N., and long. 76° 59′ 46″ E., and is 1350 feet above the sea at the palace.

The district occupies an area of 7432 square miles, over which about 7000 villages and hamlets are spread, possessing a population of 1,763,274 human beings. It has but little rain. The produce is grains, mostly of the dry description, cotton, sugar, tobacco, and hemp. The climate is warm, and not unfrequently oppressive, being completely hill-locked. The aspect of the country is arid and unpleasant in the extreme. Its northern part, called Collegal, has numerous small jungle-covered hills; and to the west of Collegal are the Neilgherry Hills. The Animallay Hills are in the S.W. border of Coimbatore, and are richly clothed with valuable forests, with many elephants; and some of the lower hill ranges from the Neilgherries, between which is the valley and gap or pass of Palghat leading to the western coast. The Guzzlehutty pass leads up the deep valley separating the Neilgherry Hills from Collegal. The Animallay (literally Elephant Hills) are occupied by the Kader,—open, independent, straightforward men, simple, and obeying their mopens or chiefs implicitly. They are strong built, active,

with woolly hair and something of the African features, and file their front teeth to a point. The women wear enormous circles of pith in the lobes of their ears, which they distend down to their shoulders. A black monkey is their greatest dainty.

The other hill and forest tribes, chiefly residing on the Animallay, are the Malai Arasar, Irular, Pulyar, and Mandanar, subsisting precariously on wild fruits and roots, by the chase, or the sale of jungle produce. 40·8 per cent. of the population were Vellalar cultivators, 13·7 per cent. Pariahs, 8 per cent. Vannian or day-labourers, 5·3 per cent. Kaikalar or weavers, with artisans (Kammaan), Brahmans, washermen (Vannan), potters (Kusavan), fishermen (Sambadavan), barbers (Ambattan), and writers (Kanakan).

Coimbatore land is many times more valuable than it was forty years ago; and wheeled carriages, which were 603 in 1846–7, in 1867 were 4500. In Coimbatore two very different minerals pass under the common name of corundum. The one is true corundum of lamellar structure; the other softer and amorphous, but christature in its composition, apparently some form of hornblende. The mineral is abundant in the district, and easily procured at a small cost. Localities in Coimbatore supply the beryl, and are also supposed to have yielded the emerald, though Tavernier was not able to ascertain that any part of India, in his day, was yielding emeralds.—*Tavernier's Travels*, p. 144; *Lt.-Col. Hamilton, in literis.* See India, p. 324; Korumbar; Narapati.

COINS, Currency.

Monnoie, ...	Fr.	Nagd, Sicca, . .	Hind.
Mamrecke, . . .	Ger.	Chilaoni, . . .	,,
Richtkeil, . . .	,,	Conio, Donaro, .	It., Sp.

The Hindus altogether neglected history, and, after the Greek occupation of Bactria until the advent of the Mahomedans, the coins of the rulers furnish almost the sole evidence of the dynastic changes and their individual rulers in the country of the Kophones river, *i.e.* Bactria, Asia, and Kābul. The earlier of the Greek successors of Alexander used Greek. This was adhered to by Theodotus I., B.C. 256, of the time of Arsaces I.; of Theodotus II., B.C. 240, who reigned in the Kābul valley. Euthydemus, B.C. 220, reigned in the time of the expedition of Antiochus the Great, and was defeated in battle near Merv by the united Syrian and Parthian armies. He then urged Antiochus to receive him in alliance, and so extend the Greek influence to the Indus. A peace was concluded, and Euthydemus led the Syrian army through Bactria, *i.e.* by the route north of the mountains to the Kābul valley, and across the Indus, in B.C. 206. There Antiochus made peace with Sophagasenus (Asoka), which that sovereign recorded by edicts on rocks and pillars in various parts of India, in characters exactly resembling those on the coins of Agathocles. In B.C. 205, Antiochus returned by way of Arachotia. Agathocles, B.C. 190, coined with Greek and Sanskrit; is supposed by Lassen to have ruled Kabulistan to the Indus; and Mr. H. T. Prinsep supposes him to have been the governor left by Antiochus in Kābul, after his treaty with Asoka. Pantaleon, B.C. 195, coined in Greek and Sanskrit. Eukratides, B.C. 178 (Prinsep, B.C. 181; Bayer, Wilson, B.C. 165; Visconti, Lassen, B.C. 175). He seems to have made an expedition to India in 165 B.C., and on his return from it to have been murdered by his son. Numerous of his coins have been found in Bactria and Afghanistan; and Mr. H. T. Prinsep considers that he ruled originally in Bactria, subsequently made conquests in and south of Parapamisus in Kābul, and was the first of all the Greeks who coined in the bilingual Aryan inscription. The first use of two languages, however, is also ascribed to Agathocles, who used Greek and Sanskrit, while Eukratides used Greek and Aryan. Eukratides was certainly amongst the earliest of the Greek kings of Bactria, Kābul, and Arya, who adopted bilingual inscriptions on his coins, and his so doing is supposed consequent on his conquest of the Parapamisus, after assumption of the title of Great King. On his death, his wide dominion is supposed to have been broken into several independent kingdoms. Heliocles, B.C. 155, the parricide of Eukratides, used bilingual inscriptions on coins in pure Greek and Aryan. His rule, though short, extended over Bactria and the Parapamisus. Antimachus, B.C. 150, coined with Greek and Aryan. Bactria seems to have then passed under the sway of various Saca and Parthian and so-called Indo-Scythian rulers, and during the first six or seven centuries of the Christian era it was one of the most important centres of Buddhistic monasticism. As early as the second century B.C., the coins of Eukratides had the Bactrian-Pali, a language cognate with Sanskrit, but written with characters of seemingly Phœnician origin.

On the coins of the Parthian, Sassanian, Kanerki, Bactrian, Persian, Macedonian, Syrian, Indo-Scythic or Buddhist rulers are Greek or Pehlavi inscriptions, several of them in both languages. The coins have been found of upwards of thirty Bactro-Indian rulers whose names were not Grecian, but who used Greek on their coins. They have been described in Prinsep's Antiquities, Wilson's Ariana Antiqua, and Bactrian Coins by Edward Thomas. The larger number are known as the Azes series, and the Kadphises and Turushka series.

The Hindu coins of the Andhra, Rajputana, Canauj, Indraprastha, and perhaps Magadha or Behar rulers, are subsequent to Alexander's invasion. The earliest forms in use in India and Central Asia were adopted from the Bactrian Greeks about B.C. 200. The oldest extant are the group of the Sah dynasty, B.C. 180 or 170 to about B.C. 50.

The Arabian khalifs and the governors of Persia on their coins used Pehlavi characters, and subsequently the Kufic. Their coins have been found struck at Balkh, Basra, Darabjird, Herat, Kerman, Khuzistan, Merv, Merv-ul-Rud, Nahr (van) Seistan, and Yezd.

The capital coins of Dehli, from the time of Altamsh (A.D. 1211–1236) to the accession of Muhammad Taghalaq (A.D. 1325), were a gold and silver piece of equal weight, approximating to a standard of 175 grains troy (properly 100 rati). These coins appear to have been officially termed respectively Sikka and Filizzat, but both seem eventually to have had the popular name of Tan-khwah. Sikka, a word of Hebrew origin, in India originally appears to have been a die, and applied to the coin struck. At an early date the word gave a name to the Zecca or Cecca, or mint, of the Italian Republics; thence to the Zecchino or Cecchino which issued therefrom,

and in this shape the word travelled back to the East, where the term Chickeen or Chick survived to our own day, as a comprehensive Anglo-Indian expression for the sum of four rupees. Filizzat means 'metallic.'

The coinage of British India is regulated by Acts ii. and xvii. of 1835 and xii. and xiii. of 1862. Acts xiii. of 1836 and xiii. of 1844 declared that Sicca rupees, and Benares, Farrakhabad, and Trisulee rupees, are not a legal tender. Other Acts are xxxi. of 1837, xxi. of 1838, vi. of 1847, and xi. of 1844.

The silver coins coined and current in British India are the silver rupee of 180 grains, with its portions in half, quarter, and eighth.

By Act xxi. of 1835, the copper coinage consists of a double pice or half anna, weighing 200 grains troy, a quarter anna or pice of 100 grains, a half pice or one-eighth of anna of 50 grains, and a pie, being 1·12 of anna or one-third of a pice, 33⅓ grains troy. The silver fractions and the copper coins are legal tender for fractions of a rupee. Gold has not been coined in the mints of India since the early part of the 19th century. Till then, the gold mohur, value 16 rupees, and the pagoda or hun, value 3½ rupees, were current.

All the people of the east coast of Africa, Southern India, Siam, and Japan have the cowry shell, Cypræa moneta, for small change; and the radical character in the Chinese for silver, money, riches, precious stones, expense, is 'poei,' or shell. Tavernier found pieces of twisted metal wire, called Lari (from the province of Lar, in Persia), current on the Malabar coast; and Thunberg likewise saw them current in Ceylon; and Knox tells of a coin (p. 197) 'like a fish-hook.' These have a resemblance to the Celtic rings of Britain and to the oboloi of the Greeks, which were kabab-skewers, (oboloi) ὀβολοί, a handful of which made a drachma, from ὀράττειν, to grasp with the hand.

In assay reports from the Bombay mint in 1852 on Panjab coins, the average of 190 old Mohurkee rupees was equal to 90·662 Company's rupees; that of 190 new was 88·792; 190 Gondashai rupees averaged equal to 78·961; 190 Jcobanshai, equal to 94·781; and 190 Nanakshai, equal to 92·037 Company's rupees. 190 old Farrakhabad rupees averaged 98·837, and 190 new, equal to 98·847 Company's rupees. 90 Khyrpur rupees averaged 87·123 Company's rupees, and 98 Nadri rupees 106·558 Company's rupees.

Southern India had a coinage of gold, and a small coinage of silver and copper, under the Hindus prior to the Mahomedan rule, and the maharajas of Travancore still coin in gold.

The Mahomedan silver (rupa) rupee was first struck at Dehli about A.D. 1541, in the time of Sher Shah, but was not made current in the south of India till 1654.

In 1601 the English introduced India money specially struck for India in the London mint. The coins had on them a portcullis. In 1660–61 the English established a mint at Madras. In 1770 there were in Bengal so many sorts of rupees, and rupees intrinsically of the same value differed so much in nominal value, which was regulated by the date of coinage, that no one but a siraf or money-changer could value the current coin, and the Government were forced to establish an ideal standard, called the current rupee, to which all calculations were made.

Most of the Feudatory States of India continue to coin in their own rulers' names, and under an Act of 1872 the coins of Native States of India are admissible as currency, under certain conditions. In the Hyderabad State there are several rupees, the Hali Sicca, and others, all of less weight than the rupee of British India. In Amraoti, the bankers used to pass sealed bags of money. In the Hyderabad State the copper coins in use are shapeless lumps, with some obscure marks on them. In reality these copper coins are the chief part of the currency, the value of the several silver coins being various, and each varying daily in the exchange of the bazar. The reckoning is by four, which is called a ganda.

4 cowries (gavvalu)	= 1 ganda.
14, 16, or 18 ganda	= 1 thoodi or Pisa copper.
4 thoodi or doodi	= 1 ganda of coppers.
16 or 17 copper ganda	= 1 rupee.

Nepal was conquered by the Gurkhas in the Newar year 888, corresponding with A.D. 1768. Prior to this epoch, the valley of Khatmandu was divided into three sovereignties, Patan, Bhatgaon, and Khatmandu, each governed by a raja. Hence, on the Newar coins, three series of rajas' names are found, those of Bhatgaon being generally distinguished by a shell, those of Patan by a trisul, and those of Khatmandu by a sword. The old coins of the Mal or Newar rajas are much valued for their purity, and are worn by the women, strung to necklaces or armlets, as tokens in memory of their ancestors. All money current north of the valley of Nepal, as far as the boundaries of Chinese Tartary, was formerly coined by one or more of the Nepal rajas. This was a source of considerable profit to them, the Bhutia giving them weight for weight in silver and gold-dust; but Ranjit Mal, the last reigning raja of Bhatgaon, sent them such base coins as to occasion a decrease of nearly one-half of their intrinsic value, which was no sooner discovered by the Bhutia than a desertion of the mint took place, and there has been no more Bhutia coinage made in Nepal.

The Nepalese procure all their silver from China, in the form of stamped lumps, as they are current in Lhassa, for the Tibetans generally follow the Chinese custom in their money transactions, of paying and receiving by weight, and the merchants carry scales with them for the purpose. Since the Gurkha conquest, the Vikrama era has superseded that of Newar for ordinary purposes, and the Saka, commonly used in Hindustan, has been introduced upon the Nipalese coins.

A Kashmir rupee was coined in 1849 by the late maharaja Partab Singh, bearing a Christian cross, and the letters 'I.H.S.' These were coined shortly after the annexation of the Panjab, when the maharaja was very anxious to show his loyalty in a way which he supposed likely to be most gratifying to a Christian Government.

Up to the beginning of the 19th century, the trans-Gangetic nations used lumps of silver like the sycee of the Chinese.

In the Straits Settlements the rupee is current, but there and throughout the Archipelago and the sea-coast of China the dollar is largely in use, and the Spanish dollar is the more valuable.

Chinese Currency. — Sycee silver, in Chinese Wan yin, is their only approach to a silver currency. In it the Government taxes and duties, and the salaries of officers, are paid; and

it is also current among merchants in general. The term Sycee is derived from two Chinese words, Se-sze, fine floss silk; which expression is synonymous with the signification of the term Wan. This silver is formed into ingots (by the Chinese called shoes, and by the natives of India, khuri, or hoofs), which are stamped with the mark of the office that issues them, and the date of their issue. The ingots are of various weights, but most commonly of ten taels each.

Sycee silver is divided into several classes, according to its fineness and freedom from alloy. The sole Chinese coin is of bronze, the silver and gold in China being sold by weight. An ounce of silver is the equivalent of from 1700 to 1800 of these bronze coins, which are called 'sapek' by Europeans. They have some pieces of brass, called tsian, and in Mongol tcho, of which the inhabitants of Siberia make tchok and tchek; they are of less value than a copec. A kind of notes are in circulation among private persons. In China, smooth pieces of metal, which served rather for weights than for currency, date from Kieng-Wang, who reigned B.C. 524. But the earliest known piece is attributed to the emperor Wen-ti, of the lesser Sung dynasty, A.D. 465.

The kopang of the Japanese is simply an oblong plate of gold with the angles rounded off.

In Arabia and the Persian Gulf, the silver real and the copper falus are current; but the Indian rupee and the Spanish dollar also pass current. In Arabia, the Spanish or German dollar, worth about 4s. 6d., is the silver coin; but in the exchange with India, 100 dollars range from 212 to 225 rupees. The Indian rupee also passes current everywhere. British gold is becoming well known. The copper pice of India are current, but exchange varies with the supply. Arabia has not any national coinage. According to Marsden, it was not until the khalifat of Abdul Malik, in the year of the Hijira 76 (A.D. 695), that a distinct coinage was instituted with a view of superseding the currency of Greek or Byzantine and Persian gold and silver.

The dinar, under the khalifs, was about equal to 10s. 8d. About A.D. 1440–1450, in Ibn Batuta's time, a western dinar was to an eastern as 4 to 1; and an eastern dinar seems to have been $\frac{1}{10}$th of a tankha, which, even supposing the tankha of that day to be equal to a rupee of Akbar, would be only 2½d. A dinar at Kābul in the early part of the 19th century was so small that 200 made one abassi, a coin of less value than a shilling.

The tankha in Ala-ud-Din's time is said to have been equal to 50 jital (a copper coin which some said was equal to a paisa), and in Muhammad Taghalaq's time it was so debased as to be worth not more than 16 paisa. The tankha appears to be the coin represented by the modern rupee, and perhaps, when at its proper standard, was about the same value.

The rupee of Akbar contained 174·5 grains of pure silver, and was divided into 40 dam or paisa (of 191½ grains of copper each). The dam was subdivided into 25 jital. Queen Elizabeth's shilling contained 88·8 grains of pure silver; so that Akbar's rupee was worth 1s. 11½d. of English money of his time. Akbar's standard remained almost unaltered all over the Moghul dominions, until the breaking up of the empire in the middle of the 18th century. The rupee of India now contains 176 grains of pure silver, and exchanges for 64 paisa, containing 100 grains of copper each. Akbar had a four-cornered rupee, called Char-yari by the people, this being a term applied to the four immediate successors of Mahomed, viz. Abubakr, Umar, Usman, and Ali.

The current coin of Persia is the keran, a silver coin of which 209 are equal to 100 rupees, or about 11½d. each. The gold toman is worth 10 keran. 50 copper guz are equal to one keran.

The coins of Kadphises, called Kadphises Koranos, to distinguish him from Kadaphes (Kadphises), the conqueror of Kābul, and those of Kanerki, his successor, have been found throughout the whole of Upper India; two or three of them have been obtained from Masulipatam, and one from Tanjore. In the Manikyala tope, General Ventura found shell money, the cowry, the spherical flat ingot, Indo-Scythian and Sassanian coins, all of which had been deposited at the same time. In another tope, opened by General Court, were found Roman denarii of Antony and Julius Cæsar, and coins of some Roman families associated with Indo-Scythic pieces of Kadphises. In August 1856 there was discovered a pot of very beautiful gold coins of the time of Augustus and other emperors, near Calliempootoor, in the Iyempully taluk of Madura.

Symbols.—In the south of India, the figures of animals, the dog, the fish, a serpent or eel, the lion, the bull, the elephant, the ankus or elephant-goad, also weapons, sword, bow and arrow, a mace, st'hamba or poles, were largely used on old coins as symbols. The dog is crouching on fore legs or plays. The fish was the ensign of the Pandyan dynasty, but is also found on Buddhist seals. The chakram or wheel, the chaitya, the Ficus religiosa or pipal leaf, also a bow and arrow, a hand, and the swastika cross.

The old Mada and Tankha coins are all of gold, and generally cup-shaped, the reverse convex, the obverse concave, with fine impressions in relief, or with a lotus or padma and chank or shell.

In the ancient coins of India, lead was used for smaller denominations. These have been found of all weights and sizes near Amaravati, with a lion or the tree symbol. The lion is the most favourite symbol represented on Buddhist sculptures. It forms the crowning ornament of the celebrated laths or obelisks of Northern India, the most remarkable of which are the Allahabad column, those of Bettiah, Bakra, etc. It occurs prominently amongst the ornaments of ancient and modern dehgop, and is a favourite symbol on the ancient coins of Bactria and S. India.

The elephant appeared conjointly with the lion on the Buddhist coins of Bactria and S. India; but in other S. Indian coins the elephant appears on the obverse, with some Buddhist symbol on the reverse.

The bull, both in Buddhist and Saiva mythology, is a favourite symbol with both sects on many of their coins. It was early adopted by the successors of the Greek coins of Bactria, and with the extension of the Saiva creed in India its symbolic adoption became almost general. The Indian coins with it are of lead, copper, and white metal.

The horse was a favourite symbol on Buddhist coins of S. India, of lead, and copper, and white metal.

The boar type of coins is the best known of all the old coinage of the S. of India. It was originally the badge of the Chalukya families of Kalyan and Rajamundry, from whom it passed to the later Chola dynasty, was subsequently adopted by the Rayar dynasty of Bijanagar, and is still found on the seals of some of the petty local chiefs in the Carnatic.

About 150 coins with symbols have been discovered, 27 of them have flowers (phul), dots, or stars; 14 have varieties of the lotus (padma) or trefoil; 12 have varieties of the trident (trisula) or spear (bala); 10 have flower (phul) or knot (padma phul); 4 with the barch'ha spear, or the guda sceptre or mace; 15 have the jhar or thuhar, tree or sprig; 6 the suraj or sun; 7 shamsiri dagger; 4 the katar dagger; 1 the ankus or goad; 13 with numerals or letters; and 13 with the shell, panja, or hand, the Hindu deities, Hanuman, elephant, the royal umbrella or ch'hata, or the swastika ✠ cross. — *Yule, Cathay*, i. p. ccxlvii.; *Fraser's Journey into Khorasan*, p. 74; *Elph.* pp. 420, 430; *Mr. Walter Elliot in Mad. Jour. Lit. and Sc.*, Jan. to Mar. 1858; *Mr. Edward Thomas' Prinsep's Useful Tables.*

COIR is the fibre from the rind of the cocoanut, and is a corruption either from the Tamil Kayer, a rope, or the Maldive Kaubar, the name given to the cords with which the inhabitants, according to Abul Fazl, sewed together the planks of their ships. It is largely used in India, and the exports during the years 1850–51 to 1860–61 from India ranged between 2393 and 5832 tons, value £20,909 and £57,284. Between 1868 and 1878, the exports of coir and coir rope ranged up to 10,821 tons. Coir appears in the market in various degrees of fineness, depending on the age at which the cocoanut is cut and the husk separated, and the care bestowed in steeping and cleaning. In order to remove this husk, an iron spike or sharp piece of hard wood is fixed in the ground. The nut is then forced upon the point, which passes through the fibres, and thereby separates the rind from the shell. In this manner a man can clear 1000 nuts daily. For the best coir, the outer rind of the nuts is bruised and steeped in water for two or three days, when it is taken up, and the fibres separated by the fingers and scraped gently with a blunt knife, and dried in the sun. If steeped in water too long, they get dark-coloured. Mr. Robinson thus describes the method of making coir in the Laccadives. The husk, he says, gets hard and woody if the fruit be allowed to become quite ripe, therefore the proper time for cutting it is about the tenth month. If cut before this, the coir is weak; if later, it becomes coarse and hard, and more difficult to twist, and requires to be longer in the soaking-pit, and thus becomes darker in colour. When cut, the husk is severed from the nut and thrown into soaking-pits. These, in some of the islands, are merely holes in the sand, just within the influence of the salt water. Here they lie buried for a year, and are kept down by heaps of stones thrown over them to protect them from the ripple. In others the soaking pits are fresh-water tanks behind the crest of coral. In these the water, not being changed, becomes foul and dark-coloured, which affects the colour of the coir. When thoroughly soaked, the fibrous parts are easily separated from the woody by beating. If taken out of the pits too early, it is difficult to free the coir from impurities. If left in too long, the fibre is weakened, as is said to be the case also with that soaked in fresh water. The coir from the Laccadive Islands, Kadamat, Kiltan, and Chetlat, is said to be of the best description. In the Laccadives the manufacture into cordage of the coir is entirely in the hands of the women. When soaked sufficiently long, it is taken out of the pit and beaten with a heavy mallet, and rubbed with the hands until all the interstitial cellular substance is separated from the fibrous portion. When quite clean, it is arranged into a loose roving, preparatory to being twisted, which is done between the palms of the hands in a very ingenious way, so as to produce a yarn of two strands at once. In these islands coir is one of the chief commodities of barter for the necessaries of life, as rice, salt, tobacco, etc. The coir is made up for their petty traffic in short 'kute' of a mixed length and weight, and at the end of the year these are collected and made up into lengths of 70 to 75 fathoms, as received by the Government. 40 cocoanuts are said to yield 6 lbs. of coir in Ceylon. Mr. Robinson says three large coast Laccadive nuts will yield 1 lb. of coir, measuring 22 fathoms, whereas ten small fine island nuts go to about 1 lb. of coir, but this will measure 35 fathoms. 2 lbs. of such yarn, measuring from 70 to 75 fathoms, are made up into sootie, of which there are 14 to a bundle, averaging about a maund of 28 lbs. A Mangalore candy of 560 lbs. will thus be the produce of 5600 nuts, and should contain about 20,000 fathoms of yarn. The value of the coir produce of a tree is calculated to be from 2 to 2½ annas; and that of the produce of 100 trees, from 14 to 15 rupees. The average value of the total raw produce of a tree bearing fruit would then be 7 annas to ½ rupee; and that of a plot of 100 trees, 45 rupees. The annual export of coir from the Laccadives to Madras ports is about 200 tons. In Ceylon, at Calpentyra and the Akkara-pattoo, the natives separate the coir by burying the husks along the border of the extensive salt-water lake, and when, after six months or more, they are dug out very clean, the fibres easily separate from the cellular tissue of the husk. This mode of preparing the fibre prevents the offensive smell emanated by macerating the husk, so common along the road from Colombo to Matura.

China imports coir from the Archipelago. Coir is made into cordage, both ropes and cables, for boats and ships, for which, from its lightness, it is well suited. It is largely used by upholsterers as a material for stuffing mattresses, couches, pillows; it is used as a substitute for oakum in caulking ships. The fibre is also made into brushes and brooms, as a substitute for bristles; is cleaned, curled, and dyed to resemble horse-hair; and made into matting, door-mats, and netting for sheep-folds, woven into stair carpets and floor-matting, bonnets, hats.—*Lond. Exh. of* 1862; *Royle, Fib. Pl.; Robinson's Report on the Laccadives; Hon. Mr. Morrison; Ondatjee.*

COIX BARBATA. *Roxb.*

Adavi godhumulu,	Tel.	Golive, Korimidi,	Tel.
Gila gaddi, Goli midi,	,,	Kokilakshamu,	,,

Grows in India. The Coix is a genus of plants belonging to the order Panicaceæ. Several species are known in India,—aquatica, barbata, gigantea, heteroclita, lacrima, pumila; and the following are

Burmese names for undetermined species,—Ka le pouk pouk, Ka le hmen, Ka le shee, Ka le theing, Ben wai thoo.

COIX LACRIMA. *L.* Job's tears, Coix millet.
Ka le thee, . . . BURM. | J'yi-jin, ... CHIN.

The Burmese species of Job's tears has large esculent seeds, which are parched for sale in the bazar. A great deal of coix is cultivated in the Khassya Hills about Moflong; it is of a dull greenish purple, and, though planted in drills and carefully hoed and weeded, is a very ragged crop. The shell of the cultivated sort is soft, and the kernel is sweet; whereas the wild coix is so hard that it cannot be broken by the teeth. Each plant branches two or three times from the base, and from seven to nine plants grow in each square yard of soil; the produce is small, not above thirty or forty fold.—*Hooker*, ii. p. 289; *Mason; Williams.*

COJIA, written Khojah, Cojah. See Khajah.

COLABA. In the spacious harbour formed by the islands of Caranja, Colaba, Bombay, Salsette, and the continent, several smaller rocky islands are scattered, bearing different names. Of these are Bombay, Elephanta, and a little island close to the latter that Europeans call Butcher Island, but known to the people as Depideva, Holy Island, the island of the gods. Colaba island in ancient times formed a shelter for the pirate fleets of Western India. In 1662 Sivaji fortified it; in the 18th century Angria made it his stronghold.

Colaba is also a point or spur of rock protecting the entrance to Bombay harbour on the north; it was originally a chain of islets, which have been connected with each other and with the island of Bombay. On its S. and W. are extensive and dangerous reefs of rocks, called the Prongs. It is still the scene of many wrecks.

COLA NUT of the Cola acuminata, west tropical Africa. The seeds are much esteemed by the natives for their bitter flavour, and are said to enhance the taste of whatever is eaten after them. It might be largely cultivated in India.

COLAPORE. See Kolapore.

COLAR LAKE, a marine lagoon of great extent, lying between Ellore town and the sea. Several marine lagoons, known in India as backwaters, stretch around both sides of the Peninsula of India; north of Madras are the Ennore and Chilka and Colar lakes, and there are several south of Madras and on the Malabar coast. Several streams flow into the Colar; and one, the Upputeru, is a tidal river. In the hot season, many routes are passable on foot or on horseback, which in the rainy season become part of the lake, and have to be crossed on a palmyra raft. The principal route across the lake is from Ellore to Kykalore. From these two places palmyra rafts ply regularly to convey goods and passengers. The Colar does not extend to Ellore itself, but its edge in the rainy season comes within three or four miles of the town, to which there is a fairly good road. The lake abounds with fish.

COLCHICUM AUTUMNALE. *Linn.*
Sorinjan, . . . ARAB. | Kuljikoon, GR. of ARABS.
Meadow saffron, . . ENG. | Suranjan-talk, . . PERS.

The colchicum of medicine is the cormus and seeds of C. autumnale, and is well described by Dioscorides. It was used by the Arabs, and is their sorinjan; they give kuljikoon as its Greek name. The hermodactyls of the later Greeks and Arabs, and the sweet and bitter sorinjan of the Arabs, were no doubt species of this genus, perhaps C. variegatum, *Planch.—O'Sh.; Royle.*

COLDENIA PROCUMBENS. *Linn.*
Tripunkhi, . . HIND. | Hamsa padu, . . . TEL.
Siru padi, ... TAM. | Hama padi, . . . ,,

A small plant growing in Southern India, used as a poultice fresh, also when dried, in powder with fenugreek seeds, to promote suppuration in boils.—*Roxb.*

COLE, ROBERT, Principal Inspector-General of the Medical Department of the Madras army; he wrote On the Laterite Formation, and Laterite of the Red Hills, in the Madras Lit. Soc. J. iv. 100.

COLE, COLONEL ROBERT, a military officer of the Madras army, eldest son of the above Dr. Robert Cole, author of an elementary grammar of the Coorg language.

COLEBROOKE, HENRY THOMAS, was the first to give a tolerable sketch of the character and contents of the Vedas in 1805; and in 1823–1827 he expounded the principles of the different systems of Hindu philosophy. His father, Sir George Colebrooke, Bart., was for many years chairman of the E. I. Company. Henry Thomas was born in London, 15th June 1765, and died there 10th March 1837, aged 73. He arrived at Madras in 1783, from which he went on to Calcutta, where his elder brother was established. In 1786 he was appointed Assistant Collector in Tirhut. In 1801 he attained to the judicial line as First Judge in the High Court of Appeal, afterwards called the Sudder Diwani and Nizamat Adalat, and in 1807 he became a member of Council. He left India in 1815, at the age of 50. His principal writings were,—

On the Husbandry and Commerce of Bengal, Calcutta 1795;
Hindu Law on Contracts and Successions, Calcutta 1798, and London 1818;
Sanskrit Grammar, Calcutta 1805;
Amara Kosha, a Sanskrit Lexicon, Calcutta 1808;
Translation of the Dayabhuge of Jimutavahana and Yajnyavalkya;
Two Treatises on the Hindu Law of Inheritance, Calcutta 1810;
Algebra from the Sanskrit of Brahmagupta and Bhascara, London 1817.

In the Asiatic Researches, between 1795 and 1816, he wrote on the Duties of a Hindu Widow, Enumeration of Indian Classes, Indian Weights and Measures (1798), Religious Ceremonies of the Hindus, on the Sanskrit and Prakrit Languages and their Poetry, on the Vedas, on the Jaina Sect, on the Source of the Ganges, on the Gyal, on Olibanum, on the Dryobalanops camphora, on the Indian and Arabian Divisions of the Zodiac, on the Procession of the Equinoxes.

In the Transactions of the Royal As. Society, 1823 to 1828, on the Philosophy of the Hindus, on the Jaina Sect.

He was one of the original founders of the Astronomical Society, and of the Society for the Promotion of Oriental Literature, now known as the Royal Asiatic Society. His Sanskrit MSS., which cost him about £10,000, he presented to the E. I. Co. At the time of his death he was a Fellow of the Royal Societies of London and Edinburgh, of the Astronomical, Geological, Linnæan, and Zoological Societies of London, of the Royal Academies of Paris and Munich, and of the Imperial Academy of St. Petersburg.—*Jo. R. As. Soc.* v. 1839; *Ed. Review*, 1872; *Sir J. E.*

Colebrooke's Life of H. T. Colebrooke, Lond. 1872; *Max Müller's Chips*, pp. 377–417.

COLEBROOKE, LIEUTENANT R. H., wrote on the islands Nankouree and Comarati, As. Res. iv. p. 129; Astronomical Observations in the Andamans, ib. iv. pp. 317, 385; Barren Island, iv. p. 397; Observations on the Course of the Ganges, xii. p. 1.

COLEBROOKIA OPPOSITIFOLIA. *Smith.* Pansra, HIND. A large shrub of the Siwalik hills and Salt Range, growing up to 4000 feet; wood used as fuel, also to make gunpowder charcoal; and the leaves as fodder for cattle, and are applied to wounds and bruises. C. ternifolia, *Roxb.*, grows in the Peninsula.

COLEHAN, a part of Singbhum occupied by the Ho as their proper country. The Colehan is divided into Pirhi or districts, each under a manki or chief, and each village has its mundah or headman.—*Dalton*, p. 163.

COLEOPTERA. See Insects.

COLEROON, the most northern and largest branch of the delta of the Cauvery river. The Coleroon debouches in lat. 11° 25′ 20″ N., and long. 79° 52′ 10″ E. Its entrance is marked by a gap in the trees, and by the four porticos of the pagoda of Chellambrum. The Coleroon branch of the Cauvery is separated from the Cauvery below the island of Seringham, near Trichinopoly, and after a course of 80 miles (of which it is the boundary of this district) falls into the sea near Devicottah. An anicut or dam was in the year 1836 constructed across the Coleroon, by which means a large supply of water is turned into the two southern taluks of Mannargoody and Chellambrum, and is of material service to the cultivation. The Coleroon anicuts are said to have been originally formed in the second century of the Christian era.

COLEUS AMBOINICUS. *Lour.*

C. crassifolius, *Benth.*	Plectranthus aromaticus, *Roxb.*
C. aromaticus, ,,	
Pathur chur, . . BENG.	Karpura valli, . . TEL.

Country borage is a delightfully fragrant plant of the Moluccas and the Peninsula of India, and grown in gardens. Its leaves are eaten with bread and butter, or bruised and mixed with food, drink, or medicine.—*Voigt.*

COLEUS BARBATUS. *Benth.*

Plectranthus barbatus, *An.*	P. asper, *Spreng.*
P. Forskalii, *Willd.*	P. monodelphus, *Roxb.*
P. comosus, *Sims.*	Ocimum asperum, *Roth.*

A shrubby plant, with a strong but not disagreeable smell. Cultivated in gardens all over India as greens. The roots are pickled.—*O'Sh.* p. 491.

COLEUS OSMIRRHIZON. *Elliot.*

Hrebera; Valuka, SANSK. | Iribeli Kuru-veru, . TEL.

It grows in Southern India, where it is cultivated in gardens. Hindu women use the scented roots to ornament their hair; and it is used as a drug, and as an offering to idols.

COLEWORT, a variety of cabbage, Brassica oleracea, of little value.—*Jaffrey.*

COLLADDI or Koiladdy, a fort on the island of Seringham.

COLLERI, a race occupying the country south of Trichinopoly, until the 19th century, so predatory, that in the south of the Peninsula of India, Colleri became the ordinary designation of a thief; derived from Kallara, thieves, plunderers. In ancient times they seem to have inhabited the woods from Trichinopoly to Cape Comorin. Orme describes them in the middle of the 18th century as expert thieves and plunderers; and the Jesuit Father Martin says they were very cruel. Pennant, in the 18th century, says 'the adjacent countries are covered with thick forests, and little cultivated by reason of the savage inhabitants, the Polygars and Colleries, who may be truly styled "sylvestres homines."' The Colleries, he adds, were predatory, and their government, as also that of the Polygars, feudal. The Colleries are in number thirty or forty thousand. Their country is hilly. They generally sided with Mahomedans and the British in the wars against the French in the times of Clive and Dupleix. Their chieftain is the Maharaja of Puducottah.—*Pennant's Hindostan; Orme's Hindustan.*

COLLICHTHYS PAMA. *B. Ham.* The whiting fish.

COLLOCALIA, a genus of birds belonging to the family Cypselidæ. C. linchi is the swiftlet that produces the edible birds' nests used in China as a restorative food. The other species is C. nidifica. See Birds' Nests; Birds.

COLOCASIA. RAY. A genus of plants of the family Araceæ. Several species grow in the south and east of Asia, viz. C. antiquorum, cucullata, esculenta, fornicata, odora, Indica, bicolor, arborescens, montana, mucronata, nymphæfolia, virosa, macrorrhiza of Ceylon, and C. Himalensis of the Himalaya, all of them remarkable for containing a milky juice. They are grown in S. Europe, the East and West Indies, and in Polynesia, where the leaves and roots, under the name of yam, coco, eddo, taro, are used as food. Colocasia and its allies are remarkable for the distillation of water from the extremities of their leaves. This process generally takes place at night or in a damp atmosphere, and supplements the evaporation which takes place from the surface of the leaves when the air is dry. Another curious physiological phenomenon, well shown by many Aroids, which have their numerous small flowers enclosed in a sheathing leaf (spathe), is the rise of temperature at the time of flowering in the floral organs, due to chemical changes in their tissues. In these plants the sheathing spathe prevents the dispersion of the heat, so that the temperature inside sometimes rises many degrees above that of the air outside. C. grandifolia, the great-leaved Caladium, is the Alu of Bombay.

COLOCASIA ANTIQUORUM. *Schott.*

Arum colocasia, *Linn.*	A. Ægyptiacum, *Rumph.*

There are five varieties of this plant,—

α. Goori kuchoo, BENG. β. Ashoo kuchoo, BENG.

Shema kalengu, . . TAM. Chema, Chamakura, TEL.	Chema, Chama dumpa, TEL.

These are cultivated in most parts of India and Burma. Small offshoots from the tubers are, like potatoes, planted in well-manured friable rich soil. The roots of the Goori kuchoo are taken up in about nine months, and those of Ashoo kuchoo after seven months.

γ. Kalo kuchoo. The roots send out numerous runners, but do not swell into tubers like the cultivated varieties. The leaves and petioles are used as greens.

δ. Char kuchoo and

ε. Bun kuchoo are not cultivated, and seldom

eaten. In Burma, α and β supply the place of potatoes.

Kalkas; Kur, . . ARAB.	Kaladi, . . . MALAY.
Rab; Alu, . . . BEAS.	Ghuyan; Kachalu, PANJ.
Goori Kuchoo, . . BENG.	Kuchoo; Kuchwæ, SANSK.
Ashoo ,, . . ,,	Gahala; Tadala, . SINGH.
Kala, Char ,, . . ,,	Habarala, . . . ,,
Bun ,, . . ,,	Taro, Kopeh, of S. SEAS.
Peing, ... BURM.	Kasauri; Gagli of SUTLEJ.
Egyptian Arum, . ENG.	Sima-Kalangoo, . TAM.
Yam, Eddo, Coco, Cocco, ,,	Chama kuru; Chama, TEL.
Arwi, ... HIND.	

This is cultivated in many parts of India, and up to 6500 feet in the Panjab Himalaya, and to 7600 in Chamba and Kulu. It is a plant of Greece, Asia Minor, Syria, and the East Indies. Two varieties of it are cultivated near Calcutta, the Goori and Ashoo kuchoo; and three varieties, Kala, Char, and Bun kuchoo, are found wild. The small offsets of the Goori and Ashoo are planted about the beginning of the rains in May or June, in a well-laboured friable rich soil. The roots of Ashoo are taken up about the close of the year, and those of Goori in February or March.—*Drs. Voigt, Roxb.; Bombay Products; Stewart.*

COLOCASIA ESCULENTA. *Sch.*

Arum esculentum, *L.*	Arisarum esculentum, *Rumph.*
Calla colyptrata, *Roxb.*	
Arbes; Arbee, . . ARAB.	Tallas, ... JAV.
Absen ul Fil, . . ,,	Soorun, . MAHR., HIND.
Yu-tu, ... CHIN.	Kaladi, . . . MALAY.
Arvi-ki baji, . . DUKH.	Kuchoo, ... PERS.
Egyptian ginger, . ENG.	Taro, ... TAHITI.
Racine elementaire, FR.	Sima-kirai, . . . TAM.
Chou de Bresie, . ,,	Gadda kanda, . . TEL.
Essbare Wurzel, . GER.	Bete, ... TERNATE.
Ghoya, ... HIND.	Ahan, Coco, Eddo, W. IN.

This species is cultivated in Brazil, the East and West Indies, Burma, the Archipelago, and Polynesia. The root somewhat resembles a pine-apple, but is globular. It is rather coarse; but the natives of India make use of the tubers in curries, etc. This seems to be the plant so largely used in the West Indies and Polynesia, under the names coco, eddo, and taro. It is a valuable root, shaped somewhat like a yam, and when well boiled and afterwards roasted, is not inferior to a yam in taste. It is a common food of the inhabitants of Travancore, where there is a superior variety of it, with broad, purple-coloured leaves. The Warriah (Ooriah?) in the Ganjam Circars call it Cutchoo; the Malays of the Eastern islands hold it in high estimation. Niebuhr says it is produced in abundance in marshy situations in Arabia, as well as in Egypt. Rumphius says: 'Nutrimentum est catholicum in orientalibus hisce insulis et tanquam utilissima regionis censetur planta eodem modo, quo ab antiquis jam fuit temporibus in Egypto, licet ibi haberetur cibus rusticorum, ac forte per saracenos ejus usus innotuit. Occidentalibus Africæ et Europæ partibus, ita ut haud inepte Æthiopum panis vocari posset.'—*Ainslie; Voigt; Jaffrey.*

COLOCASIA INDICA. *Roxb.*

Arum Indicum, *Lour., Roxb., W. Ic.*

Man kuchu, . . BENG. | Tota calir akkisa, . TEL.

This is cultivated in India, E. Australia, and S. Sea Islands, where its esculent stems and pendulous tubers are eaten by all classes.—*Voigt; Irvine.*

COLOCASIA MACRORRHIZA, *Schott*, in the Fiji Islands is called ndalo or taro. There is a water and a land variety, the former of which is the more usually grown. The average weight of the roots is 2 lbs., and the crops are raised from November to April. It requires irrigation. The young stalks and leaves are used like spinach, or in soup. The root is employed for making the mindrai or native bread. It contains much starch.

COLOCASIA NYMPHÆFOLIA. *Royle.*

Arum nymphæifolium, *Roxb.*	Caladium nymphæifolium, *Roxb.*
Sar kuchu, . . . BENG.	Chara kanda, . . TEL.
Welli ela, . . MALEAL.	

This grows in moist parts of Southern India, Bengal, and the Konkans, and is said to be used as food in Malabar.—*Voigt.*

COLOCYNTH, Citrullus colocynthis, *Schr.*

Khanzil, . . . ARAB.	Colocynthis, . . LAT.
Makhal, ... BENG.	Peponum pulpa ex-
Bitter appelen, . DUT.	siccata, . . . ,,
Dahak, ... EGYPT.	Cishala indravaruni, ,, SANSK.
Bitter apple, . . ENG.	
Bitter cucumber, . ,,	Titta commodoo, . SINGH.
Coloquinte, ... FR.	Coloquintidas, . . . SP.
Koloquinten, . . GER.	Peycoomuti-kai, . TAM.
Indrayun, . . . HIND.	Varricoomuti-kai, ,,
Coloquintida, . . . IT.	Pootsa-kai, . . . TEL.

Colocynth, the Khanzil of the Arabs, has been used in medicine from the earliest times, and is one of the plants supposed to be the pakyoth or wild gourd of Scripture. It grows on the sandy lands of the Dekhan, Gujerat, Kaira, Dehli. Dr. Burn states that two kinds of colocynth occur in Gujerat, the Cucumis colocynthis, and the C. pseudo-colocynthis. The colocynth of commerce is the dried fruit, peeled and unpeeled, and is brought from the Levant, north of Africa, and south of Spain. Colocynth is useful for protecting shawls and feathers against insects. The colocynth used in medicine as a hydrogogue cathartic is an extract from the fruit. That known in India by the Arabic names Indrayun and Bislumba, is said to be obtained from the Citrullus pseudo-colocynthis of Royle. Colocynth oil is prepared in India from colocynth seeds.—*Him. Bot.; Royle, Mat. Med.; Spry.*

COLOMBO, the seat of government in Ceylon, has a population of about 40,000. It is on the west coast of the island, in lat. 6° 56′ N., long. 79° 53′ E., and exports largely to Europe. Colombo is mentioned in Singhalese historical annals so early as A.D. 496; the name is said to signify a seaport. But this and Covelong, south of Madras, and Quilon of the western coast, are all the same name, 'Kulam.' It was visited by the Portuguese A.D. 1505, and occupied by them in 1638; but they were expelled by the Dutch in 1656, who in turn surrendered it to the British on the 16th February 1796.

COLOMBO ROOT.

Colombo wortel, . DUT.	Raiz de Calumba, . PORT.
Racine de Calombo, FR.	Kalambu khu, . . SINGH.
Kolumba wurzel, . GER.	Raiz de Colombo, . . SP.
Kalumb-ki-jar, GUJ., HIND.	Columbu ver, . . TAM.
Radice di Columbo, . IT.	Columbu veru, . TEL.
Kalumb of MOZAMBIQUE.	

The colombo plant is the Cocculus palmatus. It grows wild on the coast of Mozambique, and at Oribo in East Africa, and is much cultivated in the Mauritius. The root is imported into Bombay for re-export to Europe, and is much esteemed in medicine for its powerful antiseptic, tonic, and astringent properties.—*M'Culloch; Voigt.*

COLOPHONIA is in French, Bois de Colophane. To this genus De Candolle refers the tree produc-

ing the Bois de Colophane of the island of Mauritius, and calls it C. Mauritiana.

COLOSSOCHELYS ATLAS, a huge fossil land tortoise, discovered by Dr. Falconer and Sir Proby Cautley in 1835 in the tertiary strata of the Siwalik Hills, skirting the southern foot of the great Himalayan chain. They were found associated with the remains of four extinct species of mastodon and elephant, species of rhinoceros, hippopotamus, horse, anoplotherium, camel, giraffe, sivatherium, and a vast number of other mammalia, including four or five species of quadrumana; also a great number of reptilian forms, such as crocodiles and land and fresh-water tortoises. Some of the crocodiles belong to extinct species, but others appear to be absolutely identical with species now living in the rivers of India, in particular, to the Crocodilus longirostris, between the existing forms of which, and heads dug out of the Siwalik Hills, no difference is detected. The same result applies to the existing Emys tectum, a common species in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. Prof. Thomas Bell considers that there are no characters shown by the fossil, to justify its separation from the living, Emys tectum, now a common species found in all parts of India. There are therefore fair grounds for entertaining the belief as probable, that the Colossochelys atlas may have lived down to an early period of the human epoch, and become extinct since,—1st, from the fact that other Chelonian species and crocodiles, contemporaries of the Colossochelys in the Siwalik fauna, have survived; 2d, from the indications of mythology in regard to a gigantic species of tortoise in India. One in the British Museum is 14 feet in transverse circumference, and is 9 feet long.—*Jour. As. Soc. Ben.* No. 247 of 1855. See Tortoise.

COLOUR.

Couleur, ... Fr.	Colore, ... It.
Farbe, ... Ger.	Colol, ... Sp.
Rang, . . Hind., Pers.	

White is the mourning colour of the Mahomedans of Persia and in India, and of the Hindus, Parsees, and Chinese. Blue with Hindus is an unlucky colour. No one will buy a ruby or garnet with a bluish tinge. But the celestial blue is the imperial colour of the Mongols and Chinese. The colour affected by Hindu, and in Burma by Buddhist, religious mendicants, is a dull orange. In the ceremonies of marriages of Hindus, and on other similar happy occasions, red-coloured clothes must be worn, and the invitation cards must be red-coloured.

Sir George Birdwood tells us that of all artistic powers, that of colour, in its highest harmonies, is the most difficult to teach. Though general principles can be imparted by scientific rules, the power of colouring beautifully is undoubtedly one rarely attained. It seems to prevail in races as a special gift. It exists where the knowledge of form is unknown. It accompanies an unconscious sympathy with nature. Many actually savage nations colour their cloths or wraps or mats harmoniously, though absolutely devoid of social or mental cultivation. Europe may cultivate the study of colour, and understand its laws; but in textiles of all kinds, from carpets to gossamer muslins, and gold and silver tissues, the traditional taste of oriental nations remains unattainable by Europeans. In their silk and woollen fabrics, their metal work and other manufactures, there is an inherent feeling for, and power of producing harmony in, the distribution of colour, and in surface decoration. He tells us that in the colouring of carpets of India, full Indian red, broken by flowers or conventional leaves, in which orange predominates, forms a leading feature. A cool, low blue, a green of similar gravity of hue, and soft creamy white, complete the palette of the Indian designers of these fabrics. European purchasers have introduced changes into these oriental designs, but only to occasion losses of the exquisite harmony of the native arrangements of form and colour. Oriental colouring in textile fabrics seems to result from a gift to the various races that produce them. The native designers proceed in accordance with immemorial traditions, and with a certainty that resembles instinct. Their shawls are the finest textures, if not the most artistic products, of the loom. As studies of colour, the shawls of India have no rivals in the range of textile fabrics. The most celebrated of these productions are produced in Kashmir from the finest wool. The fineness and softness of its fibre retain colours of the most intense and delicate hue. Lakes, yellows, blues, orange, greens of several tints, rich and vivid; white, soft and low of tone, and absolute black, enable the designers to make up endless combinations. The designs in all Kashmir shawls are very similar to each other, with a cone or an occasional peacock amongst the rolling curves, and with the borders of the brightest colours. India also, though not manufacturing shawls, produces woven tissues, some embroidered, and some the work of the loom only, of a splendour unknown to European weavers. The gold and white, gold and purple, white and silver muslins, for colour, taste, and delicacy of arrangement, are amongst the artistic triumphs of the Indian loom. Some of them are of a gossamer transparency, intended for ladies' dresses.

Colour-sticks for the lacquer-ware of India are used in the Panjab by the kharati or wood-turner, to colour his ware when the turning process is complete. The stick consists of shell-lac, melted down with a certain proportion of wax and sulphur, and coloured by various simple or compound colours. They are applied by the hand. The operator holds the colour-stick against the turned wood object while revolving rapidly; the heat produced by the friction melts the lac, and the colour is deposited on the surface of the wood. The skill and fancy of the operator directs him either in laying on a uniform layer of colour, or else putting it on in little spots or touches, by allowing the colour-stick only very lightly to touch the revolving wood, thus producing either a smooth uniform colour, or the pretty mottled appearance so often observed in lacquered ware. Two or three different colour-sticks are often applied, giving the whole a marbled appearance of great beauty. The colour thus applied is spread, fined, and polished, by pressing the edge against the turned object while revolving. The final polish is given by a rag with a little oil. The principal colours are of lac, crimson, orpiment, red lead,

green made of orpiment and Prussian blue, dark blue, indigo or Prussian, black, white, brown or gold colour, light-blue or ultramarine.

Colours for enamels.—Vitreous masses are employed by the minakar, or enameller on silver, etc. The colours are principally green and blue, salts of iron and copper diffused through vitreous matter; a yellowish colour also is produced by litharge. The manufacture consists in taking a silver or metal vase, having the pattern of leaves or flowers worked on it in relief, and filling the hollows with enamel in a melted state. The colours used are blue, green, and red. The art of making this material is known in Lahore, Multan, and other places.

Chinese red colour is made from Taow-fau, or copperas. Their mode of preparation is by putting a pound of copperas into a crucible, over which another crucible is luted, having a small hole in it, which is lightly covered over; around these they pile charcoal, and enclose the whole within bricks, when they fire the charcoal, and as soon as the fumes issuing from the aperture in the crucible become of a light colour, a small quantity of the copperas is taken therefrom, laid upon fir-wood, and moistened with water; if the colour then prove to be a bright red, they remove the fire; if not, they allow the copperas to remain subjected to the heat until it assumes that colour, and then remove the fire. When the crucibles are cool, a cake is found in the lower one, but the finest colour is encrusted on its sides and on the bottom of the upper crucible, which is kept separate from the cake; the pound of copperas produces about four ounces of colour.

Chinese white colour is made from calcined translucent flint, to an ounce of the powder of which they add an equal quantity of white lead.

Chinese green is beautiful. It is prepared with one part of powdered calcined flint, two parts of white lead, and six parts of the scales of well-hammered copper.

Chinese violet is produced by adding an additional quantity of the prepared white to the green.

Chinese yellow is made by combining equal portions of prepared white and red.

Liu is the powder blue of Chinese commerce. It is the Pien-t'sing stone, an azure mineral, probably arseniuret of cobalt, roasted and powdered.

All these various colours are used by the china-ware painters, having been previously dissolved in gum-water, to which they occasionally add saltpetre, copperas, or white lead. The colours are laid on after the first baking and varnishing of the china-ware, but the beauty and depth of the colouring is imperceptible until after the second baking.

Black china-ware, the Ow-mi-ew, ornamented with gold, is very much prized in China. To make it, they mix three ounces of azure and seven of the oil of stones; this is laid on the ware, and when perfectly dry it is baked, after which the gold is laid on, and the vessel is re-baked.

Cracked porcelain, the To-wi-kie, is a porcelain prepared simply by varnishing the vessels with a whitish ash-coloured varnish, made from calcined translucent white pebbles; this has the property of marbling and veining the ware, and giving it an appearance as if it had been fractured into many pieces, which had been carefully reunited. —*Smith, M. M. C.; Jameson's Journal*, 1853; *Williams' Middle Kingdom; Powell's Handbook; Sirr's Chinese; Madras Ex. Jur. Rep.*

COLQUHOUN. In 1882, Messrs. Colquhoun and Wahab crossed China from Canton to Burma. Mr. Wahab subsequently died. They found the river Canton navigable by light-draught steamers for 400 miles to the upper portion of the gorges and rapids; and numerous fine cities in Yun-nan, now fast decaying, owing to the Mahomedan rebellion driving the traffic to the Yang-tze river. The Yun-nan country is a mountainous plateau about 6000 feet high, with ranges of 15,000 feet in the north, falling to 9000 in the south. Its scenery, climate, peoples, languages, and costumes change rapidly. Numerous fine cities attest the former prosperity of the population. Opium, minerals, and tea are the main exports; the imports were cotton from Laos and Bhamo, English salt and piece-goods from the latter place, and large caravans from Tibet, conveying tea. The portion of Yun-nan west of Tali had been a stronghold of Mahomedanism before and during the late rebellion. Traces of its rule were found in these places, in the greatly superior architecture, and especially in the decoration of the buildings, both private and sacred. A considerable portion of the population of the plain, sparse as it is, is still Mahomedan, and the doctrines of Islam are taught in some of the schools of Mong-hoa. The aborigines in this region, dwelling chiefly in the hills and hill-valleys, are mostly Lo-lo in the northern portion, while Han-jen prevail in the south; although Lo-lo, Ka-tu, Oni or Hami, and Pai are plentiful, among whom a few Kut-sung and Pa-tu are found. To the south and south-west of Tali the Lo-lo are most numerous, while round the Tali lake the Min-chia tribe (literally, native family) is alone found. The Lis-sou, a division of the Lo-lo, are to be met with to the N.W. of Tali. I-jen and I-chia are names applied by the Chinese and others to the Lo-lo. They mean 'savage people' and 'savage family,' which is also the complimentary term in use by the Chinese for Europeans. Mr. Colquhoun met with Lo-lo,—often black and white tribes,—Tou-lao, Poula, Lung-jen, You-jen, Miao (black and white), and Pai, as well as others of less importance. I-bang is a Laos district tributary to China, situated seven stages south-east of Ssu-mao, and supplies most of the so-called Puerh tea. At Talifu the aboriginal people met with were hospitable, pleasant, and kind. The explorers left Tali at the end of May, pursued their way to Bhamo by the route followed by Margary, M'Carthy, Gill, and lastly by Soltau and Stevenson. Yung-chang, the Vochan of Marco Polo, and the westernmost prefectoral city of China, was reached on the 7th of June 1882.

COLTS are taken in tribute by several Eastern races, and in the ancient Persian empire the tribute of the distant satrapies was of this kind. Armenia, according to Herodotus, alone gave an annual tribute of twenty thousand colts. Up to a recent date, the princes of Amber received as tribute all the colts reared on one of their estates. Many of the Persian horses which were brought to India up to the middle of the 19th century, were supposed to be tribute horses.—*Tod's Rajasthan*, ii. p. 390.

COLTSFOOT. Kwan-tung-hwa, CHIN. In China two varieties occur, one with large flowers,

which, as also the leaves, are smoked in lieu of tobacco.—*Smith.*

COLUBRIDÆ, a family of snakes, the last of the sub-order Colubrina of Dr. J. E. Gray. The Colubrina include the families Hydridæ, Boidæ, and Colubridæ. See Reptiles.

COLUBRINA ASIATICA. *R. Brown.*
Ceanothus Asiaticus, *Linn.* | C. capsularis, *Forst.*

The Asiatic red-wood is a large shrub with pale greenish flowers, belonging to the natural order Rhamnaceæ. Other two shrubs of this genus are C. Nepalensis of Nepal and C. macrophylla of Martaban.—*R. Brown; Voigt.*

COLUMBA, a genus of birds belonging to the family Columbidæ and order Gemitores. C. intermedia, C. rupestris, C. leuconota, occur in India, C. aromatica, C. coronata, and C. carpophaga have been referred to other genera. The most common in India is the—

Columba intermedia, the blue pigeon or pagoda pigeon.

C. livia, *var.*, *Blyth.*

Kabutar, . . . HIND. | Kovil pora, . . . TAM.
Parivi, ... MAHR. | Gudi purai, . . . TEL.

They congregate in large numbers, and breed wherever they can find suitable spots, on pagodas, mosques, and tombs. The Indian blue pigeon differs from the C. livia of Europe, North Asia to Japan, and N. Africa, only in having an ash-coloured instead of a pure white rump. The C. livia of Europe, or rock-pigeon, with its sub-species, is the parent form of all domesticated pigeons. Of these there are at least 150 varieties, in four groups.

The first group consisting of the German, Dutch, and English pouters.

A second group includes the Kali-par, Murassa, Bussora, dragon, and English carrier; the Bagadot hen, Scanderoon pigeon, cygne rients, the Tronfo, and the Bank.

The third group includes the Java and English fantail, the Turbit and African owl; the Persian Lotan; common and short-faced tumblers; the Indian frill-back and jacobin.

The fourth group includes the dovecot pigeon, swallow, spot, nun, English frill-back, laugher, and trumpeter.

Dr. Jerdon thus arranges the Gemitores or pigeons, syn. Columbæ, *Latham*:—

Fam. Treronidæ.
Sub-fam. Green pigeons; genera, Treron, Crocopus, Osmotreron, Sphenocercus.
Sub-fam. Carpophaginæ, fruit pigeons; genus, Carpophaga.

Fam. Columbidæ.
Sub-fam. Palumbinæ, wood pigeons; genera, Alsocomus, Palumbus, Palumbœna, Columba.
Sub-fam. Macropyginæ, Cuckoo-doves; genus, Macropygia.
Sub-fam. Turturinæ, turtle-doves; genus, Turtur.
Sub-fam. Gouridæ, ground doves.
Sub-fam. Phapinæ, ground doves; genus, Calcophaps Indicus.

Pigeons, doves, and turtles are abundant in Southern Asia and the Indian Archipelago.—*Jerdon; Blyth; Darwin.*

COLUMBUS. Christopher Columbus, a Genoese, and famous navigator, with a fleet fitted out by the king of Spain, discovered America on the 12th October 1492. America had been discovered A.D. 986 by Bjarni Herjulfson; and in A.D. 994 Leif Erikson afterwards reached its shores, somewhere between Boston and New York. But the memory of these discoveries had passed away; and on Friday, August 2, 1492, Columbus set sail from Palos, steering to the west, to reach, in his belief, the East Indies. It was chiefly by the aid of the Pinzon family, a seafaring Spanish house, that he was able to get up the expedition. At midnight of the 11th October, a sailor descried the island, on which Columbus landed at daybreak of the 12th, and named it San Salvador. It is now called Watling Island. He had carried with him a letter to the khan of Tartary from the king of Spain, and he died in the belief that he had reached the eastern shores of Asia, and hence gave it the name of 'West Indies.' By an ordonnance of 4th May 1493, the Pope comfirmed the king of Spain in the sovereignty of America, and strictly prohibited all persons to touch at any port within a line drawn from pole to pole 100 leagues westward of the Azores; and the Portuguese were to possess all eastward of this line. But when Magellan, sailing westward as a servant of the king of Spain, discovered the Philippine Islands in 1521, the Pope's demarcation was rendered useless, and Spain and Portugal came into collision.

COLVILLE, W. H., author of Notes on the Geology and Botany of the Coast between Bandar Abbas and Jaslik; do. between Shiraz and Bushahr; do., island of Kishm; do. around the head of the Persian Gulf, in 1863.

COLYMBIDÆ, a family of swimming birds, now classed with the Natatores as Podicipidæ. The species of Podiceps are called Grebes. They haunt the sea as well as the rivers, are excellent swimmers, and dive frequently. They feed on small fishes, frogs, crustaceans, and insects; and their nests, formed of a large quantity of grass, etc., are generally placed among reeds and carices, and rise and fall with the water.

COLZA OIL, oils of Brassica campestris and B. oleifera.

COMALA or Kamala. HIND. The lotus; pronounced Kawal. Aran-kawal, the lotus of the desert, from Aranya (Sanskrit), a waste, and Comala, lotus. By the spelling it should be called Arancomala, but the pronunciation is as above.

COMANES, a city mentioned by Ptolemy, supposed to be Nagara, near Cambay, now in ruins.

COMANI, a branch of the Kathi tribe of Saurashtra, whose pallia, or funeral monumental pillars, are seen in groups at every town and village. Abul Ghazi describes a famous tribe in Kharazm, the ancient Chorasmia, called Comani, the remains of which were expelled by Chengiz Khan; and the royal author adds, 'Urgens was not always the capital; and Abulfada tells us Cath, also spelt Kaht, in lat. 41° 45′ N., was formerly the metropolis.'—*Rajasthan*, i. p. 59.

COMARASAMY, a hill south of Ramanmalai hill, 30 miles west of Bellary, overlooking the valley of Sundur, used as a sanatorium.

COMARI, mentioned in the Periplus, is Cape Comorin. See Kumari.

COMATESWARA, a colossal Jain figure, known by this name, stands in front of a temple at Sravana Belgola; another colossal Jaina statue is at Karkala in S. Canara.

COMATULÆ, the feather stars of naturalists, found in the Eastern seas.—*Coll.*

COMBACONUM, in Tanjore, 175 miles S. from Madras, a large, populous town. In ancient times the Chola kings were settled in Tanjore and Com-

baconum, in and near the Cauvery and Colerun rivers, and, as some suppose, gave their name to the Coromandel coast. This town is built close to the river Cauvery. It has 12 pagodas, and in Hindu estimation is a very sacred place, celebrated for its learning. Brick remains of the palace of the Chola are found near Combaconum.

COMBERMERE. Stapleton Cotton, afterwards Lord Combermere, accompanied his regiment, the 6th Dragoon Guards, to Flanders in 1793. From the conquest of the Cape he proceeded to India, and he was in command of the 15th Light Dragoons in the year 1796, and was present at Mallavelly and Seringapatam. Returning as a colonel after ten years' service, he married the eldest daughter of the third Duke of Newcastle in 1801; and was at the head of his brigade of the 14th and 16th Light Dragoons at Oporto and Talavera. In 1809 Sir Stapleton Cotton was created locally a Lieutenant-General, and placed at the head of the whole allied cavalry. He was in the retreat from Almeida, and subsequently at Busaco, Fuentes d'Onor, Salamanca, El Bodon, the Pyrenees, Orthes, and at the battle of Toulouse. For his services in the Peninsula he was created a peer, and received the thanks of the British Parliament. In 1814 he married a second time, Miss Greville. Lord Combermere went to the West Indies as Governor of Barbadoes in 1817, and as Commander-in-chief of the forces in the islands at the end of the American war. He served in India as Commander-in-chief; and in 1825–26 he stormed and took Bhurtpur.

COMBOY. SINGH. A waist-cloth resembling a petticoat, worn by the Singhalese.

COMBRETACEÆ. *R. Br.* The myrabolan tribe of plants, consisting of trees or shrubs, simple or climbing, of 22 genera, and about 140 species in Madagascar, Bourbon, Mauritius, the Society Islands, China, and 64 in the East Indies, viz. 23 Terminalia, 25 Combretum, 2 Poivrea, 2 Getonia, 2 Quisqualis, 4 Anogeissus, 2 Lumnitzera. The various species of Terminalia yield several valuable economic products; the Anogeissus and Lumitzera useful woods, and Quisqualis fruits excellent vermifuge. Terminalia bellerica gives a good serviceable wood where elasticity and strength are required. The withes of two species of the Combretum are extensively employed in the place of iron stretchers for the mouths of the leathern buckets used in drawing water from wells. Combretum ovalifolium, rotundifolium, costatum, acuminatum, Chinense, and extensum occur in India.—*Mason; Voigt; Roxb.*

COMBS.

Kammen,	DUT.	Sisir, Garu,	MALAY.
Peignes,	FR.	Pentes,	PORT.
Kamme,	GER.	Grebnii,	RUS.
Kunghi,	HIND.	Peines,	SP.
Peltini,	IT.	Shipu,	TAM.
Pectines,	LAT.	Duvenna,	TEL.

Combs for cleaning and adjusting the hair are formed of horn, bone, tortoiseshell, wood, etc. In Ceylon, the marginal pieces of tortoiseshell are also used at Point de Galle in the manufacture of bracelets; and necklaces, formed of a chain of shell resembling amber in appearance, bear a higher price than such as are formed of the darker shell. In Ceylon, tortoiseshell combs are worn by men as well as women. In the numerous excesses into which European costume has been carried, the size of the back comb worn by ladies has never attained that of the Singhalese men, who also wear a narrow, long, bent comb across the fore part of the head. Five pounds even is a moderate price for a tortoiseshell back comb, which increases in value according to the size and quality of the shell. Hair-pins of tortoiseshell are worn by the women, gold and silver being substituted for full dress. These hair-pins are among the articles purchased by passengers. A comb is always part of the belongings of the darvesh of Central Asia.—*Faulkner; Rohde, MS.; M'Culloch.*

COMILLAH, the chief civil station of Tiperah.

COMMANDMENTS of the southern Buddhists are ten in number. Amongst them,—Kill not, Steal not, Commit not adultery, Lie not, Take nothing that intoxicates.

COMMELYNACEÆ, the spider-wort tribe of plants, comprising the genera Aneilema, Campelia, Commelyna, Cyanotis, Murdannia, Pollia, and Tradescantia. Wight describes Commelyna Bengalensis, cristata, nana, papilionacea, polyspatha, and scapiflora. C. cæspitosa occurs in Burma; and Dr. Honigberger received C. nudiflora from the Himalayas under the name of Kandoolee. The rhizomes of some species are starchy, and are eaten. C. Rumphii is used in India as an emenagogue.—*W. Ic.; Riddell.*

COMMELYNA BENGALENSIS. *Morrison.*

Ho-tan-t'u, . . . CHIN. | Kan churu, kanuraka, HD.

Has small blue flowers.—*Smith.*

COMMELYNA COMMUNIS. *Linn.*

Calf grass,	ENG.	Venna-devi kura,	TEL.
Vatsa priam,	SANSK.	Niru kassuvu,	,,
Kanang kirai,	TAM.	Venna mudra,	,,
Kunnu katti pillu,	,,	Venna vedara,	,,

Its succulent leaves are used by the Hindus for feeding young calves when they wish to wean them from their milk. The plant has a small delicate blue flower, and is found growing on the banks of watercourses, along which it spreads rapidly, sending suckers into the ground. Found in lawns. The leaves are used by the natives mixed with other greens.—*Ainslie; Jaffrey.*

COMMELYNA MEDICA. *Smith?* The T'sun-tung of the Chinese. Its tubers are used as a cooling medicine. The same name is given to the roots of the Ophiopogon Japonicus, and of a species of Aneilema.—*Smith.*

COMMELYNA OBLIQUA. —? Is the Xanjura and Kana of Hindustan. The root of this plant is edible.

COMMELYNA POLYGAMA. *Smith.*

Yah-chih-ts'au, . CHIN. | Chuh-yeh-ts'ai, . CHIN.

The duck's foot grass or spider-wort. In China is much cultivated as a pot herb, which is eaten in spring. The juice of the flower is used as a bluish pigment in painting upon transparencies. —*Smith.*

COMMERCE. From the earliest historic times, products from the S.E. of Asia have been carried to the west by the same sea routes as are now followed, or have been, as now, carried across the deserts of Central Asia and through the passes in its mountain ranges.

The earliest route between Europe and India of which there is any record in the works of Herodotus, Strabo, Pliny, and others, was by the Red Sea. Even before the building of Troy, spices, drugs, and many other kinds of merchandise were

sent from the East by this route. The ships coming from the Indian seas landed their cargoes at Arsinoe (Suez), from whence they were carried by caravans to Cassou, a city on the coast of the Mediterranean. The distance from Arsinoe to Cassou was about 105 miles. According to Strabo, this route was twice altered in search of a more commodious one. Sesostris of Egypt started the idea to which M. de Lesseps in the Christian year of 1869 gave effect. The Egyptian monarch caused a canal to be cut from the Red Sea to a branch of the Nile, and had ships built for carrying the traffic, but for some reason the enterprise did not succeed. In 1 Kings ix. 26, also, it is mentioned that about 1000 B.C., Solomon king of Israel 'made a navy of ships in Ezion-geber, which is beside Eloth, on the shore of the Red Sea, in the land of Edom.' And these ships brought gold, silver, and precious stones from Ophir and Tarshish in such quantities, that king Solomon 'exceeded all the kings of the earth for riches.' Silver was so plentiful at his court, that it was 'accounted nothing of.' The king's drinking-cups were made of pure gold, and his shields were covered with beaten gold. We are distinctly told that the navy of Tarshish brought 'gold and silver, ivory and apes and peacocks,' and Ophir has been supposed to have been some district or port in India. The Tarshish fleet is said to have arrived at Ezion-geber only once every three years, from which we may infer that the voyage was a considerable one, or that the ships had to go with the S.W. monsoon and return with the N.E. winds, or made a trafficking voyage from one place to another, until the one cargo was sold and another shipped. Neither place has been identified. Had the ships visited the Malay Peninsula, Sumatra, Java, or Borneo, they would have known of the Simia satyrus (the orang-utan of Malacca and Sumatra, the mia of Borneo), or seen the Siamanga syndactyla, the long arms of which measure five feet six inches across in an adult about three feet high. As at the present day, the ancient mariners boldly crossed the Arabian Sea, and reached Muziris, a port on the Malabar coast of India, in a voyage of forty days, or about the middle of September, and they left India on their return at the end of December. The races ruling in Mesopotamia, on the shores of the Persian Gulf, the Akkad and the Phœnicians, also prosecuted the Eastern trade.

The *land routes* have varied with the revolutions that have raised and swept away the military rulers. They have, at times, led through the deserts of Africa, have crossed the immense steppes of High Asia, and over the passes in its mountain ranges, and, as at the present day, caravans of camels, with their bales and chests bound with cords, as described in Ezekiel, trailed their long lengths along. Pliny (lib. vi. c. 4) particularly describes one route. 'Having arrived at Bactra,' he observes, 'the merchandise then descends the Icarus as far as the Oxus, and thence are carried down to the Caspian. They then cross that sea to the mouth of the Cyrus (the Kur), where they ascend that river, and, on going on shore, are transported by land for five days to the banks of the Phasis (Rion), where they once more embark, and are conveyed down to the Euxine.'

In the days of Augustus, Aulus Gellius described the caravans of Arabia as being like armies in magnitude. The time and course of each caravan was marked by the convenience of merchants and the position of watering-places. Each had its fixed time of starting, its invariable daily halting-places, its entrepots, and its points of junction with other caravans who would join it for protection.

At one time two great lines of caravans started from Yemen. The one proceeded from Hadramaut by Oman, and took the line of the Persian Gulf; the other came by the Hejaz along the coast of the Red Sea, and arrived at Petra, and from hence bifurcated off into two roads, the one going to Gaza and the other to Damascus. From Yemen to Petra the time of the caravan march was seventy days; and the stations of the present day are the same as those described by Athenodorus, and were probably the same in the days of Ishmael and Abraham. The Maadite tribes found in this traffic an immense field of employment. Some let their camels for hire, some acted as guides, some secured protection in return for payments of money, some engaged themselves in traffic. Some revolution interrupted this caravan trade; the vast cities which maintained their enormous prosperity by the passage of caravans fell into decay; but remains of colonnades, temples, and amphitheatres excite the traveller's admiration and surprise, amid the sands of the Hauran and the deserts east of the Dead Sea and the Lake of Tiberias. Palmyra, Philadelphia, and the cities of the Decapolis were the northern stations or termini of the great caravan road from Petra to Damascus. But the position of Petra was peculiarly adapted to advance it to that incredible degree of opulence which won the admiration of visitors in the days of Greece and Rome, which was described by Athenodorus the Stoic, and which, after having been forgotten in the desert for centuries, still exists, within its rock ramparts and its richly chiselled and stately pillars and edifices, to astonish and instruct the modern traveller. Petra, in fact, was one of the chief points of junction of the great caravan traffic, and it was here that the cargo of the caravan changed hands from the carriers of the southern to those of the northern merchants.

With the fall of the mighty Roman empire, the routes by the Red Sea and Arabia seem to have been abandoned; and centuries afterwards, when the Genoese engaged in commerce and navigation, a former trade route had been reopened up between India and Europe. The merchandise from the western part of India was now carried up the river Indus as far as it was navigable, and then across country, through Samarcand, to the river Oxus, down which it was shipped to the Caspian Sea. In like manner the merchandise from China and the Moluccas was shipped across the Bay of Bengal, and up the rivers Ganges and Jumna, and then carried overland to the Oxus. Samarcand was then a great emporium, and the merchants of India, Turkey, and Persia met there to exchange their wares. The ships sailed across the Caspian to the port of Astracan, at the mouth of the Volga. Thence the goods were carried up the river to the city of Novgorod, in the province of Reizan (a city that must have been considerably to the south of the famous Nijni Novgorod of to-day), then overland for some miles to the river Don, where they were loaded in barks and carried down stream to the Sea of Azof, and on to the port of Caffa or

Theodosia, in the Crimea. Caffa belonged at that time to the Genoese, and they came there in their galliasses to fetch Indian commodities, which they distributed throughout Europe. In the reign of Commodita, emperor of Armenia, a better route was followed, by the merchandise being transported from the Caspian Sea through Georgia to the city of Trebizond on the Black Sea, whence it was shipped to all parts of Europe. This was doubtless the origin of the connection of the Armenians with the trade of India. So highly was this route approved of, that another Armenian emperor is said to have actually begun to cut a canal, 120 miles in length, from the Caspian to the Black Sea, for the greater convenience of the trade, but the author of this scheme was slain and the enterprise fell through.

After a time the Venetians came upon the scene, and took up a new and much shorter trade route to India, that down the river Euphrates,—a route which even at the present day is believed by some to be the best that could be selected for communication between India and Europe. The Venetian merchants sailed from Venice to Tripoli; thence their goods were carried in caravans to Aleppo, which was a famous mart, and whose reputation Shakespeare did not fail to notice. From Aleppo the caravans made their way to Bir on the banks of the Euphrates. Here the merchandise was transferred to boats, and conveyed down the river to a point near Baghdad on the Tigris. Baghdad being reached, the merchandise was then transferred to boats on the Tigris, and carried down to Bassora and the island of Ormuz in the Persian Gulf. In those days Ormuz was the greatest emporium in the south of Asia. Here all the velvets, cloths, and manufactures of the West were exchanged for the spices, drugs, and precious stones of the East.

The wealth acquired by the merchants of Venice in their trade with the East excited the envy of the whole of Europe. The Portuguese especially spared no expense in their endeavours to discover a new route to India, and in the latter part of the 15th century they found their way to Calicut by the Cape of Good Hope; and the cheapest route between Europe and India was the high sea. But after making use of the Cape sea route for 400 years, the world has returned to that by the Red Sea, which was followed by the ships of king Solomon and Hiram king of Tyre.

Along the eastern coast of Africa, merchants from Great Britain, France, Portugal, and Germany are now settled, but Asiatics form a connecting link between the Europeans and the African races. Arabs, and Hindus from Sind and from Cutch, have from time immemorial traded on that coast, and the Arab dynasties of Johanna and of neighbouring places gave accounts of their arrival on the coast, which was long prior to that of the Portuguese, having been far back in the middle ages, and there appears to have been settlements on the coast of powerful Arab and Persian emigrants in the early centuries of the Christian era.

The arrival of the Portuguese revolutionized the trade. It was not only that a stop was put by their discovery to the Venetian and Genoese trade with India, but its effect was very nearly to drive away from the coast of Africa the Indian and Arab traders who had carried on commerce in this region. Vasco da Gama and the early Portuguese traders describe in these regions a state of things much superior to what we have since known of them. They describe the region near the coast north of the limits of Cape Colony as occupied by well-settled kingdoms, some ruled over by Arabs, some by natives, and all enjoying a tolerably advanced state of civilisation. The European traders did not contribute to the peace and happiness of this region. The stronghold of Captain Kyd is shown still in the neighbourhood of Johanna, and his castle was certainly built about that time. A system of plunder prevailed. The power of the Portuguese was much crippled by their rivals, but when they were on the mainland they did nothing but turn their attention to the capture and sale of slaves; commerce dwindled, and the country sank. The early Portuguese maps show that the country which in those older maps was represented as filled with towns, has in the later ones been set down as almost unknown.

The people who have now the most influence in commerce, and carry on by far the largest trade, are the Asiatics from the north-west coast of India. They are of different tribes. None of them can tell very accurately when they began to come to Africa to trade. They do not bring their wives and families with them, but are generally young men who trade on the coast for some years, and return to India to manage the same trade in its home branches. During the Portuguese domination, they were very nearly expelled. The Bhattia and Banya, who form a large number of these traders, are Hindus, and are very strict ones; yet it is remarkable that they may leave India and live in Africa for years, without incurring the penalty of loss of caste which is enforced against Hindus leaving India in any other direction.

Several *land routes* through Central and High Asia continue to be followed. The present channels of trade between Afghanistan, Persia, Western Turkestan, and India, are the passes of the Sulimani range and those leading to and from Peshawur. The Moolla pass near Gandava, level throughout, may be traversed in all seasons. Through the Bolan pass the trade passes from Kandahar into Sind, a distance of 400 miles. The Guleri pass, opposite Dehra Ismail Khan, is the chief trade route between Afghanistan and the Panjab; the trade through it is in the hands of Povindah, a hereditary clan of merchants. The Tatara and Abkhana passes, leading from Kābul to Peshawur, are practicable all the year. The Suliman mountains form the western frontier of the Panjab and Sind. The Bolan pass collects the trade both of Kandahar and Kalat, and debouches upon Sind at the important mart of Shikarpur, whose merchants have direct dealings with the remote cities of Central Asia. The Gomal pass, leading from Ghazni to Dehra Ismail Khan, is followed by the half-military, half-trading clan of Povindahs, who bring their own caravans of camels into the heart of India. The Khaibar pass leads from Kābul to Peshawur. The aggregate value of the annual trade with Afghanistan cannot be less than one million sterling each way, or a total of two millions. In 1875-76 the total imports from Kābul were valued at £914,000, consisting chiefly of raw silk, dried fruits and nuts, manjit or madder, and other dyes, charras (an intoxicating preparation of hemp), and other drugs, wool, and furs. The total exports were valued at £816,000, chiefly cotton goods both

of native and European manufacture, Indian tea, indigo, and salt.

The Panjab also conducts a considerable business, *via* Kashmir, with Yarkand, Kashgar, and Chinese Tibet, estimated at about one million sterling altogether. The chief marts on the side of India are Amritsar and Jullundhur, from which latter place the route runs northwards past Kangra and Palampur to Leh, where a British official has been stationed since 1867, in which year also a fair was established at Palampur, to attract the Yarkandi merchants. Merchandise is usually conveyed across the Himalayan passes on the backs of sheep and yaks; but British enterprise has successfully taken mules as far as Leh. In 1875-76, the total imports from Kashmir were valued at £484,000, chiefly pashmina or shawl-wool, charras, raw silk, gold dust, silver ingots, and borax; the exports were valued at £342,000, chiefly cotton goods, food-grains, metals, salt, tea, and indigo.

In this land traffic the difficulties to contend with are partly from the social and political state of the nations through which the trade passes, and partly the physical difficulties of the countries which it has to traverse. Every skein of Bokhara silk in the market of Amritsar, has to traverse upwards of 1000 miles over unbridged rivers and mountain passes, one of them 11,700 feet above the level of the sea; every fabric from Europe exposed in the bazar at Yarkand, has to perform a journey of 525 miles from the Panjab, over passes of 11,300, 12,570, 13,446 feet in height, to Leh, thence over still loftier mountains and through an inhospitable route for 575 miles more. Nevertheless, to combat these difficulties, we find in existence an indomitable mercantile energy, hereditary in certain tribes, as the Babi of South Afghanistan, the Povindah of the Guleri pass, the Paracha of Turkestan, and the Kiryakash of Yarkand. Year after year their caravans stream into the Panjab from Mashed, Kābul, Bokhara, and Yarkand, bringing tales of perils overcome; native ballads bewail the hardships of the travelling merchant, but they still stream on.

Afghanistan, a mountainous region lying between lat. 30° and 36° N., and long. 60° to 68° E., with a population estimated at 4,200,000, contains within its limits three great entrepots of trade between Europe, Persia, Turkestan, and India, —Herat, Kābul, and Kandahar,—where the silk of Bokhara and Khotan, the shawl-wool of Kirman on the south-west, and Khokand, are exchanged for the fabrics of Europe and for the indigo and the spices of the east. Passing the well-watered plains of Murghab and the petty Uzbak states to the north-west of the Bamian hills and the Kunduz districts, in whose eastern frontier are the ruby mines of Badakhshan, and the lapis-lazuli quarries of the valley of the Kokcha, we come to the plains of the Oxus and Jaxartes, the Amu Dariya and the Syr Dariya, into which Russia has passed, but formerly divided politically into the three Uzbak khanate states of Khiva, Bokhara, and Khokand. Of these, Khiva khanate has a population estimated at 2,500,000; Bokhara, one of 2,000,000; but Bokhara is at once the most productive, and its capital is the great depôt for the trade of Central Asia, occupying the position held in more ancient times by Balkh and Samarcand. Its silk is used throughout the north-west of India; its cotton is exported largely to the north; and the black lambskin wool of Karakul, one of its provinces, is a staple article of trade; while it imports considerable quantities of tea, fur skins, iron, and cotton goods. Caravans leave yearly for Russia *via* Orenberg and other frontier towns, and the trade with that country is estimated at upwards of £300,000 per annum; it has also a considerable trade with Western China *via* Yarkand, with Persia *via* Mashed, and with India *via* Kābul and Peshawur. Under Russian supremacy, Samarcand is resuming its former position as the more important mercantile site.

Proceeding eastward to the borders of *Chinese Turkestan*, including the provinces of Yarkand, Kashgar, and Khotan, we find the former the entrepot of trade between China and Bokhara, and the latter celebrated from the time of Ctesias for its mineral products, its jade and emeralds, its shawl-wool and flax; a considerable importer of furs, broadcloth, leather, and sugar, and at one time the entrepot of a vast trade with Hindustan. Turning south, we come to the kingdom of Kashmir, including its outlying province of Ladakh, the former sending its valuable shawls to all parts of the world, while the latter supplies shawl-wool in exchange for opium, the produce of the Kulu hills, otter-skins, cotton piece-goods, spices, and drugs.

The Quetta trade goes on to Kandahar, but not much further west, as the maritime trade from Bombay up the Persian Gulf carries articles more cheaply than they can be conveyed by any land route.

The trade into Kashmir is conducted with the districts of Hazara, Rawalpindi, Jhelum, Gujerat, Sialkot, and Gurdaspur.

With Kābul the trade passes through Peshawur, Kohat, Dehra Ismail Khan, and Bannu. That through Peshawur is by the Khaibar, Tatara, Abkhana, and Gandal routes; that from Kohat is by the Thul and the Kurram valley; that by the Dehra Ismail Khan district goes by the Gomal pass, and Sewastan is reached by this.

The Bajaur trade is *via* Peshawur and Hazara; to Yarkand, *via* Amritsar; and to Ladakh, through Kulu.

The route to the west from Kābul to Bokhara runs *via* Bamian, Saighan, Doaba, Hibark, Hasrak Sultan, Kulm, Balkh, Kilif-ford, and Karshi. Bokhara is the great centre mart to which merchants resort from Samarcand, Tashkand, and Khokand.

The Chinese Tibet trade goes *via* the Hindustan Tibet road, the several routes converging at Wang-tu, where the Sutlej crosses the road. At Gartokh town, in Chinese Tibet, a commercial fair is held twice a year, at which traders meet from Ladakh, Nepal, Kashmir, and Hindustan.

The routes to Tibet are by five passes, viz. the Nilanghat, at the eastern corner of Native Garhwal (Tehri); the Mana and Niti passes in British Garhwal; and the Johar, the Darma, and the Byans passes in Kamaon.

The routes into Nepal are by Kamaon, Philibhit, Kheri, Bahraitch, Gonda, Basti, and Gorakhpur.

Nepal Trade Routes.—From Khatmandu two routes branch off over the central range of the Himalaya, which both ultimately come down into the valley of the Tsanpu, or great river of Tibet. In 1877-78 the registered trade with Nepal (which is doubtless under-estimated) amounted to a total of £1,687,000, of which more than

two-thirds was conducted by Bengal. The exports from Nepal were valued at £1,054,000, the principal items being food-grains and oil-seeds, cattle, timber, and horns. Other articles of export are musk, borax, chiretta, madder, cardamoms, chauri or yak tails, ginger, balchar or scented grass, furs, and hawks.

British India is geographically adapted to maritime trade, and an Indian nation might have been a naval power almost as easily as the British themselves have become so. The coast of India offers a ready means of intercourse with foreign countries. The mountains on the north are a great barrier to trade with Central Asia. But to the south-east and west are countries and people with whom the natives of India have established independent relations. India possesses a long coast-line of over 2000 miles and about 300 harbours; but the foreign trade of the Indian empire is practically confined to Akyab, Cocanada, Chittagong, Coringa, Negapatam, Beypur, Calcutta, Bombay, Madras, Rangoon, Moulmein, Colombo, Trincomalee, Galle, Tuticorin, and Kurachee, all of which, excepting Madras, are excellently situated as central marts for the distribution of articles of commerce. To Rangoon, Moulmein, and Bassein naturally flow by the Irawadi all the products of Upper Burma and of Pegu; while the railway between Rangoon and Prome offers further facilities for the conveyance of merchandise. Calcutta is the most convenient point of distribution of the trade conveyed by water through Bengal, while it is also the terminus of the two main railway systems of Bengal. The river, too (formerly dangerous to navigation), is now carefully charted, while the Port Trust has provided conveniences for shipping which are probably unequalled in the whole world for the ease with which cargo is loaded and discharged. The Northern Bengal State Railway has opened out rich tracts, producing tobacco, jute, and other valuable commodities in great abundance, and rendering trade to some extent independent of the rivers in that region, which cease to be available highways for the conveyance of goods when the waters are low.

Sir John Strachey has remarked that 'India is a country of unbounded material resources, but her people are poor. Its characteristics are great power of production, but almost total absence of accumulated capital. On this account alone the prosperity of the country essentially depends on its being able to secure a large and favourable outlet for its superfluous produce. But her connection with Britain and the financial results of that connection compel her to send to Europe every year about 20 millions' worth of her products, without receiving in return any direct commercial equivalent. This excess of exports over imports is, he adds, the return for the foreign capital, which is invested in India, including under capital not only money, but all advantages, which have to be paid for, such as intelligence, strength, and energy, on which good administration and commercial prosperity depend. From these causes, he says, the trade of India is in an abnormal position, preventing her receiving the full commercial benefit which would spring from her vast material resources.' In the thirty-six years between 1835 and 1871, the value of merchandise exported from India amounted to £1,012,000,000; the value of merchandise imported into India, to £583,000,000, showing an excess of £429,000,000 on the exports. The value of treasure imported in the same period was £312,000,000 against £37,000,000 re-exported, being a nett import of £275,000,000. In 1880, India sold to foreign nations £66,000,000 worth of strictly Indian produce, which the Indian husbandman had raised, and for which he was paid. In the year 1881–82 the total trade of India, including exports and imports, exceeded £141,000,000.

The commercial transactions of British India with foreign countries are chiefly with the United Kingdom of Great Britain and Ireland, and with China. In the year 1881–82, the total value of the imported merchandise and treasure was £58,314,865, and that of the exports £82,999,346. Cotton piece-goods, twist and yarn, thread and other sorts, imported were of value Rs. 29,99,41,635. The values of sugar, refined and unrefined, and of woollen goods, were each above a million sterling; metals, raw and manufactured, 3½ millions; while of the exported articles the opium was valued at Rs. 12,43,21,418; rice, grain, pulse, wheat, seeds, £17,240,750; tea and coffee, £5,056,601; raw cotton, cotton goods, twist and yarn, £16,946,475. In that year twenty-five of the more important

Imports, were—		Exports, were—	
Animals,	Rs. 20,85,436	Coffee,	Rs. 1,44,74,650
Apparel,	64,14,039	Cotton, raw,	14,93,59,595
Coal,	1,02,00,436	,, twist and yarn,	1,36,88,362
Coffee,	10,38,082	,, manuf.,	64,16,798
Corals,	18,53,544	Indigo,	4,50,90,802
Cotton, raw,	10,42,766	Other dyes,	20,14,133
,, twist and yarn,	3,22,20,648	Grain, rice,	8,30,81,669
,, manuf.,	20,77,20,986	,, wheat,	8,60,40,815
Drugs,	38,18,880	,, other,	32,85,022
Dyeing materials,	17,14,906	Hides & skins,	3,94,87,924
Hardware, cutlery,	62,66,132	Jute, raw,	5,03,03,023
Jewellery,	30,89,241	,, manuf.,	1,09,75,886
Leather,	16,95,900	Lac,	71,95,283
Liquors,	1,30,86,720	Oils,	46,82,274
Machinery,	1,22,10,464	Opium,	12,43,21,418
Metals,	3,51,68,734	Seeds,	6,05,40,987
Oils,	56,05,853	Tea,	3,60,91,363
Paper,	47,31,342	Wood,	56,57,025
Provisions,	1,05,30,831	Wool, raw,	81,45,513
Salt,	56,90,671	Woollen fabrics,	19,66,830
Silk, raw,	74,92,107	Coir, manuf.,	18,21,136
,, manuf.,	1,21,17,056	Gums and resins,	25,45,896
Sugar, refined,	1,24,21,892	Provisions,	26,98,349
Tea,	19,96,906	Spices,	24,58,900
Woollen goods,	1,12,12,320	Stone, Jade,	23,01,800

British India Foreign Trade.

Year.	Imports.		
	Merchandise.	Treasure.	Total.
1874-75	£36,222,113	£8,141,047	£44,363,160
1875-76	38,891,656	5,300,722	44,192,378
1876-77	37,440,631	11,436,120	48,876,751
1877-78	41,464,185	17,355,459	58,819,644
1878-79	37,800,594	7,056,749	44,857,343
1879-80	41,166,003	11,655,395	52,821,398
1880-81	53,116,770	8,988,214	62,104,984

Year.	Exports.		
	Merchandise.	Treasure.	Total.
1874-75	£56,359,240	£1,625,309	£57,984,549
1875-76	58,091,495	2,200,236	60,291,731
1876-77	61,013,891	4,029,898	65,043,789
1877-78	65,222,328	2,210,996	67,433,324
1878-79	60,037,513	3,982,228	64,919,741
1879-80	67,212,363	2,035,148	69,247,511
1880-81	74,580,602	1,440,441	76,021,043

The opening of the Suez Canal in 1869 stimulated every department of eastern trade into greater activity, but has not materially changed

its character. In 1871-72, the first complete year for which statistics are available, the total number of steamers which sailed *via* the canal was 422, with a tonnage of 464,198. In 1875-76, 85 per cent. of the imports into India from Europe and Egypt (excluding treasure) passed through the canal, but only 29 per cent. of the exports. The actual values of canal trade in 1877-78 were 29 millions sterling for imports into India, and 23 millions for exports from India. The canal has reduced the length of the voyage from London to Calcutta by about 50 days. The route round the Cape was more than 11,000 miles, and occupies, by sailing ships, nearly three months; that from Britain through the canal is less than 8000 miles, and takes, by steamers, from 30 to 45 days. The numbers and tonnage of steamers adopting the canal route have rapidly increased :—

Year.	No.	Tons.	Year.	No.	Tons.
1877-78	1137	1,617,839	1880-81	1459	2,133,872
1878-79	941	1,426,957	1881-82	1989	2,887,988
1879-80	1067	1,609,769			

Bombay is the sole outlet for the products of Western India, Gujerat, the Dekhan, and the Central Provinces; Karachi (Kurachee) performs a similar office for the valley of the Indus, and Rangoon for that of the Irawadi. Bombay is almost exclusively dependent upon its cotton, seeds, and wheat; and a bad crop of any of these is a bad time for the export trade from that port generally.

Calcutta is an outlet for a vast tract of country, capable of producing, besides wheat and seeds, which Bombay does export, though to a less extent, an infinite variety of staples, such as tea, oil-seeds, jute, raw and manufactured in the shape of gunny bags and cloth, also rice and hides. After the opening of the Suez Canal, the exports from Calcutta rose in value from less than 20 millions sterling in 1867-68 to nearly 29 millions in 1878-79.

Rangoon is, however, the most thriving place, commercially, in the Indian Empire, considered relatively to its size. The import trade in 1880-81 was valued at more than £3,846,346, being an increase of 267 per cent. in 10 years; while its export trade exhibited an increase of 233 per cent. in the same period. Burma is without doubt the most prosperous province of the empire, and its people, free from the religious and caste prejudices with which the Hindus and Mahomedans of India are imbued, and fond of personal comfort and adornment, spend their earnings freely on substantially-built and healthy habitations, on silk attire, jewellery, cigars, European provisions of kinds such as in India are consumed by the British-Indian population only, on crockery and glass-ware, and other things which conduce to the personal comfort of a man who will not, as in India, be content to live in a mud hovel.

Europe.—Owing to the removal of the E. India Company's monopoly, and subsequently of customs and navigation laws, and still later the opening of the Suez Canal, the current of trade shows a disposition gradually to return to the channels chiefly used before the discovery of the passage round the Cape. The cities on the Mediterranean are again receiving and profiting by that share of the Eastern trade which enriched them, until it passed first into the hands of the Portuguese, and thence into those of the Dutch and English. London still retains its supremacy as the centre of at least 60 per cent. of the trade of the Indian Empire; but Trieste, Venice, Genoa, and Marseilles play an increasingly important part in the commercial race.

The imports of merchandise *via* the Suez Canal from Europe, Egypt, and the Levantine coast of Asiatic Turkey, increase year by year. The route is not so largely used for exports of Indian produce, the reason being that large quantities of these, such as opium and rice, find their way to China and the Straits, Mauritius, Ceylon, Arabia, and other countries.

China trade with India is practically confined to the opium traffic, though, within the last few years, that country has become an important consumer of Indian-made twist, which no doubt displaces to some extent in the Chinese markets the spinnings of Manchester. The time will come when the Chinese will spin for themselves, and then India will have to be content with her own local markets for her goods. In all respects but one the Chinese are better adapted than the people of India for the profitable manufacture of cotton: they are capable of longer and more sustained exertion, they are more ingenious and skilful as operatives, and their commercial classes are at least as acute and bold in speculation as those of India. But China is compelled to import cotton, and India will have a good market in China and Japan for a portion of the out-turn of her mills. The imports from China, even with the addition of treasure, amount to hardly a fifth of the exports thither, the truth being that the opium is paid for by China through Great Britain. The chief articles imported into India from China are copper (supposed, however, to be Japanese, imported *via* China), raw silk and silk piece-goods, and sugar and tea in small quantities. The imports of raw silk reach the comparatively high figure of 41½ lakhs (£415,000). The sugar brought from China is landed in Bombay, where it supplements or competes with Mauritius sugar. The tea imported from China is of inferior quality.

Straits Settlements trade must be regarded in connection with the trade with China. The goods imported are of little consequence, tin excepted.

Ceylon trade with India is identical in character with the coasting trade carried on from port to port. Crowds of Tamil labourers flock to Ceylon every year from the Madras Presidency, to work on the coffee plantations, and over two-thirds of the exports consist of grains for their sustenance. The imports from Ceylon are hardly a sixth of the xports in value.

Between India and *France* the articles chiefly consist of apparel and millinery, brandy and wines, and silk goods; while the exports comprise cotton, coffee, indigo, oil-seeds, especially rape and gingelly, raw silk, and raw jute.

After France, the *United States* do the most trade with India. Imports are small, and practically were confined to ice and kerosene oil; but ice is now manufactured and sold in India at half the rate hitherto charged by the Tudor Ice Company. In kerosene the value rose from 3,18,898 rupees in 1876-77 to 16,37,966 rupees, and 21,07,907 rupees in the two following years. The imports of grey cotton goods from America are increasing. Indian exports to the United States consist mainly

of indigo, hides, skins, raw jute, gunny bags and cloth, lac, saltpetre, and linseed.

Mauritius sends sugar very largely to India. The most important export to Mauritius is rice, which with other food-grains amounted to nearly a kror of rupees in value.

Italy's trade includes corals, glass beads, false pearls, spirits and wines, and silk goods. The exports to Italy consist mainly of raw cotton, hides, oil-seeds, sesame, and raw silk. The total value of the import and export trade with Italy in 1878-79 was about two kror of rupees.

India is rich in raw products, mineral, vegetable, and animal. It supplied all its own people's wants until the maritime intercourse with foreign nations, and particularly since the construction of lines of railway allowed the delivery of many articles in the Indian ports, and even in its remoter provinces, at lower rates than the native products could be obtained. Its marketable mineral substances useful in the arts, are,—alum, agates, amber, antimony, arsenic, asbestos, barytes, beryl, bismuth, bloodstone, borax, cornelian, chrome ore, coal, cobalt, copper, corundum, diamond, emerald, fluor spar, garnet, gold, graphite, gypsum, iron ores, jade, jasper, kao-lin, kyanite, lapis-lazuli, lead, lithographic stone, magnesite, manganese, marbles, meerschaum, mercury, mica, mineral oils, petroleum, platinum, potstone, rock-crystal, rubies, salt, saltpetre, sapphire, turpentine, silver, sodium compounds, spinel, sulphur, talc, tin, topaz, turquoise, zinc. The chief of the vegetable exports are,—coffee, cotton, indigo, grain, and pulse, jute, oils, opium, seeds, sugar, tea, and woods; and of animal produce are,—living animals, feathers, hides and skins, horns, ivory, lac, musk, oils, saltpetre, silk, wax, wool.

The chief imports into British India are,—apparel, coal, cotton twist and manufactures, liquors, machinery and mill-work, metals, provisions, railway plant and rolling stock, silk, raw and manufactured, spices, sugar, and woollen goods. In the progress since the opening of the Suez Canal, British India is now competing with some of these. Indian mills have taken strong hold of the market for the lower qualities of twist. Of metals nearly 80 per cent. consisted of iron, which always forms the largest item in this category. Sugar comes third in the list of imports, the value being 1,48,08,805 rupees. Indian beer costs but 5½ rupees a dozen at Simla, as against 9 rupees a dozen charged for English beer. Imports of various light German beers have largely increased. The imports of raw silk and silk goods amount to nearly a kror and a half (about £1,500,000), the raw silk being valued at about 56,75,000 rupees. This may be due to a decline in the silk-weaving industry in India. The import of coal, coke, and patent fuel has fallen off. Very little coal is landed in Calcutta, the bulk of it going to Bombay, which is too far from the deposits of Central India to be able to avail itself of their product with profit.

In 1881–82 the value of the foreign merchandise re-exported from India was 2,64,67,165 rupees.

The re-exports are mainly goods consigned in the first instance to Bombay, and then re-exported to ports in the Persian Gulf and Red Sea, Zanzibar, and the eastern coast of Africa. More than half of these consist of cotton twist and piece-goods (chintzes and prints), amounting to 1,32,47,706 rupees in value.

Country.	Value in Rs. of Merchandise sent to India in 1881-2.	Value in Rs. of Ind. Produce returned.
Great Britain,	38,58,16,712	34,34,24,684
Austria,	29,58,607	2,43,47,257
Belgium,	...	1,97,03,142
France,	67,75,615	8,00,58,716
Germany,	7,82,520	75,79,957
Holland,	15,179	51,56,710
Italy,	52,44,334	3,10,23,810
Malta,	46,455	70,41,611
Russia,	3,78,578	5,14,228
Spain,	5,137	15,43,575
Cape of Good Hope,	26,864	7,37,769
East Coast of Africa,	30,51,623	23,54,896
Egypt,	4,81,964	1,68,42,831
Mauritius,	96,46,977	69,55,164
Natal,	...	7,20,122
Reunion,	...	17,93,450
South America,	...	20,93,815
United States,	46,60,641	2,68,18,274
West Indies,	...	14,14,071
Aden,	7,26,503	41,51,162
Arabia,	32,83,207	61,81,502
Ceylon,	40,18,387	1,56,79,230
China—Hong-Kong,	1,34,99,675	9,32,68,094
Treaty Ports,	19,09,936	4,17,05,566
Opium to Hong-Kong,	...	6,85,62,329
,, Treaty Ports,	...	4,15,54,246
Japan,	31,902	13,41,852
Java,	...	3,07,437
Maldives,	1,84,005	1,90,500
Mekran, Sonmiani,	6,75,796	3,20,020
Persia,	49,36,205	27,63,634
Siam,	1,03,498	3,39,857
Straits Settlements,	1,54,18,852	3,33,56,696
Turkey in Asia,	25,17,154	20,30,176
Australia,	22,59,890	79,96,878

In 1881–82, the declared value of the opium exported was 14,32,33,143 rupees, the largest sum it had attained. Grain and pulse were valued at 17,24,07,506 rupees, the two most important of these being rice and wheat. The exports of raw cotton, twist, yarn, and manufactured, were 16,94,64,755. The first mill for the manufacture of cotton yarn and cloth by steam machinery was opened in Bombay in 1854. Since then others have been established in various parts of India, but mostly in the city of Bombay and in the cotton-growing districts of Gujerat. In 1878-79 there were 58 cotton mills in India, containing 1½ million spindles and 12,000 looms, which employed upwards of 40,000 persons,—men, women, and children. India commits enormous waste by exporting rapeseed, linseed, and til (Sesamum orientale) in a crude condition, instead of expressing it on the spot, and obtaining thereby a valuable food for cattle and land fertilizer in the shape of oilcake. The manufacture of jute on a large scale was unknown until 1857, but there were 21 jute mills in India in 1881.

Indian tea exported was 48,691,725 lbs., valued at 3,60,91,360 rupees. The cultivation of tea and coffee has taken deep root in India, and a large amount of European capital and indigenous labour is absorbed by these industries. No less than 664,326 acres were taken up in 1878 in connection with tea cultivation, though only 200,000 acres were actually planted with it. The quantities of coffee exported have hardly increased during the last 11 years, prices have largely augmented, coffee being now worth nearly double what it was at that time. The quantity exported in 1881–82 was

346,364 cwt., mainly the produce of Mysore, Coorg, and the Wynad district of Malabar. More could be done in the Indian tobacco trade if the Indian leaf could be obtained of somewhat better quality, the French and Italian tobacco departments being both quite prepared to take Indian tobacco in large quantities, if it could be supplied of a suitable quality. It is gradually advancing in public estimation in India and abroad. The quantity exported in 1881–82 was 10,530,325 lbs., value 11,50,380 rupees.

Inland Frontier Trade crosses the long land frontier of India on the north, stretching from Baluchistan to Independent Burma.

In 1878–79, the value of the imports and exports of the inland trade was Rs. 8,85,37,193, viz.:

Baluchistan,	Rs. 16,45,943	Manipur, . .	Rs. 94,524
Afghanistan, .	1,49,88,783	Hill Tiperah, . .	1,27,932
Kashmir, . .	81,61,169	Lushai Hills, . .	77,183
Ladakh, . .	2,59,212	Towang, . . .	4,19,632
Tibet, . . .	16,47,566	Upper Burma,	3,77,64,717
Nepal, . . .	1,99,31,355	Siam, . . .	12,14,858
Sikkim, . .	1,81,025	N. Shan States, .	8,06,076
Bhutan, . .	2,75,980	S. ,, ,, .	53,805
Eastern Hills, viz.:		Karenni, . . .	7,19,882
Naga and Mishmi,	1,07,642	Zimmay, . . .	59,195

Agriculture.—The extent to which the population of India are dependent upon the land, may be realized partly from the census returns, which show us that 74 per cent. of the adult male population derive their support from the land either directly or indirectly.

Merchants.—The internal trade of India has never been estimated; it greatly exceeds the external commerce. In the interior of the Bombay Presidency, business is mainly divided between two classes, the Bhattia or Banya of Gujerat, and the Marwari from Rajputana. The former are Vaishnava Hindus of the Valabhacharya sect, the latter are Jains. In the central parts of the Dekhan and Mysore, their place is taken by Lingaets, who follow the Vira Saiva form of Hinduism; but along the eastern seaboard the predominating classes of Hindu traders are the castes named Chettiar, Komati, and Natha Cottiyar. Many of the trading castes of Hindus still claim Vaisya descent.

In Bengal, many of the upper classes of Sudras have devoted themselves to wholesale trade; although there, also, the Jain Marwari from Rajputana and the north-west occupy the front rank. Their headquarters are in Murshidabad district; and Jain Marwari are found throughout the valley of the Brahmaputra as far up as the unexplored frontier of China. They penetrate everywhere among the wild tribes; and it is said that the natives of the Khassya Hills are the only hillmen who do their own business of buying and selling. In the North-Western Provinces and Oudh, the traders are generally called Banya; and in the Panjab are found the Khatri (Kshatriya), who have perhaps the best title of any to regard themselves as descendants of the original Vaisya.

Not inferior to any Hindus as active, intelligent traders, are the Labbi, a Mahomedan race, who also speak Tamil; another Mahomedan race, the Khoja, have spread from Sind to the western and central parts of the Peninsula of India, and along the shores of Arabia and of eastern Africa as far south as the Portuguese dominions. The Borah and Memon Mahomedans are keen tradesmen. The Mopla Mahomedans are but little engaged in inland traffic. Other Mahomedans from Persia are trading in all the ports of Southern Asia; and Arab Mahomedans, as merchants and missionaries, are occupying all the eastern and northern parts of Africa, and have gone eastwards through the Indian Ocean to the islands of the Archipelago. Another race of Aryan descent, the Parsees, are seen throughout all the south and east of Asia, and, with mercantile men of Indo-Germanic race, from Great Britain, France, Germany, and America, they conduct nearly all the foreign trade.

The bold, self-reliant non-Aryan tribes of British India have emigrated largely as labourers to Ceylon, the Straits Settlements, and Burma; to the West Indies, to S. America, S. Africa, the Mauritius, and Bourbon; but as skilled producers they have been far outstripped by the Chinese, whose numbers in Borneo, in Australia, Mauritius, and the western of the United States, have assumed political importance; and to the east, in the Archipelago, the Bugi or Macassar men traverse the seas from Sumatra to New Guinea.—*Rich's Kurdistan; Madras Mail*, 7th June 1870; *Imp. Gaz.; Stat. Abstract; Maritime Trade of British India; Foreign and Inland Trade Reports; Accounts of Trade and Navigation; Moral and Mat. Prog.; Miscellan. Statistics; Trade and Nav. Accts.*

COMMIA COCHIN-CHINENSIS, a small tree of Cochin-China, with a resinous juice. It yields a gum which possesses emetic and purgative properties, recommended in dropsy.

COMMISSIONER, an appellation generally given in India to officials invested with full revenue and judicial powers. In the Panjab, Sind, Burma, etc., are styled chief commissioners, and have commissioners under them. In the Bengal Presidency, a commissioner is a revenue officer who has the superintendence of several collectorates, with collectors under his control.

COMORAH, a bay on the Malabar coast, 51 miles north of Severndrug.

COMORIN, or Cape Comorin, in lat. 8° 4′ 20″ N., and long. 77° 35′ 55″ E. The Greek writers refer to a bathing festival here, which is still continued.—*Imp. Gaz.* See Cape Comorin.

COMORO, a group of volcanic islands midway between the N. extremity of Madagascar and the coast of Africa. Great Comoro is an active volcano 8500 feet high. They rise over a submarine bank of 500 fathoms.

COMPASS.

Söekompass, . .	DAN.	Paduman, . .	MALAY.
Zeekompas, . . .	DUT.	Compasso de marear,	PORT.
Compas de mer, . .	FR.	Kompass korabelnii,	RUS.
Boussole, ...	,,	Sjocompass, ...	SP.
Kompass, .	GER., TAM.	Aguja de marear, . .	,,
Bussola, ...	IT.	Kompassu, . . .	TEL.

The compass is used for nautical purposes by the principal native traders of Southern and Eastern Asia, and of the Archipelago. The Bugis of Celebes use small rude compasses, made expressly for them by the Chinese of Batavia, at the very moderate cost of from one shilling to eighteenpence a-piece. The directive power of the magnet is said to have been known to the Chinese for many ages,—by their own account, no less than 2634 years B.C. Their knowledge of the magnet is supposed to have led them to a knowledge of the compass; and the mariner's compass was invented by the Chinese in the reign of Hoang-Ti. The subdivisions of this nautical instrument, as

made by the Arabs, the Chinese, and the Maldives, all vary. The Malay compass is divided into sixteen parts, twelve of which are multiples of the four cardinal points. For the cardinal points the different nations have native terms; but for nautical purposes, those of the Malay language are used throughout, as in the case of the nations of Celebes, the most expert native navigators of the present day. The introduction of iron ships has materially affected the value of the compasses on board of them, the variation being as much as five points, even up to 24½ and 35½. The sole apparent remedy for this, but it is one of easy application, is to erect a high platform, 15 feet high, over the taffrail, on which to place the compass, and to examine repeatedly.—*Crawfurd's Dict.*; *Bunsen*, iii. p. 383; *M'C. Dict.*

COMPOSITÆ. VAILL. A very extensive order of plants, now known as Matricariaceæ.

COMPOUND. This Anglo-Malay word is a corruption of the Malay Compong or village, and properly applies to the outhouses of the servants, which are erected within the enclosure. It is applied in almost the same sense all over British India, where, however, some suppose it to be derived from the Portuguese word Campagna; and another writer says it is from the Portuguese word Componze, and still another Compinho. It is also applied by the Europeans of India to the grounds or enclosure in which a house stands.—*Earl*; *Sirr.*

COMPRADORE. ANGLO-INDIAN. A purveyor; in China, an accountant.

COMPTI, Kompti, Kamatti, MAHR., TAM., TEL., in the Peninsula of India, persons engaged in trade, as shopkeepers and general merchants, and commonly recognised to be Vaisya Hindus; they wear the sacred string or zonar. They are, amongst the Teling and Tamil people, what the terms Gujerati, Banya, Marwari, and Vais are amongst the traders from Rajputana and Gujerat; they are never soldiers.

CONAJI ANGRIA, a person of low origin who long carried on a piratical warfare on the western coast of India, and rose to princely power. Gheriah was his headquarters, but Severndrug and every creek were fortified. After he acknowledged raja Saho, he remained in nominal dependence on the Mahratta state, but employed his own resources with little or no control. His piracies, which he called levying chout'h on the sea, rendered him formidable to all his neighbours. The British made repeated attacks on him with considerable naval forces, and on one occasion (A.D. 1719) in co-operation with the Portuguese, yet failed in all their attempts. The Dutch also sent a strong force against him at a later period (A.D. 1724), with equal ill success. The Peshwa interposed in a dispute between two brothers of the family, and received from one of the brothers two forts situated in the Ghats (about A.D. 1734). The contest, however, continued, and the Peshwa, though latterly assisted by a British fleet, was unable to bring it to a conclusion till the time of Baji Rao's death. Long afterwards, Gheriah was captured by Clive and Admiral Watson in 1755. —*Elphin.* p. 641.

CONCAN, a small, narrow strip of land lying between the Western Ghats and the sea-coast. The low land in the Concan, Gujerat, and Malabar is traversed by many rivers and smaller streams running to the sea, and is indented by numerous creeks and channels of the ocean. The cold weather is clear and bracing, but the hot season of April and May is succeeded by the deluging rains of the south-west monsoon, when 150 inches fall from June to September, and render much of the already humid lands impassable swamps; the atmosphere is then very damp. The Concan districts extend from Goa to Daman, or very nearly to the Tapti river. In the northern parts of the Bombay Presidency, the chain separating the Concan from the Dekhan is called the Northern Ghats, or Sahyadra mountains. See Konkan.

CONCH or Chank, species of Turbinella. See Chank.

CONCRETE. Dana terms this calcareous sand rock, 'drift sand rock.' Major-General Nelson terms it Æolian formation. It occurs on the coast near Bombay, and at the Bermudas Islands.

CONCUBINAGE is very common all over India amongst all religionists. It is more particularly prevalent in great cities, and in places where, from any cause, the people are necessarily absent from their families and birthplaces.

CONDA-CUPI. TAM. A necklace.

CONDAPILLY, in lat. 16° 37′ N., and long. 80° 33′ E., is a town in the Masulipatam district in the Northern Circars. The rocks of the hills near contain garnets, and diamond mines are near.

CONDA-PUCHI. TAM. A head ornament.

CONDIMENTS.

Assaisonnement, . . FR.	Condimento, . . . SP.
Würze, Brühe, GER., IT.?	

Aromatic barks, roots, seeds, and spices, used as condiments in South-Eastern Asia, are found in every bazar for domestic use, and some of them are largely exported. The following are the better known plants used:—

Allium sativum.	M. pulegium.
Archangelica officinalis.	M. sativa.
Areca catechu.	M. viridis.
Cassyta filiformis.	Moringa pterygosperma.
Cicca disticha.	Laurus cinnamomum.
Chavica Roxburghii.	Myristica moschata.
Crocus sativus.	Narthex asafœtida.
Curcuma longa.	Nigella sativa.
Cinnamomum iners.	Ocimum basilicum.
Citrus bergamia.	Pimpinella anisum.
Carum carui.	Ptychotis ajowan.
Coriundrum sativum.	Phyllanthus emblica.
Cuminum cyminum.	Piper nigrum.
Capsicum annuum.	Rosmarinus officinalis.
C. baccatum.	Salvia officinalis.
C. grossum.	S. sclarea.
C. frutescens.	Satureja hortensis.
C. minimum.	S. montana.
C. Nepalensis.	Sinapis, *sp.*
Caryophyllus aromaticus.	S. Chinensis.
Coffea Arabica.	Spondias mangifera.
Carthamus tinctorius.	Trigonella fœnum-græcum.
Elettaria cardamomum.	Tamarindus Indica.
Fœniculum panmorium.	Thymus vulgaris.
Garcinia purpurea.	T. citriodorus.
Garuga pinnata.	Vanilla planifolia.
Illicium anisatum.	Vitex bicolor.
Mangifera Indica.	Zingiber officinale.
Mentha piperita.	

CONDOOLOO. TEL. Cajanus Indicus; dhal. One kind of dhal is condooloo conda, TEL., malatovarai, TAMIL; another variety is condi-puppoo, TEL., tovarai-purpoo, TAM. See Dhal.

CONDYLODERA TRICONDYLOIDES, a cricket of the Philippines. It is exactly like a tricondyla, one of the tiger beetles. Both insects run along the trunks of trees. The tricondyla

are very plentiful; the insect that mimics it is, as in all other cases, very rare. It is a remarkable instance of an insect of another order mimicking a beetle.

CONESSI BARK, Tellicherry bark.

Curayia; Curaija, HIND.	Cheeree; Kutaja, SANSK.
Palapatta, . . MALEAL.	Veppalei, ... TAM.
Codaga pala, . ,,	Pala codija, Manoopala, TEL.
Crtoe-de-pala, . . PORT.	

Conessi bark is the produce of the Wrightia antidysenterica, belonging to the natural order Apocynaceæ, a native of most parts of India. It is astringent and bitter, and is considered febrifuge; its seeds are termed Indrajow.

Conessi seed.

Lisan ul assafeer, . ARAB.	Indrayava, . . . SANSK.
Indrajow, . GUJ., HIND.	Veppalei arisee, . TAM.
Ahir, ... PERS.	

The seeds of Wrightia antidysenterica.—*Faulkner, Eng. Cyc.; O'Sh.*

CONEY. Palæontologists have pointed out the curious fact that the Hyrax Syriacus, called 'coney' in the Bible, Lev. xi. 5, Deut. xiv. 7, Ps. civ. 18, is really only a diminutive and hornless rhinoceros. Remains have been found at Eppelsheim which indicate an animal more like a gigantic hyrax than any of the existing rhinoceroses. To this the name of Accrotherium (hornless beast) has been given. Sha-phan or Daman is supposed to be the hyrax of Scripture.

CONFERVÆ abound in the warm water of the hot springs of Surajkhand, in Behar; and two species, one ochreous brown and the other green, occur on the margin of the tanks themselves, and in the hottest water; the brown is capable of bearing the greatest heat, and forms a belt in deeper water than the green. Both appear in broad luxuriant strata wherever the temperature is cooled down to 168°, and as low as 90°.—*Hooker, Him. Jour.* i. p. 21.

CONFLUENCE or fork of two rivers is the Sangam of the Hindus, who esteem all such unions sacred, and make pilgrimages to them. That at the junction of the Jumna and Ganges, at Allahabad, is one of the holiest spots in Hindu estimation; and until the early part of the 19th century many of this faith voluntarily drowned themselves there.

CONFUCIUS, Kung-fu-tze, was born B.C. 551 in Tsow, a district of the province of Shan-tung. He died in the year 479 B.C., at the age of 72 or 73. He was of a ducal house, descended from a brother of Chow, the last sovereign of the Yin dynasty. His father, Shuh-leang-heih, was a soldier of great bravery; and Confucius was the child of a second marriage when he was upwards of seventy years of age.—*Gray*, p. 76. Confucius married when nineteen years of age. He was almost contemporary with Pythagoras, Thales, Solon, Buddha, and Herodotus, in an epoch of philosophical and literary activity equally important for the west, which commenced with Pythagoras, as contemporary of Confucius, embraced Zeno, Empedocles, Herodotus, Thucydides, Socrates, and Plato, and ended with Aristotle, who died about the same time as the Mencius (Mang-tsze) of the Chinese. Confucius devoted himself to reducing the traditions and rough records of antiquity into a perfect form, and he succeeded before his death in compiling and editing the five King,—five canonical books which are reverenced as embodying the truth, upon the highest subjects, from those whom they venerate as holy and wise men. He was the founder of the school of philosophy in China, which contains injunctions as to conduct, and may be termed the moral code of China, in which learning (Wen), courtesy, good-breeding, and propriety (Li), doing as you would be done by (Shu), sincerity in worship of the deity (Tien), are everywhere inculcated, and form a recognised state religion. Every word he uttered has become in China a maxim, a proverb, and an aphorism; and in the fact that his language is intelligible to every Chinaman at the present day, his inculcations are of greater power than any in the Latin or the Greek, both of which are unknown to their descendants. Once he was asked whether there were one word which represented all the duties of life, he answered 'Shu,' a word which Confucius and his commentators have explained to mean, 'As I would not that others should injure me, so would I not injure them also.' And, certainly, to seek the good of others equally with your own, is to fill a large portion of the field of virtue. The number of his disciples was about 3000, of whom about 72 were his more intimate associates. All his teaching consists of a few simple words. One of his aphorisms, 'Chu chung sin,' verbally, 'Head, faithful, sincere,' mean that fidelity and sincerity are the paramount or primary virtues. Another is that Wen and Li make up the whole sum of human excellences. Another, 'Lun yu,' 'Judge others indulgently, yourself severely.'

Confucius was a sage and a statesman. He and Lao-tsze were contemporaries, and Lao-tsze was the founder of the Taoist or Reason Sect. But Lao-tsze was an ascetic, who discouraged acceptance of public employments. He made reason the groundwork of his doctrines, and they have much to recommend them; but his teachings have merged into gross idolatrous rites, the study of astrology and necromancy, fanatical observances, self-inflictions, such as dancing in flames, mutilating the body, practising abstinence and seclusion.

Among other celebrated literary labours undertaken by Confucius in B.C. 490 and the following years, he edited the Yih-king, and appended those annotations which have given the work its subsequent value. What philosophical views may have been attached to the Yih-king of Wan-wang and Chou-kung by the contemporaries of Confucius, we know not. That work, together with the other three works edited or compiled by Confucius, viz. the Shu-king and the Le-ke, constitute the whole of the ancient literature of China which has come down to posterity, and who have it only, as it was explained, arranged or modified in passing through his hands. It is well known that he expressly repudiated portions of it, as containing doctrines adverse to the views which he held and strove to diffuse. The names only of some celebrated ancient books, one dating from the times of Fuh-he himself, have been preserved. It is these circumstances which constitute the labours of Confucius the commencement of a distinct literary epoch. Apart from the labours of Confucius himself, the permanent literary results of this, the first of the two great philosophic or literary epochs of China, are contained in the collection of works called the Four Books, composed by different members of the school which he founded. The last contains a record of the ethical and political teachings of Mencius (Mang-tsze), a philosopher who died in

B.C. 317, and closed the first epoch. The Chinese people are in nowise prohibited from worshipping in the Buddhist and Taoist temples; in other words, they may regulate their purely religious life by the tenets of these, or indeed of any other sect. But where Taoism or Buddhism would leave the region of religion, and, in the form of philosophy or morality, extend their direct influence into the domain of the social science and art, there Confucianism peremptorily and effectually prohibits their action. Not only are the national legislation and administration formed exclusively on Confucian principles; it is by them also that the more important acts of the private life of the Chinese are regulated, as for instance marriages. The cause of the prevalence of Mahomedanism in China, in spite of discouragements, lies in the fact that Confucianism says little or nothing of a supernatural world or of a future existence. Hence it leaves almost unsatisfied those ineradicable cravings of human nature, the desire to revere, and the longing for immortal life. That it has, notwithstanding its want of these holds on the human heart, maintained itself not simply in existence, but as the ruling system, is a fact that must, as soon as it is perceived, form for every true thinker a decisive proof of the existence of great and vital truths in its theories, as well as thorough soundness and wholesomeness in the practical rules which it dictates. By Chinese philosophy must be understood Confucian philosophy, and by Chinese morality the moral principles rooted in that philosophy.

The works of Confucius, which are used by his followers, are called the 'five canonical books,' and are held in the greatest veneration. The whole tenor of these works indicate morality and sound political views. One political extract must suffice. Let those who produce revenue be many, and those who consume it few; let the producers have every facility, and let the consumers practise economy: and thus there will be at all times a sufficiency of revenue.

It is the fact that, though the authors of the first and second epochs, Confucius himself included, professed to teach only what was contained in pre-existing sacred books, and though they possibly themselves believed that they did only teach what was virtually contained in such pre-existing books, they nevertheless did, in each case, originate some entirely new views and doctrines.

It is now impossible to ascertain what part of his writings was original, and what obtained from previous writers; but it is generally recognised that he largely annotated the ancient work, Yih-king, and bequeathed five classics and four books. His works, Shu-king and She-king, contain the historical records of the country and the poems then extant. His Book of Rites regulates the manners and customs and outward forms of the whole society, and constitutes a part of his moral code. Confucius is described by one of his disciples as wise, affable, condescending, just. Another says, gentle, but inspiring respect; grave, but not austere; venerable, yet pleasing. In the troubles that occurred from the efforts at aggrandizement which the several kings made, he was sometimes in high employ, but once at least a fugitive; but at the close of his long life he left about three thousand followers of his doctrines. The smaller states were annexed by the race of Tsin, of which dynasty the first emperor was Chy-Hoang, who built the Great Wall. The Chinese have no existing records older than from the time of the race of Chou, in whose reign Confucius lived, and from his time authentic history commences. In the first of his four books, Confucius traces a system of government from that of a family to that of a province, and from a province to a kingdom, making the family tie the foundation of the government. Indeed, the Chinese religion has never advanced beyond a love of parents, obeying and reverencing them while alive, and worshipping them when dead. It is rather a system of morality and moral philosophy, than a religion; and inculcates rather the duties of men to one another, than to a Supreme Being. Their books teach that the true principles of virtue and social order are obedience to parents, elders, and rulers, and acting towards others as they would be done by. They regulate the duties alike of the sovereign and of private families. The Confucian school does not deny the existence of a Supreme Being, but neither defines this fundamental article of every rational creed, nor inculcates the necessity of worshipping the only God. He inculcates polytheism, by enjoining the worship of heaven and earth, the spirits of hills, rivers, winds, and fire; in fact, all nature, except nature's omnipotent God. His doctrines, called in Chinese Ju-kea-su, the religion of scholars, is the orthodox creed of the state. To the founder divine honour is paid by all his followers, who are not very scrupulous in worshipping one idol more or less, and have long maintained the most absurd pantheism.

The followers of Confucius are, by some authors, called the sect of Ju-kea-su. In reality, the religion, or rather the doctrine of the disciples of Confucius, is positivism. They care nothing about the origin, the creation, or the end of the world, and very little about long philosophical lucubrations. Although the emperor builds and endows temples belonging to the two other sects, the Confucian is the religion of the state, and the court pretend to follow the scheme of ethics and politics laid down by Confucius.

Confucius taught the providential government of an overruling Providence, and that in this world the good are rewarded and the wicked punished. He evidently attached great importance to the solemn public worship of Shang-te by the head of the state in person, assisted by his ministers. He said to his disciples that by the ceremonies of the sacrifices to heaven and earth they served God, and by the ceremonies of the ancestral temple they sacrifice to their ancestors. He who understands the ceremonies of the sacrifices to heaven and earth, and the meaning of the several sacrifices to ancestors, would find the government of a kingdom as easy as to look into his palm.

Confucianism does not provide for the spiritual wants and desires of man's nature. He adhered to the worship of heaven and earth as he found it in the classical books of the ancient empire. His moral teaching was far inferior to that of Buddha. He said, 'Thou shalt not do unto others that which thou wilt not that they should do unto thee.' Also, 'Requite injury with justice, and benevolence with benevolence.' But he inculcated the avenging of murder with murder.

His descendants are still numerous in the province of Shan-tung, and have hereditary titles; they and the royal family having this right.—*Gray's China; Sirr's China; Bowring; Bunsen's God in History; Gutzlaff's Chinese History; Huc's Christianity; Professor E. Douglas, Confucianism and Taoism.*

CONGANI. TAM. In the western parts of Tinnevelly, a hood or penthouse, made of reeds, to protect the person from rain.

CONGEA. In the neighbourhood of Moulmein and Amherst, the forest scenery is often ornamented with the numerous large purple bracts surrounding the small inconspicuous flowers of a species of congea. There are three different species in the Tenasserim Provinces, C. azurea, C. tomentosa, C. velutina, all called ka-yau, the same Burmese name. The leaves of C. villosa have a heavy smell, and are used medicinally.—*Mason; W. Ic.; O'Sh.* p. 486.

CONGEE. ANGLO-HIND. Rice gruel.

CONICOPOLY. TAM. An accountant; from Kanika, an account, and Kapila, a collector or supervisor.

CONIDÆ, the Cone family of molluscs, comprising the genera Conus and Pleurotoma, with several sub-genera.

CONIFERÆ, a natural order of Gymnospermous exogens, called by Dr. Lindley Pinaceæ, consisting of resinous, mostly evergreen, hard-leaved trees or shrubs, inhabiting all those parts of the world in which arborescent plants can exist. The following names embrace the better known coniferous plants of Southern and Eastern Asia, with a few of Australia:—

Abies Brunnoniana, *Hook. Him. Journ.*, E. Nepal.
A. dumosa, *Loudon*, Nepal.
A. Smithiana, *Wall.*, Himalaya.
A. Webbiana, *Hook. Him. Journ.*, E. Nepal.
Araucaria Bidwilli, *Hook.*, N. E. Australia.
A. Cookii, *R. Br.*, N. Caledonia.
A. Cunninghamia, *R. Br.*, N. Holland.
A. excelsa, *R. Br.*, N. Holland.
Callitris quadrivalvis, *Vent.*, Algeria.
Cedrus deodara, *Loudon*, Himalaya.
Cunninghamia Sinensis, *Rich.*, China.
Cupressus funebris, *Endl.*, Bhutan.
C. glauca, *Lamb.*
C. sempervirens, *Willde*, Himalaya.
C. torulosa, *Don*, Himalaya.
Dacrydium elatum, *Wall.*, Tenasserim.
Dammara Australis, *Lamb.*, kauri pine, Norfolk Isld.
D. orientalis, *Lamb*, Amboyna.
Juniperus aquatica, *Roxb.*, China.
J. cæsia, *Roxb.*, China.
J. cernua, *Roxb.*, China.
J. Chinensis, *Linn.*, China.
J. communis, *Linn.*, Himalaya, a shrub.
J. dimorpha, *Roxb.*, China.
J. excelsa, *Bieb.*, Himalaya.
J. patens, *Roxb.*, China.
J. recurva, *Hook. Him. Journ.*, Sikkim.
J. squamata, *Don*, Himalaya, a shrub.
J. Wallichiana, *Hook.*, Sikkim.
Larix Griffithii, *Hooker*, Nepal.
Picea Webbiana, *Lamb*, Himalaya.
var. *a.* Pindrow.
var. *b.* Khutrow.
Pinus excelsa, *Wall.*, Himalaya.
P. Gerardiana, *Wall.*, Himalaya.
P. Khassiana, *Hook. Him. Journ.*
P. Latteri, *Mason*, Burma.
P. longifolia, *Roxb.*, Himalaya, the chir.
P. Massoniana, *Lamb*, China.
P. Merkusii, *Jungh.*, Burma.
P. Sinensis, *Lamb*, China.
Podocarpus bracteata, *Bl.*, Cachar.
P. latifolia, *Wall.*, Tinnevelly.
P. neriifolia, *Lamb*, Sikkim.
Salisburnia adiantifolia, —? China, Japan.
Taxodium nuciferum, *Brogn.*, Japan, Nepal.
Taxus baccata, *Linn.*, Himalaya, Ting-schi of Sikkim.
Thuja orientalis, *Linn.*, Nepal, China, Japan.

The coniferæ of the Himalaya were described by Major Madden in 1846 to 1849.

No order of plants can be named of more general importance to mankind than this. The pitch, tar, resins, and turpentines of commerce are products of the plants of this order. Their timber is known as deal, fir, pine, and cedar; and that known to Great Britain and other parts of Europe is principally the wood of the spruce, larch, Scotch fir, Weymouth pine, and Virginian cedar. The Norfolk Island pine, Araucaria excelsa, is an immense tree, rising to 150 feet; the kauri tree of New Zealand, Dammara Australis, attains to 200 feet in height. Pinus Lambertiana, and Abies Douglassii of N.W. America, rise to 230 feet. The seeds of the Pinus Gerardiana, *Wall.*, are used as food in Kunawar, as are the cones of the Bunya-bunya pine (A. Bidwilli, *Hooker*), by the aborigines of Moreton Bay, Australia.

Thunberg mentions many pines in Japan, and they are numerous in China. In Sikkim and Bhutan there are twelve coniferæ, viz. juniper, yew, Cupressus funebris, Abies Webbiana, A. Brunnoniana, and A. Smithiana, larch, Pinus excelsa and longifolia, and Podocarpus neriifolia. Four of these, viz. larch, Cupressus funebris, Podocarpus neriifolia, and Abies Brunnoniana, are not common to the N.W. Himalaya, west of Nepal, but the other eight are common. Of the 13 natives of the N.W. mountains, again, only the following five, Juniperus communis, the deodar, Pinus Gerardiana, P. excelsa, and Cupressus torulosa are not found in Sikkim. Dr. Masson mentions the P. Latteri as growing in Tenasserim, and Dr. Brandis adds P. Massoniana, *Lamb*, and P. Khassiana.

Dr. Cleghorn described the following:—

Cedrus deodara, *Loudon*, deodar or Himalayan cedar, Kelu; grows on the north slope of Dhaola Dhar, and in Kullu.
Pinus excelsa, *Wall.*, Kail; grows in Kullu, not in Kangra.
P. longifolia, *Roxb.*, chil or chir; grows luxuriantly on north slopes; timber best at 4000 to 5000 feet.
P. Gerardiana, *Wall.*, edible pine, Neoza; a few trees across the Dhaola Dhar, near Classa on the Ravi.
Picea Webbiana, *Lamb*, silver-fir, Tos; the wood is not much valued; shingles are laid on the roofs of houses. Var. *a.* Pindrow. Var. *b.* Khutrow.
Abies Smithiana, *Wall.*, Himalayan spruce, Rai; often 100 ft. high, and 5 ft. in diameter.
Cupressus torulosa, *Don*, twisted cypress; at the head of the Parbati.
Taxus baccata, common yew, Bramhi or Rakhab; in Kullu very scarce.
Juniperus excelsa, *Bieb.*, pencil cedar, Leuri or Suri; on the crest of Dhaola Dhar and in Lahul.

The deodar has not been seen east of Nepal, nor the Pinus Gerardiana, Cupressus torulosa, or Juniperus communis. On the other hand, Podocarpus is confined to the east of Khatmandu. Abies Brunnoniana does not occur west of the Gogra, nor the larch west of the Cosi, nor funereal cypress (an introduced plant, however) west of the Tista in Sikkim. That the deodar is possibly a variety of the cedar of Lebanon, is now a prevalent opinion, which is strengthened by the fact that so many more Himalayan plants are now ascertained to be European than had been supposed before they

were compared with European specimens; such are the yew, Juniperus communis, Berberis vulgaris, Quercus ballota, Populus alba and Euphratica, etc. The woods of several of the conifera are called cedars.—*Voigt; Eng. Cyc.* p. 123; *Hooker, Him. Jo.* ed. 1854, i. p. 256; *Cal. Cat. Ex. of* 1862; *Drs. Brandis, Mason, Cleghorn, nd Stewart; Mr. Gamble.*

CONIUM MACULATUM. *Linn.* Hemlock.

Shokran, ... Arab. | Spotted hemlock, . Eng.
Banj-i-rumi, . . . ,, | Koneion, . Gr. of Diosc.
Keerdamana, . Bombay. | Cicuta, ... Lat.

Dr. Royle says there is little doubt of this being the κώνειον of the Greeks and the Cicuta of the Romans; but it must not, from the similarity of name, be confounded with Cicuta maculata. Cicuta virosa occurs in Kashmir, where it is called Zahr-gugul, poison turnip, and Salep-i-Shaitan, *Pers.*, or devil's salep. Spotted hemlock is the Shokran of the Arabs, who give Kuniun as the Greek name. It is found in Europe, east of Asia, and America. It derives celebrity from being considered to have been used as the Athenian state poison, by which Socrates and Phocion perished. The extract of hemlock is employed as an anodyne in scrofulous or cancerous affections, in rheumatism, neuralgia, and painful ulcerations. *O'Sh.; Royle.*

CONJEE MARAM. Tam. ? A light, red-coloured wood of Travancore, sp. gr. 0·650, used for furniture, etc.

CONJEVERAM, or Kanchi-varam, a town and taluk, in the Chingleput district of the Madras Presidency, in lat. 12° 49′ 45″ N., long. 79° 45′ E., and in 1871 the town had a population of 35,396. It is one of the seven sacred cities of the Hindus in Southern India, and in the time of Hiwen Thsang, in the 7th century, was the capital of the Dravida country, ruled by the Chola dynasty. It was then a great Buddhist centre; subsequently professed the Jaina creed, followed by Hinduism. Two of its Hindu temples are the largest in Southern India; one of them belongs to the Saiva, the other to the Vaishnava sect. During the wars of the Karnatic, the town repeatedly changed hands, was taken by Clive on the 29th August, and again in December 1751, and again in 1752. Since 1758 it has been in the hands of the British. Many Jaina sculptures have been discovered there. The Chola held sway in the south of India from the eighth to the sixteenth centuries, when Sha-ji, the father of Sivaji, totally annihilated every vestige of their once great power. It was one of the most ancient and prolonged of all the Indian dynasties.

CON-MOO. Burm. ? A tree of Tavoy; timber good, used for buildings and boats.

CONNARUS CHAMPIONII. *Thw.* A tree of the central province of Ceylon, growing up to an elevation of 4000 feet.—*Thw.* p. 80.

CONNARUS MONOCARPUS. *Linn.*

Doke-ka-det, . . Burm. | Radaleya-gass, . . Singh.

A tree of Burma, and very abundant in the hot, drier parts of Ceylon.—*Thw.* p. 80.

CONNARUS NITIDUS. *Roxb.* A small tree of Sylhet. In British Burma it is a shrub about ten feet high, very plentiful, especially in the Rangoon districts, and affords an oil-seed of small size, but rich in a sweet oil. C. paniculatus, *Roxb.*, is a large timber tree of Chittagong.—*Voigt; M'Clelland.*

CONNARUS SPECIOSA. *M'Clelland.*

Gwai-douk, . . . Burm. | Kadon kadet, . . Burm.
Khwæ touk, . . ,,

A large tree, very plentiful throughout the Rangoon, Pegu, and Tounghoo districts. Growing in all the forests scattered with teak. It has a large, heavy, and strong timber, white-coloured, adapted to every purpose of house-building. It is remarkable for the quantity of its seeds, which are of large size, abounding in sweet oil.—*Dr. M'Cl.*

CONNARUS UNIFOLIOLATUS. *Thw.* A moderate-sized tree of the central province of Ceylon, growing at an elevation of 3000 to 4000 feet, rather rare.—*Thw.*

CONNELLY. Four distinguished brothers of this name served in India, Captain Edward Connelly, Captain Arthur Connelly, Captain John Connelly, and Henry Valentine Connelly. Edward was killed at Toolian Durrah (Purwan Durrah?), October 1840; Arthur, the traveller, went on a mission to Bokhara in August 1840, and is believed to have been murdered in prison along with Colonel Stoddard; John was killed at the capture of Kābul in July 1842. Their brother, Henry Valentine Connelly, of the Madras Civil Service, was murdered 11th September 1855, at the instigation of Mopla fanatics.

Captain Edward Connelly wrote on the Physical Geography of Seisthan in As. Jl. 1839, ix. p. 710; On Figures of Gems and Coins, in Bl. As. Trans. 1842, xi. p. 137; Account of the City of Oujein and its Environs, ibid. 1837, vi. p. 831; Journal kept in Seisthan, ibid. 1841, p. 319.

Captain J. Connelly wrote a Report upon Khorasan, Bl. As. Trans. 1842, xi. p. 116.

Captain A. Connelly wrote on the White-haired Angora Goat, Lond. As. Trans. vi. p. 159; Overland Journey through Persia and Afghanistan to India, Lond. 1834, 2 vols.

CONOCARPUS ACUMINATUS. *Roxb.*

Andersonia acuminata, *R.* | Anogeissus acuminatus, *Wall.*
A. lanceolata, *Rottler.*
Yoong, ... Burm. | Pashi, Panchi, . . Tel.
Pachcha manu? . Tel.

This is a large, very valuable, and plentiful timber tree, growing throughout the southern forests, along with Conocarpus latifolia. In British Burma it is almost equal to the Terminalia microcarpa in size and the regular growth of its stem. Its wood is reddish-brown, hard and strong, its breaking weight being 262 lbs. A cubic foot weighs 50 to 57 lbs.; and in a full-grown tree on good soil the average length of the trunk to the first branch is 80 feet, and average girth, measured at six feet from the ground, is 12 feet. It sells in Burma at 12 annas per cubic foot. It flowers during the cold season. Its wood is exceedingly like, and fully as strong and as durable, if kept dry, as the C. latifolia, but, exposed to the water, it soon decays. It is thus unfit for the marine yard, but is equally fit for house-building when it can be obtained straight, which is seldom the case. But for its weight, it would be most excellent timber.—*Drs. M'Cl. and Brandis; Mr. Rohde's MSS.; Voigt; Roxb.* ii. 443.

CONOCARPUS LATIFOLIA. *Roxb.*

Andersonia altissima, *Roxb.* | Anogeissus latifolius, *Wall.*
Dinduga, . . . Can. | Vellai naga maram, Tam.
Thoura, ... Hind. | Tella neredu chettu, Tel.
Dawura; Dhowa, . Mahr. | Siri manu, . . . ,,
Thoura, ... ,, | Dhoboo; Nongoliah, Uria.
Daa woo gass, . . Singh. | Pooroo, ... ,,

This large timber tree grows in the Dehra Doon, in the Kenneri jungles, valleys of the Konkan rivers, on the inland Dekhan hills at Chillaime, and on the mountains which separate the Circars from the Nizam's dominions. It grows in Ceylon, to the north of Kandy, up to 1500 feet. It flowers during the cold season, in January and February. Its trunk is erect, straight, varying in length and thickness, the largest being 35 feet to the branches, and about 6 feet in circumference. In Coimbatore the specimens sustained 500 lbs. It also grows in Chittagong. Its timber is esteemed for almost every economical purpose, house-building, shafts, and yokes, is in general use for railway purposes, and it makes very good cabinet furniture. Towards the centre, it is of a chocolate colour. For house and ship building the natives reckon it superior to every other sort, Pentaptera tomentosa and teak excepted. Captain Sankey, writing from Nagpur, says it is a white wood with a heart of a dark colour, and somewhat like rosewood. Its average length there is 12 feet, and girth 7 feet. It is so much prized by the natives of Nagpur for axletrees, that but few trees are permitted to attain their proper growth. By all accounts, in Nagpur, about 20,000 axletrees are made from this wood yearly. It is attacked by white ants. It ranks high as a rafter timber.—*Drs. Roxb., Gibson, Riddell, Voigt, Wight, Thwaites; Mr. Rohde; Captain Sankey.*

CONOCARPUS ROBUSTUS. *M'Cl.* Caibyah, BURM. A very large and strong timber tree, growing plentifully in the Pegu, Tounghoo, and Prome forests, along with teak. Adapted for fancy work and cabinetmaking.—*M'Clelland.*

CONRADE of Montferrat, Prince of Tyre, titular king of Jerusalem, was assassinated 29th April 1192 A.D., A.H. 13th Rabi-us-Sani 588, by two emissaries disguised as monks, sent by Sinan. Both Saladin and king Richard of England have been accused of instigating it, but, according to Ibn ul Athir, it was the request of Saladin (Salah-ud-Din) to have both Conrade and Richard destroyed.—*Osborn, Islam.*

CONSERVE OF ROSES, Gulcand and Gulkandu, consists of rose-petals and sugar mixed in certain proportions, and bruised in a mortar. The conserve of roses met with in the bazars of Bombay is chiefly obtained from Surat. Conserve of violets, 'gulkand-i-banafsha.'—*Faulkner.*

CONSTABULARY has been extensively introduced in British India since the revolt of the Bengal Native Army, and to Sir William Robinson, K.C.S.I., of the Madras C.S., the credit was chiefly due. At the commencement of 1862, the experiment of the introduction of the new Indian police was made in the North Arcot district. At the end of 1862 not a taluk or town in the entire length and breadth of the Presidency remained unoccupied by the new constabulary.

CONSTANTINOPLE, the capital of the Turkish dominions, which extend to the shores of the Indian Ocean. It is known to the Mahomedans of Asia as Konstantinia, also as Rum, and the emperor is called the Sultan, also the Kaisar.

CONTI. Nicolo Conti, a noble Venetian, who travelled in S.W. Asia and in the East Indies between A.D. 1419 and 1444, and on his return, on seeking absolution from Pope Eugene IV. for having in Egypt denied Christ to save his wife and children from death, the penance was imposed on him of relating his adventures to Pogio Braciolini, the pope's secretary. Conti left Damascus and passed through Bussora, Baghdad, Ormuz, Cambay, Malabar, Bijanagar, Mylapur, Ceylon, Sumatra, Tenasserim, Ava, Arakan, Bengal, Java, Banda, Ceram, Bouro, Cochin-China, and returned by way of Cochin-China, Malabar, Cambay, Aden, and Cairo.

CONTINENTS. In Hindu geography, the continents connected with each other are four, viz. Uturukuru, Purwawidesa, Aparagodana, and Jambudwipa.

CONTINGENT, a term applied in British India to designate the armies which, by treaty, the feudatory sovereigns keep. The Mysore contingent of 4000 soldiers has been enrolled since the treaty of Seringapatam. The Nizam of Hyderabad's contingent of 7498 men, in six regiments of infantry, four of cavalry, and four batteries of artillery, was established by the treaty of 1798. The contingent of H.H. the maharaja Sindia, of 5000 cavalry, whose capital is Gwalior, was arranged for by the treaty of Gwalior of November 1817. In the same year a contingent of 300 men was arranged for from the Gaekwar at Baroda. The treaty of Bhopal of February 1818 provided for a contingent of 600 cavalry and 400 infantry; and by the treaty of the 6th January 1818, maharaja Man Singh of Jodhpur undertook to furnish 1500 cavalry for service with the British Indian army. The Indore contingent of 3000 cavalry horses by the maharaja Holkar, by the xi. article of the treaty of Mundesur, was agreed to be provided ready for service. See British India, p. 464.

CONUS, the Cone genus of Gasteropodus Mollusca, founded by Linnæus. The species are found in southern and tropical seas. Lamarck records 181 recent species and varieties. C. textilis, *Linn.*, found at Aneityum of the N. Hebrides, bites and injects a poisonous acrid fluid into the wound, occasioning the heart to swell, and often endangering life.

CONVENT OF ST. CATHERINE is on the Jib'l Musa.

CONVOLVULACEÆ. *R. Br.* The bindweed tribe of plants, in which there are about 28 genera and more than 450 species in the west and east of Asia. The more important genera are aniseia, argyreia, batatas, Blinkworthia, Breweria, calonyction, calystegia, convolvulus, cressa, evolvulus, Havittia, ipomæa, Moorcroftia, neuropeltis, pharbitis, porana, quamoclit, rivea, sepistemon, Skinnera.

Convolvulus arvensis, *Linn.*, Corn bindweed.
C. Chinensis, *Ker.* | C. Malcolmi, *Roxb.*

It is native throughout Europe in sandy fields and by-roads, also in China, Persia, and some parts of India; is abundant as a weed all over the plains of the Panjab, and up to 10,000 feet in the Panjab Himalaya. The officinal hirn-padi (deer's foot) appears to be from this plant. It is said to possess a purgative quality, as also C. soldanella, C. maritimus, and C. macrocarpus.—*Stewart.*

Convolvulus pluricaulis, *Chois.*
Porprang, Baphalli, HIND. | Gorakh panw; Dodak, HIND.

Common throughout the Panjab plains. It is eaten by cattle, and is reckoned cooling; used as a vegetable, or given in sherbet.—*Stewart.*

Convolvulus reptans, Olus vagum, *Rumph.*
Kulmi shak, . . BENG. | Po-ts'ai, Po-ling, . CHIN.
Mandavalli, . . . CAN. | Tootu kura, . . . TEL.

A native of standing sweet waters, very common in India; affords a milky juice, which, when dried, is nearly equal to scammony in purgative efficacy. The tops and leaves are eaten in stew by the natives. This is largely cultivated in China as a vegetable, and eaten in spring.—*Ainslie; Smith.*

Convolvulus scammonia, *Linn.*
Sakmunia, Sagmoonia, AR. | Mahmudah, . . . HIND.

A native of Syria, the Levant, and of Kaira in Gujerat. The proper juice when dried is called scammony, but is often adulterated with concrete juices of a similar kind, and with flour, chalk, sand, and earth. The most abundant harvest of scammony is in Smyrna and Aleppo. There are several modes of collection, which give rise to corresponding commercial varieties. The Arab name of this drug, Ul Sugmoonia, signifies the purgative.—*O'Sh.* pp. 500, 501.

CONWAY, an officer of the Madras army, who rose to the rank of Colonel. He was selected, while quite a young man, to be Adjutant-General of the army of Madras at a time of trial, when the European officers had become disaffected, and he held that post up to the year 1837, when he died of cholera on the banks of the Kistna, *en route* to be Brigadier of the Hyderabad subsidiary force, and he was buried there. In St. Mary's Chapel, Madras, is a tablet to his memory:—

The Soldier's Friend,
CONWAY,
Adjutant-General,
obiit
13th May 1837.
Erected by the
ARMY
and by the
PUBLIC.

COOCH BEHAR. See Kuch Behar.

COOKIA PUNCTATA. *Retz.* Wham-pi fruit.
Quinaria lansium, *Lour.* | Hwang-p'i kwo, . CHIN.

This fruit-tree of China and the Moluccas is middle-sized, bearing an edible fruit about the size of a pigeon's egg, yellow on the outside, with a white pulp, rather acid, but sweet, and much esteemed in China and the Archipelago. Hwang-pi, or wham-pi, means yellow skin. In India it bears its rough-skinned fruit in April and May. The tree has very dark green shining leaves.—*Roxb.; Voigt; Riddell; Smith; Macfadyen.*

COOKING WAGGONS are constructed somewhat like a battery caisson, so that the parts can be unlimbered and separated from each other. The 'limber,' or forward part, bears a large chest, which is divided into compartments, to contain coffee, tea, sugar, and corn starch, with a place also for two gridirons and an axe. From the rear portion rise three tall smoke-pipes, above three large boilers, under which there is a place for the fire, and under the fire a box for the fuel. Each boiler will hold fourteen gallons; and it is estimated that in each one, on the march, ten gallons of tea, or coffee, or chocolate, could be made in twenty minutes,—thus giving ninety gallons of nourishing drink every hour.

COOLEE, a term in use in British India to designate any labouring man working for hire, also the hire itself. The word is a corruption of the Tamil word Woleeya or Wozheeya, Karan, a servant. Under this designation great numbers of the labouring classes of India have emigrated to Ceylon, the Mauritius, Bourbon, and the West Indies. The mortality on the voyages at one time was so considerable, ranging up to 19 per cent., that emigration agents were appointed at the Indian ports, under Acts of the Council, to control the emigration. Coolee bandy or Coolee gari means a hired carriage.

COOLEN or Kulang. HIND. The Grus cinerea of British India and of Europe. It is much liked as a table bird. They are easily domesticated.

COOLING MIXTURES.

Nitrate of ammonia, water, each 1 part,—46°.
Nit. of ammonia, carb. of soda, water, each 1 part,—57°.
Phosphate of soda, 9 parts; sulphuric acid, 4 parts,—62°.
Sulphate of soda, 8 parts; muriatic acid, 5 parts,—50°.
Sulph. of soda, 5 parts; dilute sulph. acid, 4 parts,—47°.
Phosphate of soda, 9 parts; nitrate of ammonia, 6 parts; dilute sulphuric acid, 4 parts,—47°.

The fall of the thermometer is here calculated from 50°, and the full effect is not produced unless the materials employed and the substance acted upon be previously cooled to that point.

Pounded ice or snow, 2 parts; common salt, 1 part,—from any temperature to 5°.
Snow or pounded ice, 12 parts; common salt, 5 parts; nitrate of ammonia, 5 parts,—25°.
Snow, 3 parts; dilute sulphuric acid, 2 parts,—from 32° to 23°.
Snow, 8 parts; muriatic acid, 5 parts,—to 27°.
Snow, 7 parts; diluted nitric acid, 4 parts,—to 30°.
Snow, 4 parts; muriate of lime, 5 parts,—to 40°.
—*O'Sh.* p. 46.

COOMPTA, in lat. 14° 26′ N., long. 74° 27′ E., is the chief commercial town in the Canara district. —*Imp. Gaz.*

COONCHEE. HIND. A child's cloak.

COONDOOR. DUKH. Frankincense.

COONOOR, in lat. 11° 20′ N., long. 76° 50′ E., S.E. of Ootacamund, is 5960 feet above the level of the sea. The mean height of the adjoining Jakatalla cantonment, now called Wellington, is 6100 feet. It is a favourite sanatorium for Europeans.—*Baik.; Schlag.*

COONR-MOONDLA, or Cunr-mundla, is the name given at Benares to the day on which seed-sowing is concluded. In the Lower Doab and Baiswara, it is generally called Coonr Bojee and Huriur. Hindus devote this day to festivity, and, amongst other ceremonies, decorate the ploughs, and make the residue of the seed-corn into a cake, which is partaken of in the open field, and in part distributed to Brahmans and beggars. A similar practice prevails in Great Britain, when the seed-cake and furmenty of All-Hallows are in request. In Tusser's homely verses we read,—

'Wife, sometime this weeke, if the wether hold cleare,
An end of wheat-sowing we make for this yeare,
Remember you, therefore, though I do it not,
The seed-cake, the pasties, the furmenty-pot.'

—*Elliot.* See Duleājhar; Huriur; Hurpoojee.

COOPER, SIR FREDERICK, K.C.S.I., a Bengal civil servant, who did much good service in the Panjab during the revolt and rebellion of 1857–58.

COORBAN. See Kurban; Sacrifice.

COORG, a British province between lat. 11° 56′ and 20° 50′ N., long. 75° 24′ and 76° 13′ E., area 1580 square miles, and, in 1881, a population of 178,302, of whom 100,439 were males and 77,863 females. Its prominent inhabitants are the Kodaga or Coorg mountaineers, who were ruled over by the Haleri polygars; but Vira Rajendra, the last raja, was dethroned by the British in

1834, and he died in Britain in 1862. The Kodaga had successfully opposed Hyder Ali and his son Tipu; but Vira Rajendra (Dodda), who died in 1809, was guilty of about 5000 summary executions; his successor, Linga, died 1820, was greedy, cunning, and cowardly. The aspect of Coorg (Kurg or Kodagu, meaning steep mountain), presents an entire forest; the long and narrow cultivated valleys enclosed within it serve but to render the vast woods more striking. The country is intersected in every direction by cuddungs or breastworks, estimated at 600 miles in extent, many 12 feet deep and 10 or 15 feet across the ditch. They cross the ranges of hills and each other with little appearance of order, and defy conjecture as to their object. The prevailing languages are Coorg, Kodaga, Canarese, Malealam, Tamil, Tulu, Hindustani, and English. There are about 40,000 native Coorgs (Kodaga) scattered throughout the country. They are a tall, muscular, broad-chested, well-favoured race of mountaineers, far superior in physique to the inhabitants of the plains, whom they greatly despise. They are far advanced in civilisation, and very intelligent. The vice of drinking has a deep and widely-spread hold upon them. They marry at a ripe age, but the wives of brothers are considered as common property. They generally retain the old devil-worship of the Dravidian race. The raja's palace is supposed to have been built by an Italian, who is said to have been bricked up in a wall as soon as the building was finished. The tribes and races of the population in 1881 was 178,302 souls, comprised, besides the Coorg or Kodaga proper,—

Amma or Amma Kodaga or Kaveri Brahmans.
Aimbkula, goala or herds.
Higgade, cultivators.
Ainaya Badage, artisans in iron and wood.
Kavati, jungle cultivators.
Paleya, farm labourers from the Tulu and Maleala districts.
Kurubar, two tribes, the Jenu and Bettu.
Yerawa, slave emigrants from Malealam.
Meda, umbrella makers.
Holeya, viz. Keinbati Holeya, who speak Kodaga, and Badaga Holeya, who speak Canarese.

There are also some Mahrattas, Rajputs, Rachewar, and Rajpinde, the last being connections of the late rulers. The out-castes number 34,100, and the wild tribes 14,783.

In 1837 there was a rebellion in the British district of Canara, adjoining Coorg. The Coorgs at once marched there, quelled the rebellion, and recaptured for the British the treasures carried off by the insurgents. The Governor-General directed that the recovered treasure should, as a reward, be divided amongst the Coorgs, but they to a man refused to receive it, and proudly declared that they had not fought for loot. The British Government, awakened to a sense of the spirit of these rude warriors, then directed jaghirs and oomli lands to be conferred on them, and presented their chiefs with horses, rifles, khillats, and other marks of honour. Later still, when British supremacy in India had been shaken to its foundation, a body of Coorgs, armed to the teeth, suddenly made their appearance at Periyapatna in Mysore, under the secret instructions of the late Sir Mark Cubbon, and by their presence tended to suppress the growing insolence and disaffection of the Mahomedan classes of Seringapatam and the adjacent parts of that province.

In the vicinity of the palace are settled the descendants of the private guards and executioners of the rajas. These men are called Kapalarus, and were the principal instruments in carrying out the mandates dictated by the last raja.. The Amma Coorg, the Sanna Coorg, the Malla Coorg, and the Boddhu Coorg differ chiefly in the matter of marriages. The right of choosing a husband for the girl vests with her father. Should he have demised, it devolves in succession upon her paternal grandfather, mother, and brothers. In their absence, on the head of the house, whoever he may be. There are only two kinds of marriages amongst the Coorgs,—the Brahman, based on disinterested motives, and which is not brought about on account of pecuniary considerations, and the Gandharva, which is founded in reciprocal desire. The former is the more prevalent. A Coorg is justified in taking to himself a plurality of wives, supposing his first one for the period of ten years produces only daughters. Re-marriage of women is permitted, under certain restrictions. In the event of there being no male issue in a house, a daughter is retained to represent the name, and a husband is procured for her from another house. This husband does not become alienated from his own family, but can take a wife for his own family also, thus raising up seed for both houses. These marriages must take place for the purpose expressed at the time, and the arrangement cannot be made after marriage. This is termed amongst the Coorg a Makka Parje marriage, or for the rights of the children. Their women have large eyes, and are not very dark. Their hair, *en chignon*, has splendid gold ornaments on it, and bunches of white flowers. White jackets with short sleeves, embroidered with red cotton, with muslin skirts embroidered with a narrow gold lace, and very short. Their legs and feet bare; round their ankles massive silver bands, from which hang a number of little bells, with a silver chain from the band to each toe, holds a number of rings. Their arms covered with bracelets, and round their necks a number of gold chains with jewel ornaments. In their national dance Coorgs form into a circle. The first figure of the dance is called Balakata, and is a slow movement, the men all dancing round, singing, and gracefully waving about chowris (long whisks of hair), with an accompaniment of drums. This is followed by the second figure, called Kolhata, or stick dance, in which each man is provided with a couple of sticks. They all move round as before, beginning slowly, with a sort of prancing step, which gets quicker and quicker. They keep tapping their neighbours' sticks in time, getting more and more excited and hitting harder, as if they were to have a fight, but at a given signal they all instantly stop. The third figure consists of a single combat. One man leaps into the circle with a war-whoop, armed with a long switch and a metal shield, challenging the ring. Then out springs another, and both dance. At last they rush together, hitting hard. The laws of the game do not allow hitting above the knees, although some, in their excitement, certainly transgress. The ankles, however, suffer most, and must smart terribly after an encounter. When one of the combatants gives in, the other embraces him, to show there is no ill-will. At the end of the third figure, the assembly dance,

leaping vigorously into the air. The Coorg or Kodaga language has been regarded as Canarese, modified by the Tulu. But Mr. Moegling states that it is more nearly allied to the Tamil and Malealam than to the Canarese. Cairns or tumuli are in great numbers. They conceal kistvaens. There are also Kolle Kallu, or sculptured tombstones in honour of warriors slain in battle. Raja Vira Rajendra's daughter Gauramma, whom he brought with him to London, was baptized as Victoria, Queen Victoria being the sponsor, and she married a British army officer, but shortly after he and her daughter disappeared, and she died in 1864. —*Cole's Coorg; Bowring's Eastern Experiences; Rice, Coorg; Coorg Gazetteer; Moegling's Coorg.*

COORMEE or Koormee, a race of cultivators under the different names of Coormee, Kumbhi, Kunabi, Koombhee, extend throughout the greater part of Hindustan, Berar, and the Western Dekhan. They are famous as agriculturists, but frequently engage in other occupations. The Coormee women, like the Jatni, assist the men in husbandry, and have passed into a proverb for industry,—

'Bhulee jat koonbin kee k'hoorpee hat'h
K'het nirawen apne pee ke sat'h.'

The Coormee of the provinces are said to have seven subdivisions, which are usually enumerated as K'hureebind, Puturya, G'horchurha, Jyswar, Canoujea, Kewut, and Jhooneya.—*Elliot*, p. 227.

COOROOKOO OIL, oil of prickly poppy, or Jamaica yellow thistle, pale yellow, limpid oil, from the round corrugated seeds of the Argemone Mexicana, is sometimes expressed by the natives and used in lamps, but is doubtless adapted to more important uses.—*Madras Exh.* 1855.

COOROOMBAR or Kurumbar, properly Kurubar, a shepherd, from the Canarese Kuru, a sheep.

COOROOMBAR, a race of Wynad, very docile, quick of imitation, and slavishly submissive to their moodely or head, who exercises undisputed power over his own family, numerically containing about twenty or thirty beings. Those employed by the coffee-planters are a little civilised, appreciating the comforts of life in a slight degree higher than their more savage brethren. They erect rude huts for themselves and family, on elevated ground, surrounded by jungles, and about six in number; they touch one another, and the whole present the form of a crescent. One larger than the rest, styled the cutcherry, is erected in the middle, in the shape of a hall, for the sojourn of casual strangers; it is dedicated to their village deity, and the place cannot be contaminated by a shoed foot. The presence of a suspected stranger in their vicinity, sickness, or other trifling but natural cause, make them emigrate from one place to another, sometimes miles away, but always preferring lonesome localities and dense jungles. Some are partly civilised. Government possess some forest lands towards Periah and Teriate, and in several spots over Wynad. In the teak belt are several bands of Cooroombars, some of the Jani, and others of Moolly clan. The former live entirely in the forest. They are the only axe men, and without them it would be difficult to work a forest. Other tribes are the Panniar, Puliar, Gurchea, Chetty, and squatters. The Cooroombar, through their headmen, are held responsible, and the Chetty are also responsible for their Panniar or farm slaves. The Cooroombar's services are constantly called for by the wood contractor and the planter. They will not leave their haunts in the forests for any time. During the gold speculations of the western coast from 1876 to 1881, the Cooroombar were found useful labourers.—*C. H. S. in Newspaper; Cleghorn, Forest Report.* See Kurumbar.

COOROOMBRANAAD, a district of Malabar.

COOROOMINGA. TAM. A beetle, the Butocera rubus, which penetrates the trunk of young cocoanut trees near the ground, and deposits its eggs near the centre. The grubs eat their way up and destroy the tree.

COORTALLUM, not very far from Cape Comorin, is a large place, with several bungalows close into the hills. Of the cataracts close at hand, the lowest falls from a height of 200 feet. The scenery is splendid. There are in all three falls, the highest being 2000 feet above the sea. The average temperature of the water is 72° to 75°, and invalids derive great benefit from bathing in it. The bathing place is under a shelving rock, affording the most delightful shower-bath possible. The climate is particularly enjoyable to Europeans in June, July, and August.

COOSSUMB. SANSK. Carthamus tinctorius.

COOSY, a tributary to the Hoogly, also written Cosi and Kosi. It rises in the Ramghur district, lat. 23° 35′, long. 85° 58′, runs S.E. into the Hoogly. Its length is 240 miles.

COOTANAD, a district of Malabar.

COOTE, SIR EYRE, K.C.B., a distinguished British officer, who served in India from the middle of the 18th century, and in command in the Karnatic from 1759 during the contests for supremacy between the British and French. At the battle of Plassey in 1757, while a Major in rank, he had commanded the third division of the army, and he seems to have taken command in the Karnatic in 1759. He was out-manœuvred on the Palar river, but in 1760, after defeating Lally at Wandiwash, and driving him back to Pondicherry, he took easy possession of Cuddalore in April 1760, of Chellumbrum, and other French garrisons. He took Pondicherry on the 4th Jan. 1761. The French shortly before had destroyed Fort St. David, and in retaliation Coote razed the fortifications to the ground. On the 18th June 1781, Colonel Coote had been repulsed with loss by Hyder in a night attack on Chellumbrum. After forcing his way through two or three enclosures, and when falling back to Cuddalore, and he had passed on a few miles from Porto Novo, he found his march intercepted by the whole army of Hyder Ali, 60,000 strong. Hyder had made a rapid march, and had thrown up batteries across Coote's line of retreat; he had his left protected by a range of sandhills, and his right by the sea. Coote made two determined assaults, one on the batteries, which were carried, the other through a passage in the sandhills left unprotected by Hyder, whose flank became thus exposed. A war schooner at the same time appeared in sight, and, anchoring close in, poured her broadsides on the enemy, causing great confusion. Hyder's army was completely routed. Coote's strength was 7878 men, including artillerymen. It was known as the battle of Metapolliam, and was fought on the 1st July 1781. In June 1782, while Coote was advancing rapidly on Arnee, where Hyder had treasure and military stores, Hyder overtook and

compelled him to return to Madras. Coote died in 1783, and the command of the army devolved on General Stewart.

COPAIVA or Copaiba is the fluid resinous exudation of several species of Copaifera, of C. Langsdorffii, *Dec.*, of C. officinalis. It was first described by Marcgraaf and Piso in 1643. Species of dipterocarpus yield a substance closely resembling copaiba.—*Faulkner; Royle*, p. 364.

COPAL, Pa-ma-yu, CHIN., Chandras, HIND. This very important resin is obtained from trees of America, Africa, Madagascar, India, and Australia. It exudes spontaneously from Rhus copalinum and Elæocarpus copalifer, the first being an American and W. Indian, and the second an E. Indian tree. Another copal is obtained from the coasts of Guinea; and several species of Hymenæa, on the Amazons, are said to produce kinds of copal, one of the plants being Hymenæa verrucosa. Vateria Indica furnishes the resin called in India copal, which in England is known by the name of gum anime, and very nearly approaches the true resin of that name; in its recent and fluid state it is used as a varnish, called Piney varnish, in the south of India, and, dissolved by heat in closed vessels, it is employed for the same purpose in other parts of India; it is extremely tenacious and solid, but melts at a temperature of 97½° Fahr. Mineral copal is found in ligniform pieces near Quilon, under laterite. A copal, called gum anime in the London market, is found on the east coast of Africa, from Panjan to Mboamaji. An endless supply is obtainable there, and it is largely imported into Bombay from Zanzibar, the major portion being re-exported to England, and occasionally to France and Calcutta. The copal of Zanzibar is obtained from the Trachylobium Hornemanianum; but larger quantities are found imbedded in the earth, often where no copal-yielding trees now exist. This semi-fossil copal is called copalline. Specimens of the leaf, flower, etc., obtained from the semi-fossil gum, agree in all respects with those of the living tree. The peculiar and more valuable properties of the buried gum anime are supposed to be from a chemical action, the result of a long retention in the earth. It is classed as raw or jackass copal, and ripe or true copal. The value of the latter is estimated by its colour, the clearest and most transparent pieces bring the highest prices, after them the light amber, lemon, dark yellow, and red. Sometimes the gum, like amber, contains drops of water, bees, tics, flies, and other insects. The diggers do not excavate more than the depth of a man's waist, and the copal occurs in a red sand underlying blue clay.

Copal is generally imported into England in lumps about the size of small potatoes, of a slightly yellow tint, and often including insects and animal remains. It is often covered with a clay-like substance, from which it is freed by the dealers by scraping. The finest and palest lumps are selected for what is called body-gum; the next best forms carriage-gum; and the remainder, being freed from wood and stones, forms what is called third, or worst quality, and is used for gold-size or japan-black. Fracture conchoidal; it is transparent, and tasteless. Copal is liable to be confounded with anime, when the latter is clear and good; but the solubility in alcohol furnishes a useful test,—the anime being readily soluble in this fluid, while copal is sparingly so. Copal is also brittle between the teeth, whereas anime softens in the mouth. The American copal occurs in commerce in flat fragments; whereas the East Indian is generally obtained in roundish masses. The latter furnishes the finest varnishes. —*Dr. Kirk, in Madras Agri-Horticult. Proc.*

COPALM BALSAM is a product of the Liquid-amber styraciflua.

COPAL VARNISH is a solution of copal gum resin in linseed oil, oil of turpentine, spirits of wine or alcohol; it is used for japanning snuff-boxes, tea-boards, and similar articles. Copal varnish and amber varnish are also much employed by the artist and by the photographer for the preservation of their works. Fresh essence of turpentine dissolves copal completely, but old turpentine will not do so. It is stated that essence of turpentine, digested upon sulphur, will dissolve double its own weight without letting any fall. The oil of rosemary also dissolves copal with great readiness. An excellent varnish may be made by dissolving one part of copal and one of essence of rosemary, with from two to three parts of pure alcohol.

COPAULDROOG, taken by the British, by storm, on the 14th May 1819.

COPE, HENRY, wrote on The Ruined City of Ranade, Sindiah's Dominions, in Bl. As. Trans. 1848, xvii. p. 1079; On the Ruined City of Ferozabad, ibid. 1847, xvi., 1848, xvii. p. 971; On the Silk Manufactures of the Panjab, Lahore Agri. Trans. 1852.

COPHONES of Arrian, supposed to be the Kābul river.

COPPER.

Nehass, ... ARAB.	Cuprum, ... LAT.
Ky-a-ni, ... BURM.	Tambaga, . . MALAY.
Chi-tung; Tung, . CHIN.	Miss, ... PERS.
Tsze-jen-tung; Chi-kin, ,,	Miedz, ... POL.
Kobber, ... DAN.	Cobre, . . PORT., SP.
Koper, ... DUT.	Krasnoimjed; Mjed, RUS.
Cuivre, ... FR.	Tamraka; Tamra, SANSK.
Kupper, ... GER.	Kopper, ... SW.
Tamba, ... GUJ.	Shembu, ... TAM.
Nehesh, ... HEB.	Tambram; Raggi, TEL.
Rame, ... IT.	

Copper ore is abundantly diffused in nature, being found native as an oxide, a sulphuret, a sulphate, carbonate, arseniate, and phosphate, in Persia, Baluchistan, Nepal, Kashmir, Tibet, India, Sumatra, Borneo, China, and Japan. Copper ore in the form of sulphuret is abundant in Ramgurh in Shekawatti. Near Ajmir, carbonate of copper is found in small veins, and in connection with ores of iron (Genl. Med. Top. p. 169). A silicate of copper occurs in Nellore and Ongole, but not in workable lodes. Copper ores are found in the Jeypore dominions, and in the vicinity of Nejeebabad, Nagpur, and Dhunpur. Copper has been pointed out near Beila, in the province of Luz, on the western frontier of Lower Sind, by Captain Del Hoste and Captain Harris; in Kamaon, by Lieutenant Gasfurd and Captain Durand; at Porkee and Dhanpur, by Captain Richards; at Almorah and in Afghanistan, by Captain Drummond. It is said to have been worked in Cutch.

From Gurgaon there was sent to the Panjab Exhibition a piece of copper pyrites, also specimens of good copper ore from the Hissar district, and of the metal got from it; from Pelang in Kulu,

and from Manikarn near Kulu, in the Kangra district, some copper pyrites, and with blue carbonate of copper from Spiti. Copper is found in Kashmir, but is not an article of trade.

Iron and copper mines occur at Marma, S.E. of Byans, and the people bring copper pots to barter with the Chaudansi and Byansi races. Copper mines in Kamaon, Garhwal, Nepal, and Sikkim, are worked by the natives on a small scale.

Copper has been discovered in Singhana; in mines in Kamaon and Garhwal. Copper mines occur at Papulee, Pringlapanni, Murbuggettee, and old mines at Kerraye, Belar, Raie, Seera, Toma Cottee, Doberee, and Dhunpore. The Beng. As. Soc. Journ., No. 1 of 1851, p. 1, mentions the copper of Deoghur or Byjnath, a small town in zillah Birbhum. The surface veins run east and west, and present the ore in irregular masses of $\frac{1}{8}$ths of an inch broad, so much corroded by atmospherical influence as to appear in a soft, friable, red, yellow, and liver-coloured or garnet-coloured earth; but, upon digging a couple of feet below the surface of the ground, the veins become a compact liver-coloured mass, spangled with shining particles of copper; the whole enclosed in a soft, friable apple-green, yellow, or white felspathic rock. Traversing the copper from north to south, small veins of lead appear, which occasionally form the containing walls to the copper. Mr. Vincent traced the vein of copper for about 100 feet east and west, and dug to the depth of 2 feet only. With the aid of coal dug from Banslee Kullah in the Rajmahal hills, he smelted some of the ore, which gave a return of 30 per cent. of good copper; inferior specimens, mostly water-worn pieces picked up on the surface, gave 25 per cent.

The mountainous parts of Nepal are rich in mines of iron and copper. The produce of the former is smelted. The copper is of a very superior kind, and was at one time preferred for consumption in the territories of the king of Oudh to that exported from Britain.

In Singbhum, copper ore is found extending over 80 miles to the westward of Midnapur. Three slabs, weighing about 139 lbs., were subjected to lamination, and proved to be well suited in all respects for purposes of coinage. The quality of this metal is decidedly superior to imported copper.

The copper ore of the Nellore collectorate of the Madras Presidency, was called by Dr. Thomson an anhydrous carbonate of copper, containing 60·73 per cent. of black oxide of copper. It occurs in hornblende schist at Bungeral Mettah, and the carbonate, passing into malachite and mountain blue there, and at Gurumany Pentah, Saligherri, and Yerrapully.

The existence of copper ore in the Callastri, Venkatagiri, and Nellore districts, was ascertained by Dr. Heynes about the year 1797, and he described that of Wangapadu.

Copper ore is found about 20 miles east of Kurnool, about 2 miles from the village of Gunny, in the centre of a low range of hills; also at Sidhout and Badwail.

Dr. Helfer said that the copper on the Lampei islands is worthy of attention. Mr. O'Riley stated that the copper ore from several islands of the Mergui Archipelago, is the grey copper ore, containing from 40 to 50 parts of the metal, in combination with antimony, iron, and sulphur. Dr. Mason had a fine specimen of the green carbonate, or malachite, found near the headwaters of the Ataran; and natives assured him that the same mineral exists up the Salwin. He had also seen specimens from Cheduba, near the coast of Arakan.

Copper is found in the Shan States, also at Kolen-myo and Sagaing; at Bawyine and Kolen-myo the malachite appears to be of a rich description, and the deposits seem to be abundant. The Sagaing mines were worked in former times by Chinese. The surface ore is not promising. Most of the copper used in Upper Burma is imported from China. It is plentiful in the province of Yunnan. Serpentine mines are said to occur at the Ura river, about 45 miles north and 30 west from the modern town of Moun-goung, in native Burma, and about 30 miles from Seebsagur in Upper Assam; carbonate of copper was, however, mistaken for it. But the serpentine rocks above Bamo appear to imbed oxides of copper. Copper and antimony occur in Shwe-green, and in the hill confines of Tounghoo.

Copper ores have been found in Sumatra? Celebes, and Timur. In the two former, mines of it are said to be worked.

Copper abounds throughout the whole Japanese group, and some of it is said to be not surpassed by any in the world. The natives refine it, and cast into cylinders about a foot long and an inch thick. The coarser kinds they cast into round lumps or cakes. Quicksilver also is said to be abundant. Lead also is plentiful. Tin in small quantities, and of a quality so fine and white that it almost equals silver. Iron is found in three of the provinces, of which they make steel unsurpassed in excellency. The copper ore found in Japan contains gold in alloy; it occurs in the market in small red bars, six inches long, flat on one side, and convex on the other, weighing 4 or 5 lbs. each; this copper is the most valuable of any found in Asia. The Chinese and Dutch exported upwards of 2000 tons annually.

A natural alloy found in China, known under the name of white copper, is used in great quantities. It seems peculiar to China, and was supposed by Dr. Black to owe its distinguishing colour to an alloy of nickel (Ains. Mat. Med. p. 53). It is used for dish-covers, candlesticks, tripods, plates, etc., which, when new and polished, look almost as well as silver.

Copper ores have been found as long ago as 1802 at Port Curtis, near the southern extremity of the range which extends along the north-east coast of Australia. Flinders met with indications of copper at Good's Island in Torres Strait. Lead and copper mines have been worked in South Australia for some years past, and others have been opened recently in the western coast range, a little to the north of Swan River. Hematitic and specular iron ore and copper pyrites have been found on the north-west coast near Admiralty Gulf.—*Kinneir's Geog. Memoir; M'Culloch's Dict.; Piddington in B. As. S. J.; Crawfurd's Dict.; Mason's Ten.; Irvine's Ajmir; O'Sh. Beng. As. Soc. Tr.*, 1841 to 1844; *Heyne's Tracts, Bomb. Geog. Soc. Tr.* vi. 117; *Friend of India*, 28th Feb. 1850; *Flinder's Voyage; Powell, Handbook; Smith, Nepal; Smith's Report on Singrowlee.*

COPPER, ACETATE OF.

Theng-twa, . . .	Burm.	Taibembaga, .	Malay.
Pitra, ...	Hind.	Zangar, ...	Pers.
Senan, . . .	Malay.	Vangala patchi, .	Tam.

Acetate of copper (arugo, verdigris) is a common bazar article in India, and is prepared on a large scale, by strewing copper plates with grape husks or tamarind pulp. During the fermentation of the traces of sugar in the husk, the copper combines with oxygen, and the oxide with acetic acid formed by the grape sugar. The process is extremely tedious.—*Beng. Phar.* p. 324.

COPPERAS, T'sing-fan, CHIN., an impure sulphate of iron.

COPPER PASTILLES. Pastilles containing sulphate of copper, when burned, destroy bugs, mosquitoes, and fleas, using three or four in a day.

COPPERSMITH is the small green barbet, Megalaima viridis, *Gmel.* (Xantholæma Indica), common in the Peninsula of India. It generally perches on the top branch of a tree, and the sound of its voice is Took, took, took, continuously, almost identical with that produced by striking a metal vessel.

COPPER, SULPHATE OF. Blue-stone.

Dok-ta-tsha, . . BURM.	Kupfer Vitriol, . GER.
Shih-tun, Tan-fan, CHIN.	Tutiya, Nila tutia, HIND.
Tung-lo, ... ,,	Cupri sulphas, . . LAT.
Sulfate de Cuivre, . FR.	Turushu, Nila tutam, TAM.

This salt is produced naturally in the water of copper mines, and is manufactured in many parts of India and the eastern islands. It is easily prepared, by heating copper to redness in contact with the air, removing the black scales which form, and dissolving these in dilute and boiling sulphuric acid, and crystallizing. In the refining of silver it is incidentally prepared in very large quantities (Beng. Phar. p. 322). It is much used in dyeing operations, in the printing of cotton and linen, and for various other purposes in the arts. It has been employed to prevent dry-rot by steeping wood in its solution, and is a powerful preservative of animal substances; when imbued with it and dried, they remain unaltered. It is obtained by the decomposition of copper pyrites, in the same manner as green vitriol from iron pyrites. It is manufactured for the arts from old copper sheeting, copper turnings, and copper refinery scales. A little sulphate of copper or blue vitriol mixed with the rice or flour paste used for joining papers, very effectually keeps these destructive pests at a distance. It is made at Amritsar by boiling sheet copper in oil of vitriol. Sells at 8d. per lb.—*Royle; Beng. Phar.*

COPPER-WARE and tutanague utensils, with coral and glass beads, form small portions of the Chinese trade to India; the Chinese seldom use glass beads as ornaments.

COPRA. HIND.

Nari kela, . . SANSK.	Kobari ten-kaia, . TEL.
Kobara tengai, . . TAM.	

This is the dried albumen or kernel of the cocoanut. In preparing it, the kernel is taken out when fully ripe, divided in the middle, and dried. It is used as an ingredient in curries and in medicine, and is largely exported from India. The kernel of the cocoanut has much the taste of a filbert, and is a valuable ingredient in curries. It is considered as very nutritious. The correct Hindi word is K'hopra.—*Ainslie; Faulkner; Seeman.*

COPRIDÆ. *Leach.* A family of coprophagous beetles, or dung beetles, containing the genera,—

Ateuchus, *Weber.*	Sisyphus, *Latr.*
Gymnopleurus, *Illig.*	Orepanocerus, *Kirby.*
Taprobanæ, *West.*	Bonassus, *Fabr.*
Copris, *Geoffr.*	Onitis, *Fabr.*
Pirmal, *Fabr.*	Philemon, *Fabr.*
Onthophagus, *Latr.*	

Copridæ and Dynastidæ correspond to the dung beetles. Some of them are of great size, with immense horn-like protuberances on the head and thorax of the males, and, combined with their polished or rugose metallic colours, render them perhaps the most conspicuous of all the beetle tribe. See Insects.

COPSYCHUS, a genus of birds of the order Insessores, *Fam.* Merulidæ, and sub-family Saxicolinæ. C. saularis is the dial bird, common in Ceylon.

COPT, a race in Egypt, about 150,000 souls, following Christianity. Though now more or less mixed with other races, they are the undoubted descendants of the ancient Egyptians. The Coptic language became almost extinct as a living tongue in A.D. 1700. They now for the most part speak Arabic. It was found, when the hieroglyphic letters were written in English letters, that the words formed were in the main Coptic, with a slight admixture from the Hebrew and other tongues; and that the language of the ancient Pharaohs did not differ so much from the language of their modern descendants, as modern English does from that of Alfred the Great. With this key, learned men who knew Coptic have been able to read the hieroglyphics. They have now an alphabet, grammar, and dictionary, and any person may learn to read the mysterious language on the monuments of Egypt as easily as Greek or Latin. The language, though in the main Semitic, has a considerable mixture of Aryan, or Indo-Germanic roots. The Turks call them, in derision, the posterity of Pharaoh; but their uncouth figure, their stupidity, ignorance, and wretchedness, do little credit to the sovereigns of ancient Egypt. Of the diminution of the numbers of the Copts, some idea may be formed from the reduction of the number of their bishops. They were seventy in number at the period of the Arabian conquest. They are now only twelve, and most of these are settled in Upper Egypt.—*Bunsen's Egypt; Cal. Rev.*, No. 73, Sept. 1861, p. 118; *Niebuhr's Travels*, p. 104; *Sharpe's Egypt*, i. p. 133.

COPTIS TEETA. *Wallich.*

Mishmee teeta, . ASSAM.	Hong-lane, . . . CHIN.

The golden thread root plant of Assam, is a native of the mountainous regions bordering on Upper Assam, and its root is in high repute among the Mishmee, Lamas, and Assamese. Quantities are sent down to Assam in neat little baskets with open meshes, made of narrow strips of rattan, and measuring 3 to 4 inches in length by 2⅓ in breadth and 1½ in width; each basket contains about an ounce of small pieces of the root, from 1 to 3 inches long. The taste is intensely and purely bitter, very lasting, with only a slight aroma. On mastication, the root tinges the saliva yellow. In North America, the Coptis trifolia is much employed as a bitter tonic. Coptis teeta root brings a very high price, and is deemed a tonic remedy of the greatest value. Its influence in restoring appetite, and increasing the digestive powers, are very remarkable. It did not seem to exercise any febrifuge virtue, but under its influence several patients recovered from acute diseases, manifestly and very rapidly improved in strength. The dose

was 5 to 10 grs. of the powder, or an ounce of the infusion thrice only. Latterly, medical officers have used it as a substitute for quinine, both in remittent fever and in common agues. The tincture is a bitter tonic, and its flavour and colour are much more agreeable than the tincture of colomba.—*Beng. Phar.; Beng. Disp.; Voigt.*

COQUILLA NUTS are produced in the Brazils by Attalea funifera, *Martius*, the Cocos lapidea of Gœrtner, and the latter title is highly descriptive. The plant might advantageously be introduced into S. Asia. The coquilla nut shell is nearly solid, with two separate cavities, each containing a hard, flattened, greasy kernel, generally of a disagreeable flavour; the cells occasionally enclose a grub or chrysalis, which consumes the fruit. The passages leading into the chambers are lined with filaments or bristles, and this end of the shell terminates exteriorly in a covering of these bristles, which conceal the passages; this end is consequently almost useless, but the opposite is entirely solid, and terminates in the pointed attachment of the stalk. Sometimes the shell contains three kernels, less frequently but one only, and a coquilla nut has been seen entirely solid. The substance of the shell is brittle, hard, close, and of a hazel brown, sometimes marked and dotted, but generally uniform. Under the action of sharp turning tools it is very agreeable to turn, more so than the cocoanut shell; it may be eccentric turned, cut into excellent screws, and it admits of an admirable polish and of being lacquered. They are extensively used for the handles of bell-pulls, small tops, the knobs of walking-sticks, umbrellas, and other articles. In addition to the nuts, a coarse black fibre is obtained from the dilated base of the petioles. It is partly used for consumption, partly exported to Europe, tied up in bundles of several feet in length, and sold in London under this name at about £14 the ton. It is manufactured into cordage in its native countries, and as it is light, cables made of it do not sink in the water. In 1850, about 250,000 nuts were imported into England, and sold at 30s. to 40s. the 1000.—*Seeman; Holtzapfel; Poole's Stat. of Com.* p. 98.

CORA, also Kora. HIND. New, raw, fresh. Hence the Hindi Ghilek, and the Greek Koree, a virgin.—*Pop. Poetry of Persia*, p. 542; *Elliot.* See Corah.

CORACIADÆ, a family of birds of the order Insessores, consisting of 2 gen., 7 sp., viz. Coracias pileata, garrula, Indica, affinis; Eurystomus gularis, orientalis, and pacificus. C. Bengalensis is the Indian roller. This and the king crow habitually perch on the telegraph wires to watch for their insect prey, the former displaying his gaily-painted wings to advantage as he whisks and flutters about. C. Bengalensis meets in the Panjab, etc., the European C. garrula; in Assam, Sylhet, Tiperah, and more rarely in Lower Bengal, it co-exists with the C. affinis. C. garrula, the roller of Europe, Africa, W. Asia, Afghanistan, Kashmir, Sind, and the Panjab, is migratory. Celebes has the Coracias Temminckii.—*Wallace*, p. 284. See Birds.

CORACLE. For crossing the rivers in the S. of Asia, on the Tigris, Euphrates, the Upper Indus, and its affluents, the practice of three thousand years still continues. Xenophon's ten thousand were ferried over on inflated skins; and three slabs in the British Museum show the representation of the king of Assyria crossing the Euphrates in this mode. Canoes are of common use on ferries; and two pieces of the bole of a palmyra tree, scooped out and blocked with clay at the end, and fastened together, are used in the Circars. The coracles of Tibet and all India are circular wicker baskets, six or eight feet in diameter, covered with green hides; when laden, they float lightly on the water, and, presenting but little obstruction to the current, are easily paddled. The wicker and leather coracle traverses most of the rivers in the Peninsula of India. The ferrymen on the Kistna river in the Peninsula are the Koli race, stalwart men. The Kili-katr or Maddakpore race are also Kabl-gira or ferrymen. See Boat.

CORA-CORA. See Java.

CORAH, also written Cora, the mercantile name of plain silk cloth undyed. Bandanna is the same article dyed. This word is derived from Bandhna, to tie, because in dyeing the materials, the portions to be left white are tied into knots. See Cora; also Cotton Piece-Goods.

CORAL.

Bussud,	ARAB.	Corale,	IT.
Ky-a-ve-khet,	BURM.	Corallium,	LAT.
Gulli,	DUKH.	Poalam; Karang,	MALAY.
Koraalen,	DUT.	Korallii,	RUS.
Corail,	FR.	Birbat; Vidruma,	SANSK.
Korallen,	GER.	Prabala,	,,
Ramuth,	HEB.	Bubalo,	SINGH.
Marjan, H.,	MALAY. PERS.	Pavalam,	TAM.
Munga,	HIND.	Pagadam,	TEL.

Coral, as seen in the market, is the calcareous cell of a mollusc, whose flesh has been removed. It is merely carbonate of lime secreted by species of polypi, its particles cemented together by a gelatinous secretion from these animals. Marsili, an Italian naturalist, thought coral to be a marine plant, and the polype animal its flower, and Dr. Parsons entertained similar views; hence the name zoophytes, or plant animals. The polypi which make the coral so much used for ornament and jewellery, are chiefly Antipathes glaberrima, Madrepora corymbosa, M. pocillifera, Gorgonia tuberculata, two species of Astræa, Leiopathes glaberrima, and L. Lamarckii. When still alive in the sea, the rough surface is seen dotted with red spots, and a minute examination detects thousands of the polypi or coral insects, each inhabiting permanently a little cell of its own. Many of the polypi or coral insects have a little parasol-shaped cover for the head; the arms are furnished with eight claws, are long compared with the body, and are generally seen extended as if searching for food. Some of the kinds of coral resemble gigantic plants, with flowers and leaves. Some grow like a tree with leafless branches, and others spread out, fan-like, into broad, flat surfaces.

Coral is in great abundance in the Red Sea, in the Persian and Arabian Gulfs, in various parts of the Mediterranean, at the Mauritius, on the coast of Sumatra, in Japan, etc. It is carried to China from all the islands of the Indian Archipelago in native vessels, and is there wrought into ornaments and official knobs or buttons. It sells from 40 to 60 dollars per pikul, according to the colour, density, and size of the fragments.

The red or precious coral, Corallium rubrum, is gathered from the rocky bottoms of the borders of the Mediterranean or its islands, and most

abundantly at 15 to 20 feet, though occurring at 1000 feet. There are independent coral fisheries on the coast of Southern Italy, off Ponza Island; off the Gulf of Gaeta; off Sicily, especially at Trapani, its western extremity; off Corsica and Sardinia, and the islands off Bonifacio; off Algeria, south of Sardinia, near Bona, Oran; off the Marseilles coast, and other places, which in 1853 afforded 80,000 pounds of coral. It is imported to some extent into India, where the most esteemed is the red coral. The pale, delicate pink colour is the most valued in England.

The *coral polypi* of the E. Indies, Red Sea, Zanzibar, and Central Pacific comprise genera of the Astræacea, Fungacea, Oculinacea, Madreporacea, Alcyonoids, Milleporæ, and Nulliporæ. In the Fiji Islands, Astræas and Mæaudrinas or brain corals, are abundant. Madrepores add flowering shrubbery of many kinds, besides large vases and spreading folia, some of these folia being over six feet in expanse. Mussæ and related species produce clumps of large flowers; Meruliuæ, Echinoporæ, Gemmiporæ, and Momiporæ form groups of gracefully infolded or spreading leaves; Pavoniæ, Pocilliporæ, Seriatoporæ, and Porites, branching tufts of a great variety of forms; Tubipores and Xerna, beds or masses of the most delicately-tinted pinks; Spongioidiæ, large pendent clusters of orange and crimson; and Fungiæ display their broad discs in the spaces among other kinds. It will suffice here to name the more beautiful of the coral polyps:—

Alveopora verriliana, *Dana*, Fiji.
Astræa pallida, *Dana*, Fiji.
Alcyonium, *sp.*
Anthelia lineata, *Stimpson*, Hong-Kong.
Cancrisocia expansa, *Stimpson*, China Seas.
Dendrophylla nigrescens, *Dana*, Fiji.
Fungi lacera, *V.*, Fiji.
Goniophora columna, *Dana*, Pacific.
Madrepora cribripora, *Dana*, Fiji.
Madrepora Formosa, *Dana*, Fiji.
Porites mordax, *Dana*, Fiji.
Telesto ramulosa, *V.*, Hong-Kong.
Xema elongata, *Dana*, Fiji.

Coral reef corals comprise species of the Astræa tribe, and all but two of the Fungia tribe.

Of the Oculina tribe, all of the Orbicellids and Pocilloporidæ, parts of the Oculinids, Stylasterides, Caryophyllids, Astrangids, and Stylophorids.

In the Madrepora tribe, all of the Madreporids and Poritids, many of the Dendrophylla family, or Eupasammids.

Among Alcyonoids, numerous species of the Alcyonum and Gorgonia, and some of the Pennatulacea.

Among Hydroids, the Millepores and Heliopores.

Among Algæ, many Nullipores and Corallines.

The corals of colder waters are mostly solitary polyps, either outside the coral reef seas, or at considerable depths within them, and comprise a few Fungids, some Oculinids, many Eupsammids, some of the Gorgona and Pennatula tribes, and a few of the Alcyonium tribe; a few Milleporids of the genus Pleobothros.

Coral Reefs are classed by most authors into lagoon islands or atolls, barrier or encircling reefs, and fringing or shore reefs.

The Atoll or Lagoon Reefs are vast rings of coral rock, often many leagues in diameter, here and there surmounted by a low verdant island, with dazzling white shores, bathed on the outside by the foaming breakers of the ocean, and on the inside surrounding a calm expanse of water, which, from reflection, is generally of a bright but pale green colour. These are raised by soft and almost gelatinous coral polypifers, which work on increasing the outer edge of the reef, which day and night is lashed by the breakers of an ocean never at rest.

Barrier Reefs are little less marvellous than atolls. In rare places, the whole of the part of the reef that is visible is converted into land; but more usually the barrier reef is shown by a snow-white line of breakers, with here and there an islet crowned by cocoanut trees, and separating the smooth waters of the lagoon-like channel from the waves of the open sea. There are many such outside the small islands in the Pacific Ocean, but the Barrier Reefs of Australia and New Caledonia have excited much attention from their great size.

Fringing Reefs or *Shore Reefs* differ from barrier reefs in not lying far off shore, and in not having within them a broad channel of deep water.

Darwin supposes that as the reef-building polypifers can flourish only at limited depths, the foundation on which the coral was primarily attached has subsided, alike in the case of the atoll as in that of the barrier reef.

Sometimes the barrier reef recedes from the shore, and forms wide channels or inland seas, where ships find ample room and depth of water, exposed, however, to the danger of hidden reefs. The reef on the north-east coast of Australia and New Caledonia extends 400 miles, at a distance varying from 30 to 60 miles from the shore, and having many fathoms of depth in the channel. West of the large Fiji Islands, the channel is in some parts 25 miles wide, and twelve to forty fathoms in depth. The sloop-of-war Peacock sailed along the west coast of both Viti Lebu and Vanna Lebu, within the inner reefs, a distance exceeding 200 miles. A barrier reef, enclosing a lagoon, is the general formation of the coral islands, though there are some of small size in which the lagoon is wanting. These are found in all stages of development; in some the reef is narrow and broken, forming a succession of narrow islets with openings into the lagoon; in others there only remains a depression of surface in the centre to indicate where the lagoon originally was. The most beautiful are those where the lagoon is completely enclosed, and rests within a quiet lake. Maraki, one of the Kingsmill group, is one of the prettiest coral islands of the Pacific. The line of vegetation is unbroken, and, seen from the mast-head, it lies like a garland thrown upon the waters. It is in the South Pacific Ocean that coral reefs and coral islands are seen in the greatest perfection. The largest known coral reef is the Great Barrier Reef, that runs for 1000 miles parallel to the coast of Australia, and at a distance from the shore of from 20 to 60 miles. The barrier reef of New Caledonia is 40 miles long.—*Dana, Corals and Coral Islands; Darwin, Naturalist's Voyage; Darwin, Structure of Coral Reefs; Gosse, Natural History; Macgillivray's Voyage; Figuier, Ocean World; Maury, Physical Geog.; Hartwig; Jansen; Collingwood.*

CORALLINACEÆ, a family of marine plants, belonging to the order Algæ. According to

Harvey's definition, it includes the Corallinæ and Spongiteæ of Kutzing, and the Corallinidæ and Nulliporidæ of Dr. Johnston. They secrete a dense skeleton of carbonate of lime.—*Eng. Cyc.*

CORAL PLANT, Jatropha multifida.

CORAL TREE, Erythrina Indica, one of a genus of tropical trees, with clusters of very large long flowers, which are usually of the brightest red, whence their name of coral trees. Moore, when describing the Indian islands, notices the

'Gay, sparkling loories, such as gleam between
The crimson flowers of the coral tree,
In the warm isles of India's sunny sea.'

Frequently their stems are defended by stiff prickles. Voigt (p. 237) notices E. aborescens of Nepal, E. ovalifolia of Bengal, E. Indica of India generally, E. stricta and E. suberosa of the western coast of India, E. sublobata of the Peninsula, and E. crista-galli has the same popular name.

CORALU. TEL. Millet.

CORAN or Al-Kuran, the sacred book of the Mahomedans. It was written in Arabic, but has been translated into Turkish, Persian, Tamil, Burmese, Chinese, and Malay, and into most of the European tongues. See Koran.

CORAWA, a homeless race in the Peninsula of India, engaged in mat-making and basket-making. There are several sections, the Tiling Corawa and Koonchi Corawa, etc. An ancient Dutch writer on Cochin speaks of its lower ranks, consisting of the Cannianol, who are astrologers; the Corwaa, or exorcisers of evil spirits; the Cuca Corwaa, snake charmers and diviners; and the Poenen Poeloon, who accompany them with tambourines or small drums. These four castes are in some measure distinct, but resemble each in their strict separation from other castes, in their unsettled mode of life, wandering from place to place, and earning their livelihood by exorcism, jugglery, snake-charming, etc., like the heathens in Europe, and in their independence, for they manage their own lawsuits, punish their own criminals, and are subject to no prince or raja. Another caste, he said, are the Mocquaa, who inhabit the sea-shores, and subsist by fishing, many of whom have become Romish Christians. See India; Korawa.

CORBAN. ARAB., HIND., PERS. The sacrifice; called in the Gospels, a gift. See Kurban; Sacrifice.

CORBYN, FREDERICK, a medical officer of the Bengal army, editor of the Indian Review; Indian Journal of Medical Science, Calcutta, 1838-1844; Author of the Science of National Defence with reference to India, Calcutta, 1844; Treatment of Cholera.

CORCHORUS, a genus of plants belonging to the Tiliaceæ or Linden tribe; the species in India are acutangulus, capsularis, fascicularis, humilis, olitorius, prostratus, and trilocularis.

CORCHORUS ACUTANGULUS. *Lam.*

C. fuscus, *Roxb.* | Tita-pat, ... BENG.

This annual of tropical Africa grows in Bengal and both Peninsulas. Its flowers are small, yellow, springing up about Rangoon in the rainy season, and mostly found growing along with urena, but not to the same extent. It is one of the jute plants, and affords a strong fine grey fibre.—*M'Cl.; Voigt.*

CORCHORUS CAPSULARIS. *Linn.* Jute.

Ghinalita-pat, . . BENG. | Heart-leaved corchorus, ENG.
Ta-ma; Ho-ma, . CHIN.

Cultivated in India and China as a fibrous plant, like C. olitorius. Jute is sown in good land, well ploughed and drained. It needs damp soil, but requires no irrigation. It is ripe in three, four, or five months, when the flowers turn into fruit capsules. Jute, like hemp, sown around cotton fields protects them from insects and caterpillars; 2000 lbs. to 7000 lbs. may be obtained from an acre. 100,000 tons were woven in Dundee in 1876, and 50 million gunny bags were exported from Britain in one year.—*Roxb.* ii. p. 581; *V. Mueller.*

CORCHORUS FASCICULARIS. *Roxb.*

Jangli-pat, . . . BENG. | Bil nalita, . . . BENG.

Grows in Hindustan, Bengal, and the Peninsula.—*Roxb.* ii. p. 582.

CORCHORUS OLITORIUS. *Linn.* Jute.

C. decem-angularis, *Roxb.*

Gania, . . . AMBOIN. | Kowria of . . CUTTACK.
Pat; Ban-pat, . . BENG. | Jew's mallow, . . ENG.
Bhunghi-pat; kooshta, ,, | Rami tsjua, . . MALAY.
Phet-wun, . . . BURM. | Putta, ... SANSK.
Oimoa, ... CHIN. | Parinta; Perintakura, TEL.

An annual plant. In Bengal there are two varieties,—the green (Pat, BENG.), the reddish (Bun-pat, BENG.); both are used for their fibres, which are called jute and pat, the jute of commerce. A coarse kind of cloth (tat) is woven from the jute, and affords the material for the well-known gunny bags. An infusion of the leaf is much employed as a fever drink among the natives of the Lower Provinces. It grows wild about Rangoon during the rainy season, though not to the extent that urena does. The leaves of this plant are used in Egypt as a pot herb, and under the name of Nurcha or Sag greens; they are in common use amongst the natives of India. Both C. capsularis and C. olitorius afford the jute of commerce, which, both in the raw and manufactured form, is exported from India. The plant is to be found everywhere under cultivation. Every farmer requires rope and twine, and so grows a little jute. The fibre is extracted similarly to that of the 'sunn' hemp. Mr. Le Franc of New Orleans constructed a machine for cleaning jute and other fibre plants. With it four men in a day produced a ton of fibre, and it leaves no butts or refuse.—*Roxb.* ii. 582; *Voigt; Jaffrey; Royle; M'Clelland; O'Sh.* p. 229; *Cuttack Local Committee.* See Jute.

CORCHORUS PYRIFORMIS. *Smith.* T'ang-ti, CHIN. A plant of China and Japan; fruit pear-shaped.

CORCHORUS TRILOCULARIS. *Linn.*

The plant—Ba-phalli, . H. | The seeds—Isband, HIND.

Grows wild in the Panjab; seeds are given in rheumatism; it is C. acutangulus, *Lam.*—*Stewart.*

CORDAGE.

Touw-werk, . . . DUT. | Caolame, ... IT.
Manœuvres, . . . FR. | Tali; Kalat; Utas, MALAY.
Tauwerk, . . . GER. | Cordaje; Jarcia, . . SP.
Dudah, ... GUJ. | Nar, ... TAM.
Rassi, ... HIND. | Daramu, ... TEL.

Cordage is the commercial term for cord or rope of every kind. Cordage of excellent quality is manufactured in India, and plants of Southern and Eastern Asia yielding fibre are as under:—

Abelmoschus esculentus, Vendee fibre.
A. ficulneus.
Abutilon Indicum, Toottee.
A. polyandrum.
A. tomentosum.

Acacia Arabica.
A. leucophlœa.
Æschynomene cannabina.
Agave Americana, Pita fibre or great aloe.
A. vivipara, Kathalay.
Ailantus Malabaricus, Poroo maram.—Inner bark.
Aloe Indica or A. vulgaris, Kuttally nar.
A. perfoliata, aloe fibre.
Ananassa sativa, pine-apple fibre.
Andropogon schœnanthus, Camachy pillo.
A. involutum.
Antiaris saccidora, Arengee.
Arundo donax.
Bauhinia racemosa.
B. diphylla.
B. Vahlii, Vepy tree bark.
B. tomentosa, Vellay atee nar.
Bignonia coronaria.
Boehmeria; several species.
Borassus flabelliformis, Palmyra fibre.
Butea frondosa.
Callicarpa lanata, Thondy nar.—Inner bark.
Calotropis gigantea, Ak, Mudar, Yercum.
C. procera.
Cannabis sativa, hemp.
Carex Indica.
Chamœrops Ritchiana, hemp palm.
Cordia obliqua, Pothooveroosen nar.
Crotalaria Burhia.
C. juncea, Sunn, Wuckoo nar, Canamboo.
C. tenuifolia.
Cocos nucifera, coir.
Corchorus olitorius, jute.
C. capsularis, jute.
Cyperus textilis, mat-grass, or Coaray.
Decaschistia crotonifolia.
Desmodium argenteum.
D. tiliæfolium.
Dæmia extensa, Ootrum.
Eriochlœna Candollii.
Eriodendron anfractuosum, bast.
Eriophorum comosum.
Erythrina Indica.
Ficus religiosa, Arasa nar.
F. racemosa, Atti nar.
F. Indica, Aulamaram nar, Aallen nar.
F. opositifolia, Bodda nar.
F. Mysorensis, Kul-aallun nar.—Not much used.
F. Roxburghii; F. venosa.
Fourcroya gigantea, Seemay Kathalay.
Girardinia Leschenaultiana, Neilgherry nettle.
Gossypium Indicum, Indian cotton.
G. acuminatum, Brazil cotton.
G. Barbadense, Peruvianum, religiosum.
Grewia Asiatica, bast.
G. oppositifolia.
G. tiliæfolia.
G. rotundifolia, Oonoo.—Moderate strength.
Guazuma tomentosa.
Hibiscus cannabinus, Polychay fibre.
H. macrophyllus.
H. sabdariffa, Roselle fibre.
H. vesicarius, wild ambara.
H. rosa Chinensis, shoe plant fibre.
H. vitifolia; H. lampas; H. macrophylla.
Isora corylifolia, Valumbrikai, Kywen nar.—The most valuable fibre in Travancore. The plant grows abundantly at the base of the hills. Fibre is from the stem.
Linum usitatissimum, flax.
Marsdenia Roylii.
Mimosa intsia, Eenjy nar.
Missiessya.
Musa paradisiaca, plantain fibre.
M. textilis, Manilla hemp.
Orthanthera viminea.
Pandanus odoratissimus, fragrant screw-pine.
Paritium macrophyllum.
P. tiliaceum.
Philadelphus, *sp.*
Phœnix acaulis.
P. dactylifera.
P. sylvestris.
Rhapis.
Saccharum spontaneum.
S. sara, Sara.
Sanseviera Zeylanica, Morghee or Marool.
Salmalia Malabarica, Elavum parooty.
Sesbania cannabina.
Sida populifolia.—Used for cordage, etc.
Strychnos potatorum, Kathaven nar.
Smilax ovalifolia, Krinkoddy nar.—Used for tying bundles, etc.
Sterculia guttata; S. ornata; S. ramosa; S. villosa.
Terminalia alata, Mooroothen nar. — Bark very strong, and lasts many years; used for dragging timber, cordage, etc. Common in the forests.
T. belerica, Umburothee nar.
Tylophora asthmatica, Koorinja.
Typha angustifolia.
Ulmis campestris.
Urtica heterophylla.
Vernonia anthelmintica, Caat seeragum.
Wikstræmia salicifolia.
Yucca gloriosa, Pita or Adam's needle.
Y. aloefolia.

The exports of cordage, excluding jute, from British India, were as under:—

1875–76, .	. 30,216	cwt.	Rs. 3,33,673
1876–77, .	. 24,193	,,	2,65,603
1877–78, .	. 46,087	,,	3,65,790
1878–79, .	. 32,812	,,	3,55,377

It still requires to be determined whether tanning or tarring is the better mode of preserving cordage in India, and whether a substitute for tar might not be discovered in some of the numerous resins and gum-elastics of Southern India.

CORDIACEÆ, an order of plants comprising the genera Cordia, Cordiopsis, and Erycibe. The chief species of Cordia known are, — angustifolia, cuneata, domestica, fulvosa, gerascanthus, grandis, latifolia, Leschenaultii, monoica, myxa, obliqua, orientalis, Perrotettii, polygama, prionodes, Rothii, sebestana, serrata, tectonæfolia, tomentosa, trichostemon, Wallichii. C. fragrantissima, *Kurz*, is of Burma; C. Nepalensis, *Wall.*, also occurs in Simla; C. obliqua, *Thw.*, is a tree of Ceylon; C. tomentosa is confined to the southern parts. In the Dehra and Kheree jungles is C. latora, *Ham.*, *Buch.*, perhaps only a variety of C. myxa, and a new species, C. incana. The bark of some of the Cordia, when young, may be found to yield a useful fibre.—*Voigt*, p. 441; *W. Ic.; M. E. J. Rep.; Royle, Ill. Him. Bot.*

CORDIA ANGUSTIFOLIA. *Roxb.*

C. reticulata, *Roxb.*	Narrow-leaved sepistan.
Gund; Goondi, . HIND.	Naruvalli, . . . TAM.
Gundni; Goondni, ,,	Chinna botuku, . TEL.
Liyar, ... SIND.	Nukkeru, . . . ,,

This tree grows from 30 to 40 feet high in Hurdwar, Gujerat, and the Dekhan; the wood is very tough, is used for carriage poles, posts, and in house-building, and is recommended for gun-stocks. It is common about villages in the Circars, but never seen in the jungles. Fruit the size of a large pea, round and smooth, the pulp yellow and gelatinous, edible, but tasteless.—*Roxb.; Royle; Riddell; Beddome; Voigt; Bird.*

CORDIA LATIFOLIA. *Roxb.* Sepistan.

Buhuari, ... BENG.	Pistan-sug, . . . PERS.
Buro buhooari, . ,,	Gedooroo, . . . SIND.
Burgoond; Vurgoond, GUJ.	Sheloo, ... SANSK.
Bhokur; Barra lesura, H.	Kicha virigi chettu, TEL.

The tree occurs in Gujerat, Hindustan, but is mostly confined to the southern parts of India. It has numerous spreading branches, and the young shoots are angular and smooth. Phaleeta or slow matches are made of the bark. The tree

is hardy and ornamental. The wood is very inferior, and of small size. The fruit is eaten. Under the name of sebesten plums, or sepistans, two Indian fruits have been employed as pectoral medicines, for which their mucilaginous qualities, combined with some astringency, have recommended them. They are believed to have been the Persea of Dioscorides, and this tree furnishes one of them. Linnæus applied the name of Sebestan to an American species of this genus, which is not known in medicine.—*Eng. Cyc.; Roxb.* i. p. 588; *Voigt; Irvine; O'Sh.; Wight; Royle; Elliot, Fl. Andh.*

CORDIA MACLEODII. *Hooker.*

C. monoica? | Hemigymma Macleodii.
Dhengun, . . . HIND.? | Dhyan; Deyngan,. HIND.

A tree of Jubbulpur, from which there was sent to the Exhibition of 1862 specimens of a remarkably beautiful wood, found in Mundla and Seonee, and also Central India. Its wood approaches teak in its properties.—*Cal. Catalogue*, 1862.

CORDIA MYXA. *Linn.* Lebuk of Avicenna.

Mochayet of Forskal. | Cordia domestica, *Roth.*
Prunus sebestana, *Pluk.* | Sebestana domestica, *Lam.*
Cornus sanguinea, *Forsk.* | S. myxa, *Commel.*
Cordia officinalis, *Lam.* | S. officinalis, *Gærtn.*

The Fruit.

Behuari, ... BENG. | Buhoorearuka, . . SANSK.
Tha nat, ... BURM. | Lolu, ... SINGH.
Bukhoor, ... DEC. | Vidi maram, . . TAM.
Sepistan plum tree, ENG. | Nakkeru; Iriki, . TEL.
Lasura, Gondni, . HIND. | Pedda botuku, . . ,,
Kendal, ... JAV. | Mookooroo karra, . ,,

A pretty large tree, a native of Egypt, Persia, Arabia, Ceylon, the forests of the Godavery, Hindustan, and Nepal. It grows wild in the Siwalik up to 4000 feet, and it is common throughout the Konkan, Pegu, and the Malay Peninsula. The trunk is from 8 to 12 or 15 feet high, generally crooked, but as thick as, or thicker than, a man's body, with numerous spreading branches bent in every possible direction, and forming a dense shady head. The wood is soft, and of little use except for fuel. In Sind, fuse is prepared from the grey cracked bark. It is reckoned one of the best kinds of wood for kindling fire by friction, and is thought to have furnished the wood from which the Egyptians constructed their mummy cases. The wood and bark are said by Dr. Royle to be accounted a mild tonic. Its dried fruit is the smaller sebestens or lobestens of European medicine; it is a yellow berry, with a strong, sweetish taste, and serves as a preserve; the mucilage of the fruit is demulcent. The root is said to be purgative. The larger fruit is called lasura, and the smaller variety lasuri; its seeds are the Chakoon ki binj, HIND., used in powder mixed with oil as an application in ringworm.—*Roxb.; O'Sh.; Stewart; Royle; Brandis; Riddell; Bird.; Powell; Eng. Cyc.; Fl. And.; Voigt; Thw.*

CORDIA OBLIQUA. *Willd.*

C. tomentosa, *Wall.* | C. domestica? *Roth.*
C. Wallichii, *G. Don.*
Gondni; Lasura, . HIND. | Selu; Naruvalli, . TAM.

This is a large, handsome tree, common in the lower provinces of India, with a small, round, reddish-coloured, pleasant-tasted, but glutinous fruit; furnishes a fibre, Pothooveroosen nar, of moderate strength.—*Ainslie*, p. 228.

CORDIA POLYGAMA. *Roxb.* i. p. 494.

Bottu kuru chettu, . TEL. | Pach-cha botuku, . TEL.

A strong, close-grained wood, small and crooked, found in the Circars.

CORDIA ROTHII. *Rœm. et Sch.* C. cuneata, *Heyne.*

Bokur, ... MAHR. | Narvilli maram, . . TAM.

Dr. Wight believes the wood is very inferior, the trees being usually small; and Dr. Gibson says that C. Rothii, C. fulvosa, and C. obliqua do not yield timber fit for anything but firewood. They are not uncommon in the Bombay forests, but are more generally met with near cultivated lands and villages.—*Roxb.* i. 591; *Wight; Gibson.*

CORDIA VESTITA. *H. f. et Th.*

C. incana, *Royle.* | Gynaion vestitum, *D. C.*
Kumbi of . . . . BEAS. | Karuk of . . . SUTLEJ.

A small tree of Garhwal, rare in the Siwalik tract, nearly as far as the Jhelum, and in the Salt Range to 3000 feet. Common in N.W. Provinces. The wood is valued for wheel-work. The fruit is eaten, and said to be sweet.—*Stewart; V. Mueller.*

CORDIA WALLICHII, *G. Don.*, C. tomentosa, *Wall.*, is a good-sized tree, tolerably common throughout the Madras western forests, also in Mysore and the Bombay Presidency. Technically it is hardly distinct from the common Cordia myxa, but the densely woolly leaves will distinguish it. The timber is serviceable, and in use with the natives.—*Beddome, Fl. Sylv.* p. 245.

CORDYCEPS SINENSIS. *Smith.* Hia-ts'au-tung-Ch'ung. This fungus, the Spæria of some writers, grows upon the head of a caterpillar, as a disease of the insect; supposed to be a species of Hepialus. It is said to be common in Southern Tibet; it occurs in Sze-chuen, Hu-kwang, Hu-peh, and Hu-nan. It is reported to be as good as ginseng, and to be worth four times its weight of silver.—*Smith.*

CORDYLES, the Zonuridæ family of the lizards or sauria. See Reptiles.

CORDYLIA PALMARUM, the grub of the palm weevil; is eaten roasted in the West Indies. It is the size of the thumb.

CORDYLINE BANKSII. *J. D. Hooker.* The long-leaved palm lily of New Zealand. Its leaves furnish a superior fibre for ropes. C. Baueri, *J. D. Hooker*, of Norfolk Island, rises 40 feet high; and C. indivisa, *Kunth*, of New Zealand, also furnishes the toi fibres.

COREA or Korea, the Kaoli of the Chinese, called Chaou Seen by the natives. Corea is a kingdom in a large peninsula, stretching from lat. 42° 19′ N., southwards to the Straits of Corea, area 91,000 square miles.

The peninsula of Corea bears a strong resemblance in its physical aspects to Italy. An axial range of mountains runs close to and parallel with the east coast; the rivers which flow westward from it, and fall into the China Sea, being of considerable length, and those that flow eastward into the Sea of Japan, small and unimportant. Regarding the west coast but little is known. It is for the most part a flat and uninteresting coast, inhabited by a class of people reported to be rude and inhospitable, and dangerous to navigation on account of rapids and high tides. The east coast, on the contrary, is a magnificently wooded series of mountain spurs, running down from the axial range of the country close to the water's edge, and

visible many miles at sea. It is conterminous with the coast of Russian Tartary, and has been accurately surveyed again and again by Russian men-of-war. The whole coast is one grand succession of hills and mountains, forest-clad at their summits, and covered on their lower slopes with a jungle of dwarf oaks, creepers, stunted pines, and a dense undergrowth of shrubs and grasses of every variety. Tigers abound, and pits to catch them may be seen close to the villages with which every valley is studded.

Corea is an independent state, perfectly sovereign within her own borders, with a peaceful and industrious population, who desire nothing better than that they be left alone to earn their own bread in their own way. The hills which cover the east of the country are given over to wild beasts, it is true; but wherever cultivation by simple methods is possible, there it swarms with millions of people, and there is no reason to believe that they are not perfectly satisfied with themselves, their rulers, and their country.

The Coreans are in physique the finest people in Eastern Asia, and in bearing much more manly than it is the fashion to represent them, but they are as a nation absolutely unarmed. They have lived in such complete seclusion, that they are frightened with strange sounds and sights even, although this is the timidity of ignorance, not of a craven spirit.

Although Corea is thus described as an independent sovereign state, in the sense that her municipal laws, her executive, the succession to her throne, and the treaty relations she has entered into with Japan, are purely of her own creation, she is in another sense a feudatory of China. The services which she performs, whatever may have been their origin, are now-a-days performed from sentimental, not political motives, and her title to the sovereignty she possesses is not based on their due performance. To speak strictly, they consist of a formal recognition by the emperor of China of each successive king, and the despatch to Pekin at stated intervals of a mission bearing tribute. Its border on Russian territory has been surveyed. It is the most easterly part of the Asiatic continent, and is separated from the Chinese empire by the Than-pe-chang or Pe-theu-shan, the white-headed mountains, a formidable range. The native prior race are of Mongoloid origin, but the mercantile population are said to belong to the Indo-European race. The native race averages 5½ feet, have a wheaten-yellow colour, prominent cheek-bones, heavy jaw, flat and crushed root of nose, wide nostrils, rather large mouth, thick lips, oblique eyes, coarse, thick, blackish hair, frequently tinged with red, thick eyebrows, thin beard. They have a tradition that they sprang from a black cow on the shores of the Japan Sea. It has innumerable islands on its W., S., and E. coasts, the largest being Kang-wha on the west, Quelpart on the south, and Ollongto on the east. Quelpart mountains rise to 6600 feet above the sea. The total inhabitants of the peninsula and islands are estimated at 16 millions. Some of the mountains rise to 10,000 feet above the sea. The capital and residence of its kings is Saoul, with 100,000 to 150,000 inhabitants. The higher classes have a tendency to the Turanian physical type, as with the Japanese and those of Siberia. They are polygamic, and purchase their wives. Their women are secluded. The dead are buried in wooden coffins, or wrapped in sheets. Rice is the chief article of diet; they eat largely, and drink much alcoholic fluid; are fond of music, honest, good-natured.—*Ernest Offert's Forbidden Land; Yule, Cathay*, ii. 268.

CORGE. Twenty pieces of cloth.

CORIANDER SEED.

Kezirah, ...	ARAB.	Coriandri semina, .	LAT.
Nan nan, ...	BURM.	Meti; Katumbar,	MALEAL.
Cottimbiry, . . .	CAN.	Kushniz; Kitnuz, .	PERS.
Shih-lo, ...	CHIN.	Coentro, ...	PORT.
Siau-hwei-hiang, .	,,	Dhanyaka, . .	SANSK.
Coriandre, ...	FR.	Kotambaru, . .	SINGH.
Koriander saamen,	GER.	Cilantro, ...	SP.
Korion, ...	GR.	Cottamalli, . . .	TAM.
Gad, ...	HEB.	Dhanialu vittulu, .	TEL.
Dhannia; Dhunia,	HIND.	Kotimiri, ...	TIB.
Coriandro, ...	IT.		

This is the fruit or seed of the annual plant, Coriandrum sativum, cultivated in the East and in Europe, and procurable in all Indian bazars. When fresh, their smell is strong and disagreeable, but by drying it becomes sufficiently grateful. They are used as an ingredient in curries in India, and medicinally as a stimulant and stomachic. In Europe, coriander seed is chiefly used by distillers to produce an aromatic oil. The quantity imported annually into Britain is about fifty tons, and sells at 24s. the cwt.—*M. E. J. R.; Simmonds; M'C.; Birdwood; Waring.*

CORIANDRUM SATIVUM. *Linn.* The coriander plant is found in the cornfields of Tartary, the Levant, Greece, Italy, and south of Europe, and it is grown in every part of Southern Asia, where the leaves are used by the natives for chatnis and curries; the fruits being also carminative and aromatic, are used in decoction, in sweetmeats, in certain stomachic liqueurs, and in some countries in cookery; they are little esteemed in England. During the unripe state, the odour resembles that of bugs, but this changes rapidly as ripening proceeds. Fee derives Coriandrum from κορις, a bug.—*O'Sh.; Roxb.; Voigt; Lindley.*

CORIARIA MYRTIFOLIA, *Linn.*, is used in tanning leather, and also for staining black. It is worth £9 to £10 per ton.

CORIARIA NEPALENSIS. *Wall.*

Ratsahara, Armura,	BEAS.	Balel, Tadrelu,	KANGRA.
Phapar-chor, . .	,,	Balel, ...	KASHMIR.
Shalu, Baulu, .	CHENAB.	Kande, Shala, Rau,	RAVI.
Guch, ...	HIND.	Archalwa, . .	SUTLEJ.
Mussorie, Majuri,	,,	Shere, Lichakro,	,,

Grows all along the Himalaya, from 5000 to 7000 feet, and, from its abundance, has bestowed its name on Mussoori hill station. The fruit formed by the junction of several pistils is eaten in the hills, although that of the European species is poisonous, inducing narcotism and tetanus.—*O'Sh.; Clegh.; Stewart; Voigt; Royle; Powell, Handbook*, i. p. 336.

CORINGA, a town at the northern mouth of the Godavery river, on a branch generally called the Coringa river. It is a seaport town, where ships are built, and is in a bay from off the Bay of Bengal; population, 5649. The district has been repeatedly inundated. In May 1787, after a long and very violent gale from the northward, the sea rushed over the site of the town, and in a moment destroyed nearly the whole of the people, 4000 in number. A similar catastrophe occurred in 1837, when 15,000 people and 100,000 head of

cattle were destroyed; and the ships in the bay and on the stocks were swept far inland. It is 9 miles S.W. of Cocanada, in lat. 16° 48′ 25″ N., and long. 82° 16′ 20″ E. It is the only harbour between Trincomalee and Calcutta where ships can be docked.

CORK.

Shuh-tsze, . . . CHIN.	Sampal; Sumbat, MALAY.
Kork, Vlothout, DUT., GER.	Cortica (de Sovreiro), PORT.
Liége, ... FR.	Korkowoe; Derewo, RUS.
Bhuj, ... HIND.	Corcho, ... SP.
Sughero, Suvero, . . IT.	Karka, ... TAM.
Suber, ... LAT.	Birada, ... TEL.

Cork is the outer bark of Quercus suber, an evergreen oak growing in Portugal, Italy, the south of France, Corsica, and in Spain throughout the whole extent of the Tierra Caliente, but most abundant in Catalonia and Valencia, whence the principal exports have been made. This substance is developed on other plants, but on none in so large quantity as in the Quercus suber. It is light, porous, compressible, and elastic, and many articles are cut out of it. As soon as the bark dies, it falls off in flakes, which correspond to the layers that are formed annually. These outer layers the Spaniards collect; the inner living bark should be spared. In Corsica and Spain, where the tree is abundant, this bark is removed for tanning, and contains twice as much tannin as oak-bark of average quality. The tannin appears to resemble that of catechu; it affords scarcely any bloom, and gives a dark colour to the leather. At the Madras Exhibition of 1855, two specimens of a cork-like substance were exhibited, one good, from the 'Western Coast Jungles,' and another inferior, from Coimbatore; the trees producing the samples were not mentioned. The deeply cracked spongy bark of the Bignonia suberosa, the country cork tree, yields an inferior kind of cork.—*M. E. J. R.; Eng. Cyc.; M'C. Dict. of Com.; Royle, Arts and Manufactures*, p. 484.

CORK TREE of China. *Smith.* Fan-Sha, CHIN. Its bark resembles that of Quercus suber.

CORMORANT. Salach, HEB. Cormorants are trained in great numbers, in the eastern Chinese provinces, to capture fish, and are sometimes under such good order that they will disperse at a given signal, and return with their prey without the precaution of a neck-ring. A single boatman can easily oversee twelve or fifteen of these birds; and although hundreds may be out upon the water, each one knows its own master. If one seize a fish too heavy for it alone, another comes to his assistance, and the two carry it aboard. The birds themselves are fed on bean-curd, and eels or fish. They lay eggs when three years old, which are often hatched under barn-yard hens, and the chickens fed with eels' blood and hash. They do not fish during the summer months. The price of a pair varies from 5 to 8 dollars. See Fisheries.

CORN.

Korn, . . . DAN., GER.	Butir, Biji, . . MALAY.
Kraanen, Goren, . DUT.	Zboze, ... POL.
Bleds, ... FR.	Graos, ... PORT.
Getreide, ... GER.	Chljeb, ... RUS.
Anaj, . . . HIND., PERS.	Granos, ... SP.
Biade, Grani, . . . IT.	Sad, Spanmal, . . SW.
Frumentum, . . . LAT.	

The grain or seed of cereal plants used as food; wheat, barley, oats.—*Faulkner; M'Cull.*

CORNELIAN.

Achaat, ... DUT.	Agata, ... IT.
Agate, ... FR.	Achates, ... LAT.
Achat, ... GER.	Agat, ... RUS.

A quartzose mineral, found in great abundance in India; classed as one of the inferior gems, and largely cut at Cambay from stones collected from the drift of the Rajpipla range. Shafts are sunk to the stratum containing the minerals. These are burnt to bring out the colours, and are cut into paper-weights, knife handles, miniature-sized cups and saucers, tables for snuff-boxes, sets of brooches, necklaces, and bracelets, pins, buttons, and studs. A field gun, with all its appointments, is one of the finest ornamental pieces of Cambay stone work; they sell for from Rs. 40 to 50. The polish of Cambay stones is not such as pleases the eye of the European lapidary; yet they are so cheap, they might be expected to become a considerable article of commerce, and might be built up into mosaics for work-tables, into chess-boards, and other elegant articles of furniture,—the chief part of the work being performed here, where labour is cheap, the final finish being given in Europe. The Cambay agates equal the finest Scottish pebbles in beauty; they generally exceed them in size, and may be had for a mere fraction of the price.

In 1844 their exports amounted in value to Rs. 93,478, and in 1845 to Rs. 88,849. See Arts; Cambay.

CORNICULARIA JUBATA. *Ach.* The Kek-kieo of the Burmese; an edible cryptogam of Ramree.

CORNUS, a genus of large trees and shrubs of the Cornaceæ or dogwood tribe. C. oblonga occurs in the Dehra Doon, C. macrophylla and C. nervosa in Mussoori, and C. capitata, *Wall.* (Benthamia fragifera, *Lindl.*), at a still higher elevation. The fruit of Benthamia is eaten in the hills, and from the seeds of some species an oil is expressed. Wight figures C. altera, C. sylvestris, and C. Zeylanica. The bark of the C. florida and C. sericea are said to be most excellent tonics.—*Drs. Riddell, O'Sh., Wight.*

CORNUS MACROPHYLLA. *Wall.*

Dogwood, ... ENG.	Kasir, ... PANJ.
Kandar, . . . HIND.	Kagshi, ... ,,
Kandra; Kandru, . ,,	Haleo; Harin; Hadu, ,,
Kaksh, ... ,,	Harrin, Nang, . . ,,

This is found in the Sutlej valley between Rampur and Sungnam, and in many parts of the Panjab Himalaya, at an elevation of 7000 feet. Its fruit is edible, and goats feed on the leaves; and the wood hard, but small, is made into charcoal employed in the manufacture of gunpowder.—*Drs. Stewart, Cleghorn, Panjab Report.*

CORNUS OBLONGA. *Wallich.*

Ban-kukur, . . JHELUM.	Bakar, . . CIS-SUTLEJ.

A smallish tree in the outer hills in the east of the Panjab, sparingly in the Siwalik tract; occasionally to 4000 feet up to near the Indus; timber of no special use.—*J. L. Stewart, M.D.*

CORNUS OFFICINALIS. *Smith.*

Shan-cha-yo, . . CHIN.	The fruit—Jau-tsau, CHIN.

The Cornelian cherry is a prickly shrub of Japan, Kiang-su, Shen-si, and Shan-tung. The flowers are white. The red drupes contain a good deal of oil; they are dried and sold.—*Smith.*

CORNUS SINENSIS, *Smith*, Cornelian cherry, the Hu-t'ui-tsz of China, resembles C. mascula. It

has white flowers; slender, supple branches, with long pointed leaves, downy on the under surface. Its fruits are astringent, and leaves used in coughs.—*Smith.*

CORNWALLIS, CHARLES, MARQUIS, was twice Governor-General and Commander-in-Chief in India. He served successfully in Ireland, but subsequently in America with great disasters. He was sent out by Mr. Pitt to India, and the Act of Parliament of 1784 and 1786 was passed to give him supreme power. He arrived in Calcutta on the 12th September 1786, and re-embarked on the 10th October 1793. During this period the second war with Mysore occurred. He was the first to bring about unity of action between the Indian and Home Government, and the first to recognise the duty of paying Indian servants well, and to abolish all distinctions between the King's and Company's military officers. In 1788 he received power to bestow local commissions on the latter. His care was directed alike to financial and administrative measures, but also to the moral and social condition of the Anglo-Indian community; and in 1793 he issued regulations which for 38 years formed the basis of the administration of justice in India, and were changed only in 1831 during Lord William Bentinck's administration. He gave effect to the long-discussed subject of perpetual settlement under a zamindar class, a system which has since been greatly condemned. In 1793 he went from India to Ireland. He received the title of Marquis, and returned to India on the 30th July 1805, from which date, till his death at Ghazipur on the 5th October 1805, he was a second time Governor-General. A monument was erected to his memory at Ghazipur, and a statue at Madras.

COROMANDEL, with Europeans a geographical designation of the coast-line in the south of the Peninsula of India washed by the Bay of Bengal. It extends from Point Calimere to near the mouth of the Kistna river. Its revenue districts are Tanjore, S. Arcot, Chingleput, N. Arcot, and Nellore. The name is not known to the people, and has been supposed to have its origin from the village of Coromandel, on the Pulicat marine lagoon north of Madras, and to give its name to the entire eastern coast of the Peninsula. It has also been derived from Cholamandala, which Paolini the Carmelite explained to mean the middle country, but which scholars interpret as the dominion of the Chola race, one of three Hindu dynasties who anciently held the Tamil country in the south. It is not impossible, however, that the general name has been connected with this particular village of Kurr-mandlum, TAM., meaning 'Black Sand.' It is on the sea bank of the Pulicat lake, about 35 miles north of Madras, and formerly held by the Dutch. It is in the Chingleput district, in lat. 13° 26′ 10″ N., long. 80° 20′ 36″ E. Population, 3050 in 1871. See Chola-Mandaloor.

COROMANDEL WOOD is the produce of the Diospyros hirsuta, a Ceylon tree of great size, having a dingy ground, and sometimes running into white streaks. The figure is between that of rosewood and zebra-wood; the colour of the ground is usually of a red hazel-brown, described also as chocolate brown, with black stripes and marks. It is hard, but veneer saws cut it without particular difficulty; it is a very handsome furniture wood, and turns well. Mr. Layard says there are three varieties,—the Calamander or Coromandel, which is the darkest, and the most commonly seen in England; the Calemberri, which is lighter-coloured, and striped; and the Omander, the ground of which is as light as English yew, but of a redder cast, with a few slight veins and marks of darker tints. He says the wood is scarce, and limited to Ceylon; that it grows between the clefts of rocks; this renders it difficult to extract the roots, which are the most beautiful part of the trees. Its names are corruptions of two Singhalese words, Kalu mederiye.—*Faulkner; Mendis; Tredgold; Holtzapfel; Fergusson.*

COROSOS, or Ivory Nut, is produced by the Phytelephas macrocarpa, growing in Central America and Columbia (Humboldt). The tree is a genus allied to the Pandaneæ, or screw-pines, and also to the palms. They are seeds with osseous albumen. The nuts are of irregular shape, from one to two inches diameter, and when enclosed in their thin husks they resemble small potatoes covered with light-brown earth; the coat of the nut itself is of a darker brown, with a few loose filaments folded upon it. The internal substance of the ivory nut resembles white wax rather than ivory. It has, when dried, a faint and somewhat transparent tint between yellow and blue; but when opened, it is often almost grey from the quantity of moisture it contains, and in losing which it contracts considerably. Each nut has a hole which leads into a small central angular cavity; this, joined to the irregularity of the external form, limits the purposes to which they are applied, principally the knobs of walking-sticks, and a few other small works. It might be introduced into India.—*Holtzapfel.*

COROXYLON GRIFFITHII. Soda is made from this plant by burning and levigating; three kinds are recognised,—Choa-sajji, the purest; Hat'ha-sajji, second sort; K'hara-sajji, third sort.

CORPULENCE is a state of body very frequently seen amongst the richer of the Hindus. A tabular statement, taken from a mean average of 2648 healthy Englishmen, was formed and arranged for an insurance company by the late Dr. John Hutchinson. His calculations were made upon the volume of air passing in and out of the lungs, and this was his guide as to how far the various organs of the body were in health, and the lungs in particular. It may be viewed as an average, some in health weighing more by many pounds than others:

5 ft. 1 in.,	120 lbs.	5 ft. 7 in.,	148 lbs.
5 ,, 2 ,,	126 ,,	5 ,, 8 ,,	155 ,,
5 ,, 3 ,,	133 ,,	5 ,, 9 ,,	162 ,,
5 ,, 4 ,,	136 ,,	5 ,,10 ,,	169 ,,
5 ,, 5 ,,	142 ,,	5 ,,11 ,,	174 ,,
5 ,, 6 ,,	145 ,,	6 ,, 0 ,,	178 ,,

CORREA. Shortly after the occupation of Malacca by the Portuguese, Antonio Correa was sent to Pegu, with the object of opening a trade with Burma.

CORREA, GASPAR, author of the Lendas da India, 4 vols. 4to, the oldest historian of the Portuguese in India; written 1561 (printed at Lisbon 1858-1864), from Vasco da Gama's voyage in 1497 to the government of Jorge Cabral in 1550.

CORROBORY, a dance amongst Australian

natives, in which the performers, with shields in their hands, circle round a fire.—*Am. Ex.* p. 247.

CORROSIVE SUBLIMATE.

Peh-kiang-tan, . . CHIN.	Bichlorure de mercure, FR.
Peh-kiang, . . . ,,	Rascapur, . . . HIND.
Doppelt Chlorqueck-silber, ... DUT.	Hydrargiri bi-chloridum, ... LAT.
Bichloride of mercury, ENG.	Dar-chigna, . . . PANJ.
Sublime corrosif, . FR.	

This is largely made in India, but in an imperfect manner, and used in native medicine. Some very fine specimens were shown at the Panjab Exhibition from Amritsar and Lahore.—*Powell.* See Mercury; Rascapur.

CORSICAN MOSS. See Edible Seaweed; Fucus.

CORTES. Hernan Cortes, a Spanish navigator, who, in A.D. 1528, endeavoured to follow up the discoveries of Magellan. He took possession of the Marianas or Ladrone Islands, but, with all the members of his expedition, fell victims to the climate and the hostility of the Portuguese.

CORTINARIUS EMODENSIS, *Berkley*, and also C. violaceus, *Fr.*, are large mushrooms, the Onglan of the Tibetans and the Yungla t'schamo of the Bhot, a favourite article of food.—*Hook. Him. Journ.* ii. p. 47.

CORUNDUM.

Kin-kang-shih, . . CHIN.	Samada, . . . GUJ.
Adamantine spar, . ENG.	Kurund, . . . HIND.

Several substances, differing considerably in colour and sometimes in form, but nearly agreeing in composition, are classed together under the name of kurundu by the natives of India. This mineral is, with the exception of the diamond, the hardest substance known. It is generally of a pale grey or greenish colour, but sometimes of red and brown tints. It is found in India, China, and in some parts of Europe. The Indian variety is whiter than the Chinese, and is considered the purer. In India, diamond dust is very rarely used in polishing gems, marbles, and metals, corundum being the chief material employed. This mineral is found in granite, or the detritus of granite rocks in the Mysore country and in the neighbourhood of the S.W. Ghats. Though excessively hard, it is by no means tough,—it flies in pieces after a few strokes of the hammer, and is easily pulverized in a mortar. The natives generally powder it on an anvil or stone, keeping it from flying about by a collar of cotton rope. The fine particles are separated from the coarse by sifting; the European process of lixiviation is not seemingly resorted to. For sharpening swords or burnishing metals, it is generally used like a whetstone or burnisher; for polishing gems, it is either made up into a cake with lac, or into a paste with oil or grease. It is never employed for the manufacture of emery paper or anything resembling it. For polishing marble or other stone, it is used in two forms, viz. that of a cake of about eight inches long, three across, and two deep. This is used by an individual in the hand. For heavier purposes, a cake a foot square or so is employed, placed in a frame. Two men work at this, and the reducing process is very rapidly accomplished by it; it is in fact a file with a lac body and corundum teeth.

The corundums of the Madras Presidency are well known to the people, who use them in mass or mixed in lac; they are used by cutlers, etc., in the form of discs for laps, or wheel grindstones; also, in the form of whets, and hones, and ragstones, for sharpening the finer and coarser cutting implements used by farriers, etc. The first specimens sent to Europe were forwarded by Dr. James Anderson to Mr. Berry, a lapidary in Edinburgh, as the substance used by the people of India to polish masses of stone, crystal, and all gems, except the diamond, and it was then examined by Dr. Black, who named it adamantine spar.

The sites where corundum occur are—

Nammaul, Viralimodos.—On the north bank of the Cauvery, in the Permutty taluk.—*Newbold.*
Sholasigamany (probably Scholaserameny).
Trichingode taluk, near the village in a low hill, in great abundance.—*Newbold.*
Caronel, Aupore, Mallapollye, and at various localities up the river Cauvery as far as Corcorambodi in Permutty, where it is dug by the natives in the fields, and remains of many ancient excavations are to be traced.—*Newbold.*
Gopaulchetty pollium, 50 miles north of Salem.
Yalanerry.
Coundapady.
French Rocks.—*Captain Loudon.*
Golhushully, in the division of Nooghully.—*Newbold.*
Kulkairi, in the division of Chinrayapatam.
Burkunhulli, in the division of Chinrayapatam.—*Newb.*
Kundeo, in the division of Chinrayapatam.—*Newbold.*
Yedgunkul, in the division of Chinrayapatam.—*Newbold.*
Norhik, in the division of Narsipur.—*Newbold.*
Deysani Carbonhully, in the division of Banawaram.
Appianhully, in the division of Harnally.—*Newbold.*
Nullapardy, on the road to Bangalore, Mysore.
Mundium, in the Astagram division.
Cuddoor, in the Nuggur division.
Nuggur, in the Nuggur division.

It occurs also at Gudjelhutty in Coimbatore, at the Tapoor Ghat in Salem, at Chennimully in Coimbatore, and in Cuttack. At Namaul and at Viralimodos on the north bank of the Cauvery; in the Permutty taluk, Salem district, it occurs embedded in gneiss and a greyish earth, resulting in part from the disintegration of that rock. It is found in great abundance in a low hill near the village of Sholasigamany, Trichingode taluk, Caronel, Aupore, Mallapollye, and at various localities up the river Cauvery, as far as Corcorambodi, where it is dug for by the natives in the fields; and there are the remains of many ancient excavations still to be traced. The caste usually employed in collecting it is the Vittaver. At the Madras Exhibition of 1855, Mr. Rohde exhibited specimens from Guntur, and remarked of them that experienced jewellers would pick out stones suited for common jewellery from it, and the refuse cannot be worth less than £15 and £20 a ton at home. From Hyderabad was received a very excellent sample of picked stones, possessing an irregularly crystalline structure. Professor Thomson mentions (Mineralogy, i. 213) that fibrolite is found accompanying crystals of corundum in the Karnatic, and that it is a component part of the granite which is the matrix of the corundum of China. Professor Jameson, in his Geognosy of Peninsular India (Ed. Cab. Lib. No. viii. p. 349-50), states that the corundum of Southern India occurs embedded in granite and sienite in the district of Salem, in the Madras Presidency, associated with Cleavelandite, Indianite, and fibrolite; but near Gram at Golhushully and Kulkairi, at which good corundum is obtained, the mineral occurs in decomposed beds of a talcose slate, to which gneiss is subordinate, associated with nodules of indurated talc, and of a poor quartzy iron ore; asbestos, chlorite, actinolite, and schorl were

found in the talcose slate. Newbold mentions that in the Salem district, also, this mineral occurs embedded in gneiss and a greyish earth, resulting in part from the disintegration of that rock. Rubies, sapphires, emeralds, and topaz have from time to time been discovered in many of the corundum localities just enumerated, associated with this mineral, particularly in the gneiss at Viralimodos and Sholasiramany in the Trichingode taluk and at Mallapollye, though, comparatively speaking, rare. The formation around Gram is gneiss associated with protogene. Proceeding from it in a westerly direction, the northern shoulder of the insulated range, south of the village of Belladaira, running nearly north and south, is crossed, and the soil suddenly changes from a light sandy colour to a deep red. The surface of this soil is covered with fragments of a ferro-silicious schist, with quartz in alternate layers. The natives have a tradition that gold was formerly got from this hill, which is not at all improbable, as it is found in similar gangue near Baitmungalum. The corundum mines of Golhushully lie four or five miles north-east of this place, and those of Kulkairi about a mile farther. The surrounding country is a succession of smooth, slightly convex plains, except to the south-east, where the gneiss rises above the soil in a rocky ridge, terminating in a knoll about 700 yards to the east by south of the mines, to which it descends, rising again into a slope to west north-west of the mines, on which lie fragments of a light brown compact quartzy iron ore. Nearly at the bottom of this stone are the mines, from which the ground descends on both sides to the north-west to a tank, and towards the south-east to the village of Golhushully, about a mile distant.

The chert and a dark-red ferruginous jasper are used by the natives as flints. Salt springs occur in the vicinity. The wells about Gram are both sweet and brackish within a short distance, and a fragment of rock-salt was found in the green earth of the mine. A little to the east of Kulkairi is a low plain nearly covered with a white travertine, partly compact, partly cellular, resembling that found in the bed of the Cauvery at Seringapatam. The corundum mines at Kulkairi are situated both near the summit and at the foot of the excavations of the rising ground there. There are a series of excavations varying from two to twelve feet in depth, sunk perpendicularly though similar strata to those just described. The corundum is thrown out, cleared, and separated by the miners into four classes, viz. the red, the white, the scraps of both, and the refuse. The three first form the article of commerce.

The corundum of Battagammana is frequently found in large six-sided prisms, is commonly of a brown colour, whence it is called by the natives Curundu galle, cinnamon stone; occasionally it is to be met with partially or entirely covered with a black crust, and is merely the stone with an unusual proportion of iron.

Corundum is found about eight miles S. from Sahapur, in the Singraula territory, about 120 miles from Mirzapore. It is found in masses as large as a man's head, on a ridge.

Common corundum occurs, like the sapphire and ruby, commonly in the secondary form of six-sided prisms, but usually much larger. It is sometimes nearly colourless, and rather translucent; it presents great variety, greyish, occasionally brown or red, rarely blue. It occurs also in acute and obtuse double six-sided pyramids.

Corundum pebbles are found in the gem-sand of Ava river.

Prismatic corundum, or chrysoberyl, is found among the Tora hills near Rajmahal, on the Bunas in irregular rolled pieces, small, and generally of a light green colour; these stones are considered by the natives as emeralds, and pass under the name of punna, but they are aware that they are softer than the real emerald.—*Dana, Engl. Cyc.; Edward Balfour, Report for* 1856 *on the Government Central Museum, Madras; M. E. Jur. Rep.; Dr. Mason; Captain Newbold; Irvine, Gen. Med. Top. of Ajmir; Jameson, Ed. Journ.* ii. 1820, p. 305.

CORUNGA MUNJI-MARAM. TAM. Rottlera tinctoria.

CORUTTI. TAM. Tricosanthes palmata.

CORVIDÆ, the crow family of birds, sub-fam. Corvinæ, crows, magpies, nutcrackers. Corvus culminatus, corone, corax, splendens, intermedius, Tibetanus, tenuirostris, and frugilegus, occur in India. The genus corvus has no representative in all South America, nor in New Zealand, nor in the numerous archipelagoes of the Pacific, and there is one species only in Australia. Corvus corax, the raven, takes the circuit of the northern regions; rare in N. Africa, Panjab, Kashmir, Afghanistan. The true raven is pre-eminently a bird of the coldest climates; though a few occur so far southward as in the Barbary States, in America so low as in the Carolinas, and in India proper within the Panjab only. The raven, remarks Sir John Ross, is one of the few birds that are capable of braving the severity of an arctic winter. In the fearful cold of a northern Siberian winter, Von Wrangell says, the raven still cleaves the icy air with slow and heavy wing, leaving behind him a long line of thin vapour, marking the track of his solitary flight. The Tibetan raven is considered as a peculiar species by Mr. Hodgson, an opinion to which the Prince of Canino seems to incline; it may be presumed to inhabit the lofty mountains of Bhutan to the north. The smaller crow of Southern Asia is the C. splendens; the common black crow of all India is C. culminatus. The true rook, C. frugilegus, is known to visit the Peshawur valley, Afghanistan, Kashmir (the rook of China and Japan being considered a distinct species, C. pastinator of Gould); and the jackdaw, C. monedula, accompanies it in those countries. C. advena is a rare black and white crow, occurs along with Cittura cyanotes, the forest kingfisher of Celebes. C. corone is the carrion crow of Europe, Afghanistan, Japan; C. cornix, hooded crow of Europe, Asia Minor, Afghanistan, Japan (*Temminck*), Barbary; C. monedula, the jackdaw of Europe, Siberia, Barbary, W. Asia, Peshawur valley, Kashmir. A nutcracker and a magpie occur in the Himalaya.

CORVINUS, a genus of fishes, several species of which, C. bola, C. chaptis, and C. coitor, furnish isinglass. C. bola, *M'Clell.*, Bolo chaptis, *Buch.*, furnished the isinglass which Mr. O'Riley sent to Calcutta from Amherst. It is closely allied to C. niger, but of monstrous dimensions compared with the European species. The jawbone of this fish is described as Boalee.—*Mason; M'Clelland.*

CORYATE, THOMAS, a native of Britain, a

most singular traveller. After publishing, in 1611, his most laughable travels, styled Coryate, His Crudities, prefaced by above forty copies of verses by the waggish wits of the time (amongst which is one in the ancient British language), he set out on his greater travels, and seems to have been buried at the port of Swally, near Surat, in December 1617.—*Pennant's Hindoostan*, i. p. 73.

CORYDALIS AMBIGUA. *Smith.*

Yen-hu-soh, . . CHIN. | Hiuen-hu-soh, . . CHIN.

A Chinese plant belonging to the sub-order Fumareæ, the fumitory tribe; its tubers are used medicinally in hæmaturia.—*Smith.*

CORYDALIS GOVANIANA. *Wall.* Bhootkes, HIND. Is common above 8000 feet of elevation in the Choor mountains, where it is regarded as a charm against evil spirits. The roots sent by Dr. Falconer were long, fibrous, tough, and exceedingly bitter, dark brown externally, yellow within.—*O'Shaughnessy.*

CORYDON SUMATRANUS, a singular and rare bird; it is crepuscular, very likely diurnal as well, and so stupid or tame as to allow itself to be pelted without moving.

CORYGAUM, a small village on the left bank of the Bhima river, half-way between Poona and Seroor on the Gor-naddi. It is memorable for the defence made on the 1st of January 1819, by a small body of Madras artillery and native infantry about 500 strong, against the entire army of Baji Rao, Peshwa. About 4000 Arabs continued the attack from daybreak till dark. Surgeon, afterwards Sir James Wylie, of the Madras Medical Department, greatly aided in their repulse. Captain Staunton of the Bombay army, with the 2d battalion of the 1st Bombay Native Infantry, mustering 600 bayonets, 26 of the Madras Artillery under Lieut. Chisholm, and 300 Auxiliary Horse under Lieut. Swanston, in all 926 strong, on New Year's eve were ordered to Poona to join Colonel Burr's brigade. On New Year's morning of 1818, as he approached Corygaum, he saw the army of the Peshwa, consisting of 20,000 horse and 8000 foot, covering the plain beyond. Both parties made a rush to seize the village, but entered it together at different ends. All day long the strife was kept up, fresh bodies of Arabs coming from the enemy to take the place of those who fell. Of the eight officers, Lieutenants T. Pattinson and Chisholm and Dr. Wingate were killed or mortally wounded. Captain Staunton and Dr. Wylie were amongst those who survived, but 175 had fallen. The E. I. Company voted Captain Staunton a purse of 500 guineas and a sword of honour, and afterwards erected a granite obelisk, 70 feet in height, with the names of all the brave men who fell, engraved on it in English, Persian, and Mahratta. Assistant-Surgeon Wylie was afterwards created a K.C.B.

CORYLUS AVELLANA, the European hazel, is abundant in the Himalaya. Fruits (nuts), called Bindik and Finduk in bazars, are grouped in clusters together, inodorous, taste sweet and agreeable, become rancid very quickly. By expression the kernel yields a very agreeable oil, nearly in the proportion of half its weight. The wood of the hazel was the material of the divining rods of the magicians and snake enchanters, who even in modern times have had their believers in Europe. The Japan hazel is C. heterophylla, *Fischer*; C. ferox, *Wall.*, is a plant of the Simla hills.—*O'Sh.*

CORYLUS COLURNA. *Linn.* Hazel.

C. Jacquemontii, *Dne.*

Var. B. Lacera.	Var. C. Lacera, *Wall.*
Hazel, ... ENG.	Jhangi, Thangoli, PANJ.
Urrvi, Urni, Geh, . PANJ.	Sharoi, Sharoli, . ,,
Ivinri, Ivuria, War, ,,	Shurlige, Bankimu, ,,

This tree grows to a height of 40 feet at elevations of 5500 to 10,500 feet in the Panjab Himalaya. Wood elastic, light and compact, used for hoops and walking-sticks. The nuts edible.—*Drs. Cleghorn and J. L. Stewart.*

CORYNOCARPUS LÆVIGATA, a New Zealand tree with beautiful evergreen foliage; the pulpy portion of the fruit is eaten by the natives.

CORYPHA, a genus of palms of the order Cocoaceæ. Sec. D. Corypheæ, C. elata and C. taliera grow in Bengal; C. rotundifolia and C. utan, in the Moluccas; C. umbraculifera in Ceylon and the Moluccas, and C. gebanga in Java. It seems to be C. gebanga which Mr. Wallace (p. 158) describes as a great species in Lombok, called Gubbong, which grows there in great abundance. He says it has a lofty cylindrical stem, about a hundred feet high and two or three feet in diameter. C. taliera, the Tara of Bengal, and the Talipat of the Peninsula, is much employed for making leaf hats and leaf umbrellas; the leaves, when smoothed, are much used for writing on, and also for tying the rafters of houses, as they are strong and durable. C. umbraculifera, the codda-panna of Madras and the talipat of Ceylon, and very like the former, is common in Ceylon, and found also on the Malabar coast. The dried leaf is very strong and limber (Knox's Ceylon). The Burmese books are all made of the leaf of a species of Corypha. C. australis is the cabbage-palm of the northern part of Australia to Port Jackson. It rises erect to 70 or 100 feet, with a diameter of 1 foot.—*G. Bennett; Seeman; Royle, Fib. Pl.; Voigt; Wallace*, 158.

CORYPHA ELATA. *Roxb.*

Taliera elata, *Wall.* | Bujoor, Bujur, Batool, BENG.

This stately palm grows in Bengal, and, according to Mr. Mason, in the Tenasserim Provinces. It has a straight trunk, but often varying in thickness. A tree about thirty years old, when in flower, was seventy feet to the base of the inflorescence, another about sixty; circumference near the root, eight feet, and about the middle of the trees five and a half or six; their whole length strongly marked with rough, dark-coloured spiral ridges and furrows, which plainly point out the spiral arrangement of the leaves. The ligneous fibres, as in the order, are on the outside, forming a tube for the soft spongy substance within, of a dark chocolate colour, tough and hard, but by no means equal, in either quantity or quality, to the very serviceable wood of Borassus flabelliformis. This palm, in Bengal flowering in March and April,—the seeds require about twelve months to ripen,—is to be at once recognised by its black spirally-marked trunk. From the other species of Corypha it is abundantly distinct by its long obviously spirally placed ex auriculate petioles, and by the smaller dark-green flat lamina, with narrow linear-ensiform segments. The fruit is smaller.—*Voigt; Mason; Roxb.* ii. 176.

CORYPHA GEBANGA, *Blume*, is one of the most useful of all the palms of South-Eastern Asia. Its pith furnishes a sort of sago. In Java, thousands of boys and girls are employed in

fabricating its leaves into baskets and bags; thatch and broad-trimmed hats are made of them; fishing-nets and linen shirts are woven from its fibres, and ropes from its twisted leaf-stalks; the root is both emollient and slightly astringent; and Waitz says it is a valuable remedy for the periodical diarrhœa which in the East Indies attacks Europeans. It flowers in a huge terminal spike, on which are produced masses of a small round fruit, of a green colour, and about an inch in diameter. When these ripen and fall, the tree dies, and, after standing a year or two, it too dies. Flocks of green pigeons and troops of the Macacus cynomolgus monkeys resort to the trees when fruiting, the latter chattering and showering down the ripe fruit. Kurz joins C. elata to this.

CORYPHA TALIERA. *Roxb.* ii. 174.

Taliera Bengalensis, *Spreng.*

Tara, Taliera, Tariat, BENG.	Sri talam, . . . SANSK.
Taliera, ... HIND.	Talipat, ... SINGH.
Tali, ... MART.	Sri talam, . . . TEL.

An elegant, stately palm of Bengal, has a trunk, perfectly straight, about thirty feet high, and, as near as the eye can judge, equally thick throughout, of a dark brown colour, and somewhat rough with the marks left by the impression of the fallen leaves. It grows in Bengal, but it is scarce in the vicinity of Calcutta. It flowers at the beginning of the hot season, the seeds ripen nine or ten months afterwards. It is so closely allied to C. umbraculifera, as to be difficult to distinguish when out of flower. The leaves are much employed for making leaf hats and leaf umbrellas, and for tying the rafters of houses. They are in about 80 divisions, each 6 feet long by 4 inches broad, radiating from the point of a leaf-stalk from 5 to 10 feet long, and covered with strong spines at its edge. Roxburgh describes the spadix as decompound, issuing in the month of February from the apex of the tree and centre of the leaves, forming an immense diffuse ovate panicle of about 20 or more feet in height. The fruit is the size of a crab-apple, wrinkled, dark olive, or greenish-yellow. The leaves are used by the natives of India to write upon with steel styles; it is known as the book palm, and is not unfrequent in the neighbourhood of religious edifices in the Tenasserim Provinces.—*Roxb.* ii. 174; *Voigt; Eng. Cyc.; Mason.*

CORYPHA UMBRACULIFERA. *Linn.*

Tali, ... BENG.	Tala or Tala gass, SINGH.
Pæ, ... BURM.	Konda panna maram, TAM.
Fan palm, Talipat, ENG.	Sidalam, ... TEL.
Kodapana, . . MALEAL.	

The talipat palm of the Moluccas, Malay coast, Malabar, and Ceylon, is similar in appearance to, but its leaves are not so round as, those of C. taliera, the divisions in the centre being shorter than those at the sides. It has a stem 60 or 70 feet high, crowned with enormous fan-shaped leaves, forming a head 40 feet in diameter, each leaf with 40 or 50 pairs of segments. These fronds, when dried, are very strong, and are used for hats and umbrellas. The petiole is 7 feet long, and the blade 6 feet long and 13 feet broad. Fans of enormous size are manufactured from this plant in Ceylon. The bole is wholly pith, which furnishes a sort of flour, of which bread is made; the leaves make excellent thatch, and are also used for writing on, like those of the C. taliera. Griffith met with trees in flower at Mergui, which he thought belonged to this species; and Dr. Mason saw trees in Tavoy, which he regarded as probably talipat palms. The dark-coloured roundish seeds of these trees are used as beads by the Tader or Dasari religious mendicants. C. umbraculifera is found also on the Malabar coast. The dried leaf is very strong and limber, and, according to Knox, is 'most wonderfully made for men's convenience to carry along with them; for though this leaf be thus broad enough to cover fifteen or twenty men when it is open, yet it will fold close like a lady's fan, and then it is no bigger than a man's arm; it is wonderfully light.'—*Knox's Ceylon, in Royle's Fib. Pl.; Seeman; Eng. Cyc.; Mason; Roxb.; Voigt.* Kurz joins C. taliera to this.

CORYPHA UTAN. *Lam.*

Taliera sylvetris, *Bl.*	Lontarus sylvestris, *Ru.*

A palm of the Moluccas.—*Roxb.* ii. 178.

CORYPHÆNA, a genus of fishes belonging to the section Acanthopterygii, family Scombridæ, and fifth group Coryphænina. There are nine genera in the group; one of them, Coryphæna, has six species. C. hippuris, *Linn.*, is the dolphin or dorado, and is often confused with the delphinus or porpesso, from its bearing the same name. Its colours when swimming are very lively, and tail of a golden yellow. When dying it presents a greatly varied play of colours. It is good for eating.—*Bennett.*

CORYPHODON BLUMENBACHII, the rat snake of Ceylon, is almost domesticated in households.—*Tennent*, p. 42.

COS, a little Dorian island on the coast of Asia Minor, which fell under the power of Ptolemy. It was the first spot in Europe into which the manufacture of silk was introduced, which it probably gained when under the power of Persia before the overthrow of Darius. The luxury of the Egyptian ladies, who affected to be overheated by any clothing that could conceal their limbs, had long previously introduced a light thin dress; and for this, silk, when it could be obtained, was much valued; and Pamphila of Cos had the glory of having woven webs so transparent, that the Egyptian women were enabled to display their fair forms yet more openly by means of this clothing. Occasionally, also, they sent their treasures and their children there as to a place of safety from Alexandrian rebellion; and there the silk manufacture flourished in secret for two or three centuries. When it ceased is unknown, as it was part of the merchants' craft to endeavour to keep each branch of trade to themselves.—*Sharpe's Aristotle, Hist. An. V.* 19; *Hist. Egypt*, i. p. 263.

COSCINIUM FENESTRATUM. *Coleb.*

Menispermum fenestratum, *Gærtn.*

Turmeric tree, . . ENG.	Huldi-ka-jhar, . DUKH.
Mara munjil, . . TAM.	Mani-pasupu, . . TEL.

A creeping plant of Ceylon and S. India.

COSI, a river of the Himalaya, is formed from seven alpine feeders, the Sapt Cosi of the Nepalese, which unite within the Himalaya mountains. Bengal has a river of the same name, with the town of Midnapur on its bank.

COSMAS, called from his maritime experiences Indicopleustes, was apparently an Alexandrian Greek, who wrote between 530 and 550. He was the first Greek or Roman writer who speaks of China in a matter-of-fact manner, by a name which no one has ever disputed to mean China.

He was a monk when he composed the work

which has come down to us, but in his earlier days he had been a merchant, and in that capacity had sailed on the Red Sea and the Indian Ocean, visiting the coasts of Ethiopia, and apparently also the Persian Gulf, and the western coasts of India, as well as Ceylon. His book was written at Alexandria (A.D. 535), and is termed Topographia Christiana (Universal Christian Topography), the great object of it being to show that the tabernacle in the wilderness is a pattern or model of the universe. Sir J. E. Tennant (Ceylon, i. p. 542) says that Cosmas got his accounts of Ceylon from Sopatrus, whom he met at Adule; and Lassen ascribes all Cosmas says of India to the same authority (ii. 773). But they have not given the ground of these opinions. One anecdote is ascribed to Sopatrus, no more. He gives a clear account of the commerce between India and Egypt in his day. He says that the produce of Kalliana was brass, sesamine logs, and cotton stuffs; of Sindus, castorin and spikenard; of Male (Malabar), pepper; and that from Tzinitza (China) and other countries beyond Sielediba or Taprobane, came silk, aloe-wood, cloves, nutmegs, and sandal-wood. Writing of the island of Taprobane in Further India, Cosmas says where the Indian Sea is, there is a church of Christians, with clergy and a congregation of believers, though I know not if there be any Christians further on in that direction. And such also is the case in the land called Male, where the pepper grows. And in the place called Kalliana there is a bishop appointed from Persia, as well as in the island which they call the Isle of Dioscoris, in the same Indian Sea. The inhabitants of that island speak Greek, having been originally settled there by the Ptolemies, who ruled after Alexander of Macedon. This Male is evidently Malabar, probably the Kalliena of the Periplus, which Lassen identifies with the still existing Kalyani on the mainland near Bombay. Father Paolino, indeed, will have it to be a place still called Kalyanapuri on the banks of a river two miles north of Mangalore, but unreasonably.—*Via Galle, Indie Orientale*, p. 100, *in Yule, Cathay*, i. p. 171.

COSMETIC BARK. The fragrant bark of Murraya paniculata, a tree indigenous in Burma above Rangoon, is more used for a cosmetic than sandal-wood. It is a very ornamental fragrant flowering shrub of the citron tribe.

Cosmetic Powders, Dusting-powders.

Puh-fen, Shwui-fen, CHIN.	Fu-yung-fen, . . CHIN.
P'ing-shie-kung-fen, „	

In China, the shells of several molluscs are washed, scraped, calcined, and levigated, and scented with musk or other ingredients. The addition of Borneo camphor makes these powders exquisitely cooling to the skin, especially if troubled with prickly heat. Water is used with the Shwui-fen, in laying it on the face. An inferior cosmetic wood of Burma, is the tubercle of some plant. The Burmese appear from their name to regard them as produced by a species of erythrina, for they call them erythrina thorns; but Mr. Mason suspected that it is Toddalia aculeata and T. floribunda. The cosmetic wood of Mergui from one of the Xanthoxylaceæ? is fragrant. It is sold in the bazar.—*Mason; Smith.* See Abir.

COSS, the itinerary measure of India, of which the precise value has been much disputed, chiefly on account of the difficulties which attend the determination of the exact length of the guz or yard. The Ayin-i-Akbari lays down distinctly that the coss consists of 100 cords (tunab), each cord of 50 guz; also of 400 poles (bans), each of 12½ guz; either of which will give to the coss the length of 5000 guz. The distances in English yards between the old minars or coss pillars may be considered to afford the correctest means we have of ascertaining the true standard, viz.:—

	By Road.	Direct.
Octagonal minar to Nurelah in Dehli, .	4513	4489
Minar between Nurelah and Shapurgurhi,	4554	4401
Minar opposite Alipur, ...	4532	4379
Minar opposite Siruspur, . . .	4579	4573
Ruins of Minar opposite to Shalimar, .	4610	4591

Length of the coss, 2 miles 4 furlongs 158 yards. It is important to observe that the length of the Ilahee guz, deduced from the measurements, is 32·818 inches, showing how very nearly correct is the length of 33 inches assumed by the British Government. The Chinese lih is the distance which can be attained by a man's voice exerted in a plain surface; and the same may be remarked of the oriental meel, as well as the European mile and league. The two former evidently derive their names from the Roman milliare, and the difference of their value in different places proves that the mere name was borrowed, without any reference to its etymological signification. Coss is an Indian word; the equivalent word in Persian is Kuroh, the same as the Sanskrit Korosa, of which four go to the yojan. Malcolm says the coss is in general estimated at forty-two to the degree; but its length differs in almost every province of India. It may be computed as never under a mile and a half, and never (except in that introduced by the mandate of the late Tipu Sultan in Mysore) more than two miles. In Gujerat they estimate the coss by the lowing of kine (gao), which in a still day may be heard at the distance of a mile and a quarter. Thus twelve coss is baragao.—*Elliot, Supp.; Malcolm's Central India*, i. p. 20. See Ilahee Guz.

COSSACK, an irregular soldiery whom the Russian Government recruited from the country at the foot of the Caucasus, known as Little Kabarda and Great Kabarda, bordering on the Malka and Kouma rivers. Cossack (Kazak) is also a term by which the Mahrattas described their own mode of warfare. In their language, the word Cossakee, borrowed, like many of their terms, from the Moghuls, means predatory.—*Malcolm's Central India*, i. p. 69. See Kabarda.

COSSÆA or Cissia is the name by which the Greeks knew the tract east of the Tigris. It was also called Elam or Elymais. It is now called Khuzistan. Cossæa is supposed to be derived from Koh-siah, or Black Mountain. The people spread their conquest over Susiana and the districts eastward. See Luristan.

COSSEIR or Kosseir, a town and harbour on the western side of the Red Sea. It was occupied by the French in their expedition to Egypt, and then by the British. Kosseir harbour is open to the east, but on the north reefs advance into the sea; on the south is a chain of mountains of some elevation. The bottom is rocky.

COSSID, PERS.; properly Kassid. A mounted messenger.

COSSYA HILLS, or Khassya Hills, estimated area 7290 sq. miles, 80 miles in length from N. to S., and 40 in breadth, extend from lat. 24° 35'

to 26° 7′, and from long. 91° 35′ to 92° 4′. About 16 miles on the Sylhet side, and about the same on that of Assam, consists of lowland interspersed with small hills. In the interior, about 50 miles in extent, is an undulating hilly table-land, from 1500 to 2500 feet high. The localities admitting of cultivation are the plateaux of the Cossya and Jaintia hills, the lower ranges on the Assam border, and the slopes towards the Sylhet plains. The area of the three plateaux is about 3500 square miles, and their heights vary from 3000 to 6000 feet above sea-level. The soil is a ferruginous red clay, with a subsoil of shingle, little qualified for profitable cultivation. In the hollows, however, a fine black mould is found, extending often over many acres. The population of the Jaintia hills is about 40,000 souls, and of the Cossya hills about 82,400. The Cossya states are twenty-five in number, of which five, Cherrapunji, Khyrim, Nusting, Sungree, and Nuspoong, are commonly called the Semi-independent States. The chiefs exercise civil and criminal jurisdiction over their own people in all matters pertaining exclusively to them. The minor states, known as the Dependent States, are twenty in number, the chief of which is Nungklow.

Moleem was conquered in 1829, and the raja of Khyrim ceded to the British the territory to the S.E. of the Oomean or Booga Pane river. In 1861 the raja was deposed, and Malay Singh, a new chief, installed. Agreements have been entered into with Mowyang in 1829, Dowarrah Notoormen in 1837, Soopar Punji in 1829, and in 1860 with Bhawal.—*Aitcheson's Treaties, etc.* See *Cairns*, p. 543.

COSTUS.

Kust; Koshta, AR., BENG.	Koot, ... KASHM.
Putchuk, ... HIND.	Koosht-i-Sherin, . PERS.

A fragrant substance, highly prized by the ancients. It was supposed by Dr. Falconer to be the produce of a genus of the Compositæ or thistle tribe, to which he gave the name of Aucklandia. He found it growing in great abundance all round the elevated summits of Kashmir. He considered it could be produced to an unlimited extent, of the best quality, in the Himalayas, at elevations of from 7500 to 9000 feet above the sea. The roots are dug up in September and October, when the plant begins to be torpid; they are chopped up into pieces from two to six inches long, and are exported without further preparation,—the quantity annually collected amounting to about two million pounds. The cost of its collection and transport to Kashmir is about 2s. 4d. the cwt. From Bombay it is shipped for the Red Sea, the Persian Gulf, and China; a portion of it is taken to Calcutta, and bought up there with avidity under the name of putchuk. The value at Jugadree on the Jumna is about 16s. 9d. or 23s. 4d. per cwt. The exports from Calcutta were:—

1841–42,	12,847 cwt.	1848–49,	2110¾ cwt. worth
1847–48,	2,050¼ ,,		about £1500 annually.

In the Chinese ports it fetches nearly double that price per cwt. The Chinese burn the roots as an incense in the temples, and regard it as aphrodisiac. The import into Canton in 1848 was 414 pikuls, and in 1859 was 854 pikuls, and valued at 5150 dollars. In Kashmir it is chiefly used for the protection of bales of shawls from insects.—*Royle*, p. 360; *O'Shaughnessy*, p. 652; *Simmonds.*

COSTUS SPECIOSUS. *Roxb., Smith.*

Banksia speciosa, *Kœn.*	Amomum hirsutum, *Lam.*
Costus Arabicus, *Linn.*	Tsjana speciosa, *Gmel.*
Hellenia grandifloria, *Retz.*	Herba spiralis hirsuta, *Ru.*
Kio, Kiu, . HIND., BENG.	Pushkara mulamu, TEL.
Kut talkh, Kut karwa, H.	Bomma kachika, . ,,
Janakua, . . . MALEAL.	Kasmiramu, . . . ,,
Kimuka, Kemboo, SANSK.	Kimuka koshtamu, . ,,
Tebu gass, . . SINGH.	Kroshtamu, . . . ,,

A very elegant plant found near the banks of rivers and other moist and shady places in Southern India, Cochin-China, the Moluccas, and Sunda islands. Costus Nepalensis, *Roscoe*, C. speciosus, β angustifolius, grows in Nepal.—*Roxb.* i. 58.

COTE or Kot. VERN. A fort, a castle; in which sense we find it frequently used in names of places as Cote-Putli, Cote-Salbahun, Shere-Cote, and Kot-Kangra. It is derived from the Sanskrit Kotta, which Klaproth tells us, being adopted into the Mongol, became the origin of the name of Khoten. We may probably look to the same word for the English Cote and its numerous derivatives, as sheepcote, Cotswold, etc.—*Elliot, Supp. Rel. des Roy; Budd.* p. 18.

COTI, the complement of an arc to 90°; also one of the sides of a right-angled triangle. Sudda coti, the sine. Cotijya, the co-sine of an angle in such a triangle.

COTONEASTER OBTUSA. *Wall.*

Riu, rau, . . . CHENAB.	Riu, risk, . . . RAVI.
Linu, lillum, . . ,,	Sichu, . . SUTLEJ, RAVI.
Luni, ... JHELUM.	Reus, ri, . . . SUTLEJ.
Lin-klariz, . . KANGRA.	Kheroa, kheraba, TR.-IND.

This and C. rotundifolia, *Wall.*, have the same vernacular names. The two species are most common from 4000 to 10,500 feet in the Panjab Himalaya. Their wood, though small, is tough and strong, and is much used for axe handles and walking-sticks, and it is said for jampan poles. In Kashmir the twigs are extensively employed for basket-making, and are frequently mixed with Parrotia (*q.v.*) for the twig bridges. — *J. L. Stewart, M.D.*

COTTA KALANG. TAM. Aponogeton monostachyon, *Thunb.* Grows in the beds of tanks. Root eaten in Kaffraria as a great delicacy; it is relished by the natives of India.—*Ainslie*, p. 248.

COTTAMALLI. TAM., TEL. Coriandrum sativum; coriander seed.

COTTON. Sir Dodmore Cotton in 1627 was sent as Ambassador from the king of England to Shah Abbas of Persia.

COTTON, GENERAL SIR WILLOUGHBY, K.C.B. and G.C.B., born 1783, died in London on May 1848, only son of Admiral Cotton, cousin of Lord Combermere. In his 16th year he entered the 3d Guards as ensign. He commanded a division of Sir Archibald Campbell's army in the Burmese war. He commanded the 1st division of the Bengal army in the Afghan war in 1838–39, under General Sir Henry Fane, and afterwards under General Sir John Keane. He was present at the storming and capture of Ghazni on the 23d of July 1839, at which he commanded the reserve which entered the city after the storming party had established themselves inside. He received the Order of the Bath of all the grades, being nominated a Grand Cross of that order in 1840. He was made a Knight Commander of the Royal Hanoverian Guelphic Order in 1830, and had conferred upon him the Order of the Dooranee

Empire of the 1st class at Kābul, in September 1839.—*Men of the Time.*

COTTON.

Kutun; Qatan, . ARAB.	Kob-ung, . MONGOLIA.
Fi-hwa-jung, . . CHIN.	Pumba, ... PERS.
Mien-hwa-jung, . ,,	Bawelna, ... POL.
Sz-mien; Hoa-mien, ,,	Algodno; Algodeiro, PORT.
Bomuld, ... DAN.	Chlopts-chateja, . . RUS.
Boomwol; Katoen, DUT.	Karpasa, . . . SANSK.
Coton, ... FR.	Kapu, ... SING.
Baumwolle; Kattun, GER.	Algodon, ... SP.
Boubaki; Bomaga, . GR.	Bomül, ... SW.
Kapas; Rui, . . HIND.	Punji; Van-paratie, TAM.
Cotone; Bombagia, . IT.	Patti (in the pod); Dudi, TEL.
Gossypium, . . . LAT.	

Cotton consists of the delicate, tubular, hair-like cells which clothe the seeds of species of gossypium. Its commercial value depends on the length and tenacity of these tubular hairs, which, in drying, become flattened, and are transparent, without joints, and twisted like a corkscrew. Under water, they appear like distinct, flat, narrow ribbons, with occasionally a transverse line, which indicates the end of cells.

In America, two distinct varieties are indigenous,—G. Barbadense, yielding the cotton from the United States, and G. Peruvianum or acuminatum, that which is produced in South America. India also has two distinct species,—G. herbaceum, or the common cotton of India, which has spread to the south of Europe, and G. arboreum, or tree cotton, which yields none of the cotton of commerce.

Cotton plants have been characteristic of India from the earliest times; and at the present day the majority of its people are clothed with fabrics made from cotton, which is woven to a large extent in India, but more largely in Europe and America. Indigenous varieties in the tropical regions of Asia, Africa, and America, and in the southern provinces of the United States, have been cultivated with such success, that its produce is an important article of commerce.

Dr. Cleghorn compared all the species of gossypium in the herbarium of the Botanical Society (comprising the collections of Buchanan Hamilton and Lady Dalhousie, with contributions from Drs. Wight, Campbell, etc.), and also those in the herbarium of Professor Balfour, with a view to expiscate the specific characters by which to discriminate them from one another. The series showed the striking difference which soil, climate, and culture produce in species, and which may appear in nature, giving rise to a multiplication of species. But the whole group of so-called species seemed to him referable to G. herbaceum, *Linn.*, G. arboreum, *Linn.*, G. Barbadense, *Linn.*, and G. acuminatum, *Roxb.*

Since 1790, efforts to improve the Indian cotton crops have been almost continuous. Experienced planters from America were employed, and Drs. Wight and Watson were long engaged in experiments in Coimbatore, Gujerat, and Dharwar. The plant has always been grown in almost every district of India, for local use or export, in soils suitable and unsuitable to its growth; and at the London Exhibition of 1862, the values of 138 samples exhibited ranged from sixpence to three shillings the pound.

Mr. Shaw says (p. 186, Cotton Report) cotton cultivation in India would not be a profitable speculation for Europeans; the natives can grow it much cheaper. Our function is simply that of buyer. We have no local market for the American cotton. It does not answer for native spinning so well as their own.

The use of cotton dates from a very early period. Sanskrit records carry it back at least 2600 years, while in Peruvian sepulchres cotton cloth and seeds have been found. It is noticed in the book of Esther, i. 6, where its Sanskrit name Karpas is translated 'greens' in the English Bible. Herodotus and Ctesias notice it; but it was not till the invasion of India by Alexander that the Greeks were acquainted with the plant, as may be seen in Theophrastus, and also in Pliny.

Pliny, writing about 500 years subsequent to the time of Herodotus, mentions (lib. 19, c. 1) that the upper part of Egypt, verging towards Arabia, produces a small shrub which some call gossypion, others xylon, and from the latter the cloth made from it, xylina, bearing a fruit like a nut, from the interior of which a kind of wool is produced, from which cloths are manufactured inferior to none for whiteness and softness, and therefore much prized by the Egyptian priesthood.

The varieties of cotton known in the commercial world may be referred to three distinct species, each having several sub-varieties. The Gossypium Barbadense is the species cultivated in the West Indies, North America, and in one or two parts of the Peninsula of India. Gossypium Peruvianum yields the cotton of Brazil, Pernambuco, Peru, etc. Gossypium Indicum is the species which, in a number of varieties, produces the great bulk of the cotton of India and China. The Gossypium arboreum, or tree-cotton of India, and peculiar to India alone, is unfitted for manufacturing purposes, and is unknown to commerce, though yielding a beautifully soft and silky fibre, admirably adapted for padding cushions, pillows, etc. In commerce, Indian cotton has usually been known under the names of the locality of its growth or place of shipment. The staple of these sorts appears to range from 0·85 to 1·1 of an inch in length; the staple of the celebrated Sea Island cotton being usually 1·5 in length.

The *three qualities* by which the value of cottons are determined are, length of staple, strength of fibre, and cleanness of sample. Colour, which at one time was thought much of, is no longer looked upon as a matter of moment. The respective lengths of the different kinds of cottons are given by Mr. Clements Markham as under:—

	Minimum.	Max.	Mean.
Sea Island, ...	1·41 in.	1·80 in.	1·61 in.
Egyptian, ...	1·30	1·52	1·41
Peruvian, ...	1·10	1·50	1·30
Brazilian, ...	1·03	1·31	1·17
New Orleans or Uplands, .	0·88	1·16	1·02
Uplands grown in India, .	0·95	1·21	1·08
Indigenous Indian cotton, .	0·77	1·02	0·89

The cotton of India is allowed to be inferior as regards its staple and purity, but in durability it at least equals the produce of any part of America, and of this fact the Hindus are themselves perfectly aware. Dr. Royle gives 3 distinct *varieties* of cotton, all indigenous to Hindustan. The *common description* is found scattered more or less throughout India, reared as a triennial or annual. It reaches the height of 5 or 6 feet in warm, moist climates. The seeds are five in number, clothed with a short greyish down. In the Peninsula there are two distinct varieties of this sort, known amongst

the natives as Oopum and Nadum. The first thrives only on the richest black soil, and is an annual, producing a fine staple; the latter is a triennial plant, and grows on the poorer red soil, yielding small crops of inferior quality.

Second.—Dacca cotton is a distinct variety of the Gossypium Indicum. It differs from the previous variety in the plant being more erect, with fewer branches, and tinged with a reddish hue, whilst the cotton is finer, softer, and longer. This variety is reared more or less extensively throughout Bengal, especially in the Dacca district, where it is employed in the manufacture of the exquisitely fine muslin cloths known over a great part of the world as Dacca muslins, and whose delicacy of texture so long defied the imitation of the art-manufacturers of the West.

A *third variety* is the cotton grown in Berar, in the northern provinces of the Madras Presidency, and in Surat and Broach. This plant attains a greater size than the preceding, bears for a longer period, and produces a fibre of a finer quality than the former. It appears to thrive best on a light black soil.

Soil.—The soil in which all these Indian varieties thrive may be classed under two distinct heads, the *black cotton soil* and the *red soil*. The former of these, as its name indicates, is of a black or deep brown colour, absorbs and retains much rain, forming in the rains a heavy tenacious mass, and drying into solid lumps in the hot months. An analysis of this gives 74 per cent. of silex, 12 of carbonate of lime, $7\frac{1}{4}$ protoxide of iron, 3 of alumina, 2 of vegetable matter, and $\frac{1}{3}$ salts, with a trace of magnesia. The *red soil* of India has been found in some localities better suited to the growth of cotton than the black earth. It is a rather coarse yellowish red soil, commingled with particles of the granitic rocks,—silex, felspar, and aluminous earth. It mainly differs in composition from the preceding in the iron existing in the state of peroxide or red oxide, whilst the carbonate of lime is found present in greater abundance. Analyses of the best cotton soils of America prove that they differ from those of India chiefly in the large proportion of peaty matter which they contain.

Cotton-wool bears value according to its colour, length, strength, and fineness of fibre. Pure whiteness is generally held to denote a secondary quality; whilst a yellowish tinge, provided it be not the result of casual exposure to damp, or the natural effect of an unfavourable season, is indicative of superior fineness. Many varieties of raw cotton are seen in commerce, each sort being distinguished by the name of the locality where it is produced. American, Bourbon, Egyptian, Amraoti, Dacca, Oopum, Nadum, Orleans, Sea Island, etc. etc.; but the main distinction recognised is that between the long and short stapled qualities; though of these, again, there are different degrees of excellence. The 'Sea Island' cotton of Georgia (so named from being raised on certain narrow sandy islets lying along the coast of that province) is esteemed the best of the long-stapled kind; and the upland produce of the same state excels amongst the short-stapled classes. The indigenous Asiatic cotton is exclusively of the latter class.

The indigenous plant of India is an annual, and succeeds best in the rich black soil that characterizes various districts. The American plant, though in reality perennial, is practically an annual in India; for in India neither native nor foreign cotton is cultivated on the same ground more than one year in three, its properties being found to exhaust the productive powers of the soil. American cotton grows well on the black soil of India, but thrives still better on the light red lands. Each of these species possesses advantages peculiar to itself. The Indian variety is capable of being manufactured into fabrics of extraordinary durability and wonderful fineness; its colour, too, is superior, but the staple short. The American species, on the other hand, excels in length of staple. The plant yields more flowers, and each flower a larger pod, whilst the quantity of seed contained in the pod is smaller, and more readily separated from the fibre.

Mr. Laing, in a letter to *The Times* as to the future supply of Indian cotton, showed that Sir C. Wood makes it entirely a question of price, citing the authority of Lord Hardinge. Mr. Laing thinks that both climate and soil are so much against India, that its average produce per acre will never approach that of America. But Mr. A. N. Shaw, collector of Dharwar, has expressed an opinion that while Mr. Laing's facts may hold good of indigenous cotton, there are few parts of India where American cotton will not grow as luxuriantly as in Alabama, the best cotton-field in America.

Mr. Talboys Wheeler, who wrote the Cotton Handbook for the Madras Presidency, drew the following four general conclusions, viz.:—

1st. American cotton can be grown, but the profit is questionable.

2d. Indian cotton may be improved, but only to a degree.

3d. American cotton must always command a higher price than Indian.

4th. The demand for Indian cotton must always depend on the supply of American.

But a superior cotton can undoubtedly be raised in the Karnatic at a cost not exceeding the production of the common native fibre. The tenure of land in the Madras Presidency leaves the ryot free to grow what crop he pleases; there is no export duty or special tax on cotton, and the assessment is nowhere heavy. The exports of cotton from the Madras Presidency have increased of late years; and if cotton be still not grown in the quantity or of the quality desired, the cause must be that some other crop is more remunerative to the ryot. A steady market at a remunerative price is the great want, and this the mercantile community alone can supply. There is grown in India a vast supply of cotton, and it is capable of increase by extended cultivation consequent on increased demand. A large portion of the existing supply is absorbed by the local manufacturers, but is capable of diversion if increased prices are offered by exporters. The diversion to other markets may be immediate; but an increase requires the lapse of at least one season after the demand arises, and some prospect of a continuance of that demand. Every rise in price of Indian cotton in England, however small, if likely to be permanent, exercises an immediate effect on the export of cotton from India to England. The quality is capable of great improvement, but by a more tedious process. The American cotton plant

cannot withstand so much drought as the Indian. The ordinary native cotton-cleaning machine, for freeing the cotton fibre from the seeds, has not yet been equalled by all the mechanical skill of Europe.

Native Indian cotton is a small-podded, small-seeded, short-stapled variety; but in picking the seed, in carefully gathering and ginning, it may be much improved.

Indian cotton is somewhat difficult to spin, from its often breaking, and requiring more turns of the spindle, and from its shortness of fibre, than that of America. But the yarn made from a pound of East Indian cotton, which costs 3½d. sterling, will sell for 7d., while from the American, which costs 4½d. the pound, the yarn sells for 7¾d.

Imports into Great Britain.

1877,	12,112,819 cwt.	value	£35,489,197
1878,	11,978,288 ,,	,,	33,524,362
1879,	13,171,043 ,,	,,	36,278,660
1880,	14,547,283 ,,	,,	42,765,183

In the four years 1877 to 1880, 75 per cent. of the quantity imported was received from the United States, 8 per cent. from British India, and an equal quantity from Egypt.

Number of Acres under Cultivation in British India.

	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	Average yield of Cleaned Cotton per acre.
Madras, ...	1,577,363	1,645,389	926,115	1,165,736	1,248,322	40 lbs.
Bombay and Sind, .	2,343,622	2,562,234	1,418,050	1,861,553	1,798,530	51 ,,
Bombay Native States,	1,885,974	1,954,353	1,805,187	1,001,753	1,183,604	...
Bengal, ...	142,388	173,788	162,245	...	...	...
Assam, ...	37,730	35,352	38,342	39,627	40,015	...
N.W. Provinces, . .	1,086,691	1,056,173	1,185,522	718,484	1,316,199	48 ,,
Oudh, ...	39,274	22,830	53,016	17,151	42,206	37 ,,
Panjab, ...	711,312	698,393	686,716	679,836	803,480	73? ,,
Central Provinces, .	805,296	756,828	802,437	837,083	724,306	32 ,,
Berar, ...	1,956,641	2,103,424	2,024,806	2,078,272	2,207,889	53 ,,
Hyderabad, Dekhan, .	941,388	804,496	527,127	622,959	758,700	57 ,,
Mysore, ...	36,845	21,864	4,411	14,411	21,088	34 ,,
British Burma, . .	17,311	13,645	17,020	18,765	19,496	...
Total, ...	11,581,835	11,848,769	9,650,994	9,055,630	10,163,835	Av. 47 lbs.

The yields per acre of cleaned cotton in the years 1874-75 to 1878-79, ranged as under:—

Madras, . .	36 to 49 lbs.	Oudh, . . .	17 to 51 lbs.
Bombay and Sind,	48 ,, 55½ ,,	Central Prov.,	22 ,, 43 ,,
,, Nat. St.,		Berar, . . .	40 ,, 71 ,,
N.W. Prov.,	29 ,, 56 ,,	Hyderabad, .	39 ,, 51 ,,
		Mysore, . .	17 ,, 61 ,,

The value of the raw cotton exported from India has been—

1877-78, .	Rs. 9,38,35,340	1880-81, .	Rs. 13,24,17,341
1878-79, . .	7,91,30,458	1881-82, . .	14,93,59,595
1879-80, . .	11,14,54,528		

The largest consumption of cotton-wool is in the tropical countries. Americans consume 11½ pounds per head; and it has been calculated that the British Indian people consume 10 pounds per head, but Great Britain only 4½ pounds per head.

In *America*, for the cultivation of cotton, the ground is well ploughed, and cast into ridges about 10 inches in height, and from 5 to 6 or 7 feet apart, according to the richness of the soil or the kind of cotton to be cultivated. In poorer soils the ridges are narrower, so that the plants, which do not grow so large, may yet be able to cover the ground. The ridges allow superfluous moisture to be carried off by the water furrow, which in low situations is made into a trench. The soil is allowed to settle for a few days before sowing, as the young plants take root more vigorously than when they spring up in freshly ploughed and loose earth. Sometimes the ground is manured by running a deep furrow early in the spring between the old rows of cotton stalks, which are beaten down into it by women and children, who follow the ploughman; or well-rotted cotton seed is added as manure, and well covered up by forming a slight ridge over it. When the ground is quite prepared, a one-hole drill makes a slight furrow, from 1½ to 2 inches deep, along the centre of the ridge. The sower follows, and drops in the seeds pretty thickly. These are immediately covered by a light harrow, which also smooths the ridge. Sometimes five or six seeds are dropped into holes, which are made at intervals of about 15 inches on the top of the ridge. In favourable weather the plants make their appearance in five or six days, and are thinned out as soon as they put forth the third or fourth leaf. This operation is performed by scraping out with the hoe all the superfluous plants and weeds, leaving three or four together, with spaces of 12 or 14 inches between them. When the plants are sufficiently established, they are reduced to a single one, and care is taken to remove every particle of grass or weed. A light furrow is then run with a one-horse plough within 5 or 6 inches of the plants, turning the earth inwards towards the roots, and even drawing it around them with the hoe, in order to supply the place of that previously removed by scraping. Hoeing and ploughing are frequently repeated, so as to keep the ground free from weeds; and this is considered essential towards obtaining a good crop. The above processes, besides loosening the soil and keeping it clean, must assist in drying it, at the same time that they prevent much lateral extension of the roots. Lopping or pinching off an inch or two of the top of the plant is not always necessary, but is useful when there is a tendency to the production of wood and leaves, to the detriment of flowers and buds.

In *S. India* the land should be well ploughed two or three times, and the deeper the better. All the weeds should be collected into heaps on the ploughed land and burnt, as the ashes make the best manure for cotton, and burning the soil improves its quality. Salt and lime are also good additions to a soil, as cotton requires chiefly alkalies and silicates for its nourishment. Animal

and vegetable manures are injurious, as they breed insects, which destroy the roots, leaves, and young pods of the cotton. After the land has been well and deeply ploughed, it should be left for three or four days to get well aired; it may again be ploughed into long ridges four to five feet apart. The seed is to be planted on the tops of these ridges carefully, at the depth of an inch or two, and at the distance of five feet between each seed, for Oopum, Nadum, or religious cotton; six to seven feet apart for Bourbon, New Orleans, or Havanna; ten feet apart for Sea Island, Peruvian, Egyptian, or Queensland; and fifteen feet apart for Brazil or Pernambuco cotton. Cotton seed may be sown in any month of the year, but if there is no rain, it requires to be watered about three times; it germinates about the fifth day. If sown during the monsoon, the ridges must be eight inches high, and the water must be led away from the young plants, or they rot; the seed must be sown on the top of the ridges. If the leaves begin to get pale or to shrivel up, the remedy is to dig trenches between the plants so as to let air in about the roots, but must not injure them. The uncultivated cotton plant lives for three or four years; but it becomes dwarfed, and produces smaller leaves and smaller pods each year till it dies. In clay or cotton soils the plants do not attain nearly the size, nor do they produce such fine leaves or pods, as on sandy or loose soils. The cotton plants require sun, air, and moisture, but not so much of the last as of sun, light, and air at the roots; the lighter and looser the soil, the more healthy is the plant. The best soil for cotton is a sandy soil with iron and salt; or, if far from the sea, ashes of plants or of firewood may be used as a substitute for salt. When the cotton plants have attained the height of a foot, they do not require to be much watered; once in ten days will be sufficient. Oopum or common country cotton varies from one to six feet in height, and covers from two to five feet of ground; on cotton soils it seldom grows to more than two feet in height. The Pernambuco and Brazil cottons attain a height of thirty feet on favourable loose soils, and the stem grows to ten inches in diameter. They yield crops for twelve or fourteen years, but hardly any produce the first year. They bend over in the second year, and do not afterwards stand higher than eight or nine feet.

Irrigation, in Assam, is generally unnecessary, though it may be found partially beneficial in dry and sandy soils, if judiciously applied. Irrigation is not resorted to in the Benares, Allahabad, and Jubbulpur divisions, and the feeling is against its employment. In the N.W. Provinces the cotton crop is invariably irrigated, where a want of rain is likely to prove detrimental to the plant, and the process is not supposed to be in any way injurious to the fibre.

In most parts of the Madras Presidency artificial irrigation is not carried on; this remark applies more particularly to Coimbatore, Madura, South Arcot, Bellary, Western Mysore, and Nellore. In Vizagapatam, on the other hand, the opinion is that irrigation would prove beneficial rather than injurious in seasons when rains fail or vary in their supply.

Artificial irrigation is almost unknown in the Bombay Presidency, Berar, and British Burma.

In some parts of the Panjab, cotton is irrigated from wells, and well water is considered better for the purpose than river or canal water. In other parts, more especially in the Jullundhur Doab, the best cotton is produced upon unirrigated lands, irrigation being very sparingly resorted to in tracts where water is abundant.

Artificial irrigation to cotton is rather the exception than the rule in most parts of India; it proves more serviceable to exotic than to indigenous kinds; and in heavy black soil cotton will seldom flourish under irrigation, even of the most careful kind, while in sandy and light red sorts it might be much benefited.

Manure.—Salt marsh mud is used for manure in various parts of the cotton-growing districts of the United States, more especially in Eddesto island, one of the largest of the South Carolina group, about 30 miles S.W. of Charleston, which yields the finest cotton in the world. As much as 40 cartloads of this mud is used to the acre. Some compost it, others put it in the cattle pens. Some dry it before hauling, and then spread upon the land; while others prefer to use it as soon as dug, spread upon the land wet, and ploughed in. It is supposed that the Sea Island qualities owe their superiority to the use of marsh mud, which is rich in alkalies and alkaline earths.

In the Panjab, the localities best suited for the growth of cotton are the submontane districts of Ambala, Hoshiarpur, Gujerat, and Peshawur. The time of sowing varies from February in the south, to the middle of June in some of the northern districts. The flowering commences according to locality, between August and December; the picking following about a month after the flowering, and continues at intervals for two months.

There the average produce per acre, after the cotton is cleaned from its seed, is a little over one maund (or 80 lbs.), the rate varying from three maunds (240 lbs.) of raw cotton in the Hoshiarpur, to 16 seers (32 lbs.) of cleaned cotton in the Kangra district.

The *Nurma-bun* cotton is cultivated in small quantities all over Hindustan, and its produce is in great request for the manufacture of the best kind of Brahmanical thread. It is a bushy plant, grows to the height of about seven feet, and lasts about six years. It is cultivated all over Oudh, usually as a mixed crop, in light soils, with arhar (Cajanus Indica), or with kodo (Paspalum scrobiculatum), and often with maize. It is sown in the month of June. It is sown broadcast with the above, and nothing is done to it till it begins to ripen the pods. The cotton is picked out of the shell, which is left on the tree. The proportion of staple produced is very small. It is generally on high lands, on which the rain water does not lie.

Agra, Rohilkhand, Meerut, and Allahabad are the great cotton-producing districts of the N.W. Provinces, and their average yield per acre is moderate. In Aligurh the sowing is in June and July, and gathering from October to end of December.

In Gorakhpur and the neighbouring districts, the indigenous sorts are called Kukti, Murwa, and Desi. The *Kukti* kind is sown in February, in calcareous soils, when the ground has been but slightly prepared; it is picked in September and October. It is an annual, and the same ground is never used in two consecutive seasons.

Murwa cotton, if carefully tended, is triennial,

or even quinquennial; it is generally grown both in silicious (bangar) or calcareous (bhat) soils, as a border round sugar-cane or vegetable plots.

The *Desi* or indigenous variety is common to all Gorakhpur and its neighbouring districts. It is sown in June, in ground but little prepared for its reception, and does not yield till the following April. It is an annual; bears pods for six weeks only, and is then cut down.

In *Bundelkhand* cotton grows to great perfection, and its produce is of a softer texture and of a whiter colour than that of the Doab.

The *mar* or *maura* black soil of the first quality is the most productive, yielding on the average 286 lbs. per acre.

The *purwa* soil of Bundelkhand is reddish, a mixture of sand and clay, and yields 191 lbs. per acre, 2-7ths being the proportion of cleaned cotton.

Bankar is a light-coloured, sandy, gravelly soil, which yields 143 lbs. per acre, 1-5th of the produce being cleaned cotton.

In Bundelkhand cotton is sown as a mixed crop in the beginning of the rains, and if the season is favourable, picking begins in the middle of September in the poorer soils, but not till the middle or end of October in the rich ones. Two ploughings and three weedings are necessary. The seed is rubbed in moist cow-dung, to serve as manure, and is sown broadcast. The cost of cultivation per acre is Rs. 9. After the removal of the fibre, the seed (binoula) finds a ready sale in E. Oudh at 50 or 60 seers the rupee.

Jaloun, Jhansi, and Bundelkhand lie to the westward of the Jumna, and have always been famed among the natives for their cotton.

Central India cotton has always been esteemed. The soil in many places is the black cotton soil. In some parts of Nagpur the field is tilled and manured with ashes and cow-dung before sowing. In pargana Boondoo, besides the common Kapas, there are two other sorts of cotton, called Tureea and Guteh. The former is sown in October, and picked in April and May, the field being tilled ten or twelve times before sowing. The latter is sown in July; cotton is picked two or three times in April; the trees last from three to four years, producing cotton every year, and they are 2½ yards high. This is grown by the poorest class in their own premises. The time of picking, speaking generally, is the whole of November and December, excepting in pargana Boondoo, where, as already stated above, the Tureea and Guteh or Gujar are picked in the months of April and May.

In *Berar*, the Chundelee, a very fine cotton fabric of India, so costly as to be used only in native courts, was made from Amraoti cotton. The chief care bestowed was on the preparation of the thread, which, when of very fine quality, sold for its weight in silver. The weavers work in a dark under-ground room, the walls of which are kept purposely damp, to prevent dust from flying about.

Mr. Terry has stated that the Amraoti cotton, if well prepared, is equal to any American cotton for the great bulk of the manufactures of England.

Hinginghat cotton is admittedly one of the best staples indigenous to India. It is, properly speaking, the produce of the rich Wardha valley, brought for sale to the Hinginghat market; but a good deal of the cotton known in Bombay as Hinginghat is not really produced in the neighbourhood of the town, but is grown elsewhere, attracted to Hinginghat by the ready market there found; thus some of inferior quality goes into the market at Hinginghat. The best foreign cotton is that brought from Edalabad in the Hyderabad territory, where the growth of the Pain Ganga valley is collected. This cotton is reckoned quite as good as the Hinginghat staple, and is eagerly sought after.

The *Bombay Presidency's* best cotton districts are the Southern Mahratta country, about 16° N. lat., where experimental farms were established. In Gujerat and Kattyawar districts, superior cottons have long been grown by the natives; in consequence of which, these were selected as the sites of the northern experimental farms, much favourable land for the purpose being found between the latitudes of 21° and 24° N. The causes which favour the growth of cotton, esteemed both in India and England, in the tract of country extending from Surat and Ahmadabad, or from about lat. 21° and 23°, in a broad band across Malwa to Banda and Rajakhaira, in about 25° and 27°, near the banks of the Jumna, are no doubt physical. The black cotton soil which is spread over a great portion of this tract, has undoubtedly a considerable share in producing the result; but good crops of cotton are produced in some parts where there is no black soil, as immediately on the banks of the Jumna and in the Doab.

In the *Kandesh* model farm in 1875-76, the average yield was 50 lbs. of clean cotton per acre of the Hinginghat variety, the maximum being 130 lbs. per acre. The average in the Nagpur model farm was 50·6 lbs. per acre. On unmanured land only 28 lbs. per acre. On Syedapet farm, the western variety yielded 353 lbs. per acre, and in the Sind Hyderabad collectorate the yield was 346·94 lbs. per acre of uncleaned cotton.

Cotton, wheat, and bajra (Penicillaria spicata) all ripen in Gujerat at the same period of the year, about the end of February, and the cotton-picking continues to the middle of April. The first picking of cotton affords the best kind, the second is the most abundant, and the third is greatly inferior to the other two, both in quantity and in quality.

In *Cuttack* and *Orissa* there are two highland or upland varieties, the one called the Daloona, because the plants throw out numerous branches. The second kind of upland is called yellow, from the colour of the flowers; the flower of the Daloona being white. A third variety may be called the lowland, and is known locally as the Keda. The upland varieties are grown more or less all over the Gurjuto or Hill States, wherever a virgin forest soil exists. They are grown generally in the Sumbulpore district and its dependencies, throughout the Tributary States, and in Dhenkanal and Khoordah. A virgin forest soil is the only requisite for the successful cultivation of these varieties. The jungle is cut down, all the brushwood cleared, heaped and burnt on the spot, the stems and roots of the larger trees being left in the ground, which then receives a superficial ploughing. These clearings are called taela, and the cotton grown in them Taela cotton. These preparatory processes are attended to in Sumbulpore, Khoordah, and Dhenkanal, just before and during the first falls of rain, in the latter half of May and the first half of June, so that the plants

shoot and grow and arrive at maturity through the rainy months. Dwarf paddy, sooa, Panicum Italicum, Eleusine coracana, bajra, or castor-oil, are sown with the cotton seed broadcast. The edible seed-crops in the third or fourth month are gathered as they ripen, then the ground is weeded and turned about. In January and February the cotton plants yield the first picking, and a month after the castor-oil seed ripens, and its plants are plucked and removed. Daloona cotton plants last for two or three years, and yield three pickings annually, and reach a height of 9 to 12 feet. With the yellow upland, it is not so generally the practice of sowing other crops.

The cultivation of the Keda or lowland variety of cotton is confined almost to the settled and open districts of Cuttack, Puri, and Balasore; a little is raised in Dhenkanal and Khoordah. The best soil selected for this variety is do-fuslee, or double crop. It is generally a light sandy soil, handy for irrigation purposes. The seed used throughout the district for lowland cotton is procured from Khoordah and Dhenkanal, it being alleged that none other will germinate in the lowland districts. It is placed in a pot, and soaked in dung and water for a night, and then dried by exposure to the sun on the following day. It is afterwards laid on straw, contained in an earthen vessel covered over with castor-oil leaves and placed near a fire. So soon as the seed splits and shoots it is planted, and watered at intervals of two, three, and four days. November and December are the usual months for the planting. The plants are annual, and attain a height of 4 to 6 feet. The cold weather showers falling occasionally in December, January, and February, favour the plants, and when plentiful, constitute a good season. The pickings are obtained continuously in April, May, and June. In the latter month all the bolls are picked off the plants, and after exposure to the sun, open. After the month of June, the lowland cotton plants are plucked up, and the land cleared for a pulse crop.

Madras Presidency.—As early as 1790, Dr. Anderson was employed in sending Mauritius cotton seeds, as well as brown cotton seeds, imported from Malta, to different parts of the Peninsula; and Dr. Roxburgh, who left Samulcotta in the Northern Circars, and took charge of the Calcutta Botanic Garden in 1793, had already ascertained that the elevated, dry, and less fertile soil of Coromandel was better suited than that of Bengal to the Bourbon cotton. He obtained its seeds from Mr. Hughes, who had for some time been engaged in the culture of cotton in the Tinnevelly district, and whose success was so considerable with Bourbon cotton, that for twenty years Hughes' Tinnevelly cotton continued to be quoted in the Liverpool market as the best from India, and sold at higher prices than the American short-staple cottons, and 3d. per pound above the best Surats. The fact is important, on account of the latitude of Tinnevelly being only $8\frac{1}{2}°$, and because the success was evidently the result of skill applied to the culture. The produce, only 100 lbs. per acre, was fine in quality and much esteemed. The cottons of the Madras Presidency are more largely grown in the valley of the Kistna, and in the Bellary, Kurnool, Tinnevelly, and Coimbatore districts.

At *Coimbatore*, the Oopum or best indigenous cotton is raised in rotation of two years, with cumboo, Panicum spicatum, Penicillaria spicata, and cholum or Sorghum vulgare. The Oopum cotton is raised on black soil.

In *Bellary*, cotton is grown in drills along with cholum or millet; with the former, the drills are about six feet apart, and have from four to six rows of sorghum between each one of cotton; with the latter, the drills of cotton are only three feet apart, and have two rows of millet between them. When the crop of the millet is cut down, a very singular and sudden change occurs; one day nothing is seen but yellow grain, which on the next disappears, and a thick crop of green cotton plants, about half a yard high, remains. None of the fields are enclosed, but they are generally protected at the sides of the road by rows of the prickly Jamaica yellow thistle, Argemone Mexicana.

In *Vizagapatam*, about lat. 17° N., very liberal pruning is practised, and the return is much greater than in any other of the Madras districts. In sandy soils near the sea, the Oopum cotton yields the more largely.

In *Mysore*, large belts of land in the northern and central taluks are deemed excellent for cotton culture.

For a series of years up to 1850, Dr. Wight, an eminent botanist, was employed in experimental cotton-growing in the collectorates of Tanjore, Coimbatore, and Tinnevelly, and he formed the opinion that the less yield of the cottons ripening there in January, was owing to the insufficient warmth of that season of the year.

In *Ceylon*, cotton is grown very generally both by the Singhalese and Tamil races, but upon no regular plan nor to any extent.

Bengal Presidency. — The indigenous cotton of Dacca has long been celebrated for its superior quality. It is cultivated along the banks of the Megna from Feringybazar to Edilpore in Bakarganj, a distance of about forty miles, on the banks of the Brahmaputra creek (the ancient channel of the river of the same name), and along the Luckia and Banar. It presents different shades of quality, the finest of which is named Photee, and is the material of which the delicate muslins are made. It was described by Roxburgh as differing from the common herbaceous cotton plant of Bengal in several particulars, chiefly in having a longer, finer, and softer fibre. It has, however, often been doubted whether the superiority of the Dacca manufacture was dependent on the skill of the workmen or the goodness of the cotton; but, from Mr. Lamb's account, it appears to have been carefully cultivated. Probably both had some influence; and it is certain that the workmen prefer the Dacca cotton, because, as Mr. Webb long ago explained, its thread does not swell in bleaching, as is the case with the cotton grown in North-western and Central India.

In Burdwan the Wesbee or native cotton plant is sown in the month Ashar. The soil is ploughed four or five times, the seed is kept in water for three or four days, is taken out on the day before it has to be sown, and is then mixed with ashes and cow-dung, and in this state is scattered over the ground, which is then again ploughed. Some cultivators, however, put four or five seeds in

small holes at the interval of about 1½ cubits. In the month of Magh (January—February), when the plants become ½ cubit high, they are watered. The picking of the Wesbee cotton is commenced in the month of Cheyt, corresponding with April, and finished in June and July (Joyte). Nurma cotton is cultivated in the month of Ashar, corresponding with June. The roots of the plants are well covered with earth. No irrigation is required, as nurma cotton is a rainy season plant. Its cotton is picked in November and December.

The Garo, Tiperah, and Chittagong hills produce a large quantity of inferior cotton, called Bhoga. It is used in the manufacture of the inferior kinds of hummum, bafta, boonee, saree, jore, etc., also for making ropes and tapes, and the coarsest of all fabrics, viz. garha and guzeeh, which are commonly used for packing other cloths, and for covering dead bodies, for which purpose a large quantity of them is consumed annually both by Hindus and Mahomedans. A piece of guzeeh cloth, measuring 10 yards, could be purchased for 12 annas (eighteenpence), which is the one hundred and twenty-fifth part of the price paid for a piece of mulmul-i-khas of the same dimensions.

In *Tirhut* the cottons produced are of the kinds called Bhojra, Bhogla, and Kooktee; the two former ripen in April and May, the Kooktee ripens in September. The fabric manufactured from Kooktee cotton is not white, but of a stained white colour, white cotton being produced only from the Bhojra and Bhogla kinds.

The soil upon which the cotton plant in *Cachar* is grown, consists of a rich red clay, considerably mixed with sand, which forms the soil of the principal hills in the district, and also of the small ranges of hillocks that run through it. The cotton cultivation lies on the slopes of these hills and mountains, such lands being never inundated, although they are wonderfully retentive of moisture. The same hills and slopes became in great request for the cultivation of the tea plant, the soil being peculiarly adapted for its growth. The cotton seeds, together with others, are put in in March and April; they are planted irregularly, but never closer than from 3 or 4 feet apart. The whole cultivation is weeded three or four times during the rains. The cotton flowers in July and August; the picking commences in September, and is continued till December.

In *Burma*, the cotton grown is Gossypium herbaceum, and it reaches a very fair staple. The soil on which it thrives best is the alluvial deposit left by the numerous mountain streams and rivulets on their subsidence at the close of the south-west monsoon. It also grows very well on recent forest clearings, where, often, soils containing a considerable portion of peaty matter and lignite are met with, and appear very suitable for the good of the plant. It appears to thrive also in a limestone soil, which abounds in these provinces.

Cotton grows all over *China*. The Nankin variety is called Tsz-hwa. The Kiang-hwa plant grows in Central China. The cotton plant of Shan-tung and Peh-chi-li is called Peh-hwa, and Cheh-hwa is that of Che-kiang. China has ever been a largely importing country. The cotton-growing area in that country is, however, very large. The yellow cotton from which the beautiful Nankin cloth is manufactured, is called Tze-mie-wha by the Chinese. Although the yellow variety has a more stunted habit than the other, it has no characters which constitute a distinct species. It is merely an accidental variety; and although its seeds may generally produce the same kind, they doubtless frequently yield the white variety, and *vice versa*. Hence specimens of the yellow cotton are frequently found growing amongst the white in the immediate vicinity of Shang-hai; and again, a few miles northward, in fields near the city of Pou-shan, on the banks of the Yang-tze-kiang, where the yellow cotton abounds, Mr. Fortune often gathered specimens of the white variety. Nankin cotton is chiefly cultivated in the level ground around Shang-hai, where it forms the staple summer production of the country. This district, which is part of the great plain of the Yang-tze-kiang, although flat, is yet several feet above the level of the water in the rivers and canals, and is consequently much better fitted for cotton cultivation than the plain of Ningpo, where the ground is either wet and marshy, or liable at times to be completely overflowed. The soil is a strong rich loam, capable of yielding immense crops year after year, although it receives but a small portion of manure. The manure applied to the cotton lands of the Chinese is obtained from the canals, ponds, and ditches, which intersect the country in every direction, and consists of mud which has been formed partly by the decay of long grass, reeds, and succulent water plants, and partly by the surface soil which has been washed down from the higher ground by the heavy rains. In the end of April and beginning of May, the land having been prepared in the manner just described, the cotton seeds are carried in baskets to the fields, and the sowing commences. They are generally sown broadcast, and then the labourers go over the whole surface with their feet and tread them carefully in. The cotton plant produces its flowers in succession from August to the end of October; but sometimes, when the autumn is mild, blooms are produced even up to November. As the pods are bursting every day, it is necessary to have them gathered with great regularity. When perfectly dry, the process of separating it from the seeds commences. This is done by the well-known wheel with two rollers, which when turned round draws in the cotton, and rejects the seeds. It is a simple and beautiful contrivance, and answers well the end for which it is designed.—*Reports of East India Company on Cotton*, p. 350; *Agri-Horticultural Societies of India and of Madras; C. B. Saunders, Esq., Commr. of Mysore; Dr. Cleghorn, in Rep. Brit. Association; Bonynge, America; Proceedings, Madras Govt.; Friend of India; Cal. Review; Indian Field; Royle, Fib. Plants; Royle, Productive Resources of India; Annals, Ind. Administration; Madras Chamber of Commerce; Dublin University Magazine; Elliot, Supplement; Cotton Report*, 1857; *Exhib. Jur. Rep.* 1862; *Alexander Mackay's Commerce Reports*, 1853; *Walter R. Cassell's Cotton*, 1862; *J. G. Medlicott, Cotton Handbook*, 1862; *J. T. Wheeler's Cotton Handbook; Dr. Shortt's Letters; Low's Sarawak; Markham, Peruvian Bark; Central Committee, Lahore; Carnegy; T. B. Lane, Esq., Collector, Tirhut; Smith.*

COTTON BALES weigh—

In America,	440 lbs.	In China,	240 lbs.
,, Brazil,	180 ,,	,, Bengal,	300 ,,
,, Egypt,	500 ,,	,, Madras,	300 ,,
,, Turkey,	350 ,,	,, Bombay,	394 ,,

COTTON GATHERER.

Binahar, Pinjara, . HIND.	Pyhura of BUNDELKHAND.
Pykar of . . . . DOAB.	Pooree of . . . DEHLI.

In India generally these receive one-tenth of the gross produce, as well as a share, sometimes equal to a fourth, of the cleaned cotton.

COTTON-GRASS, Eriophorum cannabinum. Its seeds are clothed at their base with a silky or cotton-like substance, with which pillows are stuffed, and wicks of candles, as well as paper, made. Its name is bhabhur and bhabhuree, and it is made into ropes by the Hindus. An old writer says, 'The wind-trees of that country bear fleeces as their fruit, surpassing those of sheep in beauty and excellence; and the Indians use cloth made from those trees.'—*Birdwood.*

COTTON MANUFACTURES. Amongst the goods which appear to have been brought to Europe from the Indian seas, in the days when Arab traders were the only medium of intercourse between the eastern and western worlds, we find mentioned cloths of silk and cotton of various colours and devices. It does not appear, however, that there existed in Europe any great demand for cotton,—the consumption of the Roman people, who were then the customers for all luxuries, being chiefly confined to cloths of silk and wool. During the trade of Europeans with India by the long sea route, the calicoes and fine muslins of that country came into general notice; and until the production of machine-made fabrics in Britain, they continued to rise in public estimation. It was deemed a great thing with the Lancashire manufacturers, when, by the aid of mechanical and artistic skill, combined with the potent agency of steam, they found themselves able to produce an article which was considered equal to that which the unlettered Hindu had manipulated in his little mud hut on the remote banks of the Ganges, and which had been produced of like excellence by their ancestors, when the 'father of history' penned his observations upon their countries. That the Hindus paid considerable attention to the details of this manufacture in the most remote ages, there remains sufficient proof on record. In the Indian work of highest antiquity, the Rig Veda, believed to have been written fifteen centuries previous to the Christian era, occurs the following passage: 'Cares consume me, Satakralu! although thy worshipper, as a rat gnaws a weaver's threads,'—the temptation to the rat being evidently the starch employed by the spinner to impart tenacity to the thread; nor can there be any doubt that cotton was the thread alluded to. Again, in the Institutes of Menu, we find it directed as follows: 'Let the weaver who has received ten palas of cotton thread, give them back increased to eleven by the rice-water (starch) and the like used in weaving; he who does otherwise shall pay a fine of twelve panas.' In recent times the cotton fabrics of India formed a considerable item in the exports from the East, during the early days of British Indian commerce; the delicacy of their fabric, the elegance of their design, and the brilliancy of their colours, rendered them as attractive to the better classes of consumers in Great Britain, as are, in the present day, the shawls of Kashmir or the silks of Lyons. So much superior, indeed, were the productions of the Indian spinning-wheel and handloom, to those turned out by the manufacturers of Lancashire in the middle of the 18th century, that not only were Indian calicoes and Indian prints preferred to the British-made articles, but the Manchester and Blackburn weavers actually imported Indian yarns in large quantities for employment in their factories. It was about the year 1771-72 that the Blackburn weavers, taking advantage of the discoveries and improvements of Arkwright, Hargreaves, and others, found themselves in a position to produce plain cotton goods, which, if they did not quite equal the fabrics of the East, at any rate found their way very rapidly into general consumption in Europe. The invention of the mule jenny in 1779 was the commencement of a new era in the history of the cotton manufacture of Great Britain; and when, six years later, Arkwright's machines were thrown open to the public, a revolution was effected in the production of all kinds of yarns. Great Britain found herself able not only to supply all her own wants with cotton goods of every variety of quality, but also to carry the produce of her looms 10,000 miles across the sea, and, placing them at the doors of the Indian consumer, undersell some kinds of the goods made by his own hands from cotton grown in his own garden. Nor is it only in the heavier goods that the West are able to beat out of their own markets the weaver of the East. There have been masters in their craft who produced fabrics more exquisitely delicate and light in texture than those beautiful muslins of Dacca, so long and justly celebrated with a world-wide fame. Although in some particulars these latter fabrics claim a certain degree of superiority, many of the Hindus prefer much of their own woven goods to those of Manchester and Glasgow; and the cotton manufactures of British India have been steadily advancing in the out-turn of twist and yarn and piece-goods. It is generally believed that Manchester will fail to contend with the Indian mills in respect to the precise class of goods they are in the habit of turning out. The cotton mills of Bombay have made, since the date of their first starting in 1854, very rapid progress.

In the 25 years between 1857-58 and 1881-82, the value of all the cotton goods imported into British India from foreign countries rose from £5,726,618 to £20,772,098. Since 1868-69 the values of the twist and yarn and of the piece-goods have but little increased. In 1881-82 the twist and yarn was of value £32,220,648. British India has been latterly holding its own. The exports have consisted of cotton goods, including twist and yarn, and have risen from £637,651 in 1850-51, to £1,906,868 in 1881-82.

The yearly increasing exports from Europe misled exporters, for Europe had seldom been able to compete either with the delicate hand-made fibres which the Hindus and Mahomedans have been producing, or with the strong, coarse fabrics which the village weavers produce during the slack time of their agricultural pursuits. In the middle of the 19th century, British India also began to use machinery. In 1880 there were 58 cotton mills at work in British India, with 1,471,730

spindles, mules, and throstles, and 13,283 looms, turning out twist and yarn and cotton cloths, with a nominal capital of four millions sterling.

With their rude implements the Hindus of Dacca formerly manufactured muslins, 'to which,' as Dr. Ure observed, 'European ingenuity can afford no parallel,—such, indeed, as has led a competent judge to say it is beyond his conception how this yarn, greatly finer than the highest number made in England, can be spun by the distaff and spindle, or woven by any machinery' (Ure's Cotton Manufacture of Great Britain, i. p. 54). The jawbone of the boalee fish (Silurus boalis), the teeth of which being fine, re-curved, and closely set, serves as a fine comb in removing minute particles of earthy and vegetable matter from the cotton. The Hindu spinner, with that inexhaustible patience which characterizes the race, sits down to the laborious task of cleaning with this instrument the fibres of each seed of cotton. Having accomplished this, she then separates the wool from the seeds by means of a small iron roller (dullun kathee), which is worked with the hands backward and forward, on a small quantity of the cotton seeds placed upon a flat board. The cotton is next bowed or teased with a small bow of bamboo, strung with a double row of catgut, muga silk, or the fibres of the plantain tree twisted together; and, having been reduced by this instrument to a state of light downy fleece, it is made up into a small cylindrical roll (puni), which is held in the hand during the process of spinning. The spinning apparatus is contained in a small basket or tray, not unlike the catheteræ of the ancient Greeks. It consists of a delicate iron spindle (tukooa), having a small ball of clay attached to it, in order to give it sufficient weight in turning; and of a piece of hard shell imbedded in a little clay, on which the point of the spindle revolves during the process of spinning. With this instrument the Hindu women almost rival Arachne's fabled skill in spinning. The thread which they make with it is exquisitely fine; and doubtless it is to their delicate organization and the sensibility with which they are endowed by nature, that their inimitable skill in their art is to be ascribed. The finest thread is spun early in the morning, before the rising sun dissipates the dew on the grass, for such is the tenuity of its fibre, that it would break if an attempt were made to manufacture it during a drier and warmer portion of the day. The cohesive property of the filaments of cotton is impaired by high temperature accompanied with dryness of the air, and hence, when there is no dew on the ground in the morning to indicate the presence of moisture in the atmosphere, the spinners impart the requisite degree of humidity to the cotton, by making the thread over a shallow vessel of water. A specimen which Dr. Taylor examined at Dacca in 1846 measured 1349 yards, and weighed only 22 grains, which is in the proportion of upwards of 250 miles to a pound weight of staple. During the process of preparing the thread, and before it is warped, it is steeped for a couple of days in fine charcoal powder, soot, or lampblack, mixed with water, and, after being well rinsed in clear water, wrung out, and dried in the shade, it is rubbed with a sizing made of parched rice (the husk of which has been removed by heated sand), fine lime, and water. The loom is light and portable; its cloth and yarn beams, batten, templet, and shuttle are the appurtenances requisite for weaving.

Dacca was the seat of a manufacture of muslins known by its name, and spoken of by the ancients as 'woven webs of air.' The principal varieties of plain muslins manufactured at Dacca were Mulmul-i-Khas, Ab-rawan, Shab-nam, Khasa, Jhuna, Sircar Ali, Tanzeb, Alabullee, Nyan-zook, Baddan Khas, Turandam, Sarbūtee, and Sarband, —names which either denote fineness, beauty, or transparency of texture, or refer to the origin of the manufacture of the fabrics, or the uses to which they are applied as articles of dress. The finest of all was the Mulmul-i-Khas (literally, muslin made for the special use of a prince or great personage). It was woven in half-pieces, measuring 10 yards in length and 1 yard in breadth, having 1900 threads in the warp, and weighing 10 siccas (about $3\frac{3}{4}$ ounces avoirdupois). The finest half-piece seen weighed 9 siccas, priced 100 rupees. Some of the other muslins were also beautiful productions of the loom, as Ab-rawan, compared by the natives from its clear pellucid texture to running water. Shab-nam, so named from its resemblance, when it is wetted and spread upon the bleaching field, to the evening dew on the grass. Jhuna, a light transparent net-like fabric, made for natives of rank and wealth, worn by the inmates of zenanas and dancers, and apparently the cloth referred to in the classics under the figurative names of Tela arenarum, Ventus textilis. All these muslins were made in full pieces of 20 yards in length by 1 in breadth, but varying considerably in the number of threads in the warp, and consequently in their weight. Of figured fabrics, as striped Dooria, chequered Charkhanee, and flowered Jamdanee, there exists a considerable variety, both in regard to quality and pattern. The flowered muslin was formerly in great demand both in India and Europe, and was the most expensive manufacture of the Dacca Urung. There was a monopoly of the finer fabrics for the court of Dehli; those made for the emperor Aurangzeb cost 250 rupees per piece. This muslin is now seldom manufactured of a quality of higher value than 80 rupees per piece.

For the masses of the people, the British manufacturer sends to India the plain and striped Dooria, Mulmul, Aghabani, and other figured fabrics, which have established themselves there, and which, both from their good quality and moderate prices, are acceptable to the numerous classes who make use of them. Some of the chintzes of Masulipatam and of the south of India are as beautiful in design as they are chaste and elegant in colour.

Printed cloths are worn occasionally, as in Berar and Bundelkhand, for sarees; and the ends and borders have peculiar local patterns. There is also a class of prints on coarse cloth, used for the skirts or petticoats of women of some of the poorer classes in Upper India; but the greatest need of printed cloths is for the kind of bedcover called palempore (palangposh), or single quilts.

In the costlier cloths woven in India, the borders and ends are entirely of gold thread and silk, the former predominating. Many of the saree or women's cloths, made at Benares, Pytun, and Burhanpur, in Gujerat, at Narrainpet and Dhanwarum in the Hyderabad territory, at Yeokla in

Kandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson or yellow, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as any lady of England or France. Another exquisitely beautiful article of Indian costume for men and women is the do-patta or scarf, worn more frequently by Mahomedan women than Hindu, and by the latter only when they have adopted the Mahomedan lunga or petticoat; but invariably by men in dress costume. By women this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head; by men, across the chest only.

The *do-pattas*, especially those of Benares, are perhaps the most exquisitely beautiful of all the ornamental fabrics of India; and it is quite impossible to describe the effects of gold and silver thread, of the most delicate and ductile description imaginable, woven in broad, rich borders, and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns of the ribbon borders or broad stripes. How such articles are woven at all, and how they are woven with their exquisite finish and strength, fine as their quality is, in the rude handlooms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colour,—the creamy white, and shades of pink, yellow, green, mauve, violet, and blue, are clear yet subdued, and always accord with the thread used, and the style of ornamentation, whether in gold or silver, or both combined. Many are of more decided colours—black, scarlet, and crimson, chocolate, dark green, and madder; but whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to its original beauty, at least to a very wearable condition. The do-pattas of Pytun, and indeed most others except Benares, are of a stronger fabric. Many of them are woven in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Dekhan,—not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares.

Scarfs are in use by every one,—plain muslins, or muslins with figured fields and borders without colour, plain fields of muslin with narrow edging of coloured silk or cotton (avoiding gold thread), and narrow ends. Such articles, called sehla in India, are in everyday use among millions of Hindus and Mahomedans, men and women. They are always open-textured muslins, and the quality ranges from very ordinary yarn to that of the finest Dacca fibres. Comparatively few native women of any class or degree wear white; if they do wear it, the dress has broad borders and ends. But what all classes wear are coloured cloths,—black, red, blue, occasionally orange and green, violet, and grey. All through Western, Central, and Southern India, sarees are striped and checked in an infinite variety of patterns. Narrainpet, Dhanwar, and Muktul, in the Nizam's territories; Gudduk and Bettigerry in Dharwar; Kolhapur, Nasik, Yeokla, and many other manufacturing towns in the Dekhan; Arnee in the south, and elsewhere, send out articles of excellent texture, with beautifully arranged colours and patterns, both in stripes and checks. The costly and superb fabrics of cloths of gold and silver (kimkhab), and the classes of washing satins (mushroo and hemroo), even if European skill could imitate them by the handloom, it would be impossible to obtain the gold and silver thread unless they were imported from India. The native mode of making this thread is known, but the result achieved by the Indian workman is simply the effect of skilful and delicate manipulation. The gold and silver cloths (kimkhab) are used for state dresses and trousers, the latter by men and women; and ladies of rank usually possess petticoats or skirts of these gorgeous fabrics. Mushroo and hemroo are not used for tunics, but for men's and women's trousers, and women's skirts; as also for covering bedding and pillows. They are very strong and durable fabrics, wash well, and preserve their colour, however long worn or roughly used; but they can hardly be compared with English satins, which, however, if more delicate in colour and texture, are unfitted for the purposes to which the Indian fabrics are applied. For example, a labada or dressing-gown, made of scarlet mushroo in 1842, has been washed over and over again, and subjected to all kinds of rough usage, yet the satin is still unfrayed, and the colour and gloss as bright as ever. Many of the borders of loongees, dhotees, and sarees are like plain silk ribbons, in some instances corded or ribbed, in others flat.

In Europe, it has been usual to name particular fabrics after the place of their manufacture, and this practice was extended to eastern products, as calico from Calicut, gauze from Gaza, muslin from Mosul, chintz from the Hindi chinte, spotted. In British India, however, the people name their woven fabrics from the form of their construction, their appearance, or the use to which they are applied. The cotton goods sent from Bombay to the Paris Exhibition of 1855, comprised bafta, boonee, carpets, chandni, choli, dastarkhan, dhoti, ek-patta, do-patta, dungari, khadi, lungee, peshgir, phatka, pagga, quilts, razai, sailcloth, saree, soosi, turband, tablecloth, table napkins, and towels.

Omitting the second-rate kinds of cloth, which constitute the great bulk of the Dacca cotton manufacture, a class worthy of attention is that of fabrics of a mixed texture of cotton and silk. They are designated by various names, as nowbŭttee, kutan, roomee apjoola, and lucka; and, when embroidered with the needle, as many of

them frequently are, they are called kusheeda. The silk used in their manufacture is the indigenous muga silk of Assam and Sylhet; but the cotton thread employed is now almost entirely English yarn, of qualities varying from Nos. 30 to 80. These cloths are made exclusively for the Jedda and Bussora market; and a considerable stock is yearly exported in the Arab vessels that trade between Calcutta and these ports. Pilgrims, too, from the vicinity of Dacca not unfrequently take an investment of them, which they dispose of at the great annual fair held at Meena, near Mecca. They are used by the Arabs chiefly for turbands and gowns. The golden colour of the muga silk gives to some of these a rich lustrous appearance. Pieces made of native-spun cotton thread and of the best kind of muga silk, would be admired in England.

In Ganjam is fabricated a cotton cloth, each side of a different colour. This effect is produced not by dyeing the cloth after it is woven, but by a dexterous manner of throwing the woof across the warp on either side. Madapollam and Ingeram used to be famous for cotton cloths, but since the abolition of the Company's trade, the finer panjams have not been made. Palampores, as bed coverings, of the former place deserve attention. Very fine muslins are made at Oopada, north of Cocanada, and handsome turbans, with gold thread interwoven; but all these things are far surpassed by the Bengal fabrics. The Chicacole muslins are, however, prized by European ladies. Cotton cloths from Nellore consist of manufactured articles which find a ready sale in the markets of this Presidency.—*Madras Exh. Jur. Rep.* 1855, 1857; *Dr. Taylor of Dacca, Reports of Great Ex. of* 1851; *Cal. Cat. Ex. of* 1862; *Juries' Report, Ex. of* 1862; *Royle, Arts of Ind.; Royle, Prod. Res. of India; Bombay Times.*

COTTON SEED is the Binour, Binoula of Hindustan. It is chiefly used in India for feeding cattle, and also sometimes as manure for cotton plants. In the year 1878, 175,000 tons were imported into Great Britain, and sold there at from £7, 17s. 6d. to £9, 10s. Cotton seed oil is expressed from cotton seeds. It is used for burning in lamps, and is also considered to have, in a peculiar manner, the virtue, when externally applied, of clearing the skin of spots and freckles. It is a drying oil, and therefore unfit for lubricating. When obtained by pressure, its colour, owing to the presence of a resinous substance, is of a very dark red, and 10 to 15 per cent. is lost in bleaching it. When prepared by steaming the seeds and collecting the oil by skimming it from the surface of the water, it has a bland, light-coloured appearance.—*Faulkner.*

COTTON, SILK. The silk-cotton trees of India are the Eriodendron aufractuosum, *D.C.*, and the red cotton tree, Salmalia Malabarica, *Schott.* The seeds of E. aufractuosum are embedded in silky cotton. The capsules, on bursting, display a flocculent cotton-like substance, more silky than cotton, and named silk-cotton. It differs also in not spinning like cotton. Mr. Williams of Jubbulpur, however, succeeded in spinning and weaving some of it, so as to form a very good coverlet. It is used for stuffing pillows, muffs, and coverlets; for wadding, or for conversion into half stuff for papermakers. In the Trans. of the Agri-Hortic. Soc. iii. p. 274, there is a report from the Society of Arts on two pieces of cloth made from the simul or silk-cotton tree; but from the shortness of the staple of the down, and its elasticity, it cannot be spun by ordinary cotton-spinning machinery. A silk-cotton surrounds the seeds of Bombax ceiba, *L.*, a South American tree, and is used for stuffing cushions and the like, but not suited to work into cloth fabrics. Another beautiful silk-cotton (West Indian) is from Ochroma lagopus.—*Royle, Fib. Pl.*

COTTON SOIL, or Black Cotton Soil, is the name given to the 'regar.' See Soil.

COTTON THIEF, a name applied in Ceylon to the beautiful long-tailed bird, Tchitrea paradisi, *Linn.*, the sultana bulbul of the Mahomedans of the Peninsula, its long white feathers in the tail streaming like cotton as it flies.

COTURNIX VULGARIS, the common quail of Europe, Asia, Africa, is chiefly migratory, and is abundant in India.

COULAM, in Southern India, is the name given by the Tamil people to the whole island of Ceylon. It is also the name of the towns which Europeans call Covelong near Sadras, on the east coast, and Quilon on the west coast, of the Peninsula.

COUNTRY, a prefix in use amongst the British to indicate a product of India. It is a translation of several vernacular words, used to express an article local and not foreign. The Tamil word Nat'h has this signification.

Country Almond Tree, Terminalia catappa.
Country Borage, Coleus Amboinicus.
Country Fig Tree, Ficus racemosa.
Country Galls, myrabolan.
Country Gooseberry, Cicca disticha.
Country Greens, Amarantus oleraceus.
Country Kreat, Exacum bicolor, chiretta.
Country Mallow, Abutilon Indicum.
Country Rosin, dammer.
Country Sarsaparilla, Hemidesmus Indicus.
Country Walnut, Aleuritus triloba.

COURMARINE, an aromatic principle found in Melilotus officinalis, or common melilot, and in the tonquin bean, Dipterix odorata.

COURSE, a term applied by European residents in India to the places of evening promenade, probably obtained from the Corso of southern Europe.—*Elliot.*

COURT, a general of Ranjit Singh. He had previously been a lieutenant of the old Imperial French Guard.

COURT, M. H., major of the Madras Artillery, wrote an account of Palembang, 1821.

COURTALLUM, a town near Tinnevelly in the Arangole pass. It is in lat. 8° 56′ 20″ N., long. 77° 20′ E., and is 700 feet above the sea. It has waterfalls considered sacred by the Hindus.

COURTNEY, an ancient village 11 miles from Bellary, in which the Jaina religion was formerly prominent, supposed to have been suppressed by the Jangam sect.

COUSIK, a tribe of Sombansi Rajputs; their name would, however, seem to imply Brahmanical descent or connection.—*Elliot.*

COUVADE, a custom amongst several ancient and some existing tribes. According to Apollonius Rhodius, this singular custom prevailed among a people called the Tibareni, at the mouth of the Black Sea.

'In the Tibarenian land,
When some good woman bears her lord a babe,
'Tis he is swathed and groaning put to bed;
Whilst she arises, tends his baths, and serves
Nice possets for her husband in the straw.'

Diodorus Siculus mentions that in Corsica the wife was neglected, and the husband put to bed and treated as the patient.

Marco Polo, in the 13th century, seems to have observed the custom in the Chinese province of West Yun-nan amongst the aboriginal tribes of the land, the Miau-tze, who practise it to the present day. The father of the new-born child, so soon as the mother can leave her couch, gets into bed, and there receives the congratulations of acquaintances. And Marco Polo mentions that in the Zar-dandan (gold teeth) tribe on the frontiers of Burma, when a woman bore a child, she rose and went about her business, and the husband took to bed for forty days, and was fed on possets.

About the beginning of the Christian era, Strabo (iii. 4, 17) mentions that among the Iberians of the north of Spain, the women after the birth of a child tend their husbands, putting them to bed instead of going themselves. In the same locality, amongst the modern Basques in Biscay, M. Michel found the same custom prevailing a few years ago. The women, he says, rise immediately after childbirth and attend to the duties of the household, while the husband goes to bed, taking the baby with him, and thus receives his neighbours' compliments. This practice seems to have spread to France, and to have there received the name of *faire la couvade*. It has been found in Navarre and on the French side of the Pyrenees.

Amongst the Caribbees of the West Indies, the father is put to bed and fed on meagre diet, and his body punctured and tortured; and the Abipone husband of S. America is treated like a lying-in woman.

The Yerkala or Yerkal-wanlu dwell in the Telugu districts of the Madras Presidency. Those in the neighbourhood of the Dumagudian practise the Couvade. Directly the woman feels the birth-pangs, her husband puts on some of her clothes, places on his forehead the mark which women apply to their foreheads, retires to a room where there is only a very dim lamp, and lies down on the bed, covering himself up with a cloth. When the child is born, it is washed and placed on the cot beside the father. Asafœtida, jagari, and other articles are then given, not to the mother, but to the father. During the days of ceremonial uncleanness, the man is treated in the manner that on such occasions other Hindus treat their women. He is not allowed to leave his bed, but has everything needful brought to him.—*Mr. John Cain in Ind. Anti.*, May 1874; *Apoll. Rhod. Arçon*, ii. p. 1012, in *Quarterly Review*, July 1868; *Müller's Chips*, ii. pp. 277–284.

COVELLIA GLOMERATA. *Miq.*

Ficus glomerata, *Willd.* | Atteekka-gass, . SINGH.

Common in Ceylon on the banks of rivers and up to 2000 feet.—*Thw.* p. 267.

COVELLIA OPPOSITIFOLIA. *Gaspar.*

C. Dæmonum, *Miq.* | Ficus oppositifolia, *Willd.*
C. Assamica, ,, | F. Dæmonum, *Vahl.*
C. Dasycarpa, ,,

Kota-dimboola-gass, . . SINGH.

Very abundant in the warmer parts of the Ceylon island.—*Thw. Pl. Zeyl.* p. 266.

COVELONG, Coulam, or Kovilam, a seaport village 22 miles south of Madras, in lat. 12° 46′ N., and long. 80° 18′ E. A fort, now demolished, was erected by Anwar ud Din near the ruins of one that the Imperial E. I. Company of Ostend had erected. In 1750 the French obtained possession of it, but in 1752 it surrendered to Captain Clive.

COVIL GRASS, or Penna stipata, during the month of June is in flower, impregnating the atmosphere with an aromatic perfume. On this grass feed innumerable flocks of horses and mares, and its flower communicates to the milk of the mares a certain aromatic quality. Out of the milk is made the Tartar koumiss, and the drinkers of koumiss at this time of the year set at defiance most of the woes that distress mankind.

COVILHAM. Pedro da Covilham and Alfonso de Payva were sent as merchants in 1494, *via* Genoa, Alexandria, Cairo, and the Red Sea, to Aden, where they separated, agreeing to meet again at Cairo, Payva to search for Prester John in Abyssinia, whom he heard of as reigning there over a highly-cultivated people, but he died before reaching Abyssinia. Covilham went on to India, where he made drawings of cities and harbours, especially Goa and Calicut. Thence he returned along the coast of Persia to Cape Guardafui, and continued south to Mozambique and Zofala, where he ascertained that that land joined the Cape of Good Hope. From Zofala he returned to Abyssinia, and sent his diary, charts, and drawings to Genoa by some Portuguese merchants who were trading to Memphis. On receipt of these, King Emanuel, in 1495, sent four ships under Vasco da Gama, who visited Natal and Mozambique. In 1498 he was at Calcutta, and in 1499 back at Lisbon. See Portuguese.

COW.

Vache, ... FR.	Gow, ... LETT.
Kuh, ... GER.	Chuo, Chuowi, OLD HIGH GERMAN.
Bous, Boes, . . . GR.	
Gu, HIND., PERS., ZEND.	Go (Gous, *pl.*), . SANSK.
Ngau, Gao, Gai, ,, ,, ,,	Coo, ... SCOTCH.
Vacca, ... IT.	Vaca, ... SP.

A good milch cow should have a good-looking udder, fine skin, and fine tail. The herdsmen of Indian villages take out cows daily to graze, receiving 2 to 8 annas a month. In ancient Egypt the cow was a sacred animal, as also were the bulls Apis and Mneves. At present the cow is worshipped amongst all Hindus; and the Banjara are perhaps the only race in British India who apply the cow to labour. But the Vedas do not enjoin reverence to the cow; and in the Hindu marriage ceremony, where a milk cow, Surabhi, is released on the intercession of a barber, sufficient remains to show that the sacrificial rite of killing a cow was formerly practised at marriages, for the sake of hospitality.

Two Hindu traditions seem to indicate the domestication of the cow. In Hindu mythology, the Cow of Plenty, called Kamadhenu, Surabhi, Savala, granting all desires, is fabled to have been produced by the Sura and Asura, at the churning of the ocean after the deluge, for the recovery or production of the Chaoda-ratna or fourteen sacred things; another fabulous cow, the cow of five colours, or Panch-warna, was given by Indra to the parents of Rama. It is common for Brahmans and others to feed a cow before they take their own breakfast, ejaculating as they present their food, 'Daughter of Surabhi, framed of five elements, suspicious, pure, holy, sprung from the sun, accept this food by me; salutation unto thee!' Or if he conduct the kine to grass, 'May cows, who are mothers of the three worlds and daughters of Surabhi, and who are beneficent,

pure, and holy, accept the food given by me' (Colebrooke, As. Res. vii. p. 276). In marriage ceremonies the hospitable rites are conducted by letting loose a cow, at the intercession of the guest, a barber, who attends for that purpose, and exclaims, 'The cow! the cow!' upon which the guest pronounces this text, 'Release the cow from the fetters of Varuna. May she subdue my foe! may she destroy the enemies of both him (the host) and me! Dismiss the cow, that she may eat the grass and drink water.' When the cow has been released, the guest thus addresses her: 'I have earnestly entreated this prudent person, saying, Kill not the innocent, harmless cow, who is mother of the Rudra, daughter of the Vasu, sister of the Aditya, is the source of ambrosia,' etc. (ibid. p. 293). In the Hitopadesa (p. 110), the earth is called Surabhi, and the learned translator (Wilkins) notes the same to be not usually so applied, although the earth may well be called the cow of plenty.

The cow with the female buffalo furnish most of the milk used by the people of India, and there are several breeds of cows famed for the large quantities they yield; one of these, from Aden in Arabia, is much praised.

The custom in India, of using cow-dung for smearing floors and walls, is practised by all sects as well as Hindus, as the most cool and cleanly appliance. Cow-dung is plastered over the cooking-place before the meal of a person of a high class is cooked; in camps, or on journeys, a space of 10 or 12 square feet is so purified, but is easily polluted by the approach of impure persons or things, in which vexatious case the food becomes unclean. The ashes of cow-dung, vibudi, are also of a very purifying nature; and Hindus of almost all ranks and degrees, men and women, occasionally or frequently use them, mixed sometimes with other ingredients, to mark their foreheads, necks, arms, etc. Sometimes men, especially religious mendicants, or penitents, or those having some claims to sanctity, are rubbed all over with these ashy mixtures, and present a curious sky-blue appearance. Amongst Hindus, the greatest of all purifiers is the urine of a cow. Hindu spirits of impurity abhor this sin-expelling, sanctifying liquid. Images are sprinkled with it; no man, of any pretensions to piety or cleanliness would pass a cow in the act of staling without receiving the holy stream in his palm, sipping a few drops, and with his bedewed fingers marking and crossing his forehead, shoulders, and breasts. —*Moor's Pantheon*, p. 143; *Williams' Nala*, p. 136; *Kennedy on Languages*, p. 43; *Wilford; Colebrooke*, p. 276; *Coleman*, p. 293.

COW BEZOAR, and bezoars from all ruminating animals, always find a ready market in China, where Chinese doctors lay it up as a rare medicine. They are not unfrequently deceived by an artificial preparation of pipeclay and ox-gall, mixed with a little hair. — *Williams' Middle Kingdom*, ii. p. 406. See Bezoar; Calculus.

COWDEE, seeds of Aristida setacea, a wild grass, also of Exacum bicolor, and of the wild grass Kusai.

COW-DUNG BRATTIES. ANGLO-TAM.

Bouse, ... AR.	Chapre; Chot; Doja, HIND.
Balia; Upla; Gobar, HIND.	Arni kanda, . . ,,
Rana-gosa; Thepri, ,,	Gomayam, . . . TEL.
Bau-gautha, . . ,,	Peda; Pidda-calu, ,,
Bau-kanda, . . . ,,	Bratti; Shani, . . TAM.

With water, cow-dung forms a useful wash for walls and floors, and it enters into the composition of the farriers' fomentations; it hides bad joinery. But its chief use is in forming bratties, or dried cow-dung cakes for fuel. The ground cropped by cattle, and which supplies straw, ought to receive it back before it is reduced to ashes; till this be done, lands must be unduly exhausted. Cow-dung mixed with paddy husk and earth is a fuel much used in Southern India for burning bricks and chunam, also for heating iron tyres for tyring wheels, for which purpose it answers better than any other. It is more economical than any other fuel. It has a disagreeable smoke, but when thoroughly ignited, the heat given out is very intense. The cow-dung ashes balls are Tirunar unde, TAM., and Vibudi in Telugu.

A cake of cow-dung is placed on the top of a heap of corn to ward off the evil eye, and to make the grain increase (barhé, HIND.); hence the cow-dung cake is a Barh-wan, also Chauk and Ch'hatur. A Hindi couplet ridicules the practice:

'Jag baurāhā trishna bibas bhut puj bhau len;
Barhé na barhé barhwan jin Kisan rak'h den;'

'The world is mad, and for the sake of avarice will worship devils, and will still put on the Barhwan, increase or not.'—*Rohde, MSS.*

COW-FISH, Globiocephalus Rissii.

COW-GRASS, Trifolium medium.

COWHAGE, or Cow-age.

Al-kushi, . . . ARAB.	Atmagupta, . . . SANSK.
Kiwach, . BENG., HIND.	Kosam billi wail, . SINGH.
Kaunchkuri, . . DUKH.	Puney kali, . . . TAM.
Cowage, ... FR.	Pilla-dugu-kailu, . TEL.
Kuhkratze, . . . GER.	Enuga-dola-gunda, ,,
Rawe, ... JAV.	

Cowhage, probably a corruption of the Arabic or Hindustani and Bengali names of one of the plants that produce it. Cowhage consists of the hairs found upon pods of different species of Mucuna. They are exceedingly slender, brittle, and easily detached, and the fragments readily stick into the skin, and produce an intolerable itching. Cow-itch is used medicinally as a vermifuge, by being mixed with syrup till of the consistence of honey, and given in doses of two or three teaspoonfuls. The species are found in hedges, thickets, on the banks of rivers, and about watercourses, in the E. and W. Indies, and in America within the tropics. M. urens and M. pruriens usually furnish the substance; but that from M. monosperma, called by the Telinga, Enooga dola Gunda, or elephant's scratchwort, is said to exceed the others in the irritating burning property of its hairs. Dr. Roxburgh states that M. pruriens was one of the plants formerly used in India to poison wells; but it is less hurtful than was supposed.—*Roxb.; Eng. Cyc.* p. 177.

COWRIE.

Wuda, ... ARAB.	Khar-Mahra, . . PERS.
Beya, ... BENG.	Pingo, ... SINGH.
Kauris, . . DUT., GER.	Bucios Zimbos, . . SP.
Coris, Cauris, Bouges, FR.	Kavadi, ... TAM.
Cori, Porcellanne, . IT.	Gavvallu, . . . TEL.
Beya, JAV., MALAY, SANSK.	

Cowries are small, white, or yellow, glossy shells, of the genus Cypræa, found in abundance on the shores of the Laccadive and Maldive islands, African coast, Zanzibar, and the Sulu

islands, etc. There are many species, but the Cypræa moneta pass current as coin in payment of fractional parts of a pice, in India and some parts of Africa. They are brought to India in large quantities, and are re-exported to Britain, where they are used in inlaying, in ornamenting toys, work-boxes, etc., and in the manufacture of the superior kinds of porcelain-ware. They were, during the slave trade, exported from Bombay to Africa. The cowrie seems never to have been used for money among the Indian islanders, as it has immemorially been by the Hindus. Yet the Malay and Javanese name Beya is Sanskrit, and is one of the synonyms which express duty, impost, or tolls. In the currency of India, 4 cowries make a ganda, 20 ganda=a pan, and 5 pan=one anna. In A.D. 1740, a rupee exchanged for 2400 cowries, in 1756 for 2560 cowries, and in 1870, in Madras, as many as 5760 cowries were obtainable for one rupee. The Persian name, Khar-mohra, means literally a jackass' or mule's shell, because mules are ornamented in that country with trappings of shells, as a Gosain's bullock is in India. Ibn Batuta says cowries were carried from the Maldive Islands to Bengal, to be used as coin. The Kamoos adds that a split or broken shell is suspended from the neck to avert the evil eye, and this is still done in India. Among European nations, excepting the British, these shells are known by the name Porcelli, Porcellian, Porcellanen, and Porcelaine, on account of the fancied resemblance of their shape to that of the back of a little pig; and thence arose the term for the Chinese 'porcelain,' of which the glaze or varnish is similar to that of the cowrie. Liverpool imported as under:—

1851,	1704 cwt.	1854,	90 cwt.
1852,	2793 ,,	1855,	311 ,,
1853,	1680 ,,		

Two commercial varieties are known, the 'live cowrie' and the 'dead cowrie.'—*Morrison's Compendious Description; Crawfurd's Dictionary.*

COW-TREE, a tree belonging to the natural order Urticaceæ, Brosimum utile of Endlicher. When wounded, a milky juice is discharged in such abundance, it is said, as to render it an important object to the poor natives in whose country it grows. It is described by Humboldt as being peculiar to the Cordilleras of the coast of Caraccas, particularly from Barbula to the lake of Maracaybo, near the village of San Mateo, and in Caucagua, three days' journey east of Caraccas. In these places it bears the name of Palo de Vaca, or Arbol de Leche, and forms a fine tree, resembling the star-apple of the West Indies. The Kiriaghuna plant of Ceylon, Gymnema lactiferum, is described as another cow-plant, notwithstanding it belongs to the acrid and dangerous asclepiadaceous order.—*Eng. Cyc.; New Comm. Pl.*

COX, Captain H., was sent on an embassy to the king of Burma, and wrote his Journal of a Residence in the Burman Empire.

CRAB, Cancer.

Khirchung,	Arab.	Punjpaiyeh,	Pers.
Crabe, Cancre,	Fr.	Cangrejo,	Sp.
Krabbe Murrkopf,	Ger.	Kaddal nandu,	Tam.
Kenkra,	Hind.	Samudrapu,	Tel.
Granchio,	It.	Nandrakaia,	,,
Katam; Kapiting,	Malay.		

See Crustaceæ.

CRAB-MUNGOOS, Urva cancrivora, *Hod.*

CRAB'S-EYES, seeds of Abrus precatorius, *L.*, used in India by jewellers and druggists as weights, being nearly each one grain. They are strung together for necklaces, rosaries, etc.

CRACKERS, etc. Chinese fire-crackers are exported to the United States, to India, and S. America. They are made up in strings, and then in papers, and lastly in boxes, five of which are estimated to weigh one pikul. The market of Canton is chiefly supplied with fireworks from Fat-shan.—*Compendious Descrip.*

CRAMBE CORDIFOLIA. *Steven.* A plant of Persia, Caucasus, Tibet, and Himalaya, growing up to 14,000 feet. Root and foliage of this kale are eaten. Crambe maritima, *Linn.*, is seakale.

CRANE.

Grue,	Fr.	Grua, Gru,	It.
Kranich, Krahn,	Ger.	Grulla, Grua,	Sp.

Cranes differ from storks in their appearance, habits, anatomy, modes of breeding, and everything except that both happen to be long-legged birds. The Argila or adjutant, Leptoptilus argala, is erroneously termed the gigantic crane. The words Crane, Geranos, and Grus, and the Hindustani names of the three common Indian species, Saras, Karranch, and Kankarra, all have reference to the loud trumpeting of these birds, which have a curious internal conformation resembling that of the trumpeter swans; whereas the storks are voiceless birds, having actually no vocal muscles, and can make no sound but by clattering their mandibles together, which they do pretty loudly. In Australia the term crane is applied to the egrets, or white paddy-birds, as they are called in India, of the family Ardeidæ; while in the Malay countries the so-called paddy-bird is a finch; and the real crane of Australia, Gr. Australasiana, is known as the Native Companion. Some cranes and storks, four-fifths of the ducks, and the great majority of the scolopacidæ, breed in the north, and come to India in the cold season.

(*a*) Grus antigone, *Linn.*, Grus torquata, *Vieillot*, the Saras, a noble bird, is the largest of the whole tribe. During the breeding season it has a pure white collar below the crimson papillose naked portion of the neck, whence the name torquatus. It is mostly seen in pairs, a few of which breed in India in extensive jhils, but the great majority cross the Himalaya for that purpose.

(*b*) Grus leucogeranos, *Pallas*, is the beautiful arge white crane of N. Asia, with black wing-primaries, and crimson naked face. A few stray pairs have been observed in the Upper Provinces of Hindustan; and Burnes figured it from the vicinity of Kābul.

(*c*) Grus cinerea, *L.*, the Kulung or European crane, common to Asia and N. Africa, visits India in great flocks, which wholly disappear in the breeding season. If we except the Manchurian species, the European crane is equal to any in the majesty of its gait and the beauty of its plumage.

(*d*) Anthropoides virgo, *L.*, the Karkarra or Demoiselle, common to Asia and N. Africa, is only known in India during the cold weather. It is the smallest, and certainly one of the most elegant, of this particularly graceful group; the only one with the head fully feathered. And it is adorned with beautiful white neck-tufts, and with lengthened and drooping tertiaries, and a

bright crimson eye. Highly gregarious, the flocks are sometimes immense. Cranes are easily tamed, and they are very ornamental birds to keep. They have a curious and peculiar habit of skipping about at times, attitudinizing or dancing, and now and then emitting their loud cries. In the wild state they do much damage to the crops from their numbers; and repair during the heat of the day to sandflats in rivers, or to other extensive waters, returning to feed morning and afternoon at regular hours. They fly in V-like flocks, like wild geese. The young, commonly two in number, follow the mother soon after exclusion, unlike those of the stork and heron tribe, with which the cranes have little in common.—*Z.*

CRANE-FLY. This gnat is a species of Tipula. Its grub is a pest of the young poppy plant, both on and under the surface of the soil.

CRANGANORE, on the Malabar coast, in lat. 10° 12′ N., built on the Aycotta river, seems to have been one of the most ancient capitals of Malabar, and in some of the ancient copper deeds appears to have been called Muyiri-Kodu, the classical Muziris (?).—*Horsburgh; Yule, Cathay.*

CRANGONIDÆ, a family of Crustaceæ belonging to the division Decapoda Macroura. The type of the family is the common shrimp, Crangon vulgaris. See Crustaceæ.

CRANI. ANGLO-HIND. A Christian copyist or clerk in a public office, generally of mixed European and native descent. The term may be a mispronunciation of Karana, by which the Kayet'h (Kayast'ha) or writing caste is designated in Bengal. The word Krani has begun of late years to be considered decidedly dyslogistic. In India, Kayet'hs are now never called Khaja. In Mahomedan countries, however, the term Khaja is still applied to writers and teachers. Dr. Shaw says of the Moors in Barbary, 'The Hojas suspend their inkhorns in their girdles' (p. 227); and Lady Montagu says, 'The monastery is now belonging to a Hojia, or schoolmaster.'—*Letters*, p. 176; *Elliot, Supp.*

CRANIAL DEFORMITIES. Certain tribes alter the shape of the skulls of their children, making use of, for this purpose, various mechanical contrivances, so as by pressure to bring about that outline which comes up to their peculiar ideas of beauty. Captain Cook noticed it in the island of Ubetea; Marsden mentions it at pp. 44, 45 of his Hist. of Sumatra. In the Narrative of the Voyage of Her Majesty's Ship Rattlesnake, Macgillivray mentions (1852) having seen some skulls of children at Cape York, altered into quite a conical shape by a constantly-applied manual compression of their mothers. Dr. Miklucho-Maclay, a countryman, when visiting, in April 1880, the islands of Torres Straits, had an opportunity of seeing, at Mabiak, this strange operation performed on the heads of several lately-born children. During the first weeks of the child's life, the mothers are accustomed to spend many hours of each day in compressing the heads of their infants in a certain direction, with the object of giving them quite a conical shape. Dr. Maclay saw the operation performed daily, and on many children, and fully convinced himself that the deformity which is perceivable in the adults is the result of this manual deformation only. It would appear that among these people we have the only well-authenticated examples of cranial deformities brought about in this way. At Mabiak the deformation is intentional; but Dr. Maclay observed on the east side of New Guinea, numerous cases of distortion of the heads of adult females, in consequence of the practice of their carrying from childhood heavy burdens in large bags, the band of which serves as a handle, and rests across the head a little behind the coronal suture, where a permanent transverse and saddle-shaped depression of the skull occurs. In some cases this depression was not less than from three to four millimetres; and he thinks that this acquired cranial deformity has a great chance of being more or less transmitted from generation to generation by inheritance, and is therefore most worthy of being recorded.

CRAPE.

Crepe, ... FR.	Sendal, ... PORT.
Flohr, Kraus flohr, GER.	Flior, ... RUS.
Espumilla, Sopillo, . IT.	Crespon, ... SP.

A light silk manufacture.—*M'Culloch, Dict.*

CRATÆGUS, a genus of plants belonging to the natural order Rosaceæ, and the sub-order Pomeæ. C. glabra, *Thumb.*, occurs in Japan. C. crenulata, *Roxb.*, the Indian Pyracantha, or white thorn, is the Gengaru of the Panjab. It is a plant of Nepal, Kamaon, the east of the Panjab, and the Sutlej valley between Rampur and Sungnam at an elevation of 3000 to 7000 feet. It is shrubby, with large white flowers; wood used for staves, etc.—*Cleghorn, Panj. Rep.* p. 64; *Stewart, Panj. Plants; Eng. Cyc.; Voigt.*

CRATÆGUS CRENULATA. *Thompson.*

White thorn, . . . ENG.	Gengaru, ... HIND.

Grows in the Garhwal forests, where it attains a height of 20 feet, with a trunk 12 to 15 feet long and 2 to 2½ feet in girth. Timber useful, and yields crushers for sugar and oil mills.—*Thompson; Roxb.*

CRATÆGUS OXYACANTHA. *Linn.*

Pingyat; Ring, CHENAB.	Ring; Ringo, . KANGRA.
Ramnia, ... ,,	Patakhen; Phindak, RAVI.
Ban-sinjli, . . JHELUM.	Durana, . . . PUSHTU.
Sur-sinjli, . . . ,,	Ghwanza, . . TR.-IND.

Not uncommon in various parts of the Himalaya at 5000 to 9000 feet elevation. Fruit not unpalatable.—*Stewart.*

CRATÆGUS PINNATIFIDA. *Smith.*

Shan-cha, ... CHIN.	Mau-cha, ... CHIN.

The large red fruits of this Chinese plant are strung as beads by Chinese children.—*Smith.*

CRATÆVA, a genus of plants belonging to the natural order Capparidaceæ. The Ægle marmelos (Bilva or Mahura), formerly considered a species of this genus, is now referred to the order Aurantiaceæ. C. Roxburghii and C. nurvala grow in India. The bark of the root of C. gynandra, a native of the W. Indies, is said to blister like cantharides.—*Eng. Cyc.; Voigt; O'Sh.*

CRATÆVA NURVALA. *Buch. Ham.*

Cratæva tapia, *Burm.*	Cratæva inermis, *L.*
Tapia, Birmi, . . HIND.	Mavalingum, . . . TAM.
Nirvala, . . . MALEAL.	Maridu, ... TEL.

A small tree, 15 to 20 feet high, which grows in Malabar and Mysore.—*Voigt.*

CRATÆVA ROXBURGHII. *R. Br.*

Cratæva tapia, *Vahl.*	C. religiosa, *Forst.*
C. odora, *Ham.*	C. læta, *D. C.*
C. Adansonii, *D. C.*	Capparis trifoliata, *Roxb.*

Tikto shak, . . . BENG.	Tapia, Varana, . . SANSK.
Ka-dat, ... BURM.	Narvala, ... TAM.
Birmi-ki-jhar, . . DUKH.	Mavilinga maram, . ,,
Three-leaved caper, ENG.	Tella ulimara, . . TEL.
Garlic pear, . . . ,,	Tella ulimidi, . . ,,
Kurwan, Koomla, . MAHR.	Usik manu, . . . ,,
Barna, ... PANJ.	

A small and very handsome tree of both the Indian Peninsulas, of the Circars, and growing in Bengal, and at Saharunpur; common on the banks of rivers, and is much planted by natives. Wood white and hard; the native dhol is often made of it, and it is used for many common purposes, and for carving models. Dr. Gibson says it is not common on the Bombay side. The fruit is hard, globose, and woody, something like that of the wood-apple; the mucilate of the fruit furnishes a cement. The juice and a decoction of its astringent bark are given in intermittent fever and typhus. The bark, macerated in water and mixed with ginger, long pepper, milk, and gingelly oil, is applied as a liniment for drying up sores. An infusion of the bark is also given in flatulency.—*Flor. And.; Voigt; Ainslie; Wight; Gibson; Useful Plants; Cat. Ex.* 1862; *Beddome.*

CRATOXYLON NERIIFOLIUM, *Kurz*, and other species, timber trees of British Burma.

CRAW-FISH. See Crustacea; Palinurus.

CRAWFURD, JOHN, F.R.S., a medical officer of the E.I. Company's army. He entered the service in 1803, and died in 1868. In 1811 he accompanied Lord Minto in his expedition to the conquest of Java, and was afterwards appointed to a native court. In 1817 returned to Britain; and in 1820 he published his History of the Indian Archipelago. He returned to India, and was sent on diplomatic missions to Siam and Cochin-China; and in 1823 he was, on the retirement of Sir Stamford Raffles, appointed Governor of Singapore. In 1826, Lord Amherst appointed him Commissioner in Pegu; and, on the restoration of peace, sent him as Envoy to the Burmese court. In 1827 he returned finally to Britain; and in 1828 he published his Embassy to Siam and Cochin-China; and in 1829 an Account of his Mission to Burma. In 1856 he published a Dictionary of the Malay Archipelago; and he took part in all the discussions of the learned at the ethnological and other societies. His publications were:—History of the Indian Archipelago, Edin. 1820, 3 vols.; Researches in India, Lond. 1817, 2 vols.; Embassy to Siam and Cochin-China; Grammar and Dictionary of the Malay Language, 2 vols. 8vo, Lond. 1851; Dictionary of the Indian Archipelago, Lond. 1857; Journal of an Embassy to the Court of Ava in the year 1827, containing a Description of Fossil Remains by Buckland, 4to, Lond. 1829; View of the Present State and Future Prospects of the Free Trade and Colonization of India, 8vo, Lond. 1829.

CREAM is the Lah and Tung of the Chinese, and Mallai of Hindustan.

CREAM OF TARTAR or bitartrate of potash, deposited in a crude state upon the bottom and sides of casks containing fermenting wine. 57,898 cwt. were imported in 1870 into Britain.

CREED. Mahomedans distinguish between a creed and a sectarian faith. Din is a creed, and Mazhab a faith. See Kalamah.

CREEK, Kyungyee, BURM.; Sherm of the Arabs.

CREMATION was common among the old German tribes, and among the ancient Britons in druidical times; but where Christianity established itself, there cremation ceased. Amongst the Hindus it is called Bhoidagdaha, Samasan, Sumsan. A cremation site is Chihai, Chiwan, Chihani, Mar-ghat.

CRESCENT. This is used by the Mahomedan rulers of Turkey and of Hyderabad in the Dekhan as a symbol on their standards. The Adal Shahi also retained it. The crescent is worn by the Hindu god Siva and by his consort Parvati.

CRESS. American or Belleisle cress has a harsh flavour, but, being of a more robust nature than the garden cress, is easier cultivated on the plains of India. It is raised from seed; the young leaves, cut when young, are used for salads; requires plenty of water.

Garden Cress, Lepidium sativum.

Reshad, ... ARAB.	Loot putiah (leaves), HIND.
Cresson, ... FR.	Crescione, ... IT.
Kresse, ... GER.	Tureh-tezak, . . PERS.
Chunser, . . GUJ., HIND.	Berro, ... SP.
Halim (the seed), . HIND.	

The leaves are gently stimulant and diuretic; as a salad, they are wholesome and palatable, and serviceable in scorbutic diseases. Cress should be sown thick in very narrow drills, about one inch deep and a few inches apart. It requires to be well watered, and is in season all the year round. It should be cut for use when two inches high.

Water-cress is the Shwui-k'in-tsai of the Chinese.

Cress Seed.

Hurif, . . ARAB., HIND.	Aliveri, ... TAM.
Rohitasarashupa, SANSK.	Adala Vittilu, . . TEL.

Cress seed is of a reddish colour, and agreeable, warm taste, and is used by native practitioners as a gentle stimulant; also as a warm aperient, when bruised and mixed with lime-juice. — *Ainslie; Riddell; Jaffrey.*

CRESSA INDICA. *Willde.* Goon of Sind; an erect, ramous annual. Its seeds are ground, and the flour made into cakes, pure or mixed with flour.—*Roxb.* ii. p. 72.

CREX PRATENSIS, the landrail of Europe, Asia, N. Africa, is common in Afghanistan, rare in the N.W. of India.

CRICKETS in China are pitted against each other, and largely betted on. The cricket species of Acheta and Gryllotalpa are very destructive to garden and field plants. See Insects.

CRINUM ASIATICUM. *Willde.*

a. toxicarium, *Herb.*	*c.* anomalum, *Herb.*
b. bracteatum, ,,	*d.* declinatum, ,,
C. defixum, *Ker.*	Bulbine Asiatica, *var. a.*
Sukh dursun, . . BENG.	Vishamandala, . SANSK.
Nag-downa of BOMBAY.	Maha tobaleo, . SINGH.
Var. a. Poison bulb, ENG.	Visha munghe elle, TAM.
Burra kanoor, . . . H.	Visha veduraku, . TEL.
Beluta pola-tali, MALEAL.	Lakshmi narayana, ,,

There are about forty species of Crinum in S.E. Asia, many of them with several synonyms. C. Asiaticum is common in Indian gardens and groves. The flowers are fragrant and ornamental. The Bengali name means interview of ease. The root of the variety toxicarium is a good substitute for squill. The succulent leaves are about two inches broad and two or three feet long. The natives bruise and mix them with a little warm castor-oil, and consider them useful for repelling whitlows and other inflammations on the ends of the fingers and toes. The juice of the leaves is applied to

the outer ear in earache. Its juice is emetic, but very irregular in its action. From two to four drachms of recent bulbs are mild emetic, and are used in Hindustan for the purpose of producing vomiting after poison has been taken, especially that of the Antiaris. The syrup is emetic for children. Dose, a dessert-spoonful, repeated as required. An infusion is a mild and certain emetic. In doses of two drachms, given every twenty minutes, this solution occasions nausea and perspiration. It does not cause griping, purging, or any other distressing symptoms.—*Genl. Med. Top.; O'Sh.; Ainslie; Eng. Cyc.; Roxb.*

CRINUM LATIFOLIUM. *Herb.*

Crinum ornatum, *Bot. Mag.* | Amaryllis latifolia, *Willde.*
Jovanna-pula tali, . . . MALEAL.

A plant common in Southern India. In Tenasserim are species of crinum, which Europeans usually denominate lilies. A very large-petalled species, of which there are two varieties, is much cultivated in gardens.—*Mason.*

CRINUM SINICUM, *Roxb.*, Wan-shu-lan of the Chinese, is a beautiful plant, cultivated in India, Ceylon, Cochin-China, China, and the Moluccas.—*Smith.*

CROCODILE.

Crocodil, ...	GER.	Buaya; Buwaya,	MALAY.
Magr; Kumhir, .	HIND.	Sisan, ...	SIND.
Cocodrillo, ...	IT.	Alii Kimbula, .	SINGH.
Baya, ...	JAV.	Cocodrilo, . . .	SP.

The species known in the E. Indies are,—

Crocodilus palustris, *Less.*, Ganges, Peninsula of India, Ceylon.
C. Siamensis, *Schneid.*, Siam, Gamboja.
C. porosus, *Schneid.*, all rivers.
C. Pondicerianus, *Gray*, Pondicherry.
Gavialis Gangeticus, *Gm.*, Ganges.

The crocodiles are the largest of the reptiles. They are present in all the larger rivers of the Peninsula, the Cauvery, Kistna, Godavery, and their feeders; also in the Indus and its feeders; in the Ganges and its feeders; in Ceylon; in the Irawadi and its feeders; and in all the rivers of the Malay and Philippine Archipelago. The Malays of the Peninsula reckon three species,—the labu or gourd, the kutak or frog, and the tambaga, or copper crocodile. That found in Sumatra and Java, Celebes, Borneo, and the Moluccas, is C. porosus; but there is another in the rivers of Borneo, formidable by its size and rapacity, partaking of the character of the biporcatus and the garial of the Ganges (Crawfurd, p. 10). Crocodiles are in every creek, in every river, in the Sunderbuns, varying in size from a span in length to 18 or 23 feet. They are usually seen lying on the surface of the black mud, basking in the sun; they sleep very soundly, for a steamer may be going at full speed, and making the usual splash and noise, passing within ten paces of a sleeping crocodile, without disturbing their slumbers. To a casual observer they resemble mud-covered logs of wood; and it is not until the large square glittering scales, which are of exceeding strength and beauty when closely examined, and the elevated and doubly dentilated ridge or crest that runs along either side of the tail, become visible, or are seen to glisten in the sun, that the shapeless mass is found to be a fierce, carnivorous, and dangerous animal. The Gangetic garial is not seen in the Sunderbuns; it appears to love the sweet and, comparatively speaking, quieter waters of the upper rivers of India and their clean sand-banks, where they may be seen lying with their mouths wide open, but for what purpose it is difficult to divine, unless it is to get rid of numerous small red filamentous worms that cluster about their fauces. The lower jaw being prolonged backward beyond the skull, causes the upper jaw to appear moveable, which it only is when accompanied by the whole of the skull. A small brown bird has been seen to alight upon the tongue of an open-mouthed crocodile, and pick the worms from the throat as it lay upon a sand-bank in the Ganges. It is generally believed that the snubbed nose crocodile always remains in fresh water; but such is not the case, as they are found all along the Chittagong and Arakan coasts,—never far from the shore, it is true, but still in *bona fide* salt water, where they are as dangerous as sharks. In the rivers of the delta of the Ganges, where they flow through the cultivated portions of the country, stakes are driven into the bed of the river at the watering places or ghats opposite to the villages, where the inhabitants may bathe in security, and draw water for domestic purposes; but even this precaution is not always sufficient to ward off the attacks of the fiercer crocodiles. The crocodile finds no difficulty, when pinched by hunger, in turning the flank of the stakes, and taking up his post within the enclosure, where he silently awaits his prey. A surveyor on the banks of the Goraee was witness to a shocking occurrence in connection with these enclosures. A young Hindu girl about 14 years old came to fill a pitcher with water, and had hardly put her feet into the water, when a crocodile, which had been lying in wait inside the enclosure, rushed at the poor girl, seized her in its formidable jaws, scrambled up the banks of the river, holding the shrieking, struggling girl well up in the air by the middle of her body, and plunged heavily into the river outside of the stakes. A smothered scream, a ripple upon the water, a few bubbles, and the frightful scene was closed. A more daring attack by a Sunderbun crocodile than even the above, occurred at Hoolna. A gang of ironed convicts were being inspected by the magistrate prior to their being sent off to another and a more distant jail. The men, numbering with their guards about fifty, were drawn up in line on the raised embankment or levee of the river; the examination was proceeding, when a crocodile rushed up the bank, seized a manacled prisoner by the legs, dragged him from the ranks, and in a moment, and before any assistance could possibly be rendered, plunged into the river and disappeared. The Peer-puker at Pundooa, in Sind, is a large tank, forty feet deep and 500 years old. The most remarkable tenant of this tank was a tame crocodile, called Fatteh Khan, which answered the call of a fakir living upon the embankments. On summons, the monster would show itself upon the surface, and keep floating for several minutes. Captain von Orlich saw thirty crocodiles in a tank near Kurachee, which at the call of the fakir instantly crept out of the water, and, like so many dogs, lay in a semicircle at the feet of their master. In Colonel Tod's time there were two crocodiles familiar to the inhabitants of Udaipur, who came for food when called. He often exasperated them by throwing an inflated bladder, which the mon-

sters greedily received, only to dive away in angry disappointment. On one of these a Rajput chief affirmed he had ventured to swim. Portions of crocodiles have been discovered fossil in the Siwalik Hills, and in Burma. In India the crocodiles are often called alligators; but the alligator belongs to tropical and Southern America, where they are styled also cayman, jacar.

In Egypt the crocodile was sacred to Typhon and to the god of Papremis.

Herodotus (ii. p. 69), after describing the honours paid to the sacred crocodile by the Egyptians, adds: 'But the people who live round about Elephantiné even eat them; they don't think them sacred.' In Siam the flesh of the crocodile is sold for food in the markets and bazars. The Singhalese believe that the crocodile can only move swiftly on sand or smooth clay, its feet being too tender to tread firmly on hard or stony ground. In the dry season there, when the watercourses begin to fail and the tanks become exhausted, the marsh-crocodiles have occasionally been encountered in the jungle, wandering in search of water. During a severe drought in 1844, they deserted a tank near Kornegalle, and traversed the town during the night, on their way to another reservoir in the suburb; two or three fell into the wells, others, in their trepidation, laid eggs in the streets, and some were found entangled in garden fences and killed. Generally, however, during extreme drought, they bury themselves in the mud, and remain in a state of torpor till released by the recurrence of rains. At Arne-twoe, in the eastern province of Ceylon, whilst riding across the parched bed of the tank, Sir J. E. Tennant was shown a recess, still bearing the form and impress of a crocodile, out of which a crocodile had been seen to emerge the day before. They are said to eat only living creatures, but the dead bodies in the Ganges are also said to be eaten by them. A curious incident occurred in Ceylon some years ago on the Maguruganga stream, which flows through the Pasdun Corle to join the Bentotte river. A man was fishing seated on the branch of a tree that overhung the water, and, to shelter himself from the drizzling rain, he covered his head and shoulders with a bag, folded into a shape common with the natives. While in this attitude, a leopard sprang upon him from the jungle, but, missing its aim, seized the bag and not the man, and fell with it into the river. Here a crocodile, which had been eyeing the angler in despair, seized the leopard as it fell, and sank with it to the bottom.

The garial of the Ganges is supposed to be the largest of the living saurians. The measurement of the largest mentioned by Messrs. Dumeril and Bibron is given at 17 feet 8 inches. The garial abounds in all the great rivers of Northern India. It is found in the Indus, from its delta northwards to near Attock, and up the Panjab rivers for a considerable distance, where it is most abundant.

Major Court mentions that as canoes were paddled along the Moosee river in Palembang, he saw, on two occasions, crocodiles raise their heads out of the water near the boat's side, and attempt to seize one of the paddlers. The boatmen escaped their grasp by moving away. During the time he was at Palembang, seventeen paddlers were carried away by crocodiles. Two gentlemen coming in a small boat up the river to pay him a visit, had provided themselves with a basket of provisions for their journey. On their way, a crocodile raised its head from the water; the paddlers shrieked, and fortunately escaped, but the basket of provisions became the prey to its voracity.—*Letter from Gooneratne Moodelliar, Interpreter of the Supreme Court*, 10th January 1861; *Cal. Rev.; Jo. B. A. S.; Low's Sarawak*, p. 83; *Tennant's Ceylon*, p. 288; *Court's Palembang; Adams.*

CROCODILE ROCK, a dangerous rock 16 miles due east of Cape Comorin.

CROCODILIDÆ, the crocodile tribe, a family of Saurians, of the order Emydosauri, which includes also the family Gharialidæ, comprising the largest living forms of that order of reptiles. Dumeril and other naturalists distinguished the family by the appellation of Aspidiot (shielded) saurians, while many modern zoologists have considered them as forming a particular order. See Crocodiles.

CROCUS, in the arts, a peroxide of iron, used as a polishing material.

CROCUS SATIVUS. *Linn.* Saffron, Crow saffron.

Zafron, Ar., Malay, Pers.	Konyer, . . . Malay.
Than-wen, . . Burm.	Karkum, Abir, . Pers.
Fan-hung-hwa, . . Chin.	Kasmira jamma, . Sansk.
Crocus of Hippocrates, Gr.	Kohoon, . . . Singh.
Zaffran, Kangan, Hind.	Koongoomapu, . . Tam.
Keysur, Kangan mundi, ,,	Kunkuma puvoo, . Tel.
Kongs, ... Kashm.	

A native of Asia Minor, naturalized in England, France, and many other parts of Europe, and cultivated in Persia and in Kashmir, in one small tract at Pampur, not far from the capital. The saffron is exported both to south and north from Kashmir. Vigne says it goes mostly to Yarkand; and Cayley mentions that, in 1867, 5½ maunds reached Leh, which would be worth at Yarkand Rs. 8640. The saffron of commerce consists of the dried stigmata of the flower. These are picked out, dried on paper, either in a kiln or by the sun. If compressed into cakes, it is called cake saffron. Hay saffron is what is usually met with, and it consists of the stigmas, each about an inch and a half long, brown-red, the upper part flattened, widened, and cleft; the lower hair-like and yellowish. The odour is fragrant, taste bitter but agreeable. Saffron tinges the saliva yellow. Mr. Pereira informs us that one grain of good saffron contains the stigmata and styles of nine flowers, so that one ounce of saffron is equal to 4320 flowers. Cake saffron, as now met with, contains none of the real article, being prepared from the florets of the safflower (see Carthamus), made into a paste with gum-water. Dr. Honigberger mentions that Crocus sativus is monopolized by the Kashmirian government, and that the hakims of the Panjab use saffron in melancholy, typhus fever, enlargement of the liver, and retention of urine.—*O'Sh.* p. 654; *Honigb.; Royle; Stewart; Birdwood; Waring.* See Saffron.

CROCUS THIBETANUS. *Smith.* Tsang-hung-hwa, Chinese. A saffron of Tibet.—*Smith.*

CROMLECH is a word applied by the British to widely different structures. It is derived from the Keltic word Krom, crooked or curved, and Lech, a stone. In Brittany they are known as the Grottes aux fées, also the Roches aux fées. Its correct application is a circle of upright stones,

like the 'Hurlers' and 'Nine Maidens' in Cornwall. The cromlech of the British antiquarian is the same as the Welsh and English 'quoit,' such as Arthur's quoit or coetan (Coetne Arthor) near Criccieth, Lanyon quoit and Chun quoit and others in Cornwall, Stanton Drew quoit in Somersetshire, the Kitts koty or quoit near Maidstone, and the Coit-y-enroc in Guernsey, all of them circles of upright stones. Professor Sven Nilsson, however (on the Stone Age, p. 159), defines the English cromlech as synonymous to the French dolmen, the Scandinavian dös, and the dyss of Denmark, consisting of one large block of stone supported by some three to five stones arranged in a ring, and intended to contain one corpse only, several of these dorsar being sometimes enclosed in circles of raised stones. Following, however, the nomenclature given by the late Dr. Lukis, we cannot be far wrong in assigning the word cromlech to all elaborate megalithic structures of one or more chambers, in which category the passage graves may be included.

The dolmen (Dola, table, Moen, a stone) is, as its name implies, of different structure. The cromlechs of Jersey and the adjacent islands partake of the character of the French grottes aux fées, the faity's grotto, as well as the Gangrifter, the gallery tombs of the Swedes, the Jettestuer or chambered tumuli of the Danes, and the German Hunenbetten.

In China the chambered tumuli associated with megalithic avenues have attained their greatest development. The great tomb (the Ling or resting-place of Yung Lo of the Ming dynasty), thirty miles from Pekin, consists of an enormous mound or earth barrow covered with trees, and surrounded by a wall a mile in circumference. In the centre of the mound is a stone chamber containing the sarcophagus, in which is the corpse. This chamber or vault is approached by an arched tunnel, the entrance to which is bricked up. This entrance is approached by a paved causeway, passing through numerous arches, galleries, courts, and halls of sacrifice, and through a long avenue of colossal marble figures, sixteen pairs of wolves, kelins, lions, horses, camels, elephants, and twelve pairs of warriors, priests, and civil officers.

The tombs of the Hova race of Madagascar consist of stone vaults, made of immense slabs of stone, flat inside, forming a subterranean grotto. They also erect stone pillars similar to the menhir. The supposed aborigines of Madagascar were the Vasimba, whose tombs are small tumuli or cairns, surmounted by an upright stone pillar. The cromlech or trilithic altar, in the centre of all Druidic monuments, is supposed by Tod to be a torun or triumphal arch, sacred to the sun-god Belenus.

In 1881, Lieut. Conder saw 400 cromlechs in E. Palestine, in seven central localities. In addition to the cromlechs, several menhirs or standing stones were found, and ancient stone circles in connection with both classes of monuments. Among the sites explored were Heshbon, Elealeh, Medeba, Baal-Meon, Nebo, and Pisgah, the hot springs of Callirrhoë Rabbath Ammon; he found the place of the worship of Baal-Peor and the site of Bamoth-Baal; he discovered the method by which the enormous stones used at Arak el Emir were brought up from the quarries.—*Lt. Oliver, R. A. F. R. G. S. Quarterly Journ. of Science*, April 1870. See Cairn.

CROOM. BENG. A dip, a ravine, a valley, a hollow.

CROPS. On fertile lands susceptible of irrigation, British India enjoys two crops during the year, one called the Kharif, or rain crop, sown in June and reaped in October; the other sown in October, and reaped in March and April, called the Rabi, or cold-weather crop. The latter, embracing the months which approximate in temperature to that of the season of cultivation in colder countries, corresponds with them also in the nature of the plants cultivated, as, for instance, wheat, barley, oats, and millet; peas, beans, vetch, tares, chick-pea, pigeon-pea, and lentils; tobacco, safflower, and succory; flax, and plants allied to mustard and rape, as oil-seeds; carrot, coriander, and cumin, and other seeds of a similar kind, as ajwain, sonf, soya, aneesun. In the rainy season, a totally different set of plants engages the agriculturist's attention, as rice, cotton, indigo, and maize, with sorghum, pulse, joar, koda, most of the tropical legumes, as well as several of the cucumber and gourd tribes, together with the sesamum for oil, and varieties of the egg-plant as a vegetable. The sunn and sunnee, two cordage plants, are also cultivated at this season.

Dr. Royle gives the following arrangement of the countries of which the plants will grow in the different parts of India:—

Tropical and East Indian islands, tropical Africa, Brazil, Guiana, W. Indies, and Florida.	Travancore, Cochin, Malabar, Ceylon, Malay Peninsula, Chittagong, Bengal, Lower Assam.
East and west coast of Africa.	Coromandel coast, Northern Circars, Konkan.
S. States of N. America, Egypt, n. of Africa, Syria.	Gujerat, Behar, Doab, Dehli, Malwa.
Mexican highlands, lower mountains of Spain.	Mysore, hilly ranges in Dekhan, Rajputana.
S. of Africa, extra tropical N. Holland, S. America beyond lat. 23½° S.	Saharunpur and Northern Doab.
Mediterranean region.	Dehra Doon, and Himalayan valleys to moderate elevations.
Chino-Japanese region, Middle Andes, Peru, and mountains of Brazil.	Neilgherries, Upper Assam, Himalayan mountains.
North of Europe, north of Asia, and North America.	Himalayan mountains, regions of oaks and pines.
Arctic regions, mountains of Europe, elevated Andes.	Himalayas above region of forest.

The Tamil-speaking countries in the S.E. parts of the Peninsula have the benefit of the N.E. monsoon; their principal rice crop, called Karupanta, is sown during the wet season; a lesser crop is sown in the spring and reaped in the rains.

Penicillaria spicata, in the Cuddapah district, is usually sown mixed with nine other seeds. Dolichos uniflorus, D. Sinensis, Phaseolus mungo, Cicer arietinum, Cajanus Indicus, Lablab vulgaris, Sesamum orientale, and Hibiscus subdariffa.

The ragi crop (Eleusina, *species*) is usually sown mixed with Lablab vulgaris, this pulse being put in lines, without reference to the ragi crop, being dropped in a furrow made with the native plough. Mixing crops is of value: it serves the purpose of an alternation of crops, as the plants differ in demands on the soil; the variety increases the chances of success; and, as they ripen at different stages, they give continuous work to the ryot and his family.

56·2 per cent. of the adult male population of British India are engaged in agriculture, the total

being 34,844,000. The number of persons returned as engaged in agriculture and in tending or dealing in animals, is 37½ millions; but besides these, the boys and girls and wives of a household, and many tradesmen and artisans, own land which they cultivate by the aid of the younger members of the family. The farms of India are all small, and the machinery and capital proportionate. The farmer works the soil himself, assisted at times by relatives, labourers being rarely hired. The plough is light and rude, and the draught cattle are in general small; but the fields are ploughed and re-ploughed a dozen times, and freely exposed to the weather. The crops raised are excellent; and no Mahomedan, European, or East Indian has ever been able to compete with the Hindus.

In Mysore, where the ragi and other dry grains occupy about 80 per cent. of the cultivable area, —rice 10 per cent.,—little has been done to provide water for artificial irrigation.

Very good land in Bengal will yield 48 maunds per acre, and in exceptionally good lands 53 maunds. In an ordinary year, in that good land, the range may be 36 to 40 maunds. Ordinarily fair low land in a really good year, from 30 to 36 maunds; and, on an average of ten years, 18 to 24 maunds. Poor or high sandy lands, 18 maunds, or, on an average, 12 to 13 maunds. The average of all classes of land, 15 maunds per acre. (Lieut. Ottley in Mor. and Mat. Pro., 1874–75, pp. 36–37.)

In the Upper Provinces of N. India, the following is the detail of seed sown per acre, and the yield, of the more ordinary crops:—

Grain.	Seed per Acre.	Yield per Acre.	Grain.	Seed per Acre.	Yield per Acre.
Wheat, .	1m.28s.	16m.0s.	Urd, . .	0m.7½s.	6m.0s.
Barley, .	1 10	18 0	Mothi, .	0 6	6 0
Peas, Gram,	1 0	10 0	Makro, .	0 2½	9 0
Sarson, .	0 0½	1 0	Kakun, .	0 2¼	5 0
Kuari dhan,	1m. to 45s.	12 0	Sanae, .	1 0	10 0
Sathi dhan,	1m. to 45s.	12 0	Patua, .	0 0½	0 3
Jarhan, .	1m. to 45s.	12 0	Cotton—Kapas, Radhia,		
Maize, .	0m.7½s.	6 0	Maruva,	0m. 4s.	4 0
Bajra, .	0 2½	7 20	Jethi dhan,	1 20	16 0
Juar, . .	0 7½	7 20	Sawan, .	3m. to 4s.	12 0

One of the most important points for the Indian statesman is to discover other industries than that of the production of food, in order to give profitable employment to the varied capacities of the people. A large addition to the production and manufacture of tobacco, sugar, wool, silk, jute, paper, etc., would have this effect, and this could be obtained without curtailing the supply of food, by the addition of one-tenth to the yield of food crops,—a result that might easily be brought about if greater attention was paid to the cultivation. This would set free an area covering 20 million acres, which would add 200 millions sterling to the general wealth, at the moderate value of £10 per acre, when the crops were converted into a manufactured product by the well-employed industry of the people. To aid in this, further attention to artificial irrigation is needed. The inferior pulses are greatly dependent on rain; but for garden cultivation, as for the vegetables, the poppy, tobacco, and sugar-cane, artificial irrigation is indispensable everywhere, except in low-lying lands near rivers. Every tank should be kept in repair, wells sunk wherever water is to be met with, and manure largely used. Mr. Schrotty says that in the middle of the 17th century the average quantity of rice produced in India from each acre of land was 1338 lbs.; of wheat, 1155 lbs.; cotton, 670 lbs., unpicked, which is equal to 223 lbs. of picked. But the statistics of the 19th century show that the land yields rice now at an average of 800 to 900 lbs. per acre; wheat, 660 lbs.; and picked cotton, 52 lbs. In 1828, certain lands in Central India yielded 128 lbs. of cotton per acre. In Broach, in 1844, the yield was 83 lbs.; and at the present time the quantity produced does not come to above 83 lbs. And the conclusion arrived at is that the land is becoming poor, and unless it gets a portion at least of what is taken from it, its producing qualities will still further deteriorate.—*Carnegy.*

CRORE, or Kror, ten millions. A crore of rupees is equal to one million sterling. The names of the higher numbers, Elliot says, are thus given in the Zabdat-ul-Quanin:—

100 crore = 1 urub.	100 pudum = 1 sunk'h.
100 urub = 1 k'hurub.	100 sunk'h = 1 uld.
100 k'hurub = 1 neel.	100 uld = 1 unk.
100 neel = 1 pudum.	100 unk = 1 pudha.

When Akbar introduced his revenue reforms, he appointed a collector for every crore of dams (*i.e.* Rs. 2,50,000), whom he designated by the title of Amil or Amilguzar; and to that functionary the instructions are directed in the Ayin-i-Akbari; the designation of Crori being of subsequent introduction.—*Elliot.*

CROSS.

Croix, ... Fr.	Salib, ... Pers.
Kreuz, ... Ger.	Cruz, ... Sp.
Croce, ... It.	

The symbol of the circle and the cross, under every variety of circumstance, in Egypt, Africa, Britain, China, Scandinavia, and America, in every age, by every people, from the dawn of secular history to the present hour, has been held by all in the same superstitious veneration, has been honoured with the same distinguishing rites, and has always expressed the same doctrine or mystery. Divine potentiality was sometimes indicated by two or more sceptres arranged at right angles or quadrinally, with the nave of a wheel, or a simple circle, or six or eight round stars, at the point of intersection, with other orbs or ornaments. Osiris by the cross gave eternal life to the spirits of the just. With the cross Thor smote the head of the great serpent. The Muysca mothers laid the children beneath a cross, trusting by that sign to secure them from evil spirits. The cross-cake, says Sir Gardner Wilkinson, was the hieroglyph for civilised land, obviously a land superior to their own, as it was indeed to all other mundane territories; for it was that distant traditional country of sempiternal contentment and repose, of exquisite delight and serenity, where nature unassisted by man produces all that is necessary for his sustentation, and whose midst was crowned with a sacred and glorious eminence,—the umbilicus orbis terrarum,—towards which the heathen in all parts of the world and in all ages turned a wistful gaze in every act of devotion, and hoped to be admitted, or rather to be restored, at the close of this transitory scene. The Crux ansata is the earliest known form of the cross. It is commonly called the key of the Nile, because often seen on Coptic and Egyptian monuments. It was very similar to the Roman letter T, with a roundlet or oval placed immediately above it, and signified hidden wisdom or the life to come. It was used by the Chaldæans, Phœnicians, Mexicans, and Peruvians; doubtless it was intended to denote the solar and terrestrial

spheres. And, subsequently, sovereigns each adopted the circle, associated with it the cross, and this symbol of royalty is in use with every king of Europe. The Chakra in the hands of Brahma, Vishnu, and Siva, is a modification of it. In Egypt and China it was used to indicate a land of corn and plenty; and, when divided into four equal segments, it was the symbol of the primeval abode of man, the traditional paradise of Eden. The cross, says Colonel Wilford (As. Res. x. p. 124), though not an object of worship amongst the Buddhists, is a favourite emblem and device amongst them. It is exactly the cross of the Manichees, with leaves and flowers springing from it, and fruit also, it is said. It is called the divine tree, the tree of the gods, the tree of life and knowledge, and productive of whatever is good and desirable, and is placed in the terrestrial paradise.

The pre-Christian cross is not unfrequently associated with a tree or trees. The sign of the cross began to be used by Christians in the fourth century, and is described by Lactantius as an impregnable fortress to defend those impressed with it, for such the devil cannot approach. The use of the pre-Christian cross, either in the form of the handle cross of the Mediterranean districts, or the swastika ✠ of the Buddhists, was widely spread amongst ancient peoples, and it is in use at the present day over all Buddhist and Hindu countries. Mr. W. King has described many cruciform monoliths at Mungapet, in the Paluncha taluk, on the right bank of the Godavery on the road to Hanamconda, in the Nizam's dominions.—*Journal Bengal Asiatic Society.*

CROSS, ROBERT, a skilled gardener who aided Mr. Clements Markham, C.B., in introducing cinchona trees (1860–1879) and caoutchouc trees (1875) into India from S. America, species of castilloa. He made five journeys to procure cinchona plants.—*Markham, Peruv. Bark.*

CROSSBILL, Loxia himalayana, *Hodgson*, inhabits the pine forests.

CROTALARIA, a genus of plants of the order Fabaceæ, sec. B. loteæ, of which about 40 species are known in India. The fibres of the barks of C. Burhia, C. juncea, and C. retusa are largely used as cordage material. C. juncea yields the sunn of commerce; the C. tenuifolia furnishes the Jubbulpur hemp.—*W. Ic.*

CROTALARIA BURHIA. *Ham. Buch.*

Khip, Bhata, Bui, BEAS.	Buta, Khep, . . SUTLEJ.
Lathia, Kharsan, . HIND.	Sis, Sissai, . . TR.-IND.
Drannoo, ... SIND.	Meini, Pola, . . ,,

A naked-looking, bushy plant, common in Sind and in all the more arid parts of the Panjab, from Dehli to Trans-Indus up to Peshawur. It is browsed by cattle. It has a very tough bark, and with exactly the smell of broom when bruised, which probably gets it the name Bui, fragrant. Twine and small ropes are in many parts made from it by the dry process (and apparently sometimes after two or three days' steeping), but notably not so in places near Dehli, where the khip used for this is from Orthanthera, a very different plant.—*Stewart.*

CROTALARIA JUNCEA. *Linn.*

C. Bengalensis, *Lam.*	C. porrecta, *Wall.*
C. tenuifolia, *Roxb.* iii. 263.	C. sericea, *Willd.*
C. fenestrata, *Sims.*	
Kudrum of . . BEHAR.	Salsette hemp, . . ENG.
Ghore-sun, . . . BENG.	Sunn, ... HIND.
Maesta pat, . . . ,,	Pallungoo of . MADRAS.
Taag, Ambharee, BOMBAY.	Ambaya pata of PURNEY.
Pan, Paik hsan, . BURM.	Sanni of . SAHARUNPUR.
Pulai namaji of COIMBT.	Sana, ... SANSK.
Chumpat, Chumese, CUTT.	Kenna, ... SINGH.
Madras hemp, . . ENG.	Wakkoo, Janapam, TAM.
Jubbulpur hemp? . ,,	Shanal, ... ,,
Dekhani brown hemp, ,,	Sannamu, . . . TEL.

The Crotalaria juncea is cultivated for its fibre in many parts of India. Its fibres make a good strong hemp for cordage, canvas, gunny, and sackcloth, twine and paper. It is sown very thickly at the beginning of the rains, so that it may grow tall and thin, and in favourable soil it grows to 8 or 10 feet high. When it begins to flower, it is cut near the root, tied in large bundles, and immersed in water, putting some weight on it, generally mud, to prevent it from being carried away. After remaining immersed from four to eight days, it is withdrawn from the water, taken by handfuls, beaten on a piece of wood or stone, and washed till quite clean, and the cuticle with the leaves completely removed from the other portion of the plant. Each handful is then piled musket fashion, and left to dry. When perfectly dry, the woody portion, which has been more or less broken, is separated from the fibre by further beating and skaking. From 3 to 6 maunds of fibre are extracted from each bigha of plant. The raw material on the field, as plant, costs from two to four rupees per bigha, according to quality; and the prepared fibre costs from four to ten rupees per maund, according to strength, length, and cleanliness of fibre.—*Roxb.; Royle.*

CROTALARIA LABURNIFOLIA. *Linn.*

C. pendula, *Bert.*	C. pedunculosa, *Desv.*
Muna, ... BENG.	Pedda gili gich-cha, TEL.
Chiri gili gich-cha, TEL.	Manne, ... ,,

Grows from Ceylon to Bengal; has large, bright yellow flowers.—*Voigt; Elliot.*

CROTALARIA LINIFOLIA. *Linn.*

C. cæspitosa, *Roxb.*	Nella giri gili gich-cha, TEL.

A native of most parts of India.—*Voigt.*

CROTALARIA OCCULTA, the pea violet; grows very common by the roadside between Cherra and the Eastern Khassya Hills, and smells deliciously of violets.—*Hooker, Jour.* ii. p. 309.

CROTALARIA RETUSA. *Linn.*

Bil-junjun, . . . BENG.	Tandal ekoti, . MALEAL.
Wedge-leaved crotalaria.	Potti gili gich-cha, . TEL.

This plant grows in the Peninsula of India, in Bengal, Burma, and the Moluccas; has large, bright yellow flowers; the fibres are employed for canvas and cordage. It yields the fibre known in England and Calcutta as Jubbulpur hemp, which is considered equal to Russian hemp, and bears a heavier weight. Dr. Royle reported as under:—

Kind and quality of Rope.	Size.	Government Proof.	Breaking Weight.
	Inches.	Cwt.	Cwt. qr.
Oiled Jubbulpur hemp, artillery traces, ...	3	36	43 2
Untarred do., superior four-strand, plain laid, . . .	3½	42	83 0
Untarred Dhunchee (*Æschynomene cannabina, Roxb.*), Sesbania aculeata, . . .	3½	49	75 0
Pine-apple fibre, ...	3¼	42	57 0

CROTALARIA VERRUCOSA. *Linn.*

C. cærulia, *Jacq.*	C. angulosa, *Lam.*
Bun-sun, . BENG., HIND.	Ghilghirinta, . . . TEL.
Pi-tandali-kotti, MALEAL.	Alla-gili-gich-cha, . ,,
Vutti-khillo-killupi, TAM.	

Grows in Malabar and Bengal. It has bright blue and greenish-white flowers. The juice of its leaves is used in medicine.—*Voigt.*

CROTALIDÆ, a family of reptiles of the order Ophidia, and sub-order Serpentes viperini.

CROTON, a genus of plants of the natural order Euphorbiaceæ. The species of India and the Archipelago are,—C. aromaticum, bicolor, drupacea, iliciodora, joufra, lævigata, lacciferum, microdenia, Moonii, muricatum, nigro-viride, oblongifolia, pavanum, polyandrum, tiglium, urophylla, umbellatum. The seeds and oil of C. polyandrum and C. tiglium are purgative. A species of croton, whose roots are used by the Burmese for a cathartic, abounds in some parts of Burma, especially on the Moulmein hills.—*Mason.*

CROTON AROMATICUM. *Linn.* Wel-kappiteya, SINGH. Abundant in the hotter parts of Ceylon.—*Thw.* p. 275.

CROTON HYPOLEUCUM. *Dalz.* C. reticulatum, *Heyne;* grows in the central province of Ceylon, at 2000 to 3000 feet.—*Thw.* p. 276.

CROTON LACCIFERUM. *Linn., W. Ic.*

Aleurites lacciferus, *Willd.*	Ricinoides aromatica arbor, *Burm.*
Croton foliis ovatis, etc., *Fl. Zeyl.*	Gass-kappiteya, . SINGH.

A native of the East Indies, very common in Ceylon up to 3000 feet; trunk arborescent, with rude and angular branches, and is said to furnish the finest of all the sorts of lac, of a bright red, and also to furnish a brilliant varnish in Ceylon.—*Thw.* p. 275; *Eng. Cyc.* p. 212; *O'Sh.* p. 553.

CROTON OBLONGIFOLIUM. *Roxb.*

C. lævigatum, *Wall.*

Bhutam kusam, SANSK. | Bhutala bhairi, . . TEL.

A small tree not uncommon in S. India and Ceylon. The Telugu name means demon-driver or devil-goad, sticks made of it being carried as a protection against evil spirits. — *Voigt; Elliot; Thw. Zeyl.* p. 276.

CROTON POLYANDRUM. *Roxb.*

Croton Roxburghii, *Wall.*	Croton polyandra, *Roxb.*
Dunti, ... BENG.	Hakni; Hakun, . HIND.
Tha-dee-wa, . . BURM.	Konda amadum, . TEL.

Grows in the Circars, Bengal, and Hindustan, near hills and streams in moist places. Perennial; seeds exactly like those of the castor-oil plant, but much smaller. Esteemed by the natives of India to be a good purgative, one seed bruised with water being given for each evacuation desired. The Burmese cultivate this species of croton, which grows into a thick bush. It is very common also on the banks of the Jumna, where it is called Jumalghota.—*Royle; O'Sh.; Roxb.*

CROTON SANGUISFLUINA, the blood-wood of Norfolk Island; is said to be of little value except for firewood. On an incision being made in the bark, a fluid exudes which is used for marking the convicts' slopes, staining furniture, etc.; and it is a good tonic and astringent, strongly resembling dragon's blood (Dam-ul-ukwain).— *O'Sh.; Keppel's Ind. Arch.* ii. p. 282.

CROTON SCABIOSUM. *Bedd.* A small tree on the Nullaymallay mountains, Kurnool district, where it is most abundant about the Yerrachalma (2000 to 3000 feet elevation); its very silvery appearance renders it highly ornamental.—*Beddome, Fl. Sylv.* p. 283.

CROTON TIGLIUM, Croton-oil plant.

Croton Jamalgota, *Buch.*	Tiglium klotchianum, *Rh.*
Batu, also Dund, . ARAB.	Juphlota Ruttunjote, PANJ.
Jypal; Rechuk, . BENG.	Dund, ... PERS.
Kannakoh, . . . BURM.	Jayapala; Nepala, SANSK.
Jayapala, . . . CAN.	Dunti, ... ,,
Jamalgota, . . . HIND.	Nepalam, . . . SINGH.
Bori, ... MALAY.	Nervalam, . . . TAM.
Nirvala, . . . MALEAL.	Nepalam, . . . TEL.
Kadel-avanaku, . ,,	

This small tree grows to 15 or 20 feet high in most parts of India, Assam, and the Moluccas. Every part of the plant is purgative, but the fruit or seeds are dangerously so, and in the medicinal practice of Europe they are never given, though in India native practitioners separate the embryo, and give it internally. The seeds yield a powerfully cathartic oil, by grinding the seeds, placing the powder in bags, and pressing it between plates of iron. The oil is then allowed to stand 15 days, and afterwards filtered. The residue of the expression is saturated with twice its weight of alcohol, heated on a sand-bath from 120° to 140° Fahr., and the mixture pressed again; the alcohol is distilled off, the oil allowed to settle, and filtered after a fortnight. One seer (2 lbs.) of seed furnishes 11 fluid ounces of oil,—6 by the first process, 5 by the second.

Croton Oil. Napala oil; Tiglii oleum.

Dund, also Batu, . ARAB.	Dund, ... PERS.
Kannakoh, . . . BURM.	Nirvalam yennai, . TAM.
Jumalgota-ka-tel, HIND.	Naypalam nuna, . TEL.
Bori, ... MALAY.	

This oil is prepared by grinding the seeds of C. tiglium, placing the powder in bags, and pressing between plates of iron. The oil thus expressed is allowed to stand about a fortnight, and then filtered. It is of an orange-yellow colour, is soluble in alcohol, and reddens litmus paper powerfully. It is an exceedingly powerful cathartic. It has a heavy oily smell, and is very irritating to the skin. It is procurable in most Indian bazars, often adulterated with castor-oil and other fixed oils. The seeds are administered by native doctors; and when the operation is excessive, they give the patient the juice of the sour lime, which is said to counteract the effect of the croton seeds.

Croton Seed.

Hab-ul-maluk, . ARAB.	Cheraken, . . . JAV.
Pa-tau, ... CHIN.	

The seeds of C. tiglium are about the size of a small marble, of a convex shape on one side, and bluntly angular on the other, enveloped in a thin shell.—*Faulkner; Ainslie; Royle; Roxb.; Voigt; O'Sh.; Lindley; Jur. Rep.*

CROTON VARIEGATUM, an ornamental shrub, commonly called the laurel; the leaves are variegated. There is a willow leaf variety equally ornamental and handsome; the plants thrive best in large pots or tubs, shaded from the noonday sun.—*Jaffrey; Graham; Thomson's Records.*

CROWS.

Corneille, ... FR.	Cantare, ... IT.
Krahen, ... GER.	Kaka, . . SANSK., TAM.
Kowa, ... HIND.	Ciurvo, Barra, . . . SP.

Conostoma œmodium, one of the Rasorial Crows, of the sub-family Glaucopinæ, inhabits the northern region of Nepal, and in Celebes; and on the Malabar coast black and white crows occur, also occasional albinos. The crow is reckoned a bird of ill-omen in India; still Malabar women are sometimes named Kaka, the name in that dialect, as well as in Sanskrit, for the crow. The females

of Malabar are, more than others, called after animals. Mani, the crocodile, is a name among them. In Christian countries, Barbara, Ursula,—Barbarian and Little Bear,—are not unusual. The crows incubate chiefly in March and April. The common crow of India is of unwonted familiarity, impudence, and matchless audacity. Mr. Sirr mentions a crow seizing bread from a toast-rack, and another taking food from a dog while eating. Sir James E. Tennant mentions that one of these ingenious marauders, after vainly attitudinizing in front of a chained watch-dog, that was lazily gnawing a bone, and after fruitlessly endeavouring to divert his attention by dancing before him, with head awry and eye askance, at length flew away for a moment, and returned bringing a companion, which perched itself on a branch a few yards in the rear. The crow's grimaces were now actively renewed, but with no better success, till its confederate, poising itself on its wings, descended with the utmost velocity, striking the dog upon the spine with all the force of its strong beak. The dog started with surprise and pain, and the bone he had been gnawing was snatched away by the first crow the instant his head was turned. The Corvus culminatus, or large black crow of India, may be constantly observed wherever there are buffaloes, perched on their backs, and engaged, in company with the small minah (Acridotheres tristis), in freeing them from ticks. —*Tennant's Ceylon; Sirr's Ceylon.* See Corvidæ.

CROZOPHORA PLICATA. *Juss.*

Croton plicatum, *Vahl.*	C. tinctorium, *Burm.*
Khoodi-okra, . . BENG.	Subali, ... HIND.
Indian turnsol, . . ENG.	Linga maram, . . TAM.
Saha-devi, Nilak-rai, HIND.	Linga manu, . . TEL.

Common in all the south of India, in rice-fields, flowering in the cold weather. Its value in leprosy is asserted. The juice of its green leaves dyes blue.—*Voigt.*

CRUCIBLE. Musa, TEL. In India, these are made by coppersmiths, etc., for their own use, of pipeclay or other suitable clay, beaten up for a considerable time on the anvil with burnt paddy husk; being formed, they are left to dry and are then ready for use. Mr. Rohde had seen a crucible formed for melting silver, simply by spreading wet clay on a bit of rag, which was immediately placed on the fire, which again was urged by the breath through a bamboo tube.—*Rohde, MSS.*

CRUCIFERÆ. This order of plants is so called from the four flower-leaves (petals) being disposed, more or less distinctly, in the form of a cross, as in the the wallflower, cabbage, and cress. Nearly all are herbaceous; none are poisonous, though they are generally a little acrid; they are especially antiscorbutic.

CRUDE, a commercial term applied to raw and unrefined products, as crude camphor, crude tartar, crude midsummer root.

CRUDIA ZEYLANICA. *Thw.* A large tree, of Galpaata, near Caltura.—*Thw.*

CRUSADES, military expeditions made from Christian countries in the 11th to 13th centuries, to recover the sacred buildings famed from the first origin of Christianity. At the time of the first crusade, the Mahomedan power was shared between those of Arab and those of Mongol origin. The Arab movement had been stayed by their defeat by Charles Martel, on the banks of the river Loire, and they had settled down in the countries which they had conquered, advancing in civilisation and cultivating science. But later, the fresh converts to Mahomedanism, the Seljukian Turks and Tartars, issued from Central Asia, carrying ruin in their path. Asia Minor was lost to the Greek empire, and Constantinople itself imperilled, when Peter the Hermit roused Christian Europe to recover the Holy Sepulchre at Jerusalem. It was subsequently, in 1187, lost again by the conquest of Salah-ud-din; and at the time that St. Louis of France took the cross, Chengiz Khan with his followers had so ruined the whole tract from the Caspian to the Indus, that the succeeding centuries have not sufficed to restore it. The right wing of this enormous host was bringing ruin on the Slav nations of eastern Europe, while its left wing was menacing Baghdad and Syria. Poland and Hungary were invaded in 1258, and they had entered Bohemia and Moravia. Frederick II., in 1229, after Salah-ud-Din's death, recovered the Holy City, but it was again finally lost to the Kharasmian Turks, who destroyed every Christian whom they found. Not long after, the Christians were again defeated at the battle of Gaza, which was fought in company with Malik Mansur, the ruler of Damascus, against the king of Egypt. St. Louis made two crusades, in the first of which he was completely defeated. The Ayubi are descendants of Salah-ud-Din. The family are known as the Hasan Keif, and occupy the district of Shirwan. In Mr. Rich's time, the Bey was powerful and independent. See Acre; Eyubi; Kafra.

CRUSTACEA are the Crustaces of the French, and the Krustentheire of the Germans. The common crab, the lobster, and crayfish, the common shrimp and the water-flea, may be taken as types of different sections of this family.

Cancer is a genus of short-tailed crustacea, and is the type of the family Canceridæ of Linnæus; it includes a large number of species of the genus Cancer; and the term Crab, which is a translation of it, is in common parlance applied to the great bulk of the brachyurous crustaceans. Dr. Leach restricted the genus Cancer to the form of Cancer pagurus, *Linn.*, the large eatable crab of British coasts, which was, when he defined the genus, the only species known. For the Blood-spotted Crab of the Asiatic seas (Cancer maculatus, *Linn.*, etc.), and the Coralline Crab (Cancer corallinus, *Fabr.*), Dr. Leach instituted the genus Carpilius, characterized by the existence of a single tooth on the border of the carapace, and by the tridentated front; and for the 'Eleven-toothed Crab' (Cancer undecimdentatus, *Fabr.*), Egeria is a genus of brachyurous decapod crustaceans established by Dr. Leach. E. Indica, in size, general form of the body, and length of the feet, bears a great resemblance to Inachus scorpio; but, besides generic differences, the arms are rather short and slender. It inhabits the Indian seas. The Hermit Crabs are very common; and the nimble little Calling Crabs, Gelasimus tetragonon, *Edw.*, G. annulipes, *Edw.*, G. Dussumieri? *Edw.*, scamper over the moist sands, carrying aloft their enormous hand, sometimes larger than the rest of the body. They are of the E. and W. Indies. They bore holes for themselves in the black soil of the coasts. On some coasts of the East Indies the sands at ebb-tide swarm with them. They are

the food of the inshore sea fishes, and some of them are the best bait that can be used; and one species of Gelasimus is common in the cassava fields of Brazil.

Several small crabs are parasites, or take shelter within other animals. Cymothoe, a genus of the Indian Ocean, is too imperfectly organized to catch its own food, and the species take up their home in the mouth cavity of fishes of the genus Stromatea, where they snap up all that comes within their reach; Cymothoe stromatei is found inside the mouth of Stromatea nigra on the Coromandel coasts; another species has been found in the mouth of a chetodon, and inside that of a cyprinus of the Amur, and the Ceratothoa exoceti has been found within the mouth of the flying fish.

Ostracotheres tridacnæ, *Ruppell*, is a little crab which lives within the great tridacna mollusc, whose immense shell serves in European churches as a vessel for holy water. The crab takes shelter in the branchial chamber. Conchodytes tridacnæ inhabits the Tridacna squamosa; the Conchodytes meleagrinæ lives in the shell of the pearl mussel; the Epichtys giganteus lives on a fish of the Indian Archipelago; the Ichthyoxenus Jellinghausii lodges in a fresh-water fish of the island of Java. Pinnetheres is a genus of small crabs which live within mussels, amongst others the Avicula margaritifera or pearl mussel, and in the holothurians of the Philippine Islands, and Pin. Fischerii is of New Caledonia; one species lives within the Chama.

Again, species of Pagurus, about 30 in number, all lodge in deserted shells, and change their dwelling-places as they grow older. They are known as the Hermit Crabs. Darwin thinks (p. 544) that certain species always use certain kinds of shells. Their abdomen is too soft to be exposed. In the Keeling islands, the large claws of some of the hermit crabs are beautifully adapted, when drawn back, to form an operculum to the shell.

Crustacea, occupying deep waters in places to which light is inaccessible, are found without eyes. Three species of Amphipoda and one Isopoda, from Kaiapai, New Canterbury, New Zealand, were found in this state.

The Birgus latro of the Keeling islands is famed for the skilful manner in which it tears off the husk and opens the cocoanut, in order to extract the medullary matter of the interior. It is a kind of intermediate link between the short and long tailed crabs, and bears a great resemblance to the Paguri. Darwin observed that they live on the cocoanuts that fall from the trees. The story of their climbing these palms and detaching the heavy nuts is mere fable. Its front pair of legs are terminated by very strong, heavy pincers, the last pair by others narrow and weak. To extract the nourishment, it tears off the husk, fibre by fibre, from that end in which the three eyes are situated, and then hammers upon one of them with its heavy claws until an opening is effected. It then, by its posterior pincers, extracts the white albuminous substance. It inhabits deep burrows, where it accumulates surprising quantities of picked fibre of cocoanut husks, on which it rests as on a bed. Its habits are diurnal, but every night it is said to pay a visit to the sea, perhaps to moisten its branchiæ. It is very good to eat, and the great mass of fat accumulated under the tail of the larger ones, sometimes yields, when melted, as much as a quart of limpid oil. They are esteemed great delicacies, and are fattened for the table.

Several small crabs are destructive to the growing grain crops of the tropics. The rice plant grown on the bhulls at the mouth of the Indus, is much cut down by a small black sea crab, called by the people Kookee. Without any apparent object, it cuts down the growing grain in large quantities, and often occasions much loss.

The Land Crabs are migratory, and often take long journeys. They live in the interstices of rocks, in the clefts of trees, and bore holes in the ground.

The Eriocheir Japonicus of Manchuria is remarkable for its hairy hand. A curious little crab of the Malacca Straits has been called by Mr. Bate, Sphærapœia Collingwoodii, because of its taking in sand to eliminate its food, and ejecting the sand in the form of a pill. The species is gregarious. The Phyllosoma are styled Glass Crabs. The large Spider Crab of the Japanese islands, Inachus Kæmpferi, has been measured 11½ feet from tip to tip. It is of a bright yellow, with crimson patches.

The Ocypode ceratophthalmus of Ceylon burrows in the dry soil, jerking out the sand to a distance of seven feet. Of the Painted Crabs, the Crabes peintes and Crabes violets of the French, Grapsus strigosus, *Herbst.*, is distinguished by dark red marks on a yellow ground. They are found on the reef to the south of Colombo harbour. The Paddling Crabs, Neptunus pelagicus, *Linn.*, and N. sanguinolentus, *Herbst.*, have their hind pair of legs terminated by flattened plates, to assist them in swimming.

The larvæ of the crab are termed Zoeæ. The crab has periodic moultings, during which it escapes from its shell a soft, harmless creature, incapable of exertion or resistance, and would become an easy prey to any of the devourers so numerous in the sea, were it not that so soon as the denudation is complete, a stout crab of the same species takes care of it to the best of its ability, until a new shelly case grow, and it is enabled again to protect itself, and present a strong back to its foe. If the sentinel be removed, another will be found to have taken its place after the next tide, and this will be repeated many times in succession. While the crabs are young, the change of shell is supposed to take place frequently, and there is probably a time when the changes cease. Crabs and other crustacea are said to cast away their limbs when alarmed or frightened, as on the occasion of a thunderstorm, or on the firing of a cannon, and this is believed to be true. When a claw has sustained any injury, it is cast off by the animal, and a new one in due time takes its place. Most land crabs are carrion feeders; a few are vegetarians. Swimming crabs, Polybius species, are mostly predacious.

The place of the crabs amongst the crustaceæ is well defined.

Latreille, Desmarest, Leach, the two Milne-Edwards, De Haan, Dana, Heller, and Stimpson, have been among the most prominent systematic writers on the Crustacea; and of the naturalists of the present day, M. A. Milne-Edwards of Paris, Mr. Miers of the British Museum, M. de Man of Leyden, and Prof. Wood-Mason of Calcutta, have paid

especial attention to the Crustacea of the Indian and Malayasian regions.

Class, Crustacea.

Order, Decapodes.

1st Division, Podophthalmien, *Edw.*

Fam. Oxyrhinques. *Tribe*, Macropodes.

Egeria arachnoides, *Edw.*, Coromandel coasts.
E. Herbstii, *Edw.*, Asiatic seas.
E. Indica, *Edw.*, Indian Ocean.
Doclea ovis, *Edw.*, Indian seas.
D. hybrida, *Edw.*, Coromandel coast.
D. muricata, *Edw.*, E. Indies.
Pisa styx, *Edw.*, Mauritius.
Chorinus aries, *Edw.*, Coromandel.
C. aculeata, *Edw.*, Asiatic seas.
C. Dumerilii, *Edw.*, Vanicoro.
Paramithrax Peronii, *Edw.*, Indian Ocean.
P. barbicornis, *Edw.*, New Holland.
P. Gaimardii, *Edw.*, New Zealand.
Micippe cristata, *Edw.*, Java coasts.
M. philyra, *Edw.*, Indian Ocean, Mauritius.
Paramicippa platipes, *Edw.*, Red Sea.
Pericera cornigera, *Edw.*, Indian Ocean.
Stenocinops cervicornis, *Edw.*, Mauritius.
Menæthius monoceros, *Edw.*, Red Sea, Indian Ocean, Mauritius.
Halimus aries, *Edw.*, Indian Ocean.
H. auritus, *Edw.*, Indian Ocean.

Tribe, Parthenopiens.

Eumedonus niger, *Edw.*, China coasts.
Lambrus longimanus, *Edw.*, Pondicherry, Amboyna, Aden.
L. pelagicus, Red Sea.
L. echinatus, *Edw.*, Pondicherry.
L. serratus, *Edw.*, Indian Ocean.
L. prehensor, *Edw.*, E. Indies.
L. carenatus, *Edw.*, Pondicherry.
Parthenope horrida, *Edw.*, Indian Ocean, Atlantic.
Cryptopodia fornicata, *Edw.*, Indian Ocean.

Fam. Cyclometopes.

Tribe I. Canceriens Cryptopodes.

Œthra scruposa, *Edw.*, Mauritius, Archipelago.
Cancer roseus, *Edw.*, Red Sea.
C. integerrimus, *Edw.*, Indian Ocean.
C. marginatus, *Edw.*, Red Sea.
C. marginatus, *Fabr.*, Andamans.
C. ocyroe, *Edw.*, Asiatic seas.
C. mamillatus, *Edw.*, Australia.
C. sculptus, *Edw.*, Red Sea.
C. limbatus, *Edw.*, Red Sea.
C. Savignii, *Edw.*, Red Sea, Indian Ocean.
C. calculosus, *Edw.*, New Holland.
Carpilius maculatus, *Edw.*, Indian Ocean.
C. convexus, *Edw.*, Red Sea.
Zozymus latissimus, *Edw.*, New Holland.
Z. pubescens, *Edw.*, Mauritius.
Z. tomentosus, *Edw.*, Indian Ocean.
Z. æneus, *Edw.*, Indian Ocean.
Xantho hirtissimus, *Edw.*, Red Sea.
X. rufopunctatus, *Edw.*, Mauritius.
X. asper, *Edw.*, Red Sea.
X. scaber, *Edw.*, Sunda Islands.
X. Lamarckii, *Edw.*, Mauritius.
X. Reynaudii, *Edw.*, Indian Ocean.
X. Peronii, *Edw.*, New Holland.
X. impressus, *Edw.*, Mauritius.
X. lividus, *Edw.*, Mauritius.
X. hirtipes, *Edw.*, Red Sea.
X. punctatus, *Edw.*, Mauritius.
X. incisus, *Edw.*, Australia.
X. radiatus, *Edw.*, Mauritius.
Chlorodius ungulatus, *Edw.*, Australia.
C. areolatus, *Edw.*, New Holland.
C. niger, *Edw.*, Red Sea.
C. exaratus, *Edw.*, Indian coasts.
C. sanguineus, *Edw.*, Mauritius.
C. endorus, *Edw.*, New Zealand.
Ozius tuberculosus, *Edw.*, Indian Ocean.
O. truncatus, *Edw.*, Australia.
O. guttatus, *Edw.*, New Holland.
O. frontalis, *Edw.*, Tranquebar.

Pseudocarcinus gigas, *Edw.*, New Holland.
P. Rumphii, *Edw.*, Indian seas.
P. Bellangerii, *Edw.*, Indian seas.
Etisus dentatus, *Edw.*, Ind. Archipelago.
E. anaglyptus, *Edw.*, Australia.
E. inæqualis, *Edw.*, African coast.
Pilumnus fimbriatus, *Edw.*, New Holland.
Ruppellia tenax, *Edw.*, Red Sea.
Eriphia spinifrons, *Edw.*, all seas.
E. lævimana, *Edw.*, Mauritius.
Trapezia dentifrons, *Edw.*, Australia.
T. ferruginea, *Edw.*, Red Sea.
T. digitatis, *Edw.*, Red Sea.
Melia tresselata, *Edw.*, Mauritius.

Tribe II. Portuniens.

Platyonichus bipustulatus, *Edw.*, Indian Ocean.
P. nasutus, *Edw.*, Mediterranean Ocean coasts.
Portunus integrifrons, *Edw.*, Indian Ocean.
Lupea Tranquebarica, *Edw.*, Asiatic seas, Tranquebar.

1*st Sub-genus*, Lupees nageuses.

L. Pelagica, *Edw.*, Red Sea, Indian Ocean.
L. sanguinolenta, *Edw.*, Indian Ocean.
L. lobifrons, *Edw.*, East Indies.
L. granulata, *Edw.*, Mauritius.
L. gladiator, *Edw.*, Indian Ocean.

Thalamita.

1*st Sub-genus*, Thalamitæ quadrilateres.

Thalamita admete, *Edw.*, Red Sea, Indian Ocean.
T. Chaptalii, *Edw.*, Red Sea.
T. crenata, *Edw.*, Asiatic seas.
T. prymna, *Edw.*, Australia.

2*d Sub-genus*, Thalamitæ hexagonales.

T. crucifera, *Edw.*, Indian Ocean.
T. annulata, *Edw.*, Red Sea, Indian Ocean.
T. natator, *Edw.*, Indian Ocean.
T. truncata, *Edw.*, Indian Ocean.
T. callianassa, *Edw.*, Indian Ocean.
T. erythrodactyla, *Edw.*, Australia.
Podophthalmus vigil., *Edw.*, Indian Ocean.
Thelpheusa Indica, *Edw.*, Coromandel coast.
T. chaperon arrondi, *Q. and G.*
T. perlata, *Edw.*, Cape of Good Hope.
T. Leschenaudii, *Edw.*, Pondicherry.

Tribe, Gecarcinæ.

Cardisoma carnifex, *Edw.*, Pondicherry.
Gecarcinus lagostoma, *Q. and G.*, Australia.
G. carnifex.
G. hirtipes.

Tribe, Pinnotheriens, *Edw.*

Elamena mathæi, *Edw.*, Red Sea, Mauritius.
Hymenosoma orbiculare, *Edw.*, Cape of Good Hope.
Myctiris longicarpis, *Edw.*, Australia.
Doto sulcatus, *Edw.*, Red Sea.

Tribe, Ocypodiens.

Ocypoda cordimana, *Edw.*, Mauritius.
O. Fabricii, *Edw.*, Oceanica.
O. ceratophthalma, *Edw.*, Egypt, Mauritius, N. Holland.
O. brevicornis, *Edw.*, E. Indies.
O. macrocera, *Edw.*, E. Indies, Brazil.
Gelasimus forceps, *Edw.*, Australia.
G. tetragonon, *Edw.*, Red Sea, Mauritius.
G. cordiformis, *Edw.*, Australia.
G. chlorophthalmus, *Edw.*, Mauritius.
G. annulipes, *Edw.*, Indian seas.

Tribe, Gonoplaciens.

Gonoplax rhomboides, *Edw.*, Ocean, Mediterranean.
Macrophthalmus transversus, *Edw.*, Pondicherry.
M. parvimanus, *Edw.*, Mauritius.
M. depressus, *Edw.*, Red Sea.
Cleistotoma Leachii, *Edw.*, Red Sea.

Tribe, Grapsoidiens.

Sesarma tetragona, *Edw.*, Indian Ocean.
S. Indica, *Edw.*, Java.
S. quadrata, *Edw.*, Pondicherry.
Cyclograpsus punctatus, *Edw.*, Indian Ocean.
C. Audouinii, *Edw.*, New Guinea.
C. quadridentatus, *Edw.*, New Holland.
C. sexdentatus, *Edw.*, New Zealand.
C. Gaimardii, *Edw.*, New Holland.

C. octodentatus, *Edw.*, King Island.
C. Latreillii, *Edw.*, Mauritius.
C. renicilger, *Edw.*, Asiatic seas.
C. pallipes, *Edw.*, New Holland.
Grapsus strigosus, *Edw.*, Red Sea, Indian Ocean, New Holland.
G. variegatus, *Edw.*, New Holland, Chili.
G. messor, *Edw.*, Red Sea, Indian Ocean.
G. plicatus, *Edw.*, Sandwich Islands.
Plagusia clavimana, *Edw.*, New Holland, New Zealand, Vanicoro.
P. tomentosa, *Edw.*, Cape of Good Hope, Chili.
P. depressa, *Edw.*, Indian Ocean, China, N. Guinea.
P. squamosa, *Edw.*, Red Sea, E. Africa, Indian Ocean.
Varuna litterata, *Edw.*, Indian Ocean.

Fam. Oxystomes.

Calappe lophos, *Edw.*, Indian seas.
C. gallus, *Edw.*, Mauritius.
C. cristata, *Edw.*, Asiatic seas.
C. tuberculata, *Edw.*, E. Archipelago.
C. fornicata, *Edw.*, Indian seas.
Orithyia mamillaris, *Edw.*, China seas.
Leucosia urania, *Edw.*, New Guinea.
L. eraniolaris, *Edw.*, Indian coasts.
Myra fugax, *Edw.*, Red Sea, Java.
Oreophorus horridus, *Edw.*, Red Sea.
Philyra scabriuscula, *Edw.*, Indian seas.
P. globulosa, *Leach.*
Arcania erinaceus, *Edw.*, Indian seas.
Ixa canaliculata, *Edw.*, Mauritius.
Nursia Hardwickii, *Edw.*, India.
N. granulata, *Edw.*, Red Sea.

Tribe, Corystiens.

Iphis septem-spinosa, *Edw.*, Indian seas.
Nautilocorystes ocellatus, *Edw.*, Cape of Good Hope.
Dorippe quadridentata, *Edw.*, Indian Ocean.
D. sima, *Edw.*, Indian coasts.
D. astuta, *Edw.*, Asiatic seas.
Caphyra Rouxii, *Edw.*, New Holland.

Fam. Apterures, *Edw.* *Tribe*, Dromiens.

Dromia Rumphii, *Edw.*, E. Indies.
D. fallax, *Edw.*, Mauritius.
D. hirtissima, *Edw.*, Cape of Good Hope.
D. caput mortuum, *Edw.*, Indian Ocean.
D. unidentata, *Edw.*, Red Sea.
Dynomene hispida, *Edw.*, Mauritius.

Tribe, Homoliens.

Lomis hirta, *Edw.*, Australia.

Tribe, Pactoliens.

Ranina dentata, *Edw.*, Indian seas, Mauritius.

Fam. Pterygures. *Tribe*, Hippiens.

Albunea symnista, *Edw.*, Asiatic seas.
Remipes testudinarius, *Edw.*, New Holland.
Hippa Asiatica, *Edw.*, Asiatic seas.
Pagurus cristatus, *Edw.*, New Zealand.
P. deformis, *Edw.*, Mauritius, Seychelles.
P. punctulatus, *Edw.*, Indian Ocean.
P. affinis, *Edw.*, Ceylon.
P. sanguinolentus, *Q. and G.*
P. setifer, *Edw.*, New Holland.
P. clibanarius, *Edw.*, Asiatic seas.
P. crassimanus, *Edw.*, South Seas.
P. tibicen, *Edw.*, South Seas.
P. elegans, *Q. and G.*, New Ireland.
P. aniculus, *Edw.*, Mauritius.
P. gonagrus, *Edw.*, China.
P. pilosus, *Edw.*, New Zealand.
P. frontalis, *Q. and G.*, New Holland.
P. gamianus, *Edw.*, Cape of Good Hope.
P. miles, *Edw.*, coasts of India.
P. custos, *Edw.*, coasts of India.
P. diaphanus, *Edw.*, Oceanica.
P. hungarus, *Fabr.*, India, Naples.
Cenobita clypeata, *Edw.*, Asiatic seas.
C. rugosa, *Edw.*, Indian Ocean.
C. spinosa, *Edw.*, Asiatic seas.
C. perlata, *Edw.*, South Seas.
Birgus latro, *Edw.*, Asiatic seas.
B. elongata, *Edw.*, New Zealand.
B. Lamarckii, *Edw.*, New Ireland.
B. dentata, *Edw.*, Java.

B. Asiatica, *Edw.*, Mauritius.
B. maculata, *Edw.*, New Ireland.
B. sculpta, *Edw.*, Java.
B. pisum, *Edw.*, China.

Tribe, Scyllariens.

Scyllarus rugosus, *Edw.*, Pondicherry.
S. squamosus, *Edw.*, Mauritius.
Themis orientalis, *Edw.*, Indian Ocean.
Ibacus Peronii, *Edw.*, Australian seas.
I. antarcticus, *Edw.*, Asiatic seas.
Palinurus Lalandii, *Edw.*, Cape of Good Hope.
P. fasciatus, *Edw.*, Indian Ocean.
P. ornatus, *Edw.*, Indian seas.
P. sulcatus, *Edw.*, Indian coasts.
P. penicillatus, *Edw.*, Indian Ocean.
P. dasypus, *Edw.*, Indian seas.

Fam. Thalassiniens.

Glaucothoe Peronii, *Edw.*, seas of Asia.

Tribe, Gasterobranchides.

Callianidea typa, *Q. and G.*, New Ireland.
Callianisea elongata, *Edw.*, Marriannes.

Fam. Astaciens.

Homarus Capensis, *Edw.*, Cape of Good Hope.

Fam. Salicoques. *Tribe*, Alpheens.

Alpheus brevirostris, *Edw.*, New Holland.
A. ventrosus, *Edw.*, Mauritius.
A. bidens, *Edw.*, Asiatic seas.
A. chiragricus, *Edw.*, Asiatic seas.
A. villosus, *Edw.*, N. Holland.
A. frontalis, *Edw.*, New Holland.
Pontonia macrophthalma, *Edw.*, Asiatic seas.
P. armata, *Edw.*, New Ireland.
P. enflee, *Edw.*, Ceylon, Vanicoro.

Tribe, Palemoniens.

Hippolyte ventricosus, *Edw.*, Asiatic seas.
H. Quoyanus, *Edw.*, New Guinea.
H. spinifrons, *Edw.*, New Zealand.
H. spinicaudus, *Edw.*, New Holland.
H. gibberosus, *Edw.*, New Holland.
H. marmoratus, *Edw.*, Oceanica.
Rhynchocinetes typus, *Edw.*, Indian Ocean.
Palemon natator, *Edw.*, Indian Ocean, on Gulf weed.
P. longirostris, *Edw.*, Ganges mouth.
P. carcinus, *Edw.*, Ganges mouth.
P. ornatus, *Edw.*, Amboyna, Waigyou.
P. Lamarrei, *Edw.*, Bengal coasts.
P. Tranquebaricus, *Fabr.*, Tranquebar.
P. hirtimanus, *Edw.*, Mauritius.

Tribe, Peneens.

Stenopus hispidus, *Edw.*, Indian Ocean.
Penæus canaliculatus, *Edw.*, Celebes, Mauritius.
P. monoceros, *Edw.*, India.
P. Indicus, *Edw.*, Coromandel.
P. monodon, *Edw.*, Indian coasts.
P. affinis, *Edw.*, Malabar.
P. brevicornis, *Edw.*, Indian coasts.
P. crassicornis, *Edw.*, Indian coasts.
Penæus styliferus, *Edw.*, Bombay.
Oplophorus typus, *Edw.*, N. Guinea.
Acetes Indicus, *Edw.*, Ganges mouth.

ORDER, STOMATOPODES.

Fam. Caridioides.

ORDER, STOMAPODES.

Lucifer Reynaudii, *Edw.*, Indian Ocean.
L. typus, *Edw.*, Indian Ocean?
Phyllosoma communis, *Edw.*, African and Indian seas.
P. stylifera, *Edw.*, Indian Ocean.
P. affinis, *Edw.*, New Guinea seas.
P. clavicornis, *Edw.*, African and Indian seas.
P. longicornis, *Edw.*, New Guinea.
P. Freycinetii, *Edw.*, New Guinea.
P. laticornis, *Edw.*, Indian seas.
P. Indica, *Edw.*, Indian Ocean.
Phyllosoma brevicornis, *Edw.*, African and Indian seas.
P. stylicornis, *Edw.*, Indian Ocean.
Phlias serratus, *Edw.*, Port Jackson, Malonines.
Anisopus dubius, *Edw.*, Mauritius?
Amphitoe Indica, *Edw.*, Indian Ocean.
A. Reynaudii, *Edw.*, Cape of Good Hope.
A. Gaimardii, *Edw.*, New Holland.

A. costata, *Edw.*, Bourbon.
A. Ermannii, *Edw.*, thermal waters of Kamtschatka.

Fam. Hyperines. *Tribe*, Ordinaires.
Vibilia Peronii, *Edw.*, Asiatic seas.
Phorcus Raynaudii, *Edw.*, Indian Ocean.
Daira Gabertii, *Edw.*, Indian seas.
Anchylomera Blossevilleii, *Edw.*, Indian seas.
A. Hunterii, *Edw.*, Bourbon.
Oxycephalus piscator, *Edw.*, Indian Ocean.
O. armatus, *Edw.*, Amboyna and Van Diemen's Land.

ORDER, LŒMODIPODES.

Fam. Caprelliens, or Lœmodipodes filiformes.
Caprella scaura, *Edw.*, Mauritius.
Cyamus erraticus, *Edw.*, on a whale.
C. ovalis, *Edw.*, on a whale.
C. gracilis, *Edw.*, on a whale.

ORDER, ISOPODES.

Section, Isopodes marcheurs.

Fam. Idoteides. *Tribe*, Idoteides arpenteuses.
Idotea rugosa, *Edw.*, Indian seas.
I. Indica, *Edw.*, Malabar coast.
I. Peronii, *Edw.*, Australia.
I. hirtipes, *Edw.*, Cape of Good Hope.

Fam. Asellotes. *Tribe*, Asellotes homopodes.
Ligia Brandtii, *Edw.*, Cape of Good Hope.

Tribe, Cloportides terrestres.
Porcellio truncatus, *Edw.*, Mauritius.
Armadillo nigricans, *Edw.*, Cape of Good Hope.
A. flavescens, *Edw.*, Cape of Good Hope.

DIVISION, TYLOSIENS.

Section, Isopodes nageurs.

Fam. Spheromiens.
Sphæroma Quoiana, *Edw.*, Van Diemen's Land.
S. Gaimardii, *Edw.*, New Holland.
S. pubescens, *Edw.*, New Holland.
S. armata, *Edw.*, New Zealand.
S. dicantha, *Edw.*, King Island.
S. perforata, *Edw.*, St. Paul.
Zuazare diademao, *Leabh.*, New Holland.
Cymodocea armata, *Edw.*, Australia.
Cerceis tridentata, *Edw.*, King Island.

Fam. Cymothoadiens. *Tribe*, Cymothoadiens errans.
Cirolana elongata, *Edw.*, Ganges mouth.
C. sculpta, *Edw.*, Malabar.
Alitropus typus, *Edw.*, Bengal.
A. aculeata, *Edw.*, Indian seas.
Anilocra Capensis, *Edw.*, Cape of Good Hope.
Livoneca Raynaudii, *Edw.*, Cape of Good Hope.
L. Indica, *Edw.*, Sumatra.
Cymothoa Mathæi, *Edw.*, Seychelles.
C. frontale, *Edw.*, Asiatic seas.
C. trigonocephala, *Edw.*, China, New Holland.
C. Banksii, *Edw.*, Cape of Good Hope.
Section, Isopodes sedentaires, the Epicarides of Latreille.

Legion, Branchiopodes.

ORDER, PHYLLOPODES.

Fam. Apusiens.
Limnadia Mauritiana, *Edw.*, Mauritius.
L. tetracera, *Edw.*, Charkow.

ORDER, CYPROIDES OR OSTRACOIDES.
Cypridina Reynaudii, *Edw.*, Indian Ocean.

ORDER, COPEPODES.

Fam. Pontiens.
Saphirina indicator, *Edw.*, Cape of Good Hope.
S. fulgens, *Edw.*, Atlantic.

Fam. Monocles.
Cyclops vulgaris, *Edw.*, Bourbon.

Sub-class, Crustaces suceurs.

ORDER, SIPHONOSTOMES.

Fam. Peltocephales. *Tribe*, Caligiens.
Caligus Kroyerii, *Edw.*, on a diodon.
C. scutatus, *Edw.*, Indian seas.
C. Pharaonis, *Edw.*, Red Sea, on a chætodon.

Tribe, Pandariens.
Euryphorus Nordmannii, *Edw.*, Asiatic seas.
Dinemoura affinis, *Edw.*, Indian seas.
D. ferox, *Edw.*, New Zealand.
Pandarus pallidus, *Edw.*, Asiatic seas.
P. dentatus, *Edw.*, Tongataboo.
Phyllophora cornuta, *Edw.*, Tongataboo.

ORDER, LERNEIDES.

Fam. Chondracanthiens.
Tucca impressus, *Edw.*, on a diodon.

Fam. Lerneoceriens.
Penellus Blainvillii, *Edw.*, on Exoccetus volitans.
Lerneonema Lesueurii, *Edw.*, on Exoccetus volitans.

ORDER, ARANEIFORMES OR PYCHNOGONIDES.
Nymphum gracile, *Edw.*, ocean coasts.
Pallene chiragrus, *Edw.*, Bay of Jarvis, New Holland.

Sub-class, Xyphosures.
Limulus Moluccanus, *Edw.*, Moluccas.
L. longispina, *Edw.*, China, Japan.
L. rotundicauda, *Edw.*, Moluccas.

— *Tennant's Ceylon; Collingwood's Tr. of a Naturalist; Eng. Cyc.; Ainslie; Milne Edwards; Darwin; Hartwig; Bikmore.*

CRUTTENDEN, G. S. J., an officer of the Indian Navy, author of a Report on the Mijjartheza Tribe of Somali, inhabiting the district forming the N.E. point of Africa; also of a Memoir on the Western and Eastern Tribes inhabiting the Somali Coast of N.E. Africa; also of a Journal of an Excursion to Sanaa, the capital of Yemen; Memoir on the Edo, or Tribes of the N.E. Coast, Somali Coast of Africa, Bombay, 1848. He was largely employed in surveying parts of the coasts of the south of Asia. He wrote a journal of his excursion into Dahar.—*Bomb. Geo. Trans.* 1844-46, 1847-49; *E.I. Marine Surveys.*

CRUZCOOL, an opening or strait separating Mascal Island from the Chittagong coast, north of the White Sandcliffs, which are in lat. 21° 17′ to 21° 24′ N.—*Horsb.*

CRYPSIRHINA VARIANS, a curious bronze-coloured magpie, common to Siam and Java. C. varians is the Phrenotria temia, *Horsfield*, and seems to be of common occurrence in the Tenasserim Provinces, where its presence was first remarked by the late Dr. Helfer.—*Wallace; Blyth.*

CRYPTOCARYA, a genus of plants, all of them trees, of the natural order Lauraceæ. C. amygdalia, *Nees*, of Patgong; C. floribunda, *Nees*, of Sylhet; C. Griffithiana; C. membranacea, *Thw.*, of Saffragam, Ceylon, up to 2000 feet; C. Wightiana, *Thw.*, of Ceylon; C. Stocksii, *D. C.*, Peninsula of India; C. Neilgherriensis, *D. C.*, Peninsula of India, are known species.—*Voigt.*

CRYPTOCARYA FLORIBUNDA. *Nees.*
C. Wightiana, *Thw.* | Golu-mora of . CEYLON.

This very large, fine tree is not uncommon in the moist forests of the Western Ghats and in Ceylon, at elevations from 2000 up to 5000 feet; also in the Tinnevelly and Travancore ghats, Malabar and S. Canara. In Ceylon its timber is considered valuable for building purposes.—*Thw.; R. Br.; Wall.; Beddome.*

CRYPTOGAMIC PLANTS of the S. and E. of Asia have been little studied. They include acrogens, bryogens, thallogens, and protophytes; ferns, rushes, mosses, fungi, lichens, seaweeds, etc.; and from the lichen tribe and from the algæ, fungi, mosses, and ferns, man derives nutriment and valuable products. Some form articles of commerce, particularly as food-plants, affording gelatinous and amylaceous matter, and being useful in medicine and the arts. The flowerless cryptogamic plants include the

seaweeds, Porphyra, *sp.*, laver; Ulva, *sp.*, green laver; Laminaria, *sp.*, tangle; Alaria, *sp.*, badderlocks; Iridæa, *sp.*, and Rhodymenia, *sp.*, dulse. Ceylon moss is Plocaria candida, and Pl. tenax is Chinese moss; Gracillaria helminthocorton is Corsican moss, also the Laurencia obtusa. Australian moss is the Eucheuma speciosum; the edible seaweed of Valparaiso is Durvillæa utilis; Sphærococcus lichenoides is found on the British coasts. Irish moss is Chondrus crispus and Gigartina mamillosa, and Cetraria Islandica is the Iceland moss. Several of the lichens furnish valuable dyestuffs, particularly species of Lecanora, Rocella, and Borrera asneh.—*Food*, 105; *Simmonds.*

CRYPTOLEPIS, a genus of plants belonging to the natural order Asclepiaceæ. C. elegans, C. grandiflora, C. pauciflora, C. reticulata, and C. Buchananii occur in India.—*W. Ic.; Voigt.*

CRYPTOMERIA JAPONICA. *D. Don.*
Cupressus Japonica, *Thunb.*

The suji, or Japan cedar, a beautiful and greatly admired tree of Japan and N. China, is a species of pine not unlike the araucaria of Norfolk Islands and Brazil. When growing luxuriantly, it is highly ornamental, rising from the ground as straight as a larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and weeping manner. It is the finest of all the trees of Japan, rising to 60 and 100 feet high, and five feet in circumference at three feet from the ground. It is seen everywhere in the valleys, and up to 7000 feet on the mountains. The wood of the tree has a kind of twisted grain, and possesses great strength and durability. It is highly valued by the Chinese; and, from its beauty and straightness, is often used by the mandarins and priests for the long poles which are generally seen in front of their houses and temples. It is also well known and highly prized by the natives of Japan as an ornamental tree. It is a most conspicuous tree, evidently in high favour with the priests of Buddha, and well deserves to be so. It succeeds admirably in China, and has been introduced into England, where it is admired.—*Fortune's Wanderings*, p. 128; *Tea Districts*, pp. 16, 212, 304; *F. von Mueller.*

CRYPTOSTEGIA GRANDIFLORA. *R. B.*
Nerium grandiflorum, *Rox.* | Palay, . MALEAL., TAM.

A climbing plant belonging to the family Asclepiadaceæ. It is common in the south of India, and yields a fine silky fibre, capable of being spun into fine yarn, and of employment for many of the purposes to which flax is applicable, suited to the weaving of different qualities of cloths. It seems to be a good substitute for flax, as it is soft, pliant, and susceptible of being split into the finest threads. The stalk contains a large percentage of fibre, besides yielding a milky juice, which solidifies into a gum-elastic of the nature of India rubber; but it has not as yet been collected for the purposes of commerce, and it is doubtful if a sufficient quantity could be obtained to render it an article of trade. The small samples obtained answer well for rubbing out pencil marks from paper. Mr. Underwood made a fair attempt at producing waterproof cloth by simply running the juice over the cloth.—*M. E. J. R.*

CRYPTOTHELEA CONSORTA, the wood moth.

CRYSTAL.

Cristal, . . .	FR., SP.	Balur, .	HIND., PERS.
Krystall, ...	GER.	Cristello, ...	IT.
Koreh, ...	HEB.		

The word for crystal alluded to in Genesis xxxi. 40 as ice, and in Job vi. 16 as frost, and the Hindi-Persic word Balur, seem to have been applied indifferently to ice and rock-crystal. Rock-crystal occurs abundantly in many parts of India, and that of the south of the Peninsula is known as vellum stone, from the place of its occurrence. It is said that rock-crystal, if made red-hot, and plunged repeatedly into the tincture of cochineal, takes a ruby hue; if into a tincture of red sandal, it takes a deep red tint; into tincture of saffron, a yellow like the topaz; into a tincture of turnesol, a yellow like the topaz; into juice of nerprum, it takes a deep violet like the amethyst; and into a mixture of tincture of turnesol and saffron, it becomes an imitation of the emerald. Also by steeping the crystal in oil of turpentine, saturated with verdigris or spirits of wine, holding dragon's blood or other coloured resins in solution, depth of tints are produced proportioned to the time of steeping. Crystals can be coloured if heated in a crucible with orpiment and arsenic. Crystals coloured red are false rubies, known in France as rubaces. Cups of rock-crystal were highly prized in ancient Rome; but even in Pliny's time the price of agates, as he calls them, had begun to fall, and now-a-days the Cambay stones formation is so extensive, that the principal use of Cambay stones is as studs, paper-cutters, knife-handles, and murrhine cups.—*King*, p. 178. See Cambay.

CSHITIJA, Cacsha. SANSK. The horizon; also the sine of an arc referred to the horizon, used for finding the ascensional difference.—*Warren, Kala Sankalita.*

CSOMA DE KOROS. Alexander Csoma de Koros was a highly learned Hungarian philologist, who died in 1842 on the Himalaya. A memoir of him appeared in the Bl. As. Trans. 1841. He bequeathed Rs. 5000 to the Asiatic Society of Bengal. He resided in Kunawar, and at Ladakh and Kanum, from 1828, for the sake of studying the language of the country. An account of Gerard's interview with him appeared in the Gleanings in Science, 1829, i. p. 110. He wrote a Geographical Notice of Tibet in Bl. As. Trans. 1833, i. 121. The Buddhist religious works of Tibet, brought to notice by him, are the Tanjur, which consists in its different editions of 100, 102, and 108 folio volumes, and comprises 1083 distinct works. The Tanjur consists of 225 volumes folio, each weighing from 4 to 5 lbs. in the edition of Pekin; but an edition has also been published at Lhassa and other places; of these De Koros gave an analysis in the 20th volume of the Asiatic Researches. See Pali.

CTESIAS, B.C. 440–370, a Greek of Cnidos, of the Asclepiad tribe, a contemporary of Xenophon and Herodotus. He took service with the Greek mercenaries who joined Cyrus, son of Darius II., in his expedition against his brother Artaxerxes Mnemon, by whom he was taken prisoner at the battle of Cynaxa, B.C. 401, 41 miles from Babylon. He became physician to Artaxerxes Mnemon, king of Persia, at whose court he resided for 17 years. During his residence he was able to consult the public archives, and he compiled from them a history of the Persians and of their predecessors in the empire

of Asia. He also wrote an account of India and its productions, but the absurd exaggerations and fables which this contains have caused all his other works to be viewed with suspicion. He is likewise accused of being led, by extreme jealousy of Herodotus, into direct mis-statements, that he might contradict that historian. Aristotle more than once declares him to be unworthy of eredit; and modern critics have generally agreed to reject altogether, or to receive with great reserve, all his assertions. Yet Diodorus Siculus and several ancient authors appear to have followed and trusted him; and it may be observed that whilst mere travellers' tales and vulgar traditions were probably the only sources of his Indian marvels, written records and monuments may have furnished him with well-authenticated historical facts, to assist him in compiling the history of the country in which he resided, and of which he had a personal knowledge. Unfortunately, of his history very little remains, except the names of kings. Much relating to Assyria, contained in the works of others, was, however, undoubtedly copied from him. Ctesias and Isidore both mention a statue pillar of Semiramis at Baptane, but these and the Syriac inscriptions have disappeared. Ctesias mentions the use of swords as lightning conductors.—*Smith's Dictionary of Gr. and Rom.; Yule, Cathay*, i. p. 39; *Layard, Nineveh*, i. p. 15.

CTESIPHON. The Babylonian empire was subverted by Cyrus, who is said to have taken the capital by turning the course of the Euphrates, and marching his troops along the bed of the river into the centre of the city. The walls and temple of Belus are said to have been demolished by Xerxes on his return from the Grecian expedition; but if so, they must have been rebuilt, as they were standing in the time of Alexander. After the building of Seleucia and Ctesiphon, Babylon became gradually deserted; and we learn from St. Jerome that the space within the walls was converted by the Parthian kings into a royal hunting park. From this period we cease to hear of Babylon as a city; but, notwithstanding that so many ages of barbarism and ignorance have passed away, tradition still continues to identify both its name and situation. The town of Hilleh is said by the people of the country to be built on the site of Babel; and some gigantic ruins, still to be seen in its vicinity, are believed to be remains of that ancient metropolis. From her fallen towers have arisen not only all the present cities in her vicinity, but others which, like herself, are long ago gone down into the dust. Since the days of Alexander, we find four capitals at least built out of her remains,—Seleucia by the Greeks, Ctesiphon by the Parthians, Al Modain by the Persians, and Kufa by the Khalifs,—with towns, villages, and caravansaris without number. The ruins of Ctesiphon are to be seen on the eastern shore of the Tigris, 18 miles south of Baghdad; and immediately opposite to it the ramparts and fosse of the Grecian city of Seleucia, which afterwards becoming identified with the former under the name of Coche, they assumed, when thus united, the epithet of Al Modain, or the cities. Ctesiphon was most admirably situated, on a sort of peninsula formed by a sudden flexure of the Tigris, which must have embraced the greatest part of the town. Its foundation, however, can hardly be ascribed to any particular person, as it would seem to have increased gradually, during a succession of many years, from a camp to a city. Pacoras, supposed to be Orodes, king of the Parthians, and contemporary with Anthony, is thought to be the first who surrounded it with walls, and made it the capital of the Parthian empire. It was sacked, together with Seleucia, by the generals of Marcus Aurelius, A.D. 165, and afterwards by the emperor Severus. It became the favourite winter residence of the powerful successors of Artaxerxes, from whom it was taken by Said, the general of the khalif Omar, A.D. 637. The capital was taken by assault, and the tumultuous resistance of the people gave a keener edge to the sabres of the Mahomedans, who shouted with religious transport, 'This is the white palace of Chosroes! this is the promise of the Apostle of God!' The sack of Ctesiphon was followed by its desertion and gradual decay. The Arabs disliked the air and situation of the place, and Omar was advised by his general to remove the seat of government to the western side of the Euphrates; and little now remains but part of the palace of Chosroes, called Tak-i-Kesra, the Arch of Chosroes. It is seen from afar on the plain, and presents a front of 300 feet in length by 160 in depth, having in its centre a vaulted hall 106 feet in height to the top of the arch, the span of which is 85 feet. The Ali Capi at Isfahan, and gates of the palace of Dehli, sink into insignificance beside the Tak-i-Kesra. The city walls, which appear to have been of very great thickness, may also be traced to a considerable distance on both banks of the river. The names of Seleucia and Ctesiphon are very frequently confounded by the early Christian writers; but the cities stood on opposite sides of the river Tigris, and were built at different periods. Mr. Jackson, when proceeding up the Tigris in 1797, passed by the ruins of Ctesiphon, which that river had considerably undermined. There were visible a great many earthen jars, some half-exposed, others ready to fall into the river. Captain Mignon dug into the sides and bases of many of the mounds at the Tak-i-Kesra, and found their foundations invariably composed of the fire-burnt brick.—*Layard, Nineveh*, i. p. 242; *Kinneir's Geographical Memoir*, pp. 253-54, 273, 274; *Porter's Travels; J. B. Fraser's Travels.*

CUBEBS, Piper cubeba.

Kababah, . . .	ARAB.	Lada barekor, .	MALAY.
Sin-bau-ka-ra-wa, .	BURM.	Timmue, . . .	NEPAL.
Peh-ching-kia, . .	CHIN.	Sughanda-marichu,	SANSK.
Dumki mirchi, . .	HIND.	Walgu-meris, . .	SINGH.
Kabab-chini, . .	,,	Val-mullaghu, . .	TAM.
Kumunkus, . . .	JAV.	Chalava mirrialu, .	TEL.

The cubeb pepper of commerce is stated to be the fruits of Piper cubeba and P. caricum, both of them natives of Java, to which island their cultivation appears to be confined. Dumki mirchi and lada barekor, meaning 'tailed pepper,' are derived from the appearance of the dried fruit, which has always the footstalk adhering to it.—*Irvine; Crawfurd's Dict.* p. 117.

CUBERO. Don Pedro Sebastiano Cubero, author of the Peregrinacion de la Mayor Parte del Mondo, published at Saragossa 1688. He set out about 1650 from Moscow, with the Russian ambassador, to the court of Persia. From Ormuz he sailed to Damayn (Daman?), Surat, and Goa, where he found the capital of Portuguese Asia in a state of miserable decay, and its trade almost in the hands of the Dutch,

English, Swedes, and Danes. From Goa he sailed to Masulipatam, and thence to Malacca, already in the hands of the Dutch, and on to Manilla, where he took ship across the Pacific to Mexico.

CUBE SPAR, or crystalline carbonate of lime, of good quality occurs in Nellore, Kurnool, and Cuddapah. It is used for mounting microscopic objects, and as a source of very pure lime. Rhomb spar or dolomite spar occurs in Cuddapah.

CUBIT, the Hindi hat'h. A measure of length, from the point of the elbow to the point of the middle finger. The Egyptians made use of the cubit measure, divided into six handbreadths, or twenty-four fingers, and also of the royal cubit, which consisted of this lesser cubit and a handbreadth over. The royal cubit contained twenty English inches and two-thirds. The Jews made use of the same measure, for length, of a cubit and a handbreadth. The Egyptians measured long distances by the Schœnus of about 6 miles in length. Land was measured by the aroura or half-acre, which, if square, measured a hundred cubits on each side. That a measure nearly the same was in use from the earliest times, we learn from the size of the pyramids. Exactly such was the cubit used in making the five smaller pyramids of Gizeh.—*Egypt. Inscrip.* 2d series, pl. 46; *Ezekiel* xi. 5; *Herodotus*, lib. ii. p. 168; *Vyse's Pyramids in Sharpe's Egypt*, i. p. 167.

CUBYA KANYA, from Cubja, the spine, of the virgin, Kanya, a name of Kanouj.

CUCHHOURA, a small Rajput clan of Gorakhpur.—*Elliot.*

CUCHWAHA, a celebrated Rajput tribe. The rana of Amber is of the race who claim descent from Cush, second son of Rama, king of Ayodhya, who migrated and built the fort of Rotas, on the Sone. Authentic history commences in A.D. 294 with Raja Nola, who founded Narwar or Nishidr. Amber or Dundhwar, the early capital of Jeypore, was built by Jey Singh, and was a city of great architectural beauty.—*Tod; Thomas' Prinsep's Antiquities*, p. 259; *Elliot, Supp. Gloss.*

CUCIFERA THEBAICA.

Doom; Gingerbread tree. | Hyphæne coriacea, *Gært.*

Clumps of it occur near Thebes, in Upper Egypt. Its stem, instead of growing without branches like other palms, forks two or three times, thus assuming the appearance of a pandanus. The fruit is about the size of an orange, angular, irregularly formed, of a reddish colour, and has a spongy, tasteless, but nutritious rind. The albumen of the seed is hard and semi-transparent, and is turned into beads and other little ornaments. Its brown mealy rind resembles gingerbread.—*Eng. Cyc.* p. 385.

CUCUBALUS DRABA. *Gœrtner.* A plant of the alpine vegetation of Kedarnath.—*Hoffmeister.*

CUCULIDÆ, the cuckoo family of birds, is of the tribe Scansores. Their outer toe is versatile, usually turned back. They mostly live on insects, a few on fruit. Some hatch their own eggs in nests constructed by themselves, others deposit their eggs in the nests of other birds. This family is divided as under:—

Sub-Fam. Cuculinæ, *Sw.*
True cuckoos, parasite cuckoos.
Cuculus canorus, *Linn.*, Europe.
C. Himalayanus, *Vigors.*
C. poliocephalus, *Latham.*
C. Sonneratii, *Latham.*
C. micropterus, *Gould.*
C. striatus, *Drapiez.*
Hierococcyx varius, *Vahl.*
H. nisicolor, *Hodgson.*
H. sparverioides, *Vigors.*
Polyphasia nigra, *Blyth.*
P. tenuirostris, *Gray.*
P. merulina, Malayana.
Surniculus dicruroides, *Hodgson.*
S. lugubris, *Horsfield.*
Chrysococcyx Hodgsoni, *Moore.*
C. lucidus of Australia.
C. xanthorhynchus, *Horsf.*
C. Malayanus.
C. Basalis.
Coccystes melanoleucos, *Gmelin.*
C. coromandus, *Linn.*
C. glandarius.
C. serratus of Africa.
C. afer of Africa.
Eudynamis orientalis, *L.*
E. Flindersii, N. Zealand.
Zanclostomus tristis, *Less.*
Z. viridirostris, *Jerdon.*
Z. Javanicus, Burma.
Z. Sumatranus.
Z. diardi of Malacca.
Phœnicophaus pyrrhocephalus, Ceylon.
P. curvirostris, Burma.
P. callirhynchus.

Sub-Fam. Centropodinæ.
Centropus rufipennis, *Ill.*
C. viridis, *Scopoli.*
Taccocua sirkee, *Gray.*
T. Leschenaultii, *Lesson.*
T. infuscata, *Blyth.*
T. affinis, *Blyth.*

Cuculus canorus is the cuckoo of Europe, Asia, Africa, Malay countries, and common in the Himalaya, visiting the plains during the cold season. The noisy koel is remarkable for the dissimilar colours of the sexes, and for parasitically laying in the nests of the crow. The coucol, or crow-pheasant, is another noisy and conspicuous bird wherever there is a little jungle. Phænicophaus callirhynchus is one of the finest known cuckoos. Its bill is of a brilliant yellow, red, and black.—*Jerdon.* See Birds.

CUCUMBER, Cucumis sativus.

Kusaja, ... Arab. | Khekra, ... Hind.
Coucombre, ... Fr. | Cetrinolo; Cocomeri, It.
Gurken, ... Ger. | Cohombro; Pepino, . Sp.

The cucumber (Cucumis sativus) is grown from seed at all seasons. The plants should never be too close. It thrives in all parts of India, and grows with much or little water; and, if allowed to climb over sticks or trellis-work, is out of the way of jackals and porcupines, who are fond of the fruit. The natives grow them in their fields, in the cold season, amongst grain and pulse of various sorts, and in the sandy beds of rivers during the hot weather. The cucumber of Numbers xi. 5 is the Cucumis melo, the melon.

Cucumber Seed Oil.

Antimun bij miniak, Mal. | Villerikai yennai, . Tam.
Timun-biji-miniak, . ,, | Dosa kaia nuna, . Tel.
Katimun-biji-miniak, ,,

A clear, edible oil, obtained by expression from the seeds of Cucurbita pepo and C. melapepo.

The Cucumis genus of plants belongs to the Cucurbitaceæ. C. cicatrisatus, *Stocks*, the Wungee of Sind, has an edible fruit about 6 inches long. C. conomon, *Thunb.*, an annual of Japan, is used for preserves.

The cucumber family of plants is largely preyed upon by a twelve-spotted species of the ladybird, which, alike in the grub and perfect state, feeds on the leaves and flower-buds.—*Jaffrey; Irvine; Voigt; Eng. Cyc.; W. Ic.; Von Mueller.*

CUCUMIS MELO. *Linn.* Melon, musk melon.

Betikh (musk melon), Ar. | Baka-kaia, . . Maleal.
Tha-khwa-hmwæ, Burm. | Gilas; Girasa, . . Panj.
Tien-kwa; Hiang-kwa, Ch. | Sarda; Paliz, . . Pusht.
Hu-kwa; Hwang-kwa, ,, | Ghidro, ... Sind.
Kharbuzeh, Hind., Pers. | Rata komadu, . . Singh.
Labo-frangi, . Malay. | Mulam, . . Tam., Tel.

The native country of this valuable plant is unknown. Linnæus says Tartary, but he does not give his authority. De Candolle says Asia; Roxburgh only knew it in a cultivated state in tropical India; and Professor Royle seems] unacquainted with any wild station for it in the

Himalaya regions. It is cultivated in Persia and Afghanistan, the Panjab, and all over India. From time immemorial Kashmir has been famous for the excellence and abundance of its melons, which form a staple article of the food of the inhabitants; and the melons of Multan and Jhang are excellent. Dr. J. L. Stewart says that this fruit rapidly degenerates if sown in the plains. In Kābul it thrives, and is in perfection in October and November, when the first frost touches the plant. It is largely taken for sale to Peshawur.

CUCUMIS MOMORDICA. *Roxb.*

C. muricatus, *Willd.*	Momordica sativa, *Roxb.*
Phunti, ... BENG.	Kakari; Karkata kai, TAM.
Phunt; Tuti, . . HIND.	Pedda dosa kaia, . TEL.
Kakra, ... PANJ.	Mullu dosa kaia, . ,,

Cultivated throughout India; when young, is a good substitute for the common cucumber. Seeds occasionally ground into a meal. When the fruit is ripe, if eaten with a little sugar, it is little inferior to the melon, and reckoned very wholesome; natives use it in curries.—*Roxb.*

CUCUMIS PUBESCENS. *Willd.*

C. maderaspatanus, *Roxb.*

Fowl's cucumber, . ENG.	Chibbur, ... SIND.
Kakri, Bun-gumuk, HIND.	Kekri, ... SINGH.
Raushanak, . . . PERS.	Kodi, Nella budinga, TEL.

Grows wild in South India, in the Panjab, Hindustan, Bengal, and the Peninsula. Its small fruit is eaten by the natives, though they do not cultivate the plant; on ripening it becomes aromatic.—*Roxb.; Voigt; Stewart; Irvine.*

Cucumis dudain, Queen Anne's Pocket Melon, is a native of Persia, and produces a fruit variegated with green and orange, and oblong unequal green spots; when full ripe it becomes yellow, and then whitish. It has a very fragrant vinous musky smell, and a whitish, flaccid, insipid pulp.

CUCUMIS SATIVUS. *Linn.* Cucumber.

Kusud, ... ARAB.	Khiyar, ... PERS.
Kankari, ... DUKH.	Mutrulla, Sookasa, SANSK.
Fakus, ... EGYPT.	Rata kækari, . . SINGH.
Kira, also Susa, . HIND.	Pipingya, . . . ,,
Antimun, Timmun, MAL.	Mulu veleri, . . TAM.
Mullen velleri, . MALEAL.	Vellerikai, . . . ,,
Khira, ... PANJ.	Dosa kaia, . . . TEL.

This is commonly grown and largely used all over India, but most Europeans find it difficult to digest. Cucumbers of the C. sativus and C. utilissimus are consumed in immense quantities by the Karens and Burmans, who seem to prefer them large and yellow, rather than pluck them when green and tender. The seeds of this and of C. utilissimus are considered cooling.

CUCUMIS TUBEROSUS. *Heyne.*

Adulay kai, . . . TAM.	Casara kaia, . . . TEL.
Nellay piku, . . . ,,	

This is a pot vegetable, eaten by the people in curry. It grows wild in cotton soils of North Tinnevelly. It is very prolific, and on waste lands, headlands, etc., in great abundance. A coolie load of tubers gives six large measures of fine flour, considered by the natives a most excellent breadstuff. One measure of the flour is considered equal to two measures of the Panicum glossarium, which latter is the staple food of North Tinnevelly. The tubers are washed and peeled, then bruised on a rough stone, after which it is washed precisely like arrowroot, the washing extending over seven or eight days, when the starch is dried in the sun. The flour is almost as white as arrowroot; it is reduced to conjee quite as easily, by pouring boiling water upon a spoonful or two which has been first moistened with cold water. The fruit, a small capsule used in sweetmeats, is known as the Adully.—*Roxb.; Rev. J. F. Kearns in Agri-Hort. Soc. Pro.* 1862.

CUCUMIS UTILISSIMUS. *Roxb.*

Kiza-ut-taul, . . ARAB.	Kakri, Kakni, . . HIND.
Kankur, also Karkti, BENG.	Khyar-i-badrang, . PERS.
Tha-khwa, . . . BURM.	Dosa, Nakka dosa, TEL.
Gurkel lange, . . GER.	

Cultivated throughout India; and Dr. Stewart has seen it at 6000 feet, on the Ravi, in the hills. This gourd attains 2 or 2½ feet, and is stated to reach the extraordinary length of 5 feet. When ripe, if carefully gathered and suspended, it will keep good for several months, from which circumstance they are valuable for long voyages. It is pickled when half grown. The seeds, like those of the other cucurbitaceous fruits, contain much farinaceous matter, blended with a large portion of mild oil. The natives dry and grind them into a meal, which they employ as an article of diet; they also express a mild oil from them, which they use in food and to burn in their lamps. The seeds are highly nourishing, and well deserving of a more extensive culture than is bestowed on them at present. The powder of the toasted seeds mixed with sugar is said to be a powerful diuretic, and serviceable in promoting the passage of sand or gravel. In Roxburgh's time, in the Guntur Circar, these seeds formed a considerable branch of commerce.—*Roxb.; Cal. Ex.* 1862; *Honig.*

CUCURBITA, a genus of the Cucurbitaceæ, which includes all pumpkins, gourds, squashes, and vegetable marrow, and of these there are innumerable varieties.

C. moschata, *Duchesne*, is the musky gourd.

C. melopepo, *Linn.*, the squash gourd, can be stored for months. It is supposed to be a variety of C. pepo.

C. pepo, *Linn.*, the pumpkin, is largely grown in particular localities. Its naturalization in desert tracts would be a boon.

C. aurantia. —? Yin-kwa, CHIN. A deep golden-coloured gourd of Cheh-kiang. It is rather more tender than the other species.

C. lobata. Tinda, PANJ. In the Panjab this is a small round gourd when young, at which time it makes a most delicious vegetable for the table; the fruit is not bigger than a small turnip.—*Powell; Eng. Cyc.; Smith.*

CUCURBITACEÆ, a natural order of climbing or creeping plants, the gourd tribe, chiefly natives of hot countries, ranged by Meisner under 35, and by Endlicher under 28 genera. Of these, there occur in Egypt, Abyssinia, and Arabia 8, in Astracan and Persia and the Levant 3, in China and Japan 5, and in the East Indies 160 species, of which 46 are natives of India,—achmandra, benincasa, bryonia, bryonopsis, citrullus, coccinia, cucumis, cucurbita, erythropalum, herpetospermum, gymnopetalum, karivia, laginaria, luffa, melothria, momordica, mukia, pilogyne, sicyos, trichosanthes, Zehneria. Some of the species afford cathartics of remarkable power, others have useful edible fruits. The fruit varies much in size, form, and external characters, but is generally fleshy within, and its pulp is often so saturated with water that it cannot be dried. The roots of most of the order contain starch,

often associated with an acrid poisonous matter, which can be separated by washing the powdered root with water, in which the acrid matter dissolves, while the starch is left. The seeds of most of the order are of a mild sweet taste, give good emulsions with water, and yield a fixed oil by expression. Few of the plants of this order are indigenous in Europe. In tropical countries this order gives the inhabitants a large portion of their food, which it often affords of the finest quality in the most arid deserts, or on barren swamps and islands. In Persia, China, and Kashmir, they are cultivated on the lakes, on the floating collections of weeds common in these localities; in India they are very abundant, either in the wild or cultivated state. According to Dr. A. Hunter, the Cucurbitaceæ abound in fibres of great length. The following are the chief dietetical species :—

Cucurbita maxima. The seeds yield oil by expression, and are considered cooling.
C. ovifera, *L.* Vegetable marrow.
Benincasa cerifera, Peetha.
Cucumis melo, melon, Kurbooza. Seeds oily, and readily become rancid.
C. Madaraspatensis, Roxb. Fl. Ind. iii. p. 723.
C. patescens, wild, common near Saharunpur; becomes aromatic on ripening.
C. momordica, Phoot.
C. sativus, cucumber, Kheera. Fruit contains sugar; seeds yield a mild oil.
C. utilissimus, Kukree.
Luffa pentandra, Ghia.
L. acutangula, Kalee-tori.
Momordica charantia, Kurella. Fruit slightly bitter.
Trichosanthes anguina, Chuchinga.
T. dioica, Palwal.
T. cucumerina, Junglee-chuchinga.

CUCURBITA MAXIMA. *Duch.*

Cucurbita melopepo, *Roxb.* | Pumpkin; Gourd.

Suphura kumra,	BENG.	Al?	KANAWAR.
Shwæ pha yung,	BURM.	Daghan, . .	LADAKH.
Pha yung kha, . .	,,	Shora, . . .	MALEAL.
Nan-kwa, Kiug-kwa,	CHIN.	Shakari or Shakara,	,,
Red or squash gourd,	ENG.	Kadu safed, . .	PERS.
Mitha kaddu? . .	HIND.	Pushiny kaia, . . .	TAM.
Halwa kaddu? .	,,	Gumaddi kaia, . .	TEL.

Cultivated throughout India, in Kashmir, up to 6000 or 9000 feet, and in Ladakh up to 10,500 feet. It is made to trail over houses and trees. It needs much water and good soil. The fruit is very large; when boiled, it tastes like a young carrot, and is used in various ways; its leaves are boiled as greens. This gourd is presented with great ceremony in China to married childless women, on the evening of the festival of mid autumn, which happens on the 15th of the 8th month of the Chinese year. In India the tallow gourd is presented to a wedded pair.—*Voigt; Stewart; Gen. Med. Top.*

CUCURBITA OVIFERA. *Linn.*

Vegetable marrow, ENG. | Simai-pusini kai, . TAM.

This is the most wholesome of the Cucurbitaceæ, and is largely grown by the market gardeners of India. It is said to be indigenous at Astracan; it is an excellent vegetable, of easy culture in good rich soil.—*Jaffrey; Voigt.*

CUDBEAR is the Tsze-fen and Shih-jui of the Chinese. It is a powder procured from the Lichen Tartaricus, a plant found in Iceland, used in dyeing violet, purple, or crimson. Its colours are not durable when it is employed alone, and it is therefore used as a body to other expensive dyes, as indigo, cochineal, etc., making them more lively. It is used but little by the Chinese, and the demand in that market is not great.—*Compendious Description.* See Dyes.

CUDDALORE, a town on the Coromandel coast, in lat. 11° 42′ 45″ N., long. 79° 48′ 45″ E.; population, 40,464. It is in the South Arcot district, and has the three parts of old Cuddalore, Munja Coopum or New Town, and Fort St. David, the last of which, in 1684, Sumbaji gave permission to build. In 1702 the fortifications were rebuilt; and after the capitulation of Madras to La Bourdonnais in 1746, Fort St. David became the seat of government. The French advanced against this fort in 1746, but were defeated by Mahfuz Khan. Dupleix besieged it, but retreated; and he subsequently, in 1749, failed in a night attack on the town. Major Lawrence made it his headquarters. In 1758 Lally took Cuddalore town without opposition; and on the 2d June 1758 Fort St. David surrendered, and the fortifications were razed. In 1760 it was retaken by Colonel Coote, but in 1782 was again taken by the French under M. Bussy.—*Findlay.*

CUDDAPAH, a town in lat. 14° 28′ 49″ N., and long. 78° 51′ 47″ E., which gives its name to a revenue district of the Madras Presidency, lying between lat. 13° 25′ and 16° 20′ N., and long. 77° 55′ and 79° 40′ E.; area, 8367 square miles; population, 1,351,194. It has the districts of Kurnool and Guntur on the north, and Mysore and North Arcot on the south. The river Pennar enters the district at Tallapodatoor, and, after many windings, passes by Sidhout within nine miles from Cuddapah town, and flows in an easterly course to the Bay of Bengal.

There are diamond mines about 7 miles north-east of the town of Cuddapah, on both banks of the Pennar. Iron ore is abundant in the hills. Cotton, wheat, and indigo are the chief crops. This district formed part of the territories of the Bijanagar dynasty. In A.D. 1589 it fell to the armies of the Kutub Shahi dynasty of Golconda, who sacked the city, and broke the idol of the great temple. It was afterwards under the Adal Shahi rulers of Bijapur, later on taken by Hyder Ali about A.D. 1779, and its ruler, Halim Khan, carried captive. In 1800 it was ceded by the Nizam to the British. The chief towns are Sidhout, Jummul Madagoo, Badwail, Pulgooralupully, Giddalore, and Jungam-razpillay. In the district are 103,676 Mahomedans and 4973 Christians.

The non-Aryan migratory tribes are the Yanadi, a hill tribe of small stature, determined plunderers of the shepherd flocks, but are valuable as foresters.

The Yerkala are wholly migratory and predatory; steal into houses at night, and wrench the jewels from the ears of the women and children.

The Chenchuwar, a physically fine race of men, but incorrigibly predatory and regardless of human life.

The Sugoli, a wandering, pilfering race, who have a picturesque costume.—*Imp. Gaz.*

CUDDUNG of Coorg, a breastwork.

CULCURNI, a Tamil accountant.

CULITLAWAN BARK is obtained from several species of cinnamomum trees.

CULLEN, GENERAL, of the Madras Artillery, long a Resident at the court of the raja of Travancore; for half a century a contributor to physical science in India. He wrote on the Geological

Features from Madras to Bellary, Mad. Lit. Trans. 1827, i.; Account of the Fall of Rain at Different Stations on the Western Ghats, Rep. Brit. Ass. 1844, 1846, ii. 23; On the Influence of Trees on Climate, Mad. Lit. Trans. xv. 450. Born 17th May 1785. He died at Allepey, 1st October 1862.

CULLENIA EXCELSA. *W. Ic.*

Kattoo-bodde, . SINGH. | Malai konji maram, TAM.
Kattoo heriteya, . „ | Durio Zeylanicus, *Gard.*

A large tall tree of the southern part of the Peninsula of India, and common in the central province of Ceylon, at an elevation of from 2000 to 5000 feet; trunk straight, from 60 to 80 feet high. Wood white, rather open-grained, apparently not very good, but the outside wood only was examined. Under the microscope, its longitudinal section is very peculiar.—*Wight; Gibson; Thw.*

CULLEN'S LIQUID, for preserving wood and iron, is a mixture of two measures (by bulk) of coal-tar to one measure of quicklime and one of powdered charcoal. Lime is freely dissolved in coal-tar, with which it forms a cement which takes readily to wood, brick, iron, or other building materials, however wet, and which sets with nearly the cohesion of mortar or hydraulic lime. With the addition of the charcoal, mixed in an exceedingly fine state, it is found that white ants, which attack and destroy creosoted wood, were effectually excluded, carbon, it appears, being especially poisonous to them. Six pieces of deodar, or Himalaya pine, were buried in a place particularly infested with white ants, three of the pieces being protected by Cullen's preparation, and the three others being left in their natural state. At the end of five months the blocks were dug up, when those which had been coated were found to be as sound as when put down, while those which had been left unprotected were found riddled with the perforations of the ants.

In the case of iron, creosote is believed to be a complete protection in ordinary soils, but in saltpetre soils is said to be of no use whatever. Six pieces of thin iron were buried, three being coated with Cullen's preparation, while the others were left as they were cut from the original plate; the coated iron was completely protected for the time tried, whereas the pieces put down in their ordinary state were found to have been much rusted.

CULLUKA, an ancient Hindu commentator on the book of Menu, the Hindu lawgiver.

CULTIVATORS of the soil in British India are known as the ryot and the zamindar, the former being an Arabic word, the latter from the Persian. The Tibetans style them Glupa. In India, the chief cultivating races are the Jat, Kapa, Khassa, Kunbi, Kurmi, Mala, Wakkala, Vallalar, and the bulk of them are co-proprietors with the rulers. Menu says cultivated land is the property of him who cut away the wood, or who cleared and tilled it,—an ordinance binding on the whole Hindu race, and which no international wars or conquest could overturn. In Bengal, a man with a helping boy, with a plough and pair of bullocks, will cultivate as much as three acres, or even more. Throughout India their crops are designated by the seasons at which they occur, as Bhaduwi, Kharif, Rabi.—*Tod's Rajasthan*, i. p. 496. See Agriculture; Crops; Soil.

CUMBHA, in Hindu astronomy, the solar sign Aquarius. In explanation of the analogy between the vessels emblematic of the Isis of the Nile and the Ganges, there is a festival sacred to the sage Agastya, who presides over the star Canopus, when the sun enters Virgo (Kaniya). The Camacumpa is then personified under the epithet Cumbha-yoni; and the votary is instructed to pour water into a sea-shell, in which, having placed white flowers and unground rice, turning his face to the south, he offers it with this invocation, 'Hail, Cumbha-yoni, born in the sight of Mitra and Varuna (the sun and water divinities), bright as the blossom of the cusa (grass), who sprang from Agni (fire) and Maruta.'

CUMBI, TAM., TEL., Gardenia lucida, yields the Dikamilli or Cumbi-pisin, a strong, disagreeable-smelling gum-resin, procurable in most Indian bazars. It is much used by native doctors as an external application, when dissolved in spirits, for cleaning foul ulcers. It is used by some European practitioners in case of worms in children.

CUMBLI, HIND., also written Kamli, Cumul, and Camal, and also called Cameline, is from the Sanskrit Kamal, a blanket, and is a coarse woollen blanket worn by the peasantry of all India, and sold at Rs. 1½ to 100. Cumblis are woven in almost every district of India of the wool of the country, which is spun by hand. The yarn is sized with the juice of the common squill; the woof is beaten with a hand batten (in the way that sailors adopt in forming mats for protecting the rigging), no reed being used; a finer description of cumbli, of which the sepoy cloaks were formerly made, is manufactured at Bellary or in its neighbourhood. Mysore cumblis of superior quality, in black and white colours, are sold at from Rs. 25 to 100 each; ordinary sizes, Rs. 4 to 20 each. Bellary cumblis are well made, but are not of so high value as those of the Mysore district; they are 6 cubits long by 3. The cumbli is usually made in pieces of two or three feet broad, and five or six or more long, and generally very coarse, of a dark or black colour. Sometimes, however, they are manufactured larger and finer, and striped or spotted black and white. There may be some connection between the Sanskrit word Kamal and the Grecian Chlamus and the Latin Chlamys. It is barely possible, also, it may not be unconnected with the Arabic Kamis, from which we have the Italian Camicia, the Portuguese Camisa, and the French Chemise. The Chlamys was generally, like the Cumbli, made of wool, and in shape it was much the same, being half the breadth of its length. A similar connection may perhaps exist between the Persian and Hindi Suya, the Latin Sagum, and the modern Spanish Saya. Good cumblis are made in Ulwar, and in the neighbourhood of Meerapur in Meerut. The Sansla cumbli of Meerut sometimes sells as high as 25 rupees. It is made of the wool of lambkins, shorn about three days after their birth.—*Elliot, Supp. Gloss.; Hindu Infanticide*, p. 195.

CUMBUM, a town in lat. 15° 34′ 15″ N., and long. 79° 91′ E., in the eastern part of the Kurnool district; has a tank of 15 miles circumference, formed by damming up the Gundla Kama river.

CUMIN. The black cumin of Scripture is the Nigella sativa, the μελάνθιον of Hippocrates and Dioscorides. The Helleborus niger, however, has also been named cumin.

CUMIN SEED, Cuminum cyminum.

Kamun ; Kemun,	ARAB.	Cumino ; Comino,	IT., SP.
Zira ; Jira safed, .	PERS.	Jintan, . . .	MALAY.
Zee-ya ; Dze-ya, .	BURM.	Cominho, . . .	PORT.
Jiraga, ...	CAN.	Duru, ...	SINGH.
Kummen, . . .	DAN.	Siragum, . . .	TAM.
Shah zira, . . .	DUKH.	Nut-siragum, . . .	,,
Komyn, ...	DUT.	Jilakarra, . . .	TEL.
Kumin, ...	GER.	Kemmum, . . .	TURK.
Kuminon, ...	GR.		

Cumin seeds, the fruits of Cuminum cyminum, are of an ash-grey or light brown colour. Taste warm, but not so agreeable as anise. It is extensively cultivated in the East, but has long been introduced into the south of Europe, Sicily, and Malta. It is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 to 9000 feet, and its seeds are exported to the plains. 16 cwts. of the fruit yield about 44 lbs. of the oil, which has a pale yellow colour, and is limpid, of a disagreeable smell and acrid taste ; sp. gr. 0·345. The seeds are used as a condiment in India, and the oil is used in medicine ; it is a stimulant carminative. The seeds were formerly much employed as an external application in emplastrum and cataplasma cumini, and still by Jews in the process of circumcision. The seed is particularly prized by the Mahomedans, who season their cakes with it.—*Ainslie ; Roxb. ; Royle ; Stewart ; Mason ; O'Sh.*

CUMMUM, a town in the Hyderabad dominions, where seams of coal have been struck.

CUMPAS. —? A light, brown-coloured wood of Penang, a large tree, used only for planks.

CUMRBAND. HIND. Waist-belt. Kamarbāndhna means literally, to gird up the loins.

CUNDALAH PALLAH. —? A bamboo-coloured wood of Travancore, used for sandals.

CUNEIFORM CHARACTER, also called the arrow-headed, also the wedge-shaped character, was used for the Bactro-Medo-Persian language of the dynasty of the Achemenidæ. It was first observed at Be-situn, a little village at the foot of rocky mountains, which are covered with bas-reliefs. Cuneiform or wedge-like writings have been discovered on the solitary monument of Cyrus, on the Murghab, on the ruins of Persepolis, on the rocks of Be-situn, near the frontiers of Media, and on the precipice of Van in Armenia. Grotefend in 1802 ascertained that these were letters, and to be read from left to right ; but Munter, Tychsen, Burnouf, Lassen, Hinch, Oppert, Norris, Schrader, Le-Normant, the Rev. A. H. Sayce, Sir Henry Rawlinson, and George Smith, have laboured so that we now have translations, grammars, and dictionaries. Mr. A. H. Sayce, while reserving his opinion on the subject of the early connection of the Chinese and the primitive Accadian population of Chaldæa, says : 'The cuneiform characters of Babylonia and Assyria are, as is well known, degenerated hieroglyphics, like the modern Chinese characters. The original hieroglyphics were invented by the Accadians, before they descended into Babylonia from the mountains of Elam, and I have long been convinced that they were originally written in vertical columns. In no other way can I explain the fact that most of the pictures to which the cuneiform characters can be traced back, stand upon their sides. There is evidence to show that the inventors of the hieroglyphics used papyrus, or some similar vegetable substance, for writing purposes, before the alluvial plain of Babylonia furnished them with clay, and the use of such a writing material will easily account for the vertical direction in which the characters were made to run.'

The inscriptions in the Naksh-i-Rustum is a list of the Iranian nations subject to Darius ; the Persians attribute them to the chisel of their famous sculptor Farhad. A description of them is to be found in Sir John Malcolm's Persia. Enormous marble capitals of columns are to be seen at Be-situn. There are two tablets, the one containing a mutilated Greek inscription, declaring it to be the work of Gotarzes ; the other a Persipolitan sculpture, adorned with nearly 1000 lines of cuneiform writing, exhibiting the religious vows of Darius Hystaspes after his return from the destruction of Babylon, on the revolt of its udapati, Nebuchadnezzar, the pretended son of Nebunet. Both Ctesias and Isidore mention a statue and pillar of Semiramis at Baptane, but the sculptures of Semiramis and the inscription in Syriac characters have wholly disappeared. Baghistan is traditionally described as the pleasure-grounds of Semiramis. According to Sir H. Rawlinson, D'Anville first suggested the identity of Be-situn with the Baghistane of the Greeks, and there are good grounds, from the ancient notices of this place, for supposing him to be correct. Etymologically considered, the evidence is even more striking. To solve all difficulties, it may perhaps, he adds, be admitted that the sculpture did really exist in the lower part of the rock, scarped by the Assyrian queen ; and that Khusru Parvez, when he was preparing to make the scarped surface the back wall of his palace, and for that purpose began to excavate deeper in the mountain, destroyed the sculptures, and removed all further trace of them. With regard to the pillar of Semiramis, it is very curious that an oriental writer of the 15th century should describe the rock of Be-situn from his own observation, as though it were sculptured in the form of a minareh or minaret. Certainly nothing of the kind now remains. Their language is ancient Persian, before that of the Zend, which represents the Persian language previous to the time of Darius. General Ferrier says the existence of bricks with cuneiform characters among the rivers of Balkh, had been remarked by previous travellers, and, he adds, is of much interest, as no other similar relics are known so far to the east. Sir Henry Rawlinson suggests that they may belong to the Kushan (a famous Scythian race), who held Balkh in remote antiquity, and whose bricks, stamped with cuneiform Scythic legends, are also found at Susa, and on the shores of the Persian Gulf. M. Ferrier found great numbers of baked bricks, nearly three feet long and four inches thick, scattered about the citadel of Furrah, an ancient town which was plundered by Chengiz Khan. That their origin was certainly anterior to that of the town, was plainly indicated by the inscriptions upon them, in the cuneiform character. The existence of bricks with cuneiform characters at Furrah is very important, and is not mentioned by any other traveller. The size of the bricks is also remarkable. The only place where bricks of so large a size have been found, is in the kitchen of Sardanapalus, at Calah or Nimrud. Bunsen says the first cuneiform character was Median or west Iranian, and is to be distinguished from the

language of the Zend books, which is east Iranian, or Old Bactrian worn down.

Cuneiform inscriptions of Armenia, Azerbijan, and Elymais, are in Scythic or Turanian dialects. The third column of the trilingual inscriptions of the Zagrus range is also Scythic.

A clay tablet has been found at Cappadocia, relating to the gift of certain silver articles to the sun-god. The character is a peculiar kind of the cuneiform; and tablets with the same character have been found by Mr. Rassam in 1880 at Kougunjuk. From this it is supposed that Cappadocia also had a clay library. A collection of 5400 cuneiform tablets were discovered by Mr. Rassam at Sippara, near Babylon. It is supposed that these tablets are the library mentioned by Berosus, which contained antediluvian records copied from earlier documents by King Sargon I., who lived 1800 years B.C.—*Bunsen*, iii. pp. 457, 570; *Ed. Ferrier, Journ.* pp. 207, 393; *G. Rawlinson*, ii. p. 345.

CUNG-QUA, a resting-place for travellers, or rather for officers of Government, in Lin-Choo. The Cung-qua corresponds very nearly to the Turkish khan and the Indian sarai, except that, being used only by persons of some consideration, it is in every respect far more neat and elegant. The house resembles a private dwelling of the better class.—*American Expedition to Japan*, p. 189.

CUNNINGHAM. Four brothers of this name, sons of Allan Cunningham, sought a career in India, two of whom rose to distinction.

Cunningham, J. D., an officer of the Bengal Engineers, an extensive contributor, chiefly on archæological subjects, to the Journal of the Bengal Asiatic Society. A distinguished antiquary, statist, and geographer. Resident at Bhopal; ob. 1851. Author of Description of Kunawar, in the Bl. As. Trans. xiii. part 1, 1844; On the Ruins of Putharee, ibid., 1848, xvii. part 1, 305; On the Lingam of Bhojpur, ibid. 154; Notes on the Antiquities within the Districts of the Bhopal Agency, etc., ibid., 1847, p. 739; History of the Seikhs, Lond. 1829; Cal. Rev. No. xxii.

Cunningham, General A., of the Bengal Engineers, author of Discovery of Buddhist City of Samkassa, Lond. As. Trans. vii. p. 242; Journal of a Trip through Kulu and Lahul to the Chumureri Lake, in Ladakh, Bl. As. Trans. 1848, xvii. 201; Memorandum detailing the Boundary between the Territories of Maharaja Gulab Singh and British India, etc., ibid. 295; Verification of the Itinerary of Hiwen Thsang through Ariana and India, ibid. 476; Proposed Archæological Investigation, ibid. 535; Description of Ancient Gems and Seals from Bactria, the Punjaub, and India, ibid., 1841, 147; Essay on the Arian Order of Architecture, as exhibited in the Temples of Kashmir, ibid., 1848, 241; Descriptions of, and Deductions from the Consideration of, some new Bactrian Coins, ibid., 1840, ix. pp. 867, 1217; Bhilsa Topes, Lond. 1858. In the year 1871 he was appointed Superintendent of the Archæological Survey of India, and has printed annual reports; subsequently the Rev. James Burgess was appointed to the Survey of the Bombay Presidency.

Colonel Francis Cunningham, the youngest son, joined the Madras army, and almost immediately took part in the Afghan war, and was in Sale's brigade. He was one of the besieged garrison of Jalalabad.—*Dr. Buist's Catalogue.*

CUNNINGHAMIA LANCEOLATA. The lance-leaved pine. In parts of China is in great abundance; indeed, this species, and the more common Pinus Sinensis, are almost the only trees of any size which grow in some mountainous districts.—*Fortune's Wanderings*, p. 38.

CUNNINGHAMIA SINENSIS. *R. Br.*

San-muh, Sha-muh, CHIN. | China pine, . . . ENG.

Grows in China and Japan, at a distance from the sea-coast. Timber valued for making coffins, flooring, furniture, house-frames. It is less liable to the attacks of insects than the Pinus Sinensis, but in damp ground is less suited for piles, particularly if exposed alternately to air and damp. Its charcoal is used for gunpowder.—*Smith.*

CUON RUTILANS. *Jerdon.* Wild dog.

Canis Dukhunensis, *Sykes.*	Cuon primævus, *Hodgson.*
C. familiaris, *var.*, *Elliot.*	
Pao-ho, ... BHOT.	Suhu-tum, . . . LEPCH.
Eram-naiko, . . GOND.	Kolsun, Kolusna, . MAHR.
Bhosa, Bhoonsa, . HIM.	Kolsa, Kolasra, . ,,
Buansa, ... ,,	Shen nai, . . . MALEAL.
Jangli Rankutta, . HIND.	Dhole, ... SINGH.
Sonak, Bankutta, . ,,	Sidda-ki, ... TIB.
Rahnasy ,, . . . ,,	Reza kuta, . . . TEL.
Sakki sarai, HYDERABAD.	Adavi kuta, . . . ,,
Ran hun, . . KASHM.	

The Cuon rutilans is common in Ceylon, and is found over all the Peninsula, jungles of the Dekhan, and S. Mahratta country, Malabar, Neilgherries, and Assam, Burma, and the Malay Peninsula. See Dog.

CUP.

Coupe; Tasse; Gobelet, FR.	Cappa; Tazza, . . . IT.
Becher; Schluck, . GER.	Bicker, ... SC.
Piala, ... HIND.	Copa; Taza, ... SP.

Several of the drinking races of India and Asia use the cup or piala to welcome the coming guest. Colonel Tod tells us (p. 377) regarding the love of strong drink and indulgence in it to excess, so deep-rooted in the Scandinavian, Asi, and German tribes, and in which they showed their Getic origin, that the Rajput is not behind his brethren either of Scythia or Europe. Though prohibited by ordinances which govern the ordinary Hindu, the Rajput welcomes his guest with the munwar piala, or cup of request, in which they drown ancient enmities. The heroes of Odin never relished a cup of mead more than the Rajput his madhva; and the bards of Scandinavia and Rajwara are alike eloquent in the praise of the bowl, on which the Bardai exhausts every metaphor, and calls it ambrosial, immortal. The Bard, as he sips the ambrosia, in which sparkles the ruby seed of the pomegranate, rehearses the glory of the Rajput race. Even in the heaven of Indra, the Hindu warrior's paradise, akin to Valhalla, the Rajput has his cup, which is served by the Apsaras the twin sister of the celestial Hebe of Scania. 'I shall quaff full goblets amongst the gods,' says the dying Getic warrior, 'I die laughing,' are sentiments which would be appreciated by a Rajput. Cups in use with the Tibetans are made of maple knots, produced on the maple by the Balanaphora. Those in use by the ultra-Gangetic races in Burma, and the Shan States, are lacquered bamboo; those of China and Japan are of porcelain.—*Rajasthan.*

CUPANIA CANESCENS. *Pers.*

Molinæa canescens, *Roxb.* | Sapindus tetraphyllus, *Val.*
Amba curb, ... MAHR.

Cupania is a genus of plants belonging to the natural order Sapindaceæ. C. pentaphylla is figured in Wight's Icones; C. lævis grows in Bourbon and Mauritius; C. Madagascarensis grows in Madagascar. C. canescens is a tree of the Circars and Kandalla, and common in the Upper Ghat jungles of the Bombay side. Wood of average quality, white; not equal to Sapindus rubiginosus, and does not bear exposure.—*Drs. Roxb., Gibson, Voigt*, p. 94.

CUPANIA SAPIDA. *Cambess.* Blighia sapida, *Kon.;* a native of Guinea, cultivated in India for its fruit. It is the Akee of Africa, and was introduced into the W. Indies by Bligh.—*Voigt.*

CUPI. TAM. An article of female jewellery worn on the head.

CUPID, the Cupidon of the French; Cupido, Liebesgott of the Germans; Kama of the Hindus. Amongst the Hindu deities Kama takes the place of Cupid. Ananga is a poetical epithet of the Hindu Cupid, — literally, incorporeal, from a, privative, and Anga, a body.—*Rajasthan*, i. 255.

CUPPAS. HIND. Cotton plants; bags for cotton. Cuppasia, cotton seeds.

CUPPAY MAYNIE. SINGH. A plant, according to the natives, with which cats are so enchanted that they play with it as they would with a captured mouse, throwing it into the air, watching it till it fall, and crouching to see if it will move. This seems the billi-lotan, the Acalypha Indica, one of the cat-rolling plants, species of valerian, melissa, or nepeta.—*Tennant, Ceylon.*

CUPPUM. TAM. A fishing hamlet.

CUPRA, a human skull, the calvarium, in Hindi dialects pronounced cupar. The cup of the Scandinavian worshippers of Thor, the god of battle, was a human skull, that of the foe, in which they showed their thirst of blood, borrowed from the chief of the Hindu triad, Har, the god of battle, who leads his heroes in the red field of slaughter with the cupra in his hand, with which he gorges on the blood of the slain.—*Tod.*

CUPRESSUS, a genus of plants of the natural order Pinaceæ, of which there are several species. C. Australis, *Pers.*, is a tree of New Holland; C. fastigiata, *Wall.*, C. funebris, *Fortune*, of China and the Himalaya; C. glauca, *Lam.*, the Goa cedar tree of the gardens of Bombay and the Dekhan, a name also applied to the C. Lusitanica, C. sempervirens, *Linn.*, C. horizontalis, the spreading cypress, a handsome species. The common cypress grows in the Himalayas, in Italy and the S.E. of Europe, and in Mexico and the southern parts of N. America. C. thuyoides is the white cedar of N. America, where its chips are used medicinally as a stomachic; and C. torulosa, *Lamb*, is the twisted cypress of the Himalaya, Bhutan, and Niti.—*Voigt; Stewart; Fortune; Riddell.*

CUPRESSUS FUNEBRIS. *Fortune.* The funereal cypress; grows in the Himalaya and in China. It is a most beautiful tree, a weeping cypress. Fortune says that it rises about sixty feet in height, having a stem as straight as the Norfolk Island pine, and weeping branches like the willow of St. Helena. Its branches grow at first at right angles to the main stem, then describe a graceful curve upwards, and bend again at their points. From these main branches others long and slender hang down perpendicularly, and give the whole tree a weeping and graceful form. Its stem is perfectly straight, like the Cryptomeria, and its leaves are formed like those of the arbor-vitæ, only more slender and graceful.—*Fortune's Tea Dist.*

CUPRESSUS GLAUCA. *Lam.*

C. Lusitanica? | C. pendula?

The Sarav, or Goa cedar, is a tall, elegant, and graceful tree, well adapted for border walks in a garden, being always green, and a favourite with the natives of India. It grows easily, and is generally planted alternately with the areca or betel-nut tree. Slips, if taken off before the commencement of the rains, and planted in beds shaded from the sun, take root; each slip should be six inches apart, and if common care is used, one-fourth of the plants will strike and grow. After that they may be put out in nursery beds, at the distance of one foot from each other, until required for transplanting to where they are to remain. Its leaves have a singularly glaucous colour.—*Riddell.*

CUPRESSUS OBTUSA. *Von Mueller.* Retinospora obtusa, *S. and Z.*, the Hinoki of Japan, forms a great part of the forests of Nipon; attains a height of 80 feet, with a stem 5 feet in circumference. The wood is white-veined and compact, and assumes when planed a silky lustre, used for temples.

Cupressus pisifera, *Von Mueller*, Chamæcyparis pisifera, *S. and Z.*, is a very hardy tree of Japan, rising 30 feet high, stem 3 feet in diameter, of beautiful aspect and quick growth.—*Von Mueller.*

CUPRESSUS SEMPERVIRENS. *Willde.*

Shajr ul Hyat, . . ARAB. | Cypress, ... ENG.
Saras, ... DUKH. | Saro, Sarv, HIND., PERS.

The Fruit.

Hauber, Maju-phal, HIND. | Mai-sabz, Saro-bij, HIND.

The cypress tree is a native of the warmer parts of Europe, though it has long been transferred to gardens for the sake of its deep-coloured evergreen branches and leaves. The gates of Constantinople, famous for having stood from the time of Constantine to that of Pope Eugene IV., a period of 1100 years, were of cypress wood. It is hard, elastic, and strong, resists worms, and its odour repels insects. The tree grows in the outer Himalaya up to 5000 feet, and attains a girth 6 to 8 feet, and a height of 40 to 45 feet; it also grows at Kābul, but Dr. Stewart says its wood is of no especial value there. Its fruits were formerly used in medicine, but are now obsolete. Oriental physicians used to send their patients labouring under lung diseases to breathe the air of Candia, where the cypress was abundant, in the persuasion that the emanations were particularly wholesome. The precise period or the age to which the tree lives has not been clearly ascertained. In some countries this tree is planted over the graves of the dead as an emblem of immortality.—*O'Sh.; Irvine; Eny. Cyc.; Book of Trees; Stewart; Hogg; Voigt.*

CUPRESSUS TORULOSA. *D. Don.*

Deodar, . BEAS, SUTLEJ. | Devi diar of . . . RAVI.
Tang-shin, ... BHOT. | Galla of . . . SUTLEJ.
Nawir, Neur, Lewar, PANJ.

This tree grows on the Ravi and Beas, on the outer hills near the Sutlej, in Kulu, in Naini Tal up to 8000 feet; and Dr. Stewart had seen a tree 120 feet high and 15 feet in girth. It grows also in Bhutan and Niti. In Naini Tal it is used for roofs. In its eastern localities, the tree is deemed sacred, and is not felled; and in Kulu images are made of its wood. It occurs in the N.W. Hima-

laya in a solitary clump at the junction of the Budhil with the Ravi, but is not found further to the west. It is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 6000 to 8000 feet. The wood is hard, elastic, strong, resists worms, and its odour repels insects. Its duration is very considerable. — *Fortune's Tea Districts; Stewart; Voigt; Cleghorn, Panj. Rep.*

CURAO, also written Karao, seemingly from Karana, to cause to do, to compel, is the term given among the Jat, Gujar, Ahir, and other non-Aryan races, in N.W. Hindustan, to concubinage generally, but more especially to marriages of widows with the brother of a deceased husband. The practice, which is also known to the eastward by the name of Oorhuree, in the Dekhan of But'hee, and in other provinces by the name of Dhureecha, is followed among these races, but is not very openly confessed even among them, as some degree of discredit is supposed to attach to it. It is only younger brothers who form these connections, elder brothers being prohibited from marrying their younger brothers' widows, but among the Jat of Dehli even this is not prohibited. The practice has been common among several nations of the East. The Jews followed this custom; in Egypt it was admitted for a childless widow to cohabit with a brother of the deceased husband; and when the laws of Menu were enacted, Curao appears to have been a recognised institution. But, as is not unusual with the institutes of Menu, there is much contradiction between the enactments relating to it. From a consideration of all the passages on the subject, it appears that failure of issue was the point on which the legality turned. He who was begotten according to law on the wife of a man deceased, or impotent, or disordered, after due authority given to her, is called the lawful son of the wife (ch. ix. 176). From the fact of Draupadi marrying the five Pandu brothers, we learn that polyandry must have prevailed amongst the races of that period; and if polyandry, the practice of Curao was no doubt not uncommon; indeed, Vyasa, the compiler of the Mahabharata, was himself appointed to raise up offspring to his deceased brother. There is perhaps no circumstance which so strongly shows the northern descent of the deified heroes as this marriage. Herodotus tells us that the practice prevailed among the nomadic Scythians, as it does at present among the Bhotia. The practice is adopted also by the Nair race of Malabar, between whom and the people of the Himalaya, Wilson traces the obscure vestiges of a connection. Amongst the Jat, Gujar, and Ahir, children born Curao are considered legitimate, and are entitled to inheritance accordingly. Children begotten by the woman previous to Curao, except in the case of fraternal Curao, are known by the name of Kudhelura, and do not inherit the property of the father-in-law.—*Elliot, Sup. Gloss., quoting Recherches Phil. sur les Egyptiens et les Chinois; Selections from the Mahabharata*, pp. 8 and 66.

CURARE or Wourali of Guiana, prepared from the bark of Strychnos toxifera, *Schomb.*, a virulent poison used by the Indians to tip weapons for war and the chase.

CURB, also Kurubar, the Curumbar race. See Curumbar; Kurumbar.

CURBAN. ARAB. A sacrifice. See Kurban.

CURCULIGO, a genus of plants of the nat. ord. Amaryllaceæ, the narcissus tribe. In S.E. Asia are C. brevifolia, ensifolia, graminifolia, latifolia, Malabarica, orchioides, pauciflora, plicata, recurvata, Sumatrana. C. brevifolia is the Musli-kund of Bombay.—*Roxb.* ii. p. 143.

CURCULIGO LATIFOLIA. Lambay, MALAY. A broad-leafed plant of Borneo, with a yellow flower. Its fibres are woven into a strong cloth. —*Burbidge*, p. 155.

CURCULIGO ORCHIOIDES. *Gærtn.*

Telnur mudul, . . BENG.	Nila pana, . . MALEAL.
Tamuli, ... ,,	Nilapanay kalangu, TAM.
Siah musli, . . . DUKH.	Nalla-tadi gadda, . TEL.
Nia musli, . . . HIND.	Nalla-atta gadda, . ,,

This plant grows in the Eastern Archipelago, and in all parts of India. Its tuberous and wrinkled root is in a slight degree bitter and mucilaginous to the taste, and is prescribed in electuary.—*Roxb.; Ainslie.*

CURCULIONIDÆ, a family of coleoptera. A large curculio (Rhynchophorus, *Sach.*) nearly as large as the stag-beetle of Great Britain, and called the red beetle, from a red mark on the upper part of its breast, is said to destroy the cocoanut tree. See Insects.

CURCUMA, a genus of plants of the nat. order Zingiberaceæ, growing in the south and east of Asia. The tubers of many species furnish a fecula, which is sold as East Indian arrowroot. C. angustifolia, *Roxb.*, grows in Travancore, the N. and S. Konkans, Nagpur, and Benares, and is that commonly used for the East Indian arrowroot. C. caulina, *Graham*, of the Mahabaleshwar hills, furnishes the Mahabaleshwar arrowroot. C. pseudo-montana, *Graham*, yields Ratnagherry arrowroot, and is probably Roxburgh's C. montana, and Royle's C. kushoor of Sirmore and Bissehur. C. decipiens, *Dalzell*, C. zedoaria, *Roxb.*, and C. amada, *Roxb.*, grow on the western side of peninsular India, and all yield feculæ. C. rubescens, of Bengal and Travancore, and C. leucorrhiza, are similarly used. The species known in the south and east of Asia are about forty in number,—æruginea, amada, angustifolia, aromatica, attenuata, cæsia, caulina, comosa, cordata, elata, ferruginea, grandiflora, latifolia, leucorrhiza, longa, montana, Neilgherriensis, ornata, parviflora, petiolata, plicata, pseudo-montana, reclinata, Roscoeana, rubescens, strobilina, viridiflora, xanthorrhiza, zedoaria. The particles of East India arrowroot are very unequal in size, but on the average are larger than those of West India arrowroot. — *Roxb.; O'Sh.; Voigt; Birdwood; Drury.*

CURCUMA AMADA. *Roxb.* Mango ginger.

Amada, ... BENG.	Aru kanla kachoram, TEL.
Tommon munga, MALAY.	Shadgrandika, . . ,,

A plant of Gujerat, Konkan, Bengal, and Java. The root is called mango ginger, from its peculiar smell while fresh. It is a gentle stimulant, but now only used as an article for seasoning food. Aru kanla, meaning 'six eyes,' and Shadgrandika, 'six-jointed,' are also syns. of C. caesia, and probably refer more correctly to C. zedoaria, or 'long zedoary.'—*Roxb.; Voigt; O'Sh.*

CURCUMA ANGUSTIFOLIA. *Roxb.* i. p. 31.

Tikhur, Tikor, . . HIND.	Kua, Kogha, . MALEAL.
Kughai, . . . MALEAL.	Kua-maoo, . . . TAM.
Kuay kalung, . . ,,	

Narrow-leaved turmeric, grows wild in all the hilly parts of the centre of the Peninsula, in Central India, in the forests, extending from the banks of the Sone to Nagpur, abundantly on the Malabar coast, and is very generally cultivated. Its tubers are found at the end of fleshy fibres, which meet together, forming a crown, and they yield part of the East Indian arrowroot of commerce. The method of preparing arrowroot is substantially the same, from whichever plant it is extracted. The commercial value of the East Indian farina is very much below that of the Maranta arrowroot. It is less used as an article of diet, but is largely bought by the starch makers of London. The tubers should be planted in a good rich soil, about one foot apart, just before the rainy season, and taken up as soon as the leaves are dry. Rats, porcupines, and wild hogs are very destructive to it, both when first planted, and also when ripe. Such tubers as are required for seed should be kept in a dry place in sand.—*Roxb.; O'Sh.; Simmonds; Eng. Cyc.; M. E. J. Reports; Ainslie; Rohde, MSS.*

CURCUMA AROMATICA. *Salisb.*

Curcuma zedoaria, *Roxb.* | Wild turmeric.
Bun haldi, . . . BENG. | Jungli haldi, . . HIND.

Grows in China, the islands of the Eastern Archipelago, Malabar, and Bengal, and its root is used as a perfume, and also medicinally. It possesses tonic and aromatic properties.—*Roxb.*

CURCUMA LEUCORRHIZA. *Roxb.* Tikur, HIND., BENG. Grows wild in the forests of Behar and at Bhagulpur. Arrowroot is made from its long straight roots, often a foot in length, and of a pale yellow inside, by rubbing them on a stone or beating them in a mortar, after which they are rubbed in water by the hand, and strained through a cloth; the fecula having subsided, the water is poured off, and the arrowroot dried for use.—*Roxb.; Voigt; O'Sh.; Eng. Cyc.*

CURCUMA LONGA. *Roxb.* Turmeric.

Amomum curcuma, *Gmel.*

Zirsud; Uruk us saf'r, ARAB. | Manjella kua, . MALEAL.
Haldi, . BEN., DUK., H. | Zard chobeh, . . PERS.
Arisina, ... CAN. | Karkum, . . . ,,
Kupeiros Indikos, . GR. | Haridra; Peeta, . SANSK.
Haradul, . GUJ., SINGH. | Munjal, ... TAM.
Koonhet, . . . MALAY. | Pasupu; Pampi, . TEL.

Turmeric is grown all over India and the Archipelago, frequently along the edge of fields of ginger, in the Panjab, Siwalik tract, and outer hills, from 2000 to 5500 feet, up to the Ravi at least, and occasionally beyond that. It has large whitish flowers, with a faint tinge of yellow, the tuft greenish white. In cultivating it, the ground must be rich, friable, and so high as not to be drowned in the rainy season,—such as the Bengali ryots about Calcutta call danga. It is often planted on land where sugar-cane grew the preceding year, and is deemed a meliorating crop. The soil must be well ploughed and cleared of weeds, etc., and in April and May, according as the rains begin to fall, the soil is raised into ridges 9 or 10 inches high, and 18 or 20 broad, with intervening trenches 9 or 10 inches broad. The cuttings or sets, consisting of small portions of the fresh root, are planted on the tops of the ridges, at about 18 inches or 2 feet asunder. One acre requires about from 900 such sets, and yields in December and January about 2000 lbs. weight of the fresh root. The tubers are a deep orange inside, bitter, and aromatic. The colouring matter of the dried root is bright yellow, soluble in alcohol and water, and changed to a deep red by alkalies. It is employed by the wool-dyers for compound colours of yellow, as for cheap browns and olives; as a yellow dye it is employed only in silk. In 1880-82 only 70,783 cwt. were exported from India. White paper dyed by an alcoholic tincture of turmeric is a very sensitive test for alkalies. The root enters into many of the religious ceremonies of the Hindus. The entire, or the corners, of every new article of dress, whether of man or woman, are stained before wearing it with a paste made of the root and water. Mixed with lime, it forms the liquid used in the Arati ceremony for warding off the evil eye. Women use it largely as a cosmetic, and some smear all the body with it as a detergent. It is a mild aromatic and carminative, and is largely used as a condiment in curries; the paste is applied to foul ulcers. Clothes dyed with it are deemed a protection against fever; and the Javanese make an ointment of the pounded roots, and rub it all over their bodies as a preservative against fever. With it, in conjunction with lime-juice, the Hindus of the sect of Vishnu prepare their yellow tiroochoornum, with which they make the perpendicular mark on their foreheads.—*Ainslie; Roxb.; O'Sh.; Royle; Dr. Shortt.*

CURCUMA RUBESCENS. *Roxb.* A native of Bengal, Chittagong, Burma, and Pegu. All the parts of the plant have a pleasant aromatic smell when bruised. The root is highly aromatic. Its chief use is for the preparation of tikor, a very fine fecula, like arrowroot, which in Travancore constitutes an important article of food.—*O'Sh.*

CURCUMA ZEDOARIA. *Roscoe.* Zedoary.

C. zerumbet, *Roxb.* | Amomum zerumbet, *Kon.*
Zerambad; Zadwar, ARAB. | Katon inshi kua, MALEAL.
Mahfirfeen, . . . ,, | Jadwar-khatai, . . PERS.
Shuthi; Ban haldi, BENG. | Wal-kaha, . . . SINGH.
Karchuramu, . . ,, | Kasturi manjal, . TAM.
Tha nu wen, . . BURM. | Kapurkichili, . . ,,
Nirbisi, . CAN., DUKH. | Kichli gadda, . . TEL.
Kakhura; Kachura, HIND. | Kusthuri pasupu, . ,,
Tomon, . . . MALAY.

A native of Bengal, Chittagong, Java, and China. This is the round zedoary, all kinds of which resemble ginger in their medicinal qualities, but are inferior to it in strength and agreeableness of flavour. Its flowers are largish, of a deep yellow, and at the top a bright crimson tuft. This plant is supposed also to yield the long zedoary of the shops; the powdered root is mixed with the powder of Cæsalpinia sepan to make the 'abir' or 'shagoo,' the red powder thrown about by Hindus in the holi festival; the root is also used medicinally.—*Roxb.; Voigt; O'Sh.*

CURDUCHIA or Kurdistan, the ancient Carduchia of Xenophon, a country which, from its strength and position, commanded all the western part of Persia. It is inhabited by nomade tribes, who, though tributary to Turkey, and professing Mahomedanism, are virtually independent. Sir John Malcolm travelled through their country in 1810, and formed the opinion that they had remained unchanged in their appearance and character for more than twenty centuries.—*Malcolm's Persia*, i. p. 105; *Chatfield's Hindustan.*

CUREA. HIND. A village, from the Arabic Karyah, assembling together, a concourse. The word is preserved in Cureat Mittoo, Cureat

Seek'hur, Cureat Dost, and Cureat Mendhoo, the names of parganas in the province of Benares.

CURIA MURIA ISLANDS, on the Mahra coast of Arabia, were ceded to the British in 1854 by the Imam of Muscat. They are only valuable for deposits of guano.

CURIOSITIES, or Curios.

Ajaibat, . AR., PERS., H.	Curiosita, ... IT.
Curiosité, Rareté, . FR.	Curiosidad, . . . SP.
New-gierde, . . . GER.	

Under the general term Curios are included a great variety of articles. In China they consist chiefly of such things as please the fancy, and are for the most part procured for ornamental purposes,—vases, pots, jars, cups, images, statuettes, ornamental screens, plates, boxes of copper, iron, bronze, clay, silver, porcelain, stone, lacquer-ware, or wood of every shape, size, and variety of workmanship, rings, stands, and pedestals, lanterns, scrolls, etc. — *Morrison's Compend. Descrip.; Williams' Middle Kingdom*, ii. p. 400.

CURLEW ISLAND, a name of Kalagouk, in the Gulf of Martaban, 30 miles south of Amherst. It is 8 miles long. Cavendish Island, at its extreme south end, is half a mile in length. The greatest breadth is 1¼ mile. On its highest point, about 500 feet above the sea, are remarkable trees, a point for navigators making the coast. Alguada lighthouse was built of stones from this island. The editor visited it in 1863, and reported it as wholly unsuitable for a sanatorium.

CURMA, in Hindu mythology, the second incarnation of Vishnu in the shape of a tortoise.

CURMBOLE. MALAY. A tree of the Canara forests, which grows to about 12 or 18 inches in diameter, and from 15 to 30 feet high. It is used by the natives for house-work, and is considered a useful and durable wood.—*Edye, M. and C.*

CURNUM. TAM. A village accountant.

CURRANTS.

Raisins de Corinthe, . FR.	Passulæ Corinthiaceæ, LAT.
Korinthen, . . . GER.	Korinka, Opoek, . RUS.
Uve-passe de Corinto, IT.	Pasas de Corinto, . . SP.

The currants of commerce consist of the small dried grape, or berry, of species of vine, cultivated in the Morea, Ionian Islands, and some parts of Persia, etc. A currant, like the European red currant, called rasta, is largely eaten by the people of the Upper Panjab. Currants (zirishk), both acid and sweet, the former being the fruit of the berberry dried, and which resembles European currants, are brought from Kābul and other hill places. The zirishk currants are of two kinds, somewhat alike in appearance,—one is sweet, and grows in Kābul, etc., being a species of small-fruited vine (vitis); the other is acid, being the dried berberry. Sweet currants, basho, (Tibetan), from species of vitis, are imported from Balti. Bengal currants are the fruit of Carissa carandas.—*Faulkner; M'C. Com. Dict.; Powell, Handbook.* See Vitis.

CURRENCY NOTES in circulation throughout India have increased as under:—

1862-63, .	Rs. 4,41,94,285	1872-73,	Rs. 12,86,40,367
1863-64, . .	5,23,25,000	1876-77, . .	11,64,16,538
1864-65, . .	6,88,20,116	1879-80, . .	12,79,76,360
1865-66, . .	7,72,57,983	1880-81, . .	13,65,46,020

CURRIE, SIR FREDERICK, BART., twice Governor of Bombay, Chairman of the Board of East India Directors, Vice-President of the India Council. He was born the 3d of February 1799. He entered the Bengal Civil Service in 1817. He became Secretary to the Government of India in 1842, and accompanied Lord Hardinge in his campaign across the Sutlej in 1845, and the following spring. He was created a baronet December 17, 1846, immediately after the battles of the Sutlej. In April 1854 he was nominated one of the Court of East India Directors, was chosen Chairman of the Company in 1858, and held that appointment until the cessation of the functions of that body, on the 1st of September 1858.

CURRY. 200 years before the Portuguese had appeared in the Indian seas, Ibn Batuta describes the natives of Ceylon as eating curry, which he calls in Arabic Conchan; in modern Arabic, Idaan is the name. In the Rajavali, also, this article of diet is mentioned as in use in Ceylon in the 2d century of this era. Nevertheless, several writers have suggested that the word has been introduced from the Portuguese. The name is probably from the Tamil word Kadai or Karai, a bazar; and Tamil children in the Peninsula sing a nursery song:

'Kai viss ammah kai viss,
Kadi ki polam kai viss.'

'Swing your hand, mother, swing your hand;
Let us go to the market, swing your hand.'

Curry in Urdu is called Salin, in Tamil Karri, in Telugu Koora, in Persian Nan-khurish. Curry is daily used in every family on the Indian sea-coast, wherever the Bengali, the Tamil, Telugu, and Mahratta people have spread, and in greater or less quantity according to the means of the family, always with vegetables and with mutton or fowl, as they can afford. The ingredients are usually brought fresh from the market daily, but Europeans in India often grind and keep the dry materials in powder. There are very numerous receipts, but almost every household has one of its own, and up to the middle of the 19th century many houses prided themselves on their curries. The curry powders of India are articles of considerable commercial traffic; 32,550 cwt. of curry stuff was imported into Ceylon, chiefly from India, in 1851. The usual ingredients for curry stuffs are: aniseed, allspice, cardamom, cloves, mace, nutmeg, cinnamon, coriander, cumin seed, black pepper, mustard seed, chillies, turmeric, fenugreek, garlic, onions, ginger dry and green, poppy seed, long pepper, asafœtida, chironjie nut, turmeric, almond, cocoanut, ghi, butter, salt, tamarind, lime-juice, mango. Cocoanut milk is much used on the coast in forming the gravy to many curries, especially fish and prawns, as well as the oil fresh expressed from the nut when grated. If the curry is to be dry, the onions must be fried brown in ghi or butter, and the ingredients ground to a paste with water mixed in the same, the meat and fowl added, stirring the whole until the gravy and butter are absorbed. For a gravy curry, cut the meat or fowl into slices, put the ghi into a stew-pan over the fire with the sliced onions, and dress them; then add the meat with the ground ingredients, and some water or broth; mix well together, and let the whole simmer gently until the meat is properly done. Chundu is made with meat or fowl that has been previously dressed. It is to be minced up and added to chopped onions fried in ghi, with whole red chillies, and the other curry ingredients well mixed together; the

frying is continued until the meat is perfectly brown and the gravy quite absorbed. Dr. Riddell gives the following ingredients for four curry powder receipts :—

	No. 1.	No. 2.	No. 3.	No. 4.	
Coriander seeds,	20 lbs.	12 lbs.	3 lbs.	1 lb. 0 oz.	To be well roasted.
Turmeric,	4 ,,	2 ,,	1 ,,	1 ,, 2 ,,	Pounded.
Cumin seeds,	1 ,,	2 ,,	½ ,,	1 ,, 0 ,,	Dried and ground.
Fenugreek,	1 ,,	1 ,,	½ ,,	0 ,, 4 ,,	
Mustard seed,	1 ,,	1 ,,	½ ,,	...	Dried and cleaned of husks.
Ginger, dried,	2 ,,	2 ,,	½ ,,	1 ,, 0 ,,	
Black pepper,	2 ,,	1 ,,	1 ,,	1 ,, 0 ,,	
Dried chillies,	1 ,,	2 ,,	1 ,,	0 ,, 12 ,,	
Poppy seed,	2 ,,	2 ,,	1 ,,	0 ,, 12 ,,	
Garlic,	2 ,,	1 ,,	1 ,,	0 ,, 12 ,,	
Cardamoms,	2 ,,	1 ,,	1 ,,	0 ,, 8 ,,	
Cinnamon,	2 ,,	1 ,,	1 ,,	0 ,, 8 ,,	

Salt in proportion to be added when using the curry stuff. The whole to be cleaned, dried, pounded, and sifted; then properly mixed together, and put into bottles, well corked. A table-spoonful is sufficient for chicken or fowl curry. Another very simple receipt is powdered turmeric, 22 tea-spoonfuls; red dried chillies or cayenne pepper, 8 tea-spoonfuls; coriander seed, cumin seed, dried cassia leaves (tejpat), each 12 tea-spoonfuls, and mix together.—*Riddell's Domestic Economy*, p. 404; *Simmonds' Com. Prod.*

CURRYING of leather is practised among the natives of India, by the Chamar and Chuckler, by whom every operation is conducted, from the skinning of the beast to the binding of a pair of shoes. He shaves the hide or skin down with his knife, beats and rubs it with a maul, and blackens it with iron liquor, to which plantain root and conjee water are sometimes added; sometimes a little lamp-oil is used.—*Rohde, MSS.*

CURU, the founder of the race who contended with the Yadu for dominion in Hindustan, in the war famed as on Kuru-khet, which is described in the Sanskrit poem the Mahabharata. Curu had two sons, Sudina and Parikhita. The descendants of Sudina terminated with Jarasandha, whose capital was Rajagriha, the modern Rajmahal, on the Ganges, in the province of Behar. From Parikhita descended the monarchs Santana and Balica; Santana producing the rivals in the great war, Yudishtra and Duryodhana, the other the Balicaputra. Duryodhana, the successor to the throne of Curu, resided at the ancient capital Hastinapura; while the junior branch, Yudishtra, founded Indraprestha, on the Yumuna or Jumna, which name in the 8th century A.D. was changed to Dehli. The sons of Balica founded two kingdoms,—Palibothra on the Lower Ganges, and Arore, founded by Sehl on the eastern bank of the Indus.—*Tod's Rajasthan*, i. p. 42.

CURU, in Hindu cosmogony, an extensive country to the north of Su-meru, supposed to be the same as Siberia.

CURUMBAR. A race of this name are the earliest known occupants of Dravida desam, the modern Karnatic and Coromandel. They seem to have established numerous petty principalities over the whole Peninsula, which were ultimately absorbed in the Chola empire. Numerous sites attributed to this race, and still called Curumbar Cot, are to be met with. Small communities of the tribe are found to this day in the less accessible hills and forests of many parts of the Peninsula.

CUSA GRASS, Poa cynosuroides.

CUSBHARA, also written Casbhara, the designation of the artisans who work in bell-metal; from Kanso, bell-metal, and Bharna, to fill. They are also employed in fusing precious metals and making ornaments which require to be formed in moulds. They comprise one of the subdivisions of the Sonar or goldsmiths, of which, in Hindustan, the others are, Muthoorea Myr, Khuttrea, Kumethika Lahourea, Poorbea, Canoujea, Mahour, Muhamunea, Agurea, Birpoorea, Chhyneewan, Mungorea. Of these, Muthoorea ranks the highest. The Cusbhara is below them all. Amongst these tribes there is a secret language, which is adopted for the purpose of concealing their fraudulent acquisition of property.—*Elliot, Supp.*

CUSCUS. HIND. Poppy seed; properly, Khash-khash.

CUSCUS ROOT.

Bala, ... DUKH.	Viratara, . . . SANSK.
Usir, ... GUJ.	Vetti vayru, . . . TAM.
Khas, ... PERS.	Curu varu, . . . TEL.

Anatherum muricatum, *Retz*, roots are used for making screens, tatties, punkahs, large fans, or covers for palanquins; and, when wetted, a very fragrant smell issues.

CUSCUTACEA, an order of twining, parasitical, leafless herbs; many species occur in the south and east of Asia,—aggregata, Arabica, australis, capitata, carinata, Chinensis, corymbosa, grandiflora, hyalena, longiflora, macrantha, pedicellata, planiflora, reflexa. They twine on various trees, and are found up to 9000 feet in the Himalaya and Afghanistan. C. longiflora is the Nilathari of Kaghan.

CUSCUTA EUROPÆA and C. Chinensis are the T'u sz-tsze of the Chinese, dodder of the English. The seeds are small and round, of the size of black mustard-seed, and are given in blenorrhœa and leucorrhœa. The young shoots are used externally as washes.—*Smith, Chin. Mat. Med.*

CUSCUTA MACRANTHA. *Don.*

Nila-thari, . of JHELUM. | Amil, ... CHENAB.

Grows up to 9000 feet, up to the Indus. It is found on Populus, Salix, Spirea, Lonicera, Desmodium, Urtica, and Polygonum; and, like some of the other species, it exhales at times a very strong scent. It is eaten by cattle and goats. Edgeworth mentions that the mountaineers believe that crows pluck sprigs of this and of C. anguina, *Edg.*, to drop into water, where they become snakes, and so furnish food for themselves. Madden states that the natives promise boundless wealth to him who finds the root of it; while others, again, believe that the possession of its root will confer the gift of invisibility.—*Drs. Roxburgh, J. L. Stewart, Voigt.*

CUSCUTA PEDICELLATA. *Led.*

Amlu, . . . CHENAB.	Zrand, . . . KANGRA
Kwi klapot, . KANGRA.	

This is found on the genera Morus, Leptopus, Plectranthus, Polygonum, Artemisia, etc., in Kashmir, etc., from 4000 to 5000 feet, and was got in Afghanistan by Bellew on tamarisk, Alhagi, and Peganum.—*Stewart.*

CUSCUTA PLANIFLORA. TEN. Found in fields of Kashmir lucerne, at Googaira, in Montgomery, and it is common in Lahoul and Ladakh up to 11,000 feet, growing on Carum, Artemisia, Cinerea, and A. parviflora, Solenanthus, and Perowskia.—*Stewart.*

CUSCUTA REFLEXA. *Roxb.*

C. verrucosa, *Swiet.*

Huldi-algusi-luta, BENG.	Akas-bel (sky-plant), GUJ.
T'u-sz-tsze, . . . CHIN.	Amar-bauria (undying
Nila-tar (green thread), H.	creeper), HIND., GUJ.
Nira-dhar, . . . GUJ.	Sitama purgonulu, . TEL.

A plant of British India, Panjab, Sub-Himalaya, Sylhet, Gujerat, and the Peninsula, growing on the tops of trees. It is used by alchemists, also in dyeing and in medicine. The whole leafless herb is gathered and dried; it is employed either in mixture or infusion as a laxative in fever, as an anthelmintic, and also as an alterative in cancer.

CUSH and Lava were the two elder sons of Rama, and from Cush descended the Cushwaha princes of Nirwar and Amber.—*Tod; Elliot.*

CUSH, a descendant of Hasti of the Lunar race, had four sons; one of whom, Cushnabha, whose descendants are styled the Kausika or Kusika, founded Muhadya on the Ganges, afterwards changed to Canyacubja or Canouj, which maintained its celebrity until the Mahomedan invasion of Shahab-ud-Din (A.D. 1193), when this overgrown city was laid prostrate for ever. Ferishta states it in the early ages to have been twenty-five coss (35 miles) in circumference, and that there were 30,000 shops for the sale of betel-nut only, and this in the 6th century, at which period the Rahtor dynasty, which terminated with Jye-chand in the 12th, had been in possession from the end of the 5th century. Cushamba founded a city, which he called after his own name, Causambi, and its name was in existence in the 11th century. The other sons of Cush built two capitals, Dharmarunya and Vasumuttee, but of neither have we any correct knowledge.—*Tod; Elliot.*

CUSHITE, a race of Arabs who first gave their name to a part of Arabia; they afterwards crossed the Red Sea, and settled in Ethiopia. In ancient times, the Cushite and Joktanite occupied Arabia felix, when the Ammonite and Ishmaelite dwelt in A. deserta, and the Moabite, Edomite, Nabathæan, Midianite, and Amalekite in A. petrea.

CUSTARD APPLE is the fruit of the Anona squamosa. Sour-sop is the Anona muricata. The custard apple is a favourite fruit, and its shrub grows in the Dekhan with little care. Its seed, called sherifah, disperses vermin. Flies are reported never to settle on the tree or its fruit, though ants will attack both. Bugs have a great antipathy to the leaves of the custard apple, and are said to quit a bed in which they are placed.—*Tennant's Ceylon; O'Sh.; Hooker, Him. Journ.*

CUSTOMS.

Zakat, ... GUJ.	Beya; Sambutan, MALAY.
Mahsul, ... HIND.	

Custom-House.

Douane, Cachiment, . FR.	La-dogana, ... IT.
Zoll-haus, ... GER.	Aduana, ... SP.
Thanna; Choki, . HIND.	Pabeyan, . . . MALAY.
Gumruck, . GUJ., PERS.	

CUSTURI. SANSK., TAM., TEL. Musk.

CUTCH, including the Runn, extends between lat. 22° 47′ and 24° 40′ N., and long. 68° 26′ and 71° 45′ E., and in 1871 had a population of 487,305. It is bounded to the north by the Great Runn, beyond which is the Thur or Little Desert; to the S.W. and S. by the Gulf of Cutch and the Indian Ocean; to the E. and S.E. by the district of Gujerat; and to the N.W. by the eastern branch of the Indus and Sind. Its extreme length is 180 miles, and breadth 50 miles. Its area is 6500 square miles, while that of the Runn and its islands is 9000 square miles. All between the Aravalli mountains and the Indus, from the Sutlej or Hysudrus on the north to near the sea on the south, is a waste of sand, in which are oases of different size and fertility, the greatest of which is around Jeysulmir. Cutch intervenes as a narrow strip of land between the desert and the sea, and makes a sort of bridge from Gujerat to Sind.

South of the Indus, the land becomes sandy, gradually sloping to the sea, first as a plain covered with a series of billows of sand; then as the level Runn up to the mountains of Cutch, the extent being from 500 to 600 miles in length, and varying from 70 to 150 miles in breadth, on which a considerable population dwells. The Runn itself is 150 miles from east to west, and about 40 miles broad; but there is a prolongation of the Runn towards Ahmadabad, and a very narrow line to the Gulf of Cambay. It is almost level, and a little water, from the banking up of the sea by the Sirmunur, converts it into a very shallow lake of a foot or two deep, and 40 to 60 miles broad; but in the dry season its saline sand and clay soil are hard like a slate billiard-table, and the mirage is so incessant as to deceive ordinary travellers. None but experienced guides can travel there.

The Put district, immediately north of the Runn, is less saline, and is cultivated. The district north of the Runn, extending from 500 miles up to the rivers Indus and Sutlej, is called the Tur or Thur, on which are billows or hills of sand 400 to 500 feet high above the sea-level, and 200 to 300 feet above the plain. Sir B. Frere alludes to these as of volcanic origin. The other part of Cutch is an irregularly hilly tract, completely isolated by the Runn and the sea. On the southern coast the country is a dead flat, covered with rich soil, but the northern part has three distinct ranges of hills running from east to west. The central of these ranges consists of sandstone, limestone, and slate-clay, with beds of coal; the hills north of it have numerous fossils; and those on the south, and all the face of the country near them, are covered with volcanic matter.

In 1819 Cutch was devastated by an earthquake. A dyke was thrown up, 50 miles long, 16 broad, and 18 feet high, which has been named Allah Band, the dyke of the Lord. Denodur, the largest and highest hill in Cutch, is situated near the shores of the Runn. It is an extinct volcano; its crater is still apparent, and in the north side is a large gap. It is said to have been active during the earthquake of 1819. On a level spot near the village of Wage ka Pudda are several small craters, circular spaces surrounded by basalt. And several other small basins have been blown out in the surrounding table-land, forming inverted cones about 15 or 20 feet in depth. Numerous fossils occur in the sedimentary rocks. The land at Mundavee, Moondrah, Budraseer, and other seaports, up to the Gulf of Cutch, has been gaining on the sea. Some of the creeks and inlets penetrate 6 or 7 miles from the coast, through a tract covered for miles in extent with shrubs. At low water these plants are exposed to the roots, but at high tides merely their upper branches are visible, so that the boats sail through a marine

forest, the sails and yards frequently brushing against the boughs of the trees, and the sailors have often to force their boats through the upper branches. The stems and branches are covered with crustacea and mollusca, whilst numerous waterfowl occupy the higher branches.

The Cutchi dialect of Hindi is used, but Gujeratti, Hindustani, and Persian are also known, though little used. On the death of Rao Lakhpat, his sixteen wives burnt themselves on his funeral pile, and their tombs, built in a beautiful group, stand close to the British Residency. The title of the ruler is Mirza Maha Rao, Sri Khengarji. The inhabitants of Wagad or Eastern Cutch have been notorious pirates. Sati and female infanticide were frequent. In 1868 the proportion of males to females was 1·04 to 1.

Its people are chiefly followers of the Hindu religion; and the ruling race are Jharija Rajputs, derived at a comparatively recent date from Tatta in Sind, from a common ancestor, Humerjee, whose son, Rao Khengar, acquired Cutch before the middle of the 16th century.

A. Rajput Grasia, viz. :—
1. Jhareja.
   a. Deda.
   b. Amur.
   c. Halla.
   d. Hothe.
2. Wagela.

B. Mahomedan Grasia, viz. :—
1. Vene.
2. Nohar.
3. Abra.
4. Mygmia, 3 tribes.
5. Nora.
6. Raoma.
7. Nangorcha.
8. Sumejah.
9. Hingorcha.
10. Modh.

C. Hindus :—
1. Bhattiah.
2. Banya.
3. Lowanna.
4. Brahman.
5. Charan.
6. Bhat.
7. Lunga.
8. Megwal.

Cultivators and Labourers.
1. Ahir.
2. Rehbari.
3. Kumhar.
4. Lowanna.

Mahomedans :—
1. Khojah.
2. Mehmun.
3. Meyanna.

The Jhalla are Rajputs of Sindian origin; and there are tribes of Lowanna, Ahir, and Rehbari. The Bhattiah, of Sindian origin, are a fair, handsome race, skilful and industrious mechanics, and found in all the ports of Eastern Africa, Arabia, and Western India. The Kaba is a piratical tribe in the Gulf of Cutch. The Khosa are a marauding tribe on the Thul desert between Hindustan and Sind. The ancient Cutch people were the Odomboeræ of Pliny.

There are also Brahman tribes, Soda Rajputs, Mahrattas, Bhils, Kols. The language of the hunters and tanners, the Dedh, is a dialect, but the language of Lar is purest. Iron ore occurs in various parts, but has been mined chiefly at Doodye, opposite the S.W. end of the Bunnee, where it occurs in small lumps, spongiform and friable. Coal has been found in various places, and has been used. Alum is manufactured from shale near Mhurr.—*Tr. Bo. Lit. Soc.* ii. p. 222; *M'Murdo's Cutch in* 1815; *Burnes' Bokhara; Grant, Geology; Sir Bartle Frere on the Runn of Cutch.*

CUTCH, Catechu.

Kat'h, ... Beng.	Kat'ha, ... Hind.
Shah, ... Burm.	Kachu, . . . Malay.

Cutch, catechu, gambier, and terra japonica, are commercial terms for the inspissated aqueous extracts from the wood of the Acacia catechu and from the leaves of the Uncaria gambir. A few years ago the terms were employed synonymously; but they are now, for the most part, used in trade somewhat distinctively, though not uniformly in the same sense. The catechu and gambir imported into Great Britain in 1881 was 33,011 tons.

CUTCHERRY. Anglo-Hind. An office of a revenue magistrate, a bureau, a court of justice.

CUTCH GANDAVA is the plains of Baluchistan. See Tor.

CUTCHWAHA. Prithi-raj was rao of Amber, a name now set aside by Jeypore. The twelve sons of this prince formed the existing subdivisions or clans of the modern Cutchwaha, whose political consequence dates from Humayun.—*Tod's Rajasthan*, i. p. 299.

CUTLERY. Salem and Trichinopoly afford evidence of the skill with which this description of manufacture can be carried on. At the Madras Exhibition of 1855, the daggers exhibited from the northern division exhibited in a high degree the proficiency of the operatives in that part of the Madras Presidency. Salem cutlery may compete with that of Europe.—*M. E. J. R.*

CUTTACK (Kataka, the fort), a British district in Orissa, lying between lat. 20° 1′ 50″ and 21° 10′ 10″ N., and long. 85° 35′ 45″ and 87° 3′ 30″ E., with an area of 3858 square miles, and a population in 1872 of 1,494,784. The Mahanadi river, aided by some of the large streams from the north, has formed a rich delta. From the town of Puri, containing the great temple of Jaganath, to the Dhamrah mouth, there is a deltaic tract fully 50 miles broad, and which comprises nearly the whole of the Cuttack district, great part of that of Puri, and a portion of that of Balasore. In addition to the low districts, Orissa has an enormous tract of hilly country of the interior, the population of which is partly Oorya and partly aboriginal. The people of Orissa have a language with a character peculiar to themselves. There are 18 estates known as the Cuttack Tributary Mahals, with an area of 15,000 square miles, viz. Angool, Autgarh, Autmalik, Banki, Barumba, Boad, Dhenkanal, Duspulla, Hindole, Keonjhur, Kundiaparra, Mohurbhunj, Nilghur, Nyagarh, Narsinhpur, Ranpur, Talchir, Tigeria. Angool and Banki were annexed for the misconduct of the rajas. The other sixteen tributary rajas administer civil and criminal justice, controlled by the Superintendent. The most powerful are the rajas of Mohurbhunj and Keonjhur, both of whom rendered good service during the mutinies. Cuttack has been subjected to great vicissitudes. Frightful inundations occurred in 1823 and 1831; on one occasion causing a destruction of lives estimated at 10,000, and the entire population of 300 villages is said to have been destroyed. In 1867–68, in Cuttack, Puri, and Balasore, famine raged with great intensity, and continued longest. Manbhum, Singbhum, Midnapur, Bankura, Raniganj, Bardwan, Hoogly, Howrah, Nuddea, also suffered. Mr. Ravenshaw estimated the loss in Orissa at not less than one-fourth of the population. The aboriginal tribes are Kandh, Bhumij, Kol, and Savara, the last numbering 16,589, all of them very poor. Of the Hindus, the Khasa cultivators are 156,308, the Khandait militia 254,762, the Mastane 15,526, the Goala 11,728, and Rajputs 10,728.

CUTTÆKARE, Giant's Tank in Ceylon.

CUTTEAMUNDOO is the juice of the plant

Akoo chenroodoo, or Euphorbia cattimundoo, *Elliot;* it is common in the Northern Circars, and is also called Brama Chemoodoo. At the Madras Exhibition of 1855, Mr. Elliot exhibited seven articles, basin, ewer, tumbler, etc., made of cutteamundoo gum, moulded with the hand, without any preparation. The fresh juice is used as a vesicant, and also as a cement for fastening knife handles, etc.—*M. Ex. Jur. Rep.*

CUTTLE-FISH or Squid, the Wu-tsih-yu and Meh-yu of the Chinese. The cuttle-fish inhabit all the great oceans, and abound in the warmer latitudes. They feed on crabs, squills, and molluscs, breaking down the carapace or shells of these animals with their beak-like jaws, and their strong muscular stomach completes the comminution. In 1882 one was stranded at Cook's Strait 7½ feet long, 9 feet 2 inches circumference, its head 4¼ feet in diameter; its longest arms measured 25 feet, the smaller ones 12 feet long. The economic products are a deep pigment, known as Roman sepia, which in the cuttle-fish is contained in a bladder at the bottom of the abdominal sac; also the cuttle-fish sepium, or shell, or bone, called by the French Biscuit de mer. The cuttle-fish is particularly abundant on the coasts of China, and are there much used as food, as also are species of Octopus, Haliotis, Turbo, Hiphopus, Tridacua. Adams says some monodonta taste quite peppery.

Cuttle-Fish Bone.

Hai-piau-siu, . . CHIN.	Samudrapu nurugu, TEL.
Darya ka kaf, . . HIND.	Sorupenka, . . . ,,
Kaddalnoray, . . TAM.	

In Sepia officinalis, the soft parts are supported by a firm calcareous bone, the cuttle-fish bone of the shops; and in all the naked cephalopods (not including Ocythoe) now existing, some rudiment at least of a bony, horny, or cartilaginous support is to be found. Cuttle-fish bone is found on all the coasts, and is used for rubbing down paint, etc., by the painters; also for the purpose of cleaning and polishing the surface of silver and other metals. The Chinese formerly engraved these bones, or inlaid them as ornaments.—*Smith; Eng. Cyc.; Rohde's MSS.; Ains.*

CUTTONORA, the Cuttiara of Ptolemy, supposed to be either Calicut or Cochin, whence pepper was exported to Barace.—*Ind. in 15th Cent.*

CUTTY. TAM. The term applied in Southern India to the iron bloom of native manufacture.

CUTWA, a town on the Bhagirathi river, Arrian's Katadupa. Indeed, Katwadweep and Agradweep and Nabadweep all refer to a period when they must have been regular dweep or islets, to have received such names. To the vaishnava sect, Cutwa is a sacred place of pilgrimage; there, Chaitanya, flying from the roof of his parents, and leaving behind his wife, embraced the Dandi sectarianism, to shake off the obligations of society and the cares of a secular life. He was initiated into its rites by a Gosain, named Kesab Bharuty; and the hairs shaven from his head on the occasion are yet preserved in a little white temple.—*Tr. of Hind.* i. p. 49.

CUTWAL, a military police officer; the police officer of a military bazar. The word is properly Kot-wal, a fortress holder.

CUVERA, the Hindu god of riches.

CUVIER. Baron Cuvier and M. Valenciennes' Histoire Naturelle des Poissons, published in Paris in 1828 and following years, contained much information as to Indian fishes.

CYAMOPSIS PSORALOIDES. *D. C.*

Dolichos psoraloides, *Lam.*	Trigonella tetrapetala, *R.*
D. fabæformis, *Roxb.*	Lupinus trifoliatus, *Cav.*
Psoralea tetragonoloba, *L.*	*Icon.*
Pai-pa-soon, . . . BURM.	Kot-avere, . . . TAM.
Guvar-phalli, . . . GUJ.	Kothu-avare, . . ,,
Gouari, Gour, DUK., HIND.	Kothu-avara-kailu, TEL.
Matt-ki phalli, ,, ,,	Goru-chikudu, . . ,,

An erect annual; cultivated during the cold months in gardens for the little flat pods, which are used in curries as a substitute for French beans; grows from 2 to 3 feet high; the pods are seldom very tender, but are esteemed a good vegetable.—*Mason; Jaffrey; R. Br.*

CYATHEA, a genus of the tree-ferns, tropical plants. Many tree-ferns rise to a height of 20, 40, or even 60 feet in their native forests, supporting magnificent crowns of gigantic fronds, in some species 15 to 20 feet in length. C. spinulosa, *Wall.*, occurs in Nepal, Khassya, S. India, and Tenasserim, and in Ceylon C. sinuata, *Hook.*, and several others. C. Siamensis, of Prome, yields a whitish gum. C. Rumphii, *Miq.*, of S. India, Andamans, Burma, and Tenasserim; its wood yields a starch. The seeds of C. sphærica are ground into flour. The better known tree ferns are Cyathea aculeata, arborea, dealbata, muricata, hemitelia, horrida, and Karsteniana, Alsophila armata of the W. Indies, A. Cooperi of Queensland, and A. excelsa of Norfolk Island; also Angiopteris pruinosa and Blechnum Brasiliense. C. dealbata grows abundantly in New Zealand on the declivities of the hills, under the shade afforded by the forests. The natives use the trunk of this fern as posts in the erection of their dwellings, and they are very durable,—the medullary portion soon decaying, but the exterior lasting for several years. C. medullaris, the tree-fern of Norfolk Island, is about twenty feet in length, and presents a beautiful appearance.—*Dr. Bennett, Australasia.*

CYATHEA ARBOREA.

Aspidium arbor., *Moon.* | Æt-musana, . . SINGH.

This fern rises in Ceylon 25 to 30 feet. Its stem makes beautiful walking-sticks. The section of this tree-fern displays well the structure of an acrogenous stem, hollow in the centre, marked on the outside by the scars of the fallen leaves, and showing the elongation of the axis by junction of the petioles.—*Madras Hort. Garden; M. E. J. R.*

CYATHOCALYX ZEYLANICUS. *Champion.*

Kakalas, ... SINGH. | Eepettas, . . . SINGH.

The light lacquered Kandyan walking-sticks are said to be made from this Ceylon tree.—*Fergusson.*

CYATHULA ORBICULATA, C. capitata, and C. tomentosa, sand-binding plants of the Peninsula.

CYAXARES was the name by which the Greeks designated Vakistar, king of the Medes. In alliance with the king of Armenia, and Necho, king of Egypt, B.C. 609, took and destroyed Nineveh, and its sovereign, Assur-ibl-ili, set fire to his palace, and, with all his wives, burned himself.

CYBELE. See Osiris; Saraswati.

CYBIUM GUTTATUM. Tora-Malu, SINGH. One of the scomberoid fishes, known to Europeans as the seir fish, is the finest table fish of Ceylon. Its flesh is white, but resembles that of the salmon

in firmness and flavour. C. Commersonii, *Lacep.*, is another of the seir fish.

CYCADACEÆ, a natural order of plants, of which Lindley makes four genera and includes about fifty species. They have a simple cylindrical trunk, which increases by the development of a single terminal bud, and is covered by the scaly bases of the leaves. There are several known species of Zamia and Cycas, some of which grow in India, and in the islands of the Eastern Archipelago. They all abound in a mucilaginous nauseous juice, and the soft centres of Cycas circinalis and C. revoluta are convertible into a kind of sago. The species of Encephalartos are called Kafir bread. The seeds of Dion edule yield starch in Mexico. A similar substance, under the name of sago, is obtained from species of Zamia in the Bahamas and other West India islands; in Japan, from Cycas revoluta; and in the Moluccas and Southern India, the Cycas circinalis yields a coarse kind of flour, and also yields a transparent gum. The plants are propagated by suckers. A trunk of the order has been found in the lower greensand, Kent, and at Portland. None are now native in Europe. C. Normanbyana, *Von Mueller*, is a Queensland species; and C. sphærica, *Roxb.*, is a tree of the Moluccas. The fruit of Cycas angulata, *R. Br.*, forms a food of the Australian aborigines during a portion of the year. They cut it into thin slices, which are first dried, afterwards soaked in water, and finally packed up in sheets of tea-tree bark. In this condition it undergoes a species of fermentation, the deleterious properties of the fruit are destroyed, and a mealy substance with a musty flavour remains, which the natives of Australia probably bake into cakes. They appear also to like the fruit of the Pandanus, of which large quantities were found by Dr. Leichardt in their camps, soaking in water, contained in vessels formed of stringy bark. The tree grows 70 feet high.—*Simmonds; Von Mueller; Roxb.; Voigt; Eng. Cyc.*

CYCAS CIRCINALIS. *Linn.*

C. inermis, *Lour.*	Sayor callapa of *Rumph.*
Olus calappoides, *Rumph.*	
Buzoor butu of BOMBAY.	Madoo gass, . . SINGH.
Mudang, . . . BURM.	Paku tundu, . . SUMAT.
Ka bong, . . . MALAY.	Wara guda, . . . TEL.
Todda pana, . MALEAL.	Rana Guvva, . . ,,

This very handsome tree in appearance resembles the palm tribe. It grows in Ceylon up to 1500 feet, is common on the Malabar coast from Tellicherry to the foot of the Ghats, and occurs northwards towards Bombay; is also common in the Karen forests of Tenasserim, in Cochin-China, China, Sumatra, Java, and the Moluccas. It resembles a dwarf cocoanut tree; its blossoms are yellow. In Sumatra the cabbage and the young shoots are eaten. It yields a gum resembling tragacanth, also a kind of sago; and a flour called Indapodi is obtained by the Singhalese, by pounding the fresh kernels. These are cut in slices, and well dried in the sun before they are fit for use, otherwise when eaten they are intoxicating, and occasion vomiting and purging.—*Mason's Tenasserim; O'Sh.; Thw. Zeylan.; Marsden's Sumatra*, p. 89; *Rumphius*, i. p. 22.

CYCAS PECTINATA, *W.*, is a sago palm which grows in Sikkim, on the flats by the Ranjit streams. Its stem is ten feet high, with a beautiful crown of foliage.—*Hooker*, i. p. 151.

CYCAS REVOLUTA. *Thunb.* A native of China and Japan; a kind of starch, the Japan sago, is obtained from the cellular substance. The whole plant yields a copious mucilage, which hardens into a transparent gum. Is is the most northern member of the order of plants.—*O'Sh.*

CYCLAMEN, *sp.*, sow bread. The poisonous, acrid Hai-yu of the Chinese is dedicated to their goddess Kwan-yin.—*Smith.*

Cyclamen Europæum. *W.*

Bekhoor-miriam, . ARAB.	Urtenysa, . . . ARAB.
Punjeh-miriam, . ,,	Ussul-ul-urtenysa, ,,
Shajrah-miriam, . ,,	Hathajooree, . . HIND.

CYCLAMEN PERSICUM. *Mill.* One of the Primulaceæ, a bulbous flowering plant.—*Voigt.*

CYCLAS STURCIPENNIS, a weevil of Ceylon, very destructive to agricultural produce.

CYCLE.

Cycle, Course, . . FR.	Rivoluzione, Corso, . IT.
Zirkel, Cyklus, . . GER.	Circle, Ciclo, . . . SP.

Eastern races have chronological cycles. The Chinese astronomical cycle of 60 years, in use since the 61st year of Hoang-ti, is the most ancient form of a primitive and very simple equation of lunar and solar years. Its 76th recurrence fell in 1864. The Triakon tæteridæ of the Egyptians, of 30 years, led to the cycle of 60 years. There were Indian cycles of 5 years, the result of a rude equation; the Chaldee cycle of 600 years was of later date. The 12-yearly zodiacal cycle is in use amongst the Mongol, Manchu, and Igurian Tartars, and amongst the inhabitants of Tibet, the Japanese, and the Siamese. Amongst the Tatar populations, however, this is a cycle of 60 years (12×5). The cycle of the Chaldees was of 60 years, but they had one of $60 \times 10 = 600$, which grew out of the great patriarchal year. The oldest cycle known to the Greeks was one of 9 years, which gave way to the Metonic cycle of 19 years; but one of 60 years was in use amongst the Semitic and Iranian races of primeval Asia, as well as amongst the Chinese. Plutarch considers the 60 years' cycle as the original one known to all astronomers. The Apis cycle was of 25 years; and 59 of these make up the Sothaic year of 1460 years, with 15 years over; the Phœnix cycle was 500 years.—*Bunsen.* See Chronology.

CYCLEA BURMANNI. *Arnott.*

Cocculus Burmanni, *D.C.*	Menispermum peltatum,
C. peltatus, *D.C.*	*Gart., Lam.*
Cissampelos discolor, *Wal.*	
Pada valli, . MALEAL.	Wal tjedde, . . SINGH.

This trailing shrub grows in Ceylon, Malabar, the Konkan, and Coromandel; by native practitioners the bitter root is mixed with buttermilk and cumin seeds, and given in dysentery, hemorrhoids, and flatulency, and the juice of its leaves is applied to inflamed eyes.—*Useful Plants.*

CYCLOGRAPSUS. The following species of this genus occur in S.E. Asia and Australasia:—

C. punctatus, *Edws.*, Indian Ocean.
C. Audouinii, *Edws.*, New Guinea.
C. quadridentatus, *Edws.*, New Holland.
C. sexdentatus, *Edws.*, New Zealand.
C. Gaimardii, *Edws.*, New Holland.
C. octodentatus, *Edws.*, King Island.
C. latreillii, *Edws.*, Mauritius.
C. renicilger, *Edws.*, Asiatic Seas.
C. pallipes, *Edws.*, New Holland.

CYCLONE, Hurricane, White squall, Typhoon.

Tufan, . ARAB., HIND.	Travado, ... PORT.
Ta-fung, ... CHIN.	Tornado, ... SP.

Cyclone is the term now applied to the furious tempests formerly called taifun, typhoon, or hurricane, because of their being uniformly found to be whirlwinds, and from the Arabic Touf, circumambulation. Cyclones are of frequent occurrence from 109 miles N. to 120 miles S. of Madras, and between 1746 and 1881, 17 disastrous cyclones have been recorded. The first written notice is from the pen of Colonel Capper, a Madras officer, who describes them as whirlwinds of immense size, not less in diameter than 120 miles, and having their vortex near Madras or Pulicat. Other authors have followed since that date, 1801, offering theories and explanations of the phenomena,—Redfield and Espy in America; Dr. Thom, 86th Regiment; in Mauritius, Messrs. Bousquet, Hare, and Dove, Colonel Reid, Mr. Piddington of Calcutta, and many others. But, from the data furnished by their writings, it was left for Colonel Reid to form the law by which practical action has been given, and his position has been greatly extended and made easy by the intelligent labours of Mr. Piddington. The usual names, tempest, gale, hurricane, typhoon, being calculated to lead to confusion, a new term was sought for storms coming under the new law, and the word cyclone was selected, derived from the Greek Kuklos, as neither affirming the circle to be a true one, though a circuit be complete, yet expressing sufficiently the tendency to circular motion in these meteors. Colonel Capper put forward the view that the storms of the Indian Ocean were rotatory. Mr. Redfield and Professor Dove further developed that theory; and Colonel Reid discovered the fact that the rotation of these storms in the N. hemisphere was N.W. to S.E., or opposite to the direction of motion of the hands of a watch with its face upwards, and that the reverse is the case in the S. hemisphere. Mr. Espy of Philadelphia ascertained that in cyclones there is an indraught or centripetal force; and Professor Dove explained the opposite direction of rotation in the northern and southern hemispheres, by what he called the law of gyration.

The subsequent writers on cyclones and their laws, have been Professor Taylor, Sir John Herschel, Mr. Blanford of Calcutta, Mr. Meldrum of Mauritius, and Mr. Willson. Professor Taylor's theory was that cyclones originate from an upward expansion of the air, produced by local heat; that this is followed by an indraught of air, and that the rotatory motion of the earth produces spiral movement round a centre, over which a continuous upward movement of the air takes place. This theory was adopted by Sir John Herschel in his work on meteorology. Messrs. Meldrum and Willson are of opinion that they are primarily due to lateral and opposite currents of air. Mr. Blanford ascribes their cause to a local atmospheric depression arising from condensation of vapour, and so causing an indraught of air to the place of origin. Mr. Elliot favours a modified form of Mr. Blanford's theory (Geog. Mag., June 1877). Mr. Blanford's theory is in accordance with the present views of the London Meteorological Office, viz. that the winds blow from all quarters into every central area of lowest barometrical pressure. The workers and their contributions to this subject have been numerous.

From 1839 to 1851, Henry Piddington of Calcutta contributed largely to the history of hurricanes; and it was he who discovered that in India to the north of the equator they are circular, moving from right to left, and are progressive, and he made out the tracts on which they move, and their rates. Captain Carless and Dr. Thom, 86th Foot, gave an account of the great hurricane of April 1847, in which the Cleopatra, Captain Young, was lost.

Dr. George Buist collected accounts of hurricanes on the west coasts of India from 1647 to 1859, and wrote careful memoirs on the subject of cyclones. Lieutenant Fergusson published an account of the cyclone of 1862. Mr. Franklin, at Madras, published an account of the storms of 20th October and 25th November 1846, with diagrams. Lieutenants Mullins and Hemery described the cyclone at Nellore and Cuddapah of 2d November 1847. An account of the Calcutta cyclone of 1864 was drawn up by Colonel Gastrel and Mr. H. F. Blanford, with a list of recorded storms in the Bay of Bengal, from 1737 to 1865.

Of 73 cyclones in the Bay of Bengal, notices of which occur in old records, in Mr. Piddington's works, or which Mr. H. F. Blanford himself recorded in recent years, he says the distribution in the several months were as follows:—January, 2; February, 0; March, 1; April, 5; May, 17; June, 4; July, 2; August, 2; September, 3; October, 20; November, 14; December, 3. All that occurred between November and the end of April had been restricted to the south of the bay; and the same is to be said of the greater part of the November storms. May and the first half of June, and October with the first week of November, are the only periods in which cyclones can be said to be prevalent in the north of the bay, though they occur occasionally in the intervening months, that is, during the south-west monsoon (p. 623).

Captain Taylor, R.N.R., Master Attendant at Madras, writing on the Bay of Bengal, says ships exposed to the cyclone experience, after fearful weather from one quarter, a short rest, during which the sun or stars are visible overhead, after which the storm comes on again from the opposite quarter. The wind observes in all cases the same relative bearing,—on the north side of the cyclone the wind is always east, on the east side the wind is always south, on the south side the wind is west, and on the west side the wind is north. And these storms always come up more or less from the south-east, and pass away to the north-west.

Madras city and its adjoining coast have suffered repeatedly from cyclones. They seem to travel up from the E.S.E., and progress rapidly in a W.N.W. direction, until they touch the land, and there they assume a westerly or W.S.W. course. Their diameters are about 150 miles, and they revolve in a direction contrary to the hands of a watch.

At midnight of the 2d—3d October 1746, 23 days after the surrender of Madras to M. de la Bourdonnais, a cyclone burst on this town. The ships Duc d'Orleans, Phœnix, and Lys put to sea, but foundered, and in them upwards of 1200 men were lost; the Mermaid and Advice, prizes, shared the same fate; the Achille and two other vessels of war were dismasted; and of twenty other vessels of different nations in the Madras roads, all were either wrecked or lost at sea.

A cyclone occurred off Cuddalore on the night

of the 12th—13th April 1749. It blew from the N.N.W., and continued all the next day. H.B.M. ship Pembroke was wrecked on the Colerun shoal, a little off Porto Novo, and only 12 men were saved. The Namur foundered in shoal water not far from Devicottah, when 527 officers and men were drowned. Off Fort St. David, the E.I. Company's ships Lincoln and Winchelsea, and almost all the small vessels, were lost.

On the 31st October 1752, a violent hurricane was experienced.

On the 1st January 1761, a violent hurricane occurred at Pondicherry. At that time the British were besieged by sea and land. Of eight sail of the line, two frigates, a fire-ship, and a ship with stores, the Norfolk escaped. The Panther, America, Medway, and Falmouth were dismasted, but rode out the gale; the Newcastle, Queenborough, and Protector ran ashore; and the Duc d'Aquitaine, the Sunderland, and the Duke foundered, and of the crew of 1100, all but 7 Europeans and 7 natives perished.

On the 21st October 1773, a violent hurricane visited Madras, when the ships that remained at anchor all perished.

On the 20th October 1782, a gale began from the N.W., and the following morning 100 small country vessels were stranded on the beach. H.M. ships Superb and Easter were dismasted, and got to Bombay with jury masts. At that time the ravages of Hyder Ali had driven the people into Madras, and sickness followed the cyclone, during which Lord Macartney, the Governor, nobly exerted himself to mitigate their sufferings.

On the 27th October 1797, a heavy gale occurred, in which the barometer did not fall below 29·465.

On the 5th December 1803, H.B.M. ship Centurion, on her passage from Trincomalee to Madras, and the Albatross, were dismasted in a cyclone, which raged from midnight till 5 P.M.

On the 10th December 1807, a hurricane burst over Madras, and was accompanied by a storm-wave, which inundated the whole of Black Town.

On the 2d May 1811, in a violent hurricane at Madras, the Dover frigate and Chichester storeships were lost, and 90 vessels went down at their anchors; only two vessels which put to sea were saved. During this cyclone the surf broke in 9 fathoms water, 4 miles from shore.

On the 24th October 1818, a cyclone commenced with the wind from N., and, after increasing in violence, suddenly lulled, but as suddenly blew from the S. Its vortex passed over the town. It travelled west. The barometer fell to 28·78.

On the 9th October 1820, a cyclone commenced at N.W., and veered to W. and S.W. The barometer fell to 28·50. It passed north of Madras, and travelled west.

On the 30th October 1836, a gale set in from the north. At 4 P.M. it blew violently from the N.N.W. and N. After a half-hour's lull, it blew at 7.30 P.M. with redoubled violence from the south, and at this time the barometer was 28·285. The vortex passed over the town.

In May 1843, another hurricane occurred, the brunt of which was felt out at sea, and several vessels were lost. Those that remained at anchor rode it out.

On the 25th November 1846, a hurricane occurred during which the pressure plate of the Observatory anemometer broke at a pressure of 40 pounds registered; and the force of one heavy gust was computed at 57 pounds per square foot. The large iron wind-vane of the Observatory was bent to a right angle, and one of the flat piers on the Elphinstone Bridge was blown over.

Of these fifteen cyclones, one each occurred in January and in April, two each in May and December, and nine in October.

On the 1st November 1864, a cyclone, accompanied by a storm-wave, swept over Masulipatam, rising 12 and 13 feet above the ordinary high-water mark, and rushing inland for nine miles (in one instance for 17 miles) from the shore, submerged an area of 780 square miles, and about 30,000 of the population were drowned.

A cyclone occurred at Madras on the 2d May 1872, when nine British and 20 native ships were driven on shore, and 19 lives were lost.

A cyclone occurred at Vizagapatam on the 7th October 1876, and another at Bakarganj.

1822, 6th June, in Bombay a great tidal wave; 100,000 people perished.

A cyclone occurred at Bombay in 1837. Another on the 1st and 2d November 1854. At midnight the wind rapidly increased in force from 15 pounds pressure on a square foot of surface till 3 A.M. of the 2d November, when it inclined a little more to the south, and increased in pressure to 35 pounds.

Amongst the calamities that have overtaken the Sunderbuns, have been great inundations caused by cyclones. About the year 1584, the tract lying between the Horinghatta and the Ganges, known as the Bakarganj or Burrisal district, was swept by an inundation, succeeded immediately afterwards by an incursion of Portuguese and Mugh pirates. In June 1622, this same tract was again inundated, 10,000 inhabitants perishing, and many houses and much property destroyed.

In the Gentleman's Magazine for 1737, mention is made of a storm and inundation at Calcutta, from which 300,000 lives were lost. In A.D. 1736 the Megna rose six feet above its usual level at Luckipur. A cyclone of 1831, over Calcutta, swept away 300 villages and 11,000 people. Occurrences of cyclones have been recorded at the mouth of the Megna on the 6th and 9th June 1822, on the 1st November 1867? on the 16th May 1869, and 1st November 1876.

In A.D. 1833, Saugor Island was submerged 10 feet; the whole of the population, between 3000 and 4000 souls, together with some of the European superintendents, perished; at Kedgeree, a building 18 feet high was completely submerged, and the Duke of York East Indiaman was thrown high and dry in the rice-fields near Fultah in the Hoogly. In A.D. 1848, the island of Sundeep was submerged. A cyclone is mentioned as occurring in Calcutta in 1859, attended with a great loss of life. A cyclone of the night of the 5th October 1864 came from the sea, passed over Calcutta, and foundered and stranded steamers and ships of 2000 tons burden, and swept away every tree and building in a tract 300 miles long. This one, originating near the Andamans, travelled in a north-west direction, and struck the coast of Bengal at the Balasore roads and Hidgeli. Thence it passed over Calcutta on the 5th October, over Kishnaghur and the Bogra district, and finally expended its strength in the Garo Hills. The wind destroyed much, but it brought with it

a storm-wave 30 feet high, which flooded the country for a distance of 8 miles on both sides of the Hoogly river. In Calcutta, and in Howrah, on the right bank of the Hoogly, the partial or complete destruction of 196,481 houses and huts told a sadder tale than even the violent death of human beings. But widespread ruin swept over the fertile tracts of Midnapur, and over the Sunderbuns, which had been recovered from total inundation by the efforts of a quarter of a century, and the expenditure of millions of rupees. In many districts there, no less than three-fourths of the whole population, their cattle and other property, were engulfed in sudden destruction. Had the Hoogly been the Thames, and London—not so densely populated—Calcutta, a cry would have gone up which would have thrown the earthquake of Lisbon and similar catastrophes, famous in history, into the shade. In all, about 200 ships were lost, and 70,000 persons perished.

The inhabitants of the large fertile islands in the estuary of the Megna, Shahbazpur, Hattiah, and Sundeep, full of rice grounds and cocoanut grooves, are not unfamiliar with the dangers of their marshy home, for since 1822 there have been at least seven cyclones; but the islands stand fairly high above the water, and it has been the storm which has caused most damage, though it generally gives notice of its approach long beforehand, by the unnatural hush in the air, and the livid colour of the sky, but on the night of the 31st October 1876 there was no warning. A violent north wind prevailed from 10 P.M. of the 31st October to 3 A.M. of the 1st November, and brought down the river water more rapidly than usual. The tidal wave was unusually high, and the north wind was followed by S.W. and west winds, which propelled the storm-wave into the converging water area of the estuary. It was full moon on the 31st October, and the usual tidal bore occurred at 11 P.M.; and before the water flowed off, one or two storm-waves followed from the S.W. about 3 A.M., and between 4 and 5 A.M., causing a second and third inundation, covering the islands with from 10 to 45 feet of water. The waters continued to rise till 4 A.M., when they began to subside. The inundation caused bad food and bad water. It was shown that 165,000 people were drowned, and subsequently 75,000 died of cholera. South of the equator, they occur in the months of November to May, and travel to the W.S.W.; and afterwards, but not always, to the southward and S.E., the wind invariably moving round a central space (which is usually characterized by a calm) from left to right, or with the hands of a watch; while the storm, which has a diameter of 1 to 1500 miles, moves onwards at the rate of 1 to 20 miles, but more frequently 4 to 7 miles an hour, for a period varying from a few hours to ten days, attended with torrents of rain, and its northern half often with lightning. Dr. Thom showed that, south of the equator, these rotatory storms are always generated between the N.W. monsoon and S.E. trade wind. They occur only during the S.W. monsoon months, and their rise and progress are intimately connected with the S.E. trade wind and N.W. monsoon, two opposing winds. With ships, the safest course is to lie to and watch the barometer and wind till the bearing of the centre be known with some certainty.—*Geog. Mag.*, June 1877; *Buist's Catal.*; *Curiosities of Science*; *Cal. Review*, 1868; *Capper's Trade Winds and Monsoons*; *Piddington on the Law of Storms*; *E. India Marine Surveys*; *Imp. Gaz.*; *Bikmore's Travels*; *Maury's Physical Geog.*; *Mr. Meldrum in Pro. Brit. Assoc.* 1867; *Lieut.-Col. Reid, The Progress of the Development of the Law of Storms*, London, 1849; *Alexander Thom, An Inquiry into the Nature and Course of Storms in the S. Indian Ocean*; *Gazetteer of S. India*, p. 191; *Moral and Mat. Prog.*

CYCLOPES are supposed by Pococke to be the Gucla-pes from the Jumna or Guckla-des. This derivation would designate them as a pastoral race, from Go, SANSK., a cow; but their great irrigation works denote them an agricultural population. Such a race at some remote time occupied Baluchistan, and raised great irrigation structures similar to those in Greece, and in the Peninsula of India. At Bodegli is a mound with Cyclopean substructures. Lieutenant Aytoun, in his Geological Report on a portion of the Belgaum Collectorate, given in Carter's Geological Papers on Western India, p. 392, mentions that certain gorges in the hills had been artificially bunded, and present one or two points of slight resemblance between the Pelasgi, the builders of the Cyclopean walls of Greece, Italy, etc., and the Ghorbasta builders of Baluchistan, suggesting that they might have been a kindred people, with kindred habits. The Pelasgi came from Asia, not from Asia Minor, not from Syria, not from Assyria, not from Persia, but probably from that birthplace of emigration, the tract north and north-east of Persia.

The Ghorbasta builders probably came from the same tract, and were not Mekranees, nor Persians, nor Assyrians. The Pelasgi existed only a few generations in Greece (about 250 years), before they were turned out by the Hellenes; they must therefore have brought with them, when they entered the country, their propensity for building massive walls, and commenced their work almost immediately on arrival. It was probably the same with the wall builders of Baluchistan; they only remained in the country long enough to allow them to extend northward as far as Kelat, when, meeting with the Mulla pass, they debouched into the plains. Their art was a fully developed one before they arrived there to carry it out. The Pelasgi arrived in Greece about 1800 B.C. This date seems to accord roughly with the advent of the unknown Ghorbasta into Jhalawan. The Ghorbasta structures, however, when compared with the Cyclopean remains of Greece, are slight, most roughly executed and insignificant; yet they evince a like instinct and habit in two races which probably came originally from the same region. The tank at Cumbum, the Husain-Saugur tank at Secunderabad, the Oossoor lake or tank near Bangalore, are each about 7 miles in circumference. Their date is not known. The Mir Alam lake at Hyderabad, constructed during a famine to provide food, cost £130,000, and has a steamer on it; and a great lake, formed in a famine by the damming up of the Goomti river, cost £1,500,000.—*Dr. Cook in* No. 6, *Bombay Med. Transactions.*

CYCLOSTEMON MACROPHYLLUS. *Bl.*
C. Zeylanicum, *Bailley.* | Sphragidia Zeylanica, *Thw.*

This large tree is very common in the dense moist forests of the Animallays, 2000 to 4000 feet

elevation; and in Coorg at the waterfalls near Mercara, 4000 feet; and in other parts of the Western Ghats, Travancore, etc. It is found also in Ceylon at 5000 feet, and Java. Indian specimens (Var. B. sessiliflora) have the flowers sessile; the timber is very hard.—*Thwaites; Beddome.*

CYDONIA JAPONICA. *Pers.*

Hai-hung, Hai-t'ang-li, Hai-t'ang pu, CHIN.

The Cydonia genus of plants belongs to the natural order Pomeæ. C. Japonica is a beautiful flowering tree, originally from Sin-lo on the Yellow Sea, now largely cultivated in China; and Sze-chuen produces fine sorts, one variety being called Ts'iu-hai-t'ang.

CYDONIA VULGARIS. *Pers.* Quince.

Pyrus cydonia, *Linn.* | Pyrus tomentosa, *Roxb.*
Safarjal, . . . ARAB. | Bihi, . . HIND., PERS.

This small, crooked, and much branched tree grows in the south of Europe, in Persia, Afghanistan, Kashmir, in the N.W. Himalaya, in Hindustan, and is cultivated from Kābul to Kashmir. Flowers few, of a white or rose colour. The fruit is of a yellow colour, downy, and remarkable for its fine odour. The seeds, called Bihi-dana, are in great use medicinally, being brought into India from Persia, Kābul, Kandahar, and Kashmir, and are highly valued as a demulcent tonic. The fruit contains some astringent matter. It is now made into a preserve, or used for flavouring the preserves of other fruits. There is a 'tursh' or bitter, and a 'shirin' or sweet quince.—*Dr. Royle; O'Sh.; Roxb.; Voigt; Stewart; Cleghorn.*

CYGNIDÆ, the swan family of birds. Cygnus olor is the mute swan, of which C. immutabilis is the wild race. Cygnus musicus is the Cygnus ferus, or Hooper swan, and is found in N. Europe, Asia, and N. Africa. It is migratory, and one specimen was obtained in the valley of Nepal.

CYMBIDIUM, a genus of plants belonging to the Orchiaceæ, all of them with beautiful flowers.

C. alatum, *Roxb.*, of Sunderbuns and Chittagong, has pale sulphur flowers.

C. aloifolium, *Swtz.*, the Paras, the Epidendron aloifolium, *L.*, Aerides Borassii, *Sim.* Flowers large dull purple, white-edged, on most of the hills of India; a beautiful plant when in flower, and blossoms in April.

C. aphyllum, *Swz.*, the Limodorum aphyllum, *Roxb.*, with yellow flowers; Coromandel coast.

C. giganteum, *Wall.*, the Limodorum longifolium, *Buch.*, grows on the Khassya and Nepal hills.

C. pendulum, *Swz.*, the C. crassifolium, *Wall.*, and the Epidendrum pendulum, *Roxb.*, grows in the Khassya hills, and in the Peninsula of India.

C. triste, *Willde*, grows from Nepal and Ceylon to Japan and N. Caledonia, has small pale green flowers. It is the Epidendrum teres of *Thunb.*, E. triste, *Forst.*, and Linsia teretifolia, *Gaudichaud.*

C. lancifolium, *Hooker*, grows in Nepal; and C. Gibsonii, *Wall.*, C. inconspicuum, *Wall.*, C. Masterii, *Wall.*, and C. striatum, *Wall.*, grow on the Khassya hills. Wight also gives C. erectum, C. tenuifolium, and C. tesseloides.

CYMBIRHYNCHUS MACRORHYNCHUS, called by the Malays the rain bird, is the most beautiful of the Malacca birds, and is known to naturalists as the blue-billed gaper.—*Wallace.*

CYMBOPOGON LANIGER. *Desf.*

Khawi; Panni, . PANJ. | Injani, ... PANJ.
Solara, ... ,, | Bur . . of HARRDANA.

Root Sheaths.

Azkhar; Mirchiagand, H. | Lamjak katran, . HIND.

Dr. Stewart says (p. 253) this and C. iwarancusa are not uncommon in many parts of the plains.

CYNANCHUM (from κύων, a dog, and ἄγχω, to strangle), a genus of plants belonging to the natural order Asclepiadaceæ. The species are herbs or undershrubs, with opposite leaves and mostly twining stems. Dr. Wight gives C. alatum, callialata, pauciflorum. The Populus Euphratica, a species of Cynanchum, Chloris barbata, and Cyperus aristatus, all ascend to 11,000 feet in Ladakh. Peganum harmala attains 9000 feet. The leaves of C. argel of Upper Egypt in small doses are purgative, and they are much used in Egypt for adulterating senna. C. ovalifolium of Penang yields abundance of very fine caoutchouc. —*O'Sh.* p. 51; *Eng. Cyc.* p. 275.

CYNARA CARDUNCULUS. *Linn.* The cardoon; is similar to the garden artichoke, but grows much higher, though cultivated similarly to the artichoke.

CYNARA SCOLYMUS. *Linn.* Artichoke.

Kirshuf, Kharsjuf, . ARAB. | Kanjir, . . HIND., PERS.

The artichoke has very large flowers, of a violet blue colour, and is grown in many gardens of the Dekhan.

CYNIPS, gall-producing insects, puncture and lay their eggs in large numbers in the fruits, seeds, and leaves of plants, and the excrescences are known as galls. A species on the Himalaya affects the oak.

CYNOCEPHALUS. *Cuv.* A genus of quadrumanous mammals, known as baboons, meaning in the Greek dog-headed. Its most marked characters consist in the great prolongation of the face and jaws, and in the truncated form of the muzzle, which give the whole head a close resemblance to that of a large dog. In their native mountains, the ordinary food of the baboons is berries and bulbous roots; but in the vicinity of human habitations they make incursions into the cultivated fields and gardens, and destroy a still greater quantity of grain and fruits than they carry away with them. C. hamadryas, *Linn.*, the derrias, is found in Africa and Arabia. It measures upwards of 4 feet when standing erect.

CYNOCTONUM PAUCIFLORUM. *Dec.*

Cynanchum pauciflorum, *R. Br.*

Chagul-pati, . . BENG. | Kang-koombala, . SINGH.

Very common in the central province of Ceylon and India. The Singhalese eat the young leaves of this and of many other plants of this natural family, in their curries.—*Thw. Zeyl.* p. 195.

CYNODON DACTYLON. *Pers.*

Panicum dactylon, *Linn.* | Agrostis linearis, *Retz.*

Durbha,	BENG., HIND.	Hurrum pillu,	TAM.
Doob, Doobla,	,, ,,	Arugam pilu,	,,
Hariali, Durva,	DUKH.	Garika kasuvu,	TEL.
Ghaner,	HIND.	Tella gariki,	,,
Khabal, Khabbar,	PANJ.	Barawa,	TR.-IND.
Durva,	SANSK.		

The Harryallee grass of India and Europe is considered, in India, the best for cattle. The root creeps through the loose soil to a considerable extent, and has strong fibres at the nodes. The stem rarely exceeds six inches in height. Florets are all on one side of the spike-stalk, awnless, purplish, and ranged in two close alternate rows. All the stems which lie near the ground take root, and by this means, though an annual plant, it increases and spreads very wide. It yields abundance of seed, of which small birds are very fond.

It is grown for hay; and it is good to allow the seed to ripen before the hay is cut, as it then propagates itself by seed, in addition to the runners. This grass is found in Great Britain, but its produce and nutritive properties are there comparatively insignificant, while in India it constitutes three-fourths of the pasture. Sir W. Jones observes (As. Res. iv. p. 242) that it is the sweetest and most nutritious pasture for cattle, and its usefulness, added to its beauty, induced the Hindus, in their earliest ages, to personify it as the mansion of a benevolent nymph. The A't'harvana Veda thus celebrates it: 'My Durva, which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth a hundred years.'

It is the principal one of the Indian grasses, and is perhaps the most generally diffused, possessing much nourishing property in its long stems, no less than in its leaves. It endures the greatest elevation of temperature, as its roots penetrate far below the surface; and although, during the dry hot season, giving no sign of life, it puts forth its tender leaves on the first approach of the rains. It grows throughout the year, and lawns and pastures of moderate extent are made by planting pieces of the creeping stems. It is also much used for forming a covering for the banks of rivers, ramparts, and esplanades. The young and tender leaves are used in chatnis, and are considered very pleasant; the roots make a cooling drink. It is also one of the most abundant grasses on the Tenasserim coast, but it is much less conspicuous than many others.—*Mason; Cleghorn; Jaffrey; Von Mueller.*

CYNOGALE BENNETTI, a rare otter-like animal of Borneo. It has a very broad muzzle, clothed with long hairs.—*Wall.* i. 39.

CYNOGLOSSUM, a genus of the borage tribe of plants, growing in Bengal and Northern India. C. diffusum, canescens, Falconerianum, furcatum, marifolium, and racemosum, pretty little annuals, flowers mostly blue, purple, white and purple; grow in any common soil.—*Riddell; Roxb.*

CYNOGLOSSUS LINGUA. *B. Ham.* The sole.

CYNOMETRA BIJUGA. *Spanoglie.* A timber tree of the Sunderbuns.

CYNOMETRA RAMIFLORA. *Linn.*

Cyn. cauliflora, *Wall.* | Iripa, ... MALEAL.
Nam-nam, . . MALAY. | Galmendora gass, SINGH.

A tree which attains a height of 60 feet in Ceylon, Malabar, Java, the Moluccas, and Sumatra. A cubic foot when seasoned weighs 56 lbs., and it is said to last from 15 to 60 years; sp. gr. ·896. It is used for bridges and buildings, and is the best suited of the Ceylon woods for under-ground purposes. Its roots, leaves, and an oil from the seeds are used medicinally. Chips of the wood infused in water give a dark purple dye.—*Mr. Mendis, Useful Plants; Thwaites; Beddome.*

CYNOMETRA TRAVANCORIA. *Bedd.* This is a straight tree of great height and very beautiful foliage, particularly when in young leaf. It grows on the Tinnevelly and Travancore mountains at 2000 to 3000 feet elevation.—*Beddome.*

CYNOMORIACEÆ, *Lindl.*, an order of leafless parasitic plants. Wallich says a species of the Cynomorium, a fungus-like genus, is parasitical on the roots of trees in the Tenasserim Provinces, and valuable as a styptic.—*Mason.*

CYNOPITHECUS NIGRESCENS, the black baboon monkey of Celebes.

CYPERACEÆ, the sedge tribe, a natural order of plants, found from the arctic to the antarctic circle, in marshes, ditches, and running streams, in meadows, on heaths, in groves and forests, on the sea-shore, and on mountain summits, wherever phænogamorous plants can exist. In Griffiths' Herbarium are 345 species of Indian Cyperaceæ, collected from the Himalaya to Mergui. The most useful of the tribe are species of Cyperus, Euphorium, and Papyrus, *q.v.*

A. Cypereæ.

Cyperus alopecuroides, *Rottler*, Himalaya.
angustifolius, *Buch.*, Bengal.
aristatus, *Rottler*, Peninsula of India, Bengal.
articulatus, *Linn.*, Peninsula of India, Bengal.
bulbosus, *Vahl.*, Coromandel.
canescens, *Vahl.*, Peninsula of India.
casteneus, *Willd.*, Peninsula of India, Bengal.
compressus, *Linn.*, W. and E. Indies, Penin., Beng.
corymbosa, *Roxb.*
difformis, *Linn.*, Greece, Egypt, S. Asia, the Behooa.
distans, *Linn.*, W. and E. Indies, P. of India, W. Africa.
dubius, *Rottler*, P. of Ind., Ben., ch'hoto gothoohee.
exaltatus, *Retz*, Peninsula of India, Bengal.
haspan, *Rottler*, Peninsula of India.
hexastachyus, *Rottler*, Arabia, East Indies.
inundatus, *Roxb.*, P. of Ind., Bengal, patee.
iria, *Linn.*, P. of Ind., Beng., Nepal, China, Manilla.
niveus, *Retz*, Bengal, Monghir, Kamaon.
pectiniformis, *Rom.*, Coromandel.
pertennus, *Roxb.*, Bengal, the nagur-moothi.
pleuranthus, *Nees*, Coromandel.
polystachyus, *Rottler*, Peninsula of India, Australia.
procerus, *Roxb.*, Peninsula of India.
pulvinatus, *Nees*, Peninsula of India, Bengal.
pumilus, *Linn.*, Peninsula of India, Bengal.
pygmæeus, *Vahl.*, P. of Ind., Beng., Ava, the jal-muti.
racemosus, *Retz*, Penin. of India, Bengal, Penang.
Roxburghii, *Nees*, Peninsula of India, Bengal.
sanguinolentus, *Vahl.*, Konkan, Bengal, Nepal.
seminudus, *Roxb.*, Bengal.
tenuiflorus, *Rottler*, Peninsula of India.
tortuosus, *Roxb.*, Circars.
venustus, *R. Brown*, Pen. of Ind., Australia, Java.
verticillatus, *Roxb.*, Pen. of Ind., Bengal, Nepal.
Papyrus dehiscens, *Nees*, P. of Ind., Beng., Chumatee-patee.
elatus, *Nees*, Ceylon.
pangorei, *Nees*, P. of Ind., Beng., mador katee.
tegetiformis, *Arnott*, Bengal.
Mariscus cyperinus, *Vahl.*, Ascension, Mauritius, China, Bengal.
dilutus, *Nees*, Peninsula of India, Bengal.
Kyllingia monocephala, *Linn.*, E. Indies, China, Nepal, Archipelago, Australia.
triceps, *L.*, Pen. of India and Malacca, Bengal.
Courtoisia cyperoides, *Nees*, Peninsula of India.

B. Hypolytreæ, *Nees.*

Anosporum monocephalum, *Nees*, Beng., gothoobee.

C. Scirpeæ, *Nees.*

Abildgaardia Rottbolliana, *Nees*, Pen. of India, Bengal.
tristachya, *Vahl.*, Peninsula of India.
Fimbristylis æstivalis, *Vahl.*, Pen. of India, Bengal.
argentea, *Vahl.*, Peninsula of India.
ferruginea, *Vahl.*, Bengal.
pallescens, *Nees*, Bengal.
Royleniana, *Nees*, Sunderbuns, Bengal; the talnooroo is the variety microstachya.
Schœnoides, *Vahl.*, P. of Ind., Beng., keshuri-mulunga.
Trichelostylis autumnalis, var. Indica, *Roxb.*, Bengal, the kuratiya-yuvanee.
complanata, *Nees.*
miliacea, *Ness*, Bengal, the buro-yuvanee.
quinquangularis, *Nees*, Bengal.
tenella, *Nees*, Peninsula of India, Bengal.
tetragona, *Nees*, Bengal.

Isolepis articulata, *Nees*, Bengal.
barbata, *R. Br.*, Peninsula of India.
incurvata, *Nees*, Bengal.
prolongata, *Nees*, Bengal.
setacea, *R. Br.*, Europe, Bengal, Australia.
squarrosa, *Vahl.*, Bengal, the chhoonchoo-moormoori.
supina, *R. Br.*, Bengal, Nepal, Australia.
Hymenochæte grossa, *Nees*, Bengal.
Scirpus junciformis, *Nees*, Bengal.
kysoor, *Roxb.*, Bengal.
Eleogenus capitatus, *Nees*, Rio Janeiro, Pen. of India, Bengal, New Holland.
Limnochloa acutangula, *Nees*, Peninsula of India.
Plantaginea, *Nees*, Ceylon, Peninsula of India.
tumida, *Nees*, Bengal, Peninsula of India.

D. Sclericæ, *Nees.*

Scleria lithosperma. *Willd.*, Ceylon, Pen. of India.
tesselata, *Willd.*, Ceylon, Pen. of India, Nepal.

E. Caricæ, *Nees.* Several species of Carex have been introduced into India.

Carex Indica, *Willd.*, Nepal.
Uncinia Nepalensis, *Nees*, Himalaya.
Remirea Wightiana, *Wall.*, Peninsula of India.
Hemicarpha isolepis, *Nees*, Peninsula of India.
Lipocarpha lævigata, *Nees*, Peninsula of India.
triceps, *Nees*, Coromandel.
Hypolytrum giganteum, *Wall.*, both Pens. of India.
Fuirena ciliaris, *Roxb.*, Coromandel.
pentagona, *W. and A.*, Peninsula of India.
dichostylis Micheliana, *Nees*, Nepal, Europe, Asia Minor.
Chætocyperus limnocharis, *Nees*, Coromandel.
Echinolytrum dipsaceum, *Desv.*, Peninsula of India.
Malacochæte pectinata, *Nees*, Peninsula of India.
Eriophorum arundinaceum, *Wall.*, Penang.
comosum, *Wall.*, Nepal.
Rhynchospora Chinensis, *Nees*, China, Nepal.
Morisia Wallichii, *Nees*, Nepal.
Haplostylis Meyenii, *Nees*, China, Ceylon.
Cephaloschænus articulatus, *Nees*, Pen. of India.
Hypoporum pergracile, *Nees*, Sylhet.
Corbesia laxa, *Nees*, Nepal.
Trilepis Royleana, *Nees*, Himalaya.

CYPERUS BULBOSUS. *Vahl.*

C. jemenicus, *Roxb.* | C. capitatus, *Retz.*
C. geminatus, *Ainslie.*
Shilandi arisi, . . TAM. | Puridampa, . . . TEL.
Purigaddi, . . . TEL.

This plant grows on the Coromandel coast near the sea; its roots are used as flour in times of scarcity, and they are also eaten roasted or boiled. Dr. James Anderson, in an excursion to the southern part of the Peninsula of India, discovered that the Shilandi arisi, growing in sandy situations by the seaside, and requiring but little water, was the common food of the natives during a famine, and when other grains are scarce. It is nutritious, pleasant to the taste, and makes a pudding somewhat resembling that made of sago. —*Ainslie, Useful Plants; Roxb.; O'Sh.*

CYPERUS CORYMBOSA. *Roxb.* Rot ball, in India used for mats.

CYPERUS ESCULENTUS. *Linn.*

Sha-ts'au, . . . CHIN. | Hiang-fu tsze, . . CHIN.

In China the shoots are used to make hats and matting; its tubers are there in much request for food. The toasted roots have been used as a substitute for coffee, and yield a preparation resembling chocolate. The cultivation of the plant deserves attention for its considerable alimentary value.—*O'Sh.* 628; *Von Mueller; Smith.*

CYPERUS HEXASTACHYUS. *Rottl.*

Var. α. Communis. | *Var.* β. Pendalus.
Var. α. Rotundus, *Roxb.*

Sab, ... ARAB. | Tsau-san-ling, . . CHIN.
Moothoo, BENG., HIND. | Moostaka, Motho, DUKH.
Nagor mootha, moothi, ,, | Kora, ... MALEAL.
King-san-ling, . . CHIN. | Bhadra muste, SANS., TEL.
Kalandura, . . SINGH. | Mustakamu, . . . TEL.
Kore, Koray, . . TAM. | Parinvelamu, . . ,,
Kai vartaka musta, TEL. | Sakha-tunga, . . ,,
Gundala, Gundra, . ,, | Tunga muste, . . ,,
Bhadra tunga gaddi, ,, | Funarus, . . YUNNANI.

Var. α. C. rotundus, *Linn.*, *Roxb.*, grows in all Southern Asia, from Arabia to China, Java, and N. Holland. Its tuberous roots are sold in the bazars at 2 annas the pound, and used by perfumers, under the name of nagor moothi, on account of their fragrance. Hogs are very fond of them. Cattle eat the grass. In the Ho-nan, Shen-si, Hu-peh, and Sze-chuen provinces of China its fibres are woven into cloth. In India and China its fresh tubers are deemed medicinal.—*Smith; Roxb.; Voigt; Fl. An.; G. M. Top.; O'Sh.*

CYPERUS INUNDATUS. *Roxb.*

C. procerus, *Roxb.* | C. bacha, *Buch. Ham.*
Pati, ... BENG. | Potupullu, . . MALEAL.

Found in great abundance on the low banks of the Hoogly near Calcutta, and of rivers in the south of India, where the tide rises over it. It thrives most luxuriantly, and helps to protect the banks from the rapidity of running water.—*Roxb.*

CYPERUS PAPYRUS, of the Egyptians, is still called babier in Syria. It is about 15 feet high. The pith-like tissue of the larger flowering-stems, cut into thin strips, united together by narrowly overlapping margins, and then crossed, under pressure, by a similar arrangement of strips at right angles, constituted the papyrus of antiquity. This paper is but little liable to decay. Pliny, for instance, relates that the book of laws of Numa Pompilius was found in Rome in a high state of preservation, after having been buried nearly six centuries in the earth.—*O'Sh.* p. 628.

CYPERUS PERTENNIS. *Roxb.*

Nagor moothi, Naga, BENG. | Kola tunga muste, . TEL.

Roots aromatic; employed as a hair perfume. —*Roxb.; Voigt.*

CYPRÆIDÆ, the Cowry family of shells, the Porcellanen of the Germans, and Porcelaines or porcelain shells of the French. Cypræa argus occurs at Ceylon, and a pair was once sold for four guineas. C. moneta is used in many parts of the East as a circulating medium, and for ornamenting the dress of several races, and the trappings of animals. 4 cowries = 1 ganda; 80 cowries = 1 pan.

CYPRESS.

Pien-peh, . . . CHIN. | Sarv, . . HIND., PERS.
Cypres, ... FR. | Cypresso, ... IT.
Cypresse, . . . GER. | Cipres, ... SP.
Tirzah, ... HEB.

The Chinese cypress Tien-peh is the Cupressus thyoides. The cypress-wood of Cupressus sempervirens, *L.*, is aromatic, compact, and almost imperishable. It is an evergreen forest tree, a native of the south-eastern parts of Europe, particularly of Italy, Mexico, and the southern parts of N. America.—*Cleghorn, Panj. Rep.* p. 63.

CYPRINIDÆ, a family of fishes of the order Physiostomi, the species of which are distinguished by their having the mouth small. The family is classed into fourteen groups, viz. Catostomina, Cyprinina, Rhoteichthyina, Leptobarbina, Rasborina, Semiplatina, Xenocypridina, Leuciscina, Rhodeina, Danionina, Hypophthal, Michthyina, Abramidina, Homalopterina, Cobitidina, in which are 110 genera, and about 690 species.—*Engl. Cyc.* p. 219. See Fishes.

CYPRUS, an island in the Mediterranean, near the coast of Syria; taken by the Turks from the Venetians in 1570. Its length is 140 miles, and its greatest breadth 60, pervaded by a chain of mountains, the highest of which is called Olympus. The soil is an excellent fertile clay. It was transferred to Great Britain in 1879.

CYRTOPHYLLUM FRAGRANS. The Anan of the Burmese, grows in Moulmein. Is one of the Nux vomica tribe, and one of the hardest, most compact, and heaviest woods known.—*Cal. Cat. Ex.* 1851.

CYRTUS INDICUS. *Bloch.* A fish of the Indian seas, of which large quantities are dried, and consumed by the natives of India.—*Cantor.*

CYRUS RIVER. The principal streams of the province of Fars are the Bendamir or Araxes, which receives the Kur-ab or Cyrus, as it falls into lake Bakhtegan; and the Nabon, whose course is from Firozabad southward to the Persian Gulf. In this country are also the higher parts of the two branches of the Tab.

CYRUS THE GREAT. A cylinder of this monarch, which was sent to Britain after Mr. Hormazd Rassam's return, was the most interesting historical record in the cuneiform character till then brought to light. It is in the Babylonian script, and was discovered among the ruins of the Birs Nimrud, the ancient Borsippa. The cylinder is 9 inches long by 3¼ inches in diameter, and must originally have been covered with 45 long lines of text. The writing is very minute, and it is computed that the inscription would run to about 130 lines of the average length. Unfortunately the beginning was wholly lost, with the exception of a few scattered signs. It is found to relate to the very moment of that great historical event, the capture of Babylon by the founder of the Persian universal monarchy. Nabonidus has abandoned his capital, which has fallen into the hands of Cyrus, though he is still struggling against his fate in Babylonia. The Guti, and a people whose name is taken to be equivalent to Blackheads, are described as his subjects, and the god Merodach has delivered king Nabonidus into his hands. In a proclamation issued by Cyrus upon the taking of the city, the king repeats in the first person the principal allegations of the preamble. It is partly mutilated, but the beginning, 'I am Cyrus,' with his genealogy in full, and his description of himself as 'king of Gyndia,' etc., can be pretty clearly made out. Cyrus is made to speak of his reparation of the temples of Babylon, and of the favours conferred upon him by Merodach, Bel, and Nebo, in answer to his prayers to them; of the homage paid him by distant nations, and of the gatherings of the people in the city to acclaim him king. Sir Henry Rawlinson said this new text settled for ever in favour of Herodotus, as against Ctesias (in Diodorus), the genealogy of Cyrus. He was fifth in descent from Achæmenes, next to whom came Teispes, then Cyrus the grandfather, and Cambyses, the father of Cyrus the Great. The succession was direct, not indirect, as Professor Oppert has maintained. The inscription styles the native country of the Persians 'Assan,' which Sir Henry Rawlinson seems to think was in the plains between the modern Shuster and the Persis of the classical writers. An important religious centre, named Calana in the inscription, he referred to the Calneh of Genesis and the Calno of Isaiah. Cyrus evinced sympathy with the Jews, as is shown by Isaiah xli. 2, xliv. 28, xlv. 1, and Ezra i. 2 to 4.

CYSTICERCUS or Scolex, from Kustis, a bladder, and Kerkos, a tail, is a hydatid or larval form of a cestoid worm, called in its sexually matured state, Strobila, the C. tænia mediocanellata. When the flesh of an animal in which it is contained has been received into the human alimentary canal, the Cysticercus can be developed into a tape-worm.

D

D, as sounded in the English language, has letters with corresponding powers in Arabic, Persian, Hindustani, Sanskrit, Hindi, Mahrati, Gujerati, Bengali, Uriya, Telugu, Karnata, Tamil, and Malealam. In all these tongues, however, there is also a softer-sounding d. The English compound dh also, the Tamil tongue excepted, has corresponding letters, simple, modified, or compounded, with both soft and hard sounds; d and r, in several of the Indian tongues, are, moreover, so pronounced as to be difficult for a European ear to catch their niceties; and d and r are therefore frequently confounded. D and r are not used by the Chinese, who use the liquid l for r.

Some nations of Europe, with a soft pronunciation of the letter j, require to prefix d to that letter for the correct pronunciation of such words as Jamal, a camel; thus Djamal. Vambery used dj for the Arabic chim. Dh is changed by the Siamese to th.—*Wilson; W. W. Hunter.*

DAB. HIND. Poa cynosuroides, the sacred grass of the Hindus; is generally applied only to the first shoots of the Koosh grass; it is called Dubsa in Rohilkhand, and is used by Hindus in their religious services.

DAB. HIND. of Kohat. A moist soil.

DAB or Dabhū. HIND., TAM., TEL. A small copper coin; money in general.

DABBATU-l-ARZ. ARAB. The second beast mentioned in the Revelation. Mahomedans believe it will issue from a mountain in Mecca, with the staff of Moses and the seal of Solomon. With the first it will strike the believer, and with the latter it will stamp the face of the infidel with the words, 'This is an infidel.'

DABGAR, a low caste of non-Aryans, who manufacture large leathern vessels for holding ghi or clarified butter (dabbar), and of vessels in which atta and ghi are deposited.—*Sherring.*

DABHA, a town in the Chanda district of the Central Provinces, lat. 19° 38′ N., long. 49° 42′ E. The people manufacture tasar silk handkerchiefs, coloured cloths, and silver snuff-boxes. The population is almost wholly Teling.—*Imp. Gaz.*

DABHA, petty state of Mahikanta; estimated population in 1875, 1612. The ruler is a Mukwana Koli, a convert to Islamism. The religion of the Miah race of Dabha is a mixture of that faith and Hinduism; they give their daughters in marriage to Mahomedans of rank, and marry the daughters of Koli chiefs. They burn their dead.

DABHOI, the ancient Dharbhavati. A town in the territory of the Gaekwar of Baroda, 15 miles S.E. of Baroda; lat. 22° 10′ N., long. 73° 28′ E.;

population (1872), 14,898. In the town is a place called Mamadokri, where stands a Khisni tree, through whose hollow trunk no guilty person can pass.—*Imp. Gaz.*

DAB-i-AKBAR. ARAB. In astronomy, the constellation of the Great Bear. Dab-i-Saghir, the Lesser Bear.

DABISHLIM, an ancient Hindu raja, by whose orders the fables of Pilpai were composed.

DABISTAN, the School of Literature, a learned work on the various religions of Asia. It is in the Persian language. It contains a dialogue between a Brahman, a Mahomedan, a Zoroastrian, a Jew, a Christian, and a Philosopher. The representative of each religion brings forth his arguments, which are successively condemned,—some on account of the vicious character of their founders, and all for the absurdity of their doctrines, and the want of proof of their alleged miracles. The Philosopher winds up the discourse by recommending a system which shall have no ground but reason and virtue. It was translated by Colonel Kennedy in Tr. Bombay Lit. Soc. ii. p. 247; also, though not very accurately, by Shea and Troyer, for the Oriental Translation Fund (Paris, 1843). The author, Mohsin Fani, belonged to the sect of Sipasi or Abadi, a branch of the Parsees, and wrote in India during the latter half of the 11th century of the Mahomedan era. His account of the Zoroastrian religion is exceedingly full and accurate; and he also gives a good description of the Hindu and Muslim systems, as well as of the Sufi and other philosophical sects.

DABKAI, a goldsmith who flattens gold wire into tinsel and spangles.

DABLING—Dubling, two villages in Bushahr State, Panjab; in lat. 31° 45′ N., and long. 78° 39′ E., and 9400 feet above the sea, on a belt of arable land near the left bank of the Sutlej. The cliffs on the opposite side of the river rise to a sheer elevation of 6000 or 7000 feet. The population have the Chinese Tartar type of physiognomy, and profess Buddhism. The path between the two places, a mile apart, is rendered practicable by means of wooden scaffolds fastened against the face of the precipice.—*Imp. Gaz.*

DABOU, a small weight of Masulipatam, equal to 191 grains.

DABRAY JOGI, also called Dabray Bajanawala, and Bal Santa ka Jogi, a class of Hindu mendicants who sound the dabra.

DABUL or Debul, a seaport town on the Malabar coast, eight miles south of Severndrug. This port was burned about 1508 by the Portuguese viceroy, Almeyda. He came to India in 1505, the successor of Dias, Vasco da Gama, and Cabral. On his arrival, he concluded a defensive treaty with the king of Vijayanagar; but the Venetians, who up to that time had monopolized the trade with India, jealous of the growing power of the Portuguese, instigated the king of Egypt to oppose their progress. He accordingly sent a fleet under Mir Hukum, who, in conjunction with the fleet of Gujerat, bore down upon Lorenzo, son of Almeyda, and defeated him in 1508, Lorenzo falling in the fight. Almeyda, to avenge his son's death, burnt the port of Dabul, and defeated the enemy in the harbour of Diu, and then concluded a treaty.

DACCA. There are two towns of this name, one Dacca Jalalpur to the north of Ballargunj, and Dacca proper, between Dacca Jalalpur and the Megna river. The latter gives its name to the whole district, which is one uniform level of rich alluvial soil, annually inundated by the overflow of the great rivers. The villages are built upon mounds of earth artificially raised above the flood. During the rainy season, this tract presents the appearance of a continuous sheet of green paddy cultivation, through which boats sail to and fro. The chief means of communication at all times of the year is by water. The bordering rivers are the Ganges or Padma, the Jamuna or Brahmaputra, and the Megna. The city of Dacca is situated on the north bank of the Buriganga river, in lat. 23° 43′ N., and long. 90° 25′ 25″ E. The town extends along the bank of the river for a distance of nearly 4 miles, and inland, towards the north, for about 1¼ mile. The ruins of the capitals and palaces of the Bhuiya rajas lie scattered throughout Eastern Bengal, along the line of the Brahmaputra valley; and their memory is still cherished in the household tales of the Hindu peasantry. The Mahomedans first entered Bengal in 1203 A.D.; and two most celebrated of their viceroys are Mir Jumla, the general of Aurangzeb, who failed disastrously in his expedition to Assam, and the nephew of the Nur Jahan Begum, Shaista Khan, who broke the power of the Portuguese, and annexed Chittagong to the Moghul empire. Dacca has numerous Hindu temples and many Mahomedan mosques for the large Musalman population, with churches and schools of the various Christian sects. The Roman Catholics are under the spiritual guidance of priests from Goa and elsewhere, with churches of their own and old Portuguese names. Formerly they used to intermarry with the natives, but of late years they seek alliances amongst their own people. Their complexions are very dark, and their customs semi-oriental; but they supply Calcutta with excellent domestics. The English, the French, and the Dutch had established factories about the middle of the 16th century, when the city was visited by the French traveller Tavernier. Cotton, jute, and safflower may be considered staples of the district. The indigenous cotton has long been cultivated along the banks of the Megna from Feringybazar to Edilpore in Bakarganj, a distance of about forty miles; on the banks of the Brahmaputra creek (the ancient channel of the river of the same name), and along the Luckia and Banar. It presents different shades of quality, the finest of which is named photi, and is the material of which the delicate Dacca muslins are woven. It is described by Roxburgh as differing from the common herbaceous cotton plant of Bengal in several particulars, but chiefly in having a longer, finer, and softer fibre than it. Three pieces of muslin, made to be presented to the Prince of Wales, measured each 20 yards by 1 yard, and weighed 3½ ounces. Next to fine muslins and embroidered fabrics, silver filagree work is that for which Dacca is most celebrated. This art is also practised in great perfection at Cuttack, and in Sumatra and China. The articles usually made at Dacca are ladies' ornaments, such as bracelets, earrings, brooches, chains, necklaces, etc., and the attar-dans and small boxes for natives. The design best adapted for displaying the delicate work of filagree is that of a leaf. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece

of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of forceps for intertwisting it. The drawing of silver and gold (*i.e.* silver wire covered with gold), used as thread in embroidery, is extensively carried on here. Benares is also celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as kalabatoon for the embroidery of muslins and silks, goshoo for caps, and covering the handles of chauris; sulmah for turbans, slippers, and hookah-snakes; and boolun for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurangzeb a quantity of this article was made yearly for the court at Dehli. A hundred sticks covered with it, and plain gold and silver badla to the amount of £2000 in value, appear among the items composing the mulboos khas nuzr, which was annually sent to the emperor. Shawls, violins, shell ornaments, and idols are largely manufactured. Amongst Mahomedans, the name of Dacca was Jahangirnagar.—*Dr. Taylor.*

DACELLO PULCHELLA, a kingfisher. Their feathers are much prized by the Chinese, who make them into fans.

DACOITY, a legal term of British India for a system of robbery by gangs of people of the country. It is derived from Daka, the verb being Daka parna, to plunder. In India, thugs and dacoits who had been tried and convicted as having belonged to a band of thug murderers or dacoits, but who, having made a full confession of their crimes (in some individual cases amounting to the murders of as many as eighty persons), and having denounced their associates, received a conditional pardon. Originally, in the criminal code of India, Dacoity was applied to the armed bands who plundered, but it and the term Thuggee are now applied to several well-defined classes, and in times of scarcity many of the unemployed may join. Amongst the predatory races were the Budak of the Nepal Terai, also the Dasadh of Behar, who used to make frequent predatory excursions into Lower Bengal, the Bind of Ghazipur, the Nath, the Ahir, Boria, Kurmi, Gujar, and a host of low castes. In the Panjab, dacoity generally assumed the form of cattle-lifting. The Meena were active and energetic, and were concerned in most of the dacoities of Northern India. And in the S.W., the Santal with his club, long bamboo spear, and terrible battle-axe, often swept down on the plains of Birbhum, Hazaribagh, and adjacent districts, and the flare of their torches or light of the burning huts gave the first warning. The leaders of a dacoity band in Central India carried with them an axe with a highly-tempered edge, sacred to Bhawani.—*People of India*, vii.

DACRYDIUM, a genus of coniferous plants, growing in New Zealand, Tasmania, and New Caledonia. They are valuable timber trees, growing to a great height.

D. Colensoi, *Hooker*, of N. Zealand, attains to 50 feet, yielding hard and incorruptible timber.

D. cupressonum, *Solander*, also of N. Zealand, the rima or red pine of the colonists, attains to 200 feet, with pendulous branches, yields a hard, valuable wood.

D. Franklini, *Hooker, fils*, the huon pine of Tasmania, has a height of 100 feet, circumference 20 feet; its wood highly esteemed for shipbuilding and artisans' work.—*J. Backhouse.*

D. Kirkii, *F. v. Mueller*, the manoao of N. Zealand, a pyramidal tree, attaining 80 feet in height, has a reddish-coloured timber.

D. Taxifolium, *Solander*, the kaka terre of New Zealand, grows in low marshy ground. Its foliage resembles the yew, and it grows to 140 or 180 feet in height.

—*Jam. Ed. Jour.* 1825, xiii. p. 378; *Ferdinand von Mueller.*

DACTYLOPTERUS. *Lacépède.* A genus of fishes belonging to the order Acanthopterygii and family Loricati; Trigla volitans, *Linnæus*, commonly called the flying gurnard and flying fish. Another species inhabits the Indian seas, and is the Dactylopterus orientalis of Cuvier.—*Eng. Cyc.*

DAD. PERS., HIND. Literally, a gift; a postfix and prefix much in use, as Khudadad, given by God, the Theodotus of the Greeks, and Dev-dutt of the Hindus.

DAD. PERS. Justice; petition; representation. Dad-khah, a plaintiff for justice. Dād-sitadan, taking vengeance. Dad-khah means one seeking justice. It was the title of the earlier viceroys of Central Asia, and is still used in Khokand and Eastern Turkestan. Dad-Mahal, lit. palace of justice.—*Vambery, Bokhara*, p. 317.

DADAP. MALAY. A tree of the Archipelago, planted in the coffee grounds of Java to shelter the young coffee trees.—*M'Nair.*

DADAR, a town and valley in Cutch Gandava, lat. 29° 28′ N., and long. 67° 34′ E., 35 miles N.W. from Bagh, and 5 miles from the eastern entrance of the Bolan pass, on the river Bolan, surrounded by hills. In the first week of May, the thermometer ranges from 64° to 120°. It is separated from the great plain of Cutch Gandava by a line of jabbal or low hills. Dadar is excessively hot, and a Persian couplet runs, 'Ai Allah, dozakh ki sakhti, chon Dadar hasti?' 'O Lord, why did you make hell when you have Dadar?'

DADH or Dat. MAHR. Ground prepared by burning for being planted; the weeds and grass are strewed over it to be burned.

DADHALYA, a petty state in Mahikanta. The family are Sesodia Rajputs, who originally came from Udaipur (Oodeypore) in Rajputana.

DADUNGAWU, a tutelary spirit of the Java hillmen.

DADU PANDURANG, RAO BAHADUR, a learned native of Bombay, and religious reformer, who died 17th October 1882, aged 68. He mastered Mahrati, Gujerati, Urdu, Sanskrit, English, Persian, Telugu, Tamil, etc., and at an early age composed a complete Mahrati grammar, published a school atlas, a work entitled The Wiping of the Tears of the Widows, Grammar of the Persian, and another of the Sanskrit; the Kekavali, The Cosmopolitan Arya, and The Hindu Gentleman's Reflections. He was the founder of the Paramhans Sabha, which led to the formation of the Prarthana Samaj'h.

DADU PANT'HI, a Vaishnava sect of Hindus, whose tenets are derived from Ramanand, after whom, Dadu, its founder, is said to be the fifth spiritual guide. Their worship is restricted to the Japa, or repetition of the name of Rama, as the deity negatively described in the Vedanta theology. They have no temples or images. Dadu was born at Ahmadabad about A.D. 1600, and is said to have been a cotton-cleaner there and at Ajmir. They carry a rosary, have no frontal mark nor mala, but wear a round or four-cornered hat. They are said to be numerous in Marwar

and Ajmir. Their chief place is Naraina, 40 miles from Jeypore. They are classed as (*a*) Virakta, who go bare-headed, and have but one garment and one water-pot; the (*b*) Naga, who carry arms and serve Hindu princes, making good soldiers; the (*c*) Bhistu Dhari, who follow the avocations of ordinary life. They burn their dead at dawn.—*Wilson.* See Dadu; Vairagi.

DÆDALUS SHOAL, called by the Arabs Abdul-kheesan, in lat. 24° 55′ 30″ N., and long. 35° 50′ 30″ E. A submerged coral reef in the Red Sea, 1200 yards long and 450 yards broad, with six inches of water, on which, in 1862-3, a lighthouse was erected.—*Findlay.*

DAEE, a sect met with at Gajer, Makran, Kej, and Turbot. They resemble the Brahui in appearance, and wear the same dress. Portions of certain of the Brahui tribes are Daee, such as the Sageta, Takee, Shadu, Laee, Marbrow, etc. They have a mullah or priest, and a book. They say that they originally came from the westward near Kej, where there is a town called Turbot. The sect abounds in Makran, and has extended east. At Turbot is a little hill of circular form, called by them Koh-i-murad, on the summit of which is their principal masjid, where they meet at stated times to perform their rites. Professor Wilson, in his Ariana Antiqua, p. 141, mentions the Daee, amongst other Scythian tribes, as associated with the Massagetæ; and in a map attached to Digby's translation of Quintus Curtius, their position is fixed a little south of the Jaxartes. This coincidence of association with the Sageta and Sakæ, both then and now, is worth remarking.

DÆMIA EXTENSA. *R. Brown.*

Cynanchum extensum, *Jac.*	C. bicolor, *And.*
C. cordifolium, *Retz.*	Asclepias echinata, *Roxb.*
Chagal-banti; Ubrun, BEN.	Vela parti; Utamani, TAM.
Sagoani, ... HIND.	Jutuga, ... TEL.

This plant is used medicinally. Its fibre, known commercially as ootrum fibre, is a promising substitute for flax. It is soft, white, silky, and strong, and can be procured in considerable quantities in Southern India.—*M. E. Jur. Rep.*

DAEN or Dawan. HIND. Tying a number of bullocks together for the purpose of treading out the grain from the ear.—*H. Elliot.*

DAENDELS, HERMAN WILLIAM, born at Hattem in Guilderland, 21st October 1762; died at New Guinea, 1818. He was Governor-General of Dutch India, and formed the great military road of Java.—*Max Havelar.*

DAERD, a class of agricultural slaves in Kanara.

DAF. HIND. A hand-drum, a tambourine, the only lawful musical instrument for Musalmans. Dafli, a small tambourine.

DAFFADAR. PERS. An officer in the native irregular cavalry; the title of a native military or police officer; a native non-commissioned officer of cavalry of the Indian army.

DAFLA. HIND. A tambourine. Daira, a large tambourine.

DAFTAR. HIND. A record, a register, an account; an office in which public records are kept. A volume, a book of gold or silver leaf. Daftardar or Daftari, a record keeper, a registrar, an accountant, a gold-beater.

DAG. HIND. of Kohat. Land cultivated only once in three years.

DAGA, a boat used on the Indus.

DAGGER. The daggers in use in S.E. Asia are of many shapes, and all with individual names. One of a particular shape is the official weapon in modern Indian courts. A drawing of 'the dagger of ministry' is given in the last volume of Duff's History of the Mahrattas. Those usual in British India being the jambiya, bichwa, pesh-kabz, khanjar, katar, etc.—*Hind. Theatre.* See Arms.

DAGH. TURKI. A hill, a mountain. Alajah Dagh, or variegated mountain, is near Ararat.

DAGHA. HIND. Deceit, fraud. Dagha-bàz, a thief, a swindler.

DAGHDA, mother of Zoroaster, founder of the Parsee religion.

DAGHESTAN, a province in the Caucasus subjected by Russia after a war of 20 years. The men of Daghestan are intelligent, and were at one time, with the exception perhaps of the Circassians, the most warlike of the races of the Caucasus. Unlike the other inhabitants of the range, they are extremely industrious, and have even shown themselves capable of organized labour requiring considerable skill. During the war, Schamyl was able to erect a cannon foundry in their country. Elburz is 18,526 feet; Great Ararat, 16,916; Little Ararat, 12,840 feet.

DAGOBA or Dhatugarbha. SANSK. A Buddhist bone or relic receptacle. The term is from Da, Datu, or Dhatu, a relic; Garbhan, a shrine; and was in use by Indian Buddhists. At Anaradhapura, in Ceylon, are several dagobas. They were built at from B.C. 307 to A.D. 276, and end in a terminal Tee, in the form of a cube supporting a pointed spire. They are the Tibetan Dungten, a relic monument which is still erected in Tibet over the body or the ashes of the lamas. The ancient edifices of Chichen, in Central America, bear a striking resemblance to the topes or dagobas of India. The dagoba is the descendant of the sepulchral tumulus of the Turanian races, whether found in Etruria, Lydia, or among the Scyths of the northern steppes. See Chaitya.

DAGON. BURM. A corruption of the Talain words Ta-kong. The Shooay Dagon is a Buddhist temple of Rangoon, which rises from the summit of a scarped hill to a great height.

DAGON, the fish-god of the Assyrians, possibly the source of the fish avatar of the Vaishnava.

DAGOORAN, a shrub of Jullundhur. The wood is used as fuel, and the leaves are given to buffaloes as fodder.—*Comr. Pillr. Dur.*

DAGOOTHA. BURM.? A crooked timber in Tavoy and Mergui, floats in water, and used for building boats, for planks of houses, ladders, etc., but is liable to attacks of worms and dry-rot.—*Captain Dance.*

DAGSHAI, lat. 30° 53′ 5″ N., and long. 77° 5′ 38″ E., a military station 16 miles S.S.W. of Simla. The cantonment is 6025 feet above the sea, on a bare and treeless height.—*G. T. S.*

DAH. PERS. Ten. Dah'm, the tenth. In the Panjab, Dah-mahi-dar, farm servants hired for ten months. Daha, also Ashra and Ashora, the first ten days of the Maharram, which Shiah Mahomedans pass in sorrow. Sunni Mahomedans erect tabuts in reverence of Hasan and Husain, sons of Ali.

DAH. HIND. In the N.W. Himalaya, a clod-crusher, a flat beam of wood dragged over the fields to smooth clods. It is the Sohaga of the plains.—*Powell.*

DAH, a heavy weapon made use of by the Bhot and Burmese races, as a sword in war, and in peace for felling trees or cutting up firewood; the friction on the handle is very great.

DAHI. HIND. Coagulated milk; sour milk.

DAHIA. HIND. A Jat tribe in Dehli district.

DAHINA or Dakshana. HIND. The left.

DAHIR, the takhallus or literary name of Mirza Salamat Ali, who lived in Lucknow in the 19th century. He was at one time a papermaker. He was famed for his marsia or elegies, and was known as the Tuti-i-Hind, the parrakeet of India. He died about A.D. 1875.

DAHIR, Desput, or lord of Debeil, from Des, a country, and Put, the head. He was a ruler over the country of the Indus (about A.D. 711, A.H. 92), whose capital was at Alor, near Bakkar; but he possessed Multan and all Sind, with perhaps the adjoining plain of the Indus, as far as Kalabagh. Hejaj, governor of Basra, sent a force against him under his nephew, Muhammad Kasim, who took Dewal, defeated and took prisoner a son of Dahir, advanced on Nerun, now Hyderabad, and took Sehwan. He subsequently advanced on Alor, where he encountered Dahir, who was defeated and slain. His widow defended the city; but ultimately the women devoted themselves to the flames, which they lighted themselves. The Rajput garrison bathed for the sacrifice of themselves, and perished fighting. The city was taken by assault; all the men in arms were slaughtered in the storm, and the women and children reduced to bondage.—*Elphin.* p. 262. See Muhammad Kasim.

DAHLAN, a tribe of Tuga in the Upper Doab.

DAH-MUSHT. HIND. A broad variety of Kashmiri paper, lit. of ten handbreadths.

DAHNAJ. ARAB. A stone described by Abu Zaid as resembling an emerald.

DAHYA. HIND. The Shum or Kumari or Daho system of cultivation carried on by hill tribes. The land is prepared by burning the grass and brushwood on it. The seed is then sown in the ashes.

DAI. PERS., HIND. A wet nurse, an accoucheuse, a midwife. The British in India use the word Ammah for a wet nurse. Dai-dud'h pilai, a wet nurse. Dai-janai, a midwife.

DAIJA, literally lamp-holders; the term applied to the handmaids who invariably form a part of the Rajput Daija (Rajasthan, i. p. 628), dowry or portion, which the Hindu wife brings a husband in marriage. It is the Maritagium of the civil law. Wilson, in a note to Mill's India (i. p. 447), says that 'amongst the Hindus the practice of purchasing a bride by a dower is apparently of modern growth, and a violation of the law.' There are, however, passages in Menu on the subject which would imply the observance of both practices; and the same may perhaps have continued till the time of the Greek invasion, for Arrian (Indica, cxvii.) says the Indians neither took nor gave money in marriage; while Megasthenes (Strabo, lib. xv.) says their wives were purchased for a yoke of oxen. Amongst the agricultural tribes in the N.W. Provinces, the present practice is most usual for the bride's father to purchase the bridegroom, so that the man receives the dowry or Daija, which consists for the most part of money and household utensils. Thus, even when the daughter of Jye-chand was forcibly abducted by Prithi-raj, her father sent to him the richest gems, the fruits of the victory of Beejy Pal, inestimable wealth, pearls, elephants, and dyes. This custom, the fruitful source of female infanticide, arises from the almost universal desire to obtain for the daughter the privilege of marrying into a higher family, which is only to be acquired by purchase. Sometimes, indeed, an imaginary purchase is made, similar to that which took place at certain Roman marriages, under the name of Coemptio, though of course not with a view of securing the peculiar kind of privileges which the Coemptio gave, but merely as a type of a custom of which the breach is thought preferable to the observance. This subject is noticed in Steele's Summary of the Law and Customs of Hindu Castes.—*Elliot.*

DAIMACHAS, an ambassador sent by Seleucus, or by his son Antiochus Soter, to Bimbasara, son of Chandragupta. He was regarded by Strabo as the most lying of all the Greek historians of India. See Vindusara.

DAIMIO or Daimiyo, a hereditary prince of Japan territorial nobility, who, until the revolution in 1869, had extensive jurisdiction, with revenues estimated at 10,000 koku of rice. The words mean Great Name. The nobility are now designated Ku-wa-zo-ku. Each Daimio had a particular crest, which was marked upon all his effects, from his gateway to the lacquer made for his own use, like the European dinner or breakfast sets. Besides a private crest, each Daimio had a public one, to be put upon all china or lacquer made on his estate. When buying lacquer with both crests upon it, you know that it had been in use in the Daimio's family, and that either he has been in immediate want of money, and has therefore sold some of his household furniture, or that he has had as much use as was required out of the article. The Gorogio was the council of five Daimios, who were in fact the executive government, and with whom all the foreign ministers had their transactions.—*Frere, Antipodes*, pp. 419, 447.

DAIN, also Daina. BENG., HIND. A witch. PERS., debt; BURM., a league, 2¼ miles.

DAINGNET, of whom there are 1995 in the Akyab district, are in feature somewhat like the Gurkhas of Nepal, and differ from the hill tribes of Akyab. They dress in white, wear their hair at the back of the head, and do not tattoo their bodies. They do not intermarry with other races, and dwell among the hills of the Yetthaydoung township, near Chittagong frontier, across which they are said to have come into Arakan. Their language is said to be connected with Nepali. A few speak that tongue; some can talk Bengali, and some have acquired Arakanese. The returns of 1872 show 3542 Daingnets resident at that time in the district of Akyab.

DAIR, a town north-west of Bussora, remarkable for a colossal tower of beautiful structure. Ibn-ul-Wardi in the Khassila-ul-Ajaib says that strange sounds are occasionally heard to proceed from its interior. Great antiquity is attributed to this minaret by all the natives of the country. —*Mignan's Travels*, p. 239.

DAIRA. HIND. The largest variety of tambourine, being from a foot and a half to two feet in diameter, played upon with a stick.

DAIRI, until 1869, amongst the Japanese, the

ecclesiastical head of the government, who resided at Miako. See Kio; Kobo.

DAISY, the little perennial plant called Bellis perennis by botanists. In India cultivated by the British as a souvenir of home.—*Jaffrey.*

DAITYA, a Hindu term used in various ways, but generally to designate a different and hostile race of ancient days. In the Mahabharata they are spoken of as aborigines, and others of them as having power on the sea-coasts. In other places the term is made applicable to the Buddhists; and the mythological wars of the Daitya against the Devata are supposed to be the hostile operations against the Aryan race carried on by some of the races anciently in the Peninsula of India who opposed the advancing Aryans. In Hindu mythology the Daitya bear the same character as the Danava. When the Deva obtained the cup of Amritsar in churning, the Daitya rose in arms to seize it, but were defeated and driven back, according to the myth, to Patala or hell, but they subsequently acknowledged the supremacy to the holders of the discus and mace. The wars between the immigrant Aryan and the Daitya were thus changed in the course of years into mythical wars between gods and demons.—*Wheeler, Hist. of Ind.*

DAITYA, in Hindu Mythology, the giant sons of Diti. Daitiyari, from Ari, an enemy. Daitya-guru, from Guru, a teacher.

DAIVAKA or Daivajna, astrologer caste of Brahmans.

DAJIL, one of the three eastern sections of Baluchistan. It borders on the river Indus. The town of Dajil is in Cutch Gandava.

DAJJAL. ARAB., HIND., PERS. Antichrist. The Mahomedans believe in Antichrist, whom they term the false or lying Christ, al-Masih-ud-Dajjal. He is to be one-eyed, and marked on the forehead with the letters KFR, signifying infidelity. They say that the Jews give him the name of 'Messiah bin Daood,' and pretend he is to come in the last days, and to be lord both of land and sea, and that he will restore dominion to them. According to the traditions of Mahomed, he is to appear just between Al-Iraq and Syria, or, according to others, in the province of Khorasan. They add that he is to ride on an ass, and that he will be followed by 70,000 Jews of Isfahan, and continue on earth forty days, of which one will be equal in length to a year, another to a month, another to a week, and the rest will be common days; that he is to lay waste all places, but will not enter Mecca or Medina, which are to be guarded by angels, and that at length he will be slain by Jesus, who is to encounter him at the gate of Lud. It is said that Mahomed foretold Antichrists to the number of about thirty, but no one of greater note than the rest.—*Lane.*

DAJLA, the river Tigris.

DAK. HIND.; Tawal, TAM. The post, mail; to travel by dak, meaning as fast as the post, was performed in palanquins, or in carriages, or on horseback. Also the mail or postal arrangements of India, where railroads, carts, horses, and men-runners are employed to carry the mails.

DAKA. SIND. A water-wheel for irrigation.

DAKAR. HIND. of Cis-Sutlej. Low-lying, stiff clay land.

DAKAUT, also Dakautiya. HIND. Hindus born of or descended from a Brahman father and Goalin mother. They subsist on alms collected on a Saturday, and are astrologers, fortune-tellers, and the like.

DAKH. HIND. Vitis vinifera; grapes, especially the wild vine, also raisins. Kagh-dak'h designates the currants of Ribes rubrum, and Gidar dak'h, the fruits of Cissus carnosa, Sageretia oppositifolia, and Prunus padus. Dakh-ka-mad'h, wine.

DAKHILAH. PERS. In accounts, an entry; also a receipt for money.

DAKHMA. ARAB. A coffin, a vault, a place for the dead; the tower of silence, the place of lodging the bodies of the Parsee dead, vernacularly Dokhma, or tower of silence.

DAKINI. HIND. A witch, a female goblin. In Hindu mythology also called Asra-pas, or blood-drinkers; a kind of female imp, attendant on Kali, and feeding on human flesh.

Dakin-raya, a forest deity in Saugor island. After a battle in which Bugtea, a Rahtor chief, charged through Abhye Singh's army, the Rajput poets sang of his deed,—Is it the battle-cry of Kali, the hissing of Sehesnag, the denunciation of Kalispur, or the war-shout of Hanowanta? Is it the incarnation of Nur-sing, or the darting beam of Surya? or the death-glance of the Dakini? or that from the central orb of Trinetra?—*Rajasthan*, ii. p. 111; *Dowson.*

DAKOTA, also Dakocha, also Dakaut, in the Mahratta country, a tribe who follow fortune-telling; almanac-makers. They claim descent from a Brahman father by a cowherd mother.

DAK-PA, also called Bruk-pa, a Bhot race.

DAKRA, a poisonous root of Nepal, made up with grain into balls, and so employed to poison elephants.

DAKSHA, author of a law treatise; is mentioned in the Mahabharata. He lived as a hermit on Mount Vrindha.—*Ward*, iv. p. 27.

DAKSHA, in Hindu mythology, was an avatar of Brahma upon earth in a human shape. There are several accounts, but the myth relating to him indicates a contest between the followers of Siva and Vishnu. Wilson says Daksha was the son of Brahma and father of Sati, whom, at the recommendation of the rishis or sages, he espoused to Siva, but he was never wholly reconciled to the uncouth figure and practices of his son-in-law. Having undertaken to celebrate a solemn sacrifice, he invited all the gods except Siva, which so offended Sati, that she threw herself into the sacrificial fire. To avenge her fate, Siva created Virabhadra and other formidable beings, and sent them to the scene of action, where they disturbed the rites, beat and mutilated the assistants, and even maltreated the gods, till Siva was appeased, and arrested their excesses. Daksha, who had been decapitated in the scuffle, was restored to life, but the head of a ram was substituted for his own. Sati was born again as the daughter of the mountain Himalaya, and was again married to Siva. From this second birth she is called Parvati, the mountaineer, or Girija, the mountain-born. The disturbance of Daksha's sacrifice is a favourite legend with the Hindus.—*Coleman, Hind. Myth.* p. 6; *Hind. Theat.* ii. p. 263.

DAKSHA SAVARNI, in Hinduism, one of the 14 patriarchs who preside successively over the 14 Manwantaras of the Calpa.

DAKSHINA. SANSK. A present to a Brahman on the conclusion of any ritualistic ceremony.

DAKSHINA. SANSK. The right hand; vernacularly Dakhin or Deccan, as the right hand; hence the country to the south, when a Hindu looks towards the rising sun, the south point of the compass, Southern India. Dakshina-Patha, the Sanskrit name for the Dekhan. The Periplus names it Dachinabades. Dakshina-Yana, the sun's southern declination.—*Prin. Ind. Ant.* See Dekhan.

DAKSHINACHARI. SANSK. One who follows the observances (achara) of the right-hand tribe or caste; practisers of the purer forms of the Hindu ritual, as opposed to the Vamachari or left-hand caste.—*Wilson, Gloss.*

DAL. HIND. Any split pulse, hence Tur-ka-dal, Cajanus Indicus; Mung-ka-dal, Phaseolus radiatus, Ph. mungo; Channa-dal, Cicer arietinum. The various dal are greatly used as food by all the richer classes of natives, and many Europeans also like it, generally mixed with rice. Europeans often pronounce the name as if written Dol. The dal of Cajanus Indicus is considered the best.

DAL, the lake or Dal of Kashmir, lies to the north of the chief town, stretching from the base of two hills to the more lofty mountain range which bounds the valley on the north. It is 5 miles long and 2 miles broad, but is only open in its northern half, the end nearest the town being occupied by large islands, with narrow channels between them, in some of which there is a good deal of current. Its waters are discharged into the Jhelum by a considerable stream, which, flowing from its south-east corner, runs to the westward in a course nearly parallel to the southern margin of the lake for nearly a mile, when it turns abruptly south to enter the Jhelum in the middle of the capital of Kashmir.

DAL. BENG., HIND. A coterie, a club, an association. An ornament worn by fakirs. A bough; a basket of leather or twigs. Dali, a present.

DALACA or Dahala, the largest island in the Red Sea, near the coast of Abyssinia, well known for a pearl fishery, in long. 40° 10′ E., and lat. 15° 44′ N.

DALADA. SINGH. The sacred tooth of Buddha kept at Kandy in Ceylon. The original was destroyed by the Portuguese in A.D. 1560. That was probably the tooth of a man; but the object now shown is a piece of discoloured ivory almost two inches long, less than one in diameter, and resembles the tooth of a crocodile rather than that of a man. The name is from Dhata-Dhata. It is greatly revered by the Singhalese Buddhists. Its history is given in the Daladawansa.—*Tennant.*

DALAI LAMA. See Delai Lama; Tibet.

DALAL, a tribe of Jats in the Rohtak Zillah.

DALAN. PERS. A hall with an open front, used by Mahomedans of rank as a reception room. It is the verandah, or roofed but otherwise open space in front of a room.—*Ouseley's Travels*, ii. p. 11.

DAL BALLU GEERA. CAN. A tree of Canara and Sunda, on the elevated plateau between Gungawali and Black River; does not reach a great size. Wood very strong and tough, and sought after for agricultural implements.—*Dr. Gibson.*

DALBEHERA. URIYA. The chief or head of the Goala and other castes.

DALBERGIA, a genus of plants belonging to the natural order Fabaceæ. Dr. Wight describes D. frondosa, latifolia, reniformis, scandens, marginata, rimosa, stipulata, Ujjainensis, robusta, and tamarindifolia. Dr. M'Clelland mentions that in Tenasserim there are four kinds of Dalbergia, all blackwoods, Yindike, BURM., all yielding a heavy timber which will not float, similar to sissoo. These trees are very plentiful in the Tharawaddy and Hlaine districts, also in the lower parts of the Tounghoo district. The timber seldom attains a very large size, and is generally found of a girth of three or four feet. D. cultrata, *Graham*, a tree of British Burma, furnishes a useful oil. D. alata, —? Tsouk-yoa, BURM., a tree of Moulmein, used for tool handles. D. ooata, —? Tsouk yo, BURM., a tree of Moulmein. A tough wood, much used for tool handles.—*Cal. Cat. Ex.* 1862.

DALBERGIA FRONDOSA. *Roxb.*

D. arborea, *Heyne.* Erra pachchari; Pedda sopara, TEL.

In Ceylon, not uncommon in the central provinces and elsewhere up to an elevation of 3000 feet. Grows in the Godavery forests and in the Circars; also in Pegu, where it attains a girth of four feet and upwards; is taller and straighter than the sissoo, and furnishes a strong, useful timber.—*Fl. Andh.; Beddome; M'Clelland; Thw.*

DALBERGIA LATIFOLIA. *W. and A., Roxb.*

D. emarginata, *Roxb.* | Rosewood tree.

Shwet sal; Sit sal, BENG. | Thoda gatti, . . . CAN.
Yendike? . . . BURM. | Blackwood tree, . . ENG.
Sissoo of . . BOMBAY. | Eruputtu; Iti, . . TAM.
Bitti; Biti, . . CAN. | Irugudu; Jittegi, . TEL.

This tree occurs throughout India. It grows to an immense size, the trunk sometimes measuring 20 feet in circumference. It has a very dark, heavy, and strong wood, sustaining a weight of 515 lbs. Everywhere in Southern India this valuable wood has risen much in price, and in 1858 an experimental sowing was made at Nellumbur. The wood is extensively used for cabinet work, knees of vessels, agricultural implements, combs, etc. The wood of the centre of the trunk and large branches is greenish or greenish black, often mottled, or with light-coloured veins running in various directions. It is close-grained, admitting of the finest polish, and is employed in the Madras Gun-carriage Manufactory, for light field beams, cheeks, axle-cases, braces, perches, poles, splinter-bars, waggon perches and framing, light field spokes and felloes. For gun-carriages it is so valuable, that large plantations have been formed in waste places of the North-Western Provinces of Hindustan. In Malabar it is the magnificent tree from which the well-known Malabar blackwood is obtained, and planks 4 feet broad are often procurable, after all the external white wood has been removed. It is one of the most valuable woods of the Madras Presidency.—*Drs. Roxburgh, Wight, Gibson, and Cleghorn; Voigt; Beddome.*

DALBERGIA MOONIANA. *Thw.*

D. lanceolaria, *Linn. fil.* | Nadoong gass, . SINGH.

A great tree, which grows in the southern and central parts of Ceylon, at no great elevation.—*Thwaites' Zeyl.* p. 93.

DALBERGIA OOJJAINENSIS. *Roxb.*

Tunnus; Tewus, . MAHR. | Nemmi chettu, . . TEL.
Ati muktamu, . . . TEL. | Tella motuku, . . . ,,
Manda motuku, . . ,,

A tree 30 feet high, 7 or 8 feet in girth, grows in the warm valleys of the Himalayas, the Kheri

jungle, Dehra Doon, Kamaon, Panjab, Sirmore, in Oudh and the Godavery forests. Found both in the Konkan and inland Bombay forests; especially common in some parts of Kolwan, Kandesh, and the Satpura Hills. Its wood is of great strength and toughness, of a clear dark brown colour; heavy, tough, and durable; is used for naves of wheels, legs of bedsteads, helves of axes; especially applicable for cart-building, ploughs, etc.; seldom reaches a size sufficient to give a plank of 9 inches. The wood of that which grows on the Godavery is valuable, but the tree is rather rare there.—*Voigt; Fl. Andh.; Thompson; Useful Plants; Dr. Gibson; Captain Beddome.*

DALBERGIA PANICULATA. *Roxb.*

Patchalaywood, ANG.-TAM.	Porilla sopara, . . . TEL.
Phassie, ... MAHR.	Tella pachchari, . . „
Putchalai maram, . TAM.	Tella patsaru, . . . „

This tree grows in Moulmein, Assam, Oudh, in the Northern Circars, in the Godavery forests, Coimbatore, at Courtallum, in the Mawul districts, and above the Ghats. In Coimbatore it attains a considerable size, and the timber is said to be strong, and fit for many purposes. It is rather common in most of the Bombay forests, both of the coast and inland. The wood there is light yellow, strong, compact, and fit for many purposes in house-building, agriculture, etc. But Captain Beddome tells us of Porilla sopara (Godavery), Tella patsaru (Circars), TEL., Dalbergia paniculata, that the wood is perfectly useless; it is arranged in rings with softer substance in between the layers. Voigt tells us that it is white and firm, but less useful than some of the other species. The character of the wood would thus seem to vary according to locality.—*Drs. Wight, Gibson, Voigt, Beddome.*

DALBERGIA ROBUSTA. *Roxb.*

D. Krowee, *Roxb.*	D. latifolia, *Gibson.*

This tree grows in Nepal, Assam, and Pegu, where it is very abundant, attains a girth of 4 feet and upwards, and is taller and straighter than sissu.—*Voigt; M'Clelland*, p. 10.

DALBERGIA SISSOIDES. *Grah.*

Rosewood, . . . ENG.	Biti maram, . . . TAM.
Blackwood, . . . „	Vitty maram, . . „
Eatty maram, . . TAM.	Kar-itti, ... „

It is a smaller tree than D. latifolia. Both yield a black wood, and in Madras are indiscriminately called rosewood. The wood contains much oil, which unfits it for receiving paint. Mr. Rohde says that this is one of our best woods for plain furniture, though at Madras it is said to cast about a good deal. Logs are almost invariably faulty in the centre. As a tough, strong wood, it will be found useful, whether curved or straight. Dr. Gibson does not recognise this as a species distinct from D. latifolia.—*Drs. Gibson, Wight, Cleghorn; Mr. Rohde.*

DALBERGIA SISSOO. *Roxb.*

Pterocarpus sissoo, *Roxb.*

Sissoo wood, . . . ENG.	Sheeshum, . . PANJ.
Sissoo, Shishum, HIND.	Yerra sissoo, . . . TEL.
Safeda, ... „	Sissowa, . . . URIYA?
Tali, ... PANJ.	

This tree grows in Bengal, Nagpur, Gujerat, in the hills about Nagotnah, and Kenheri jungles. It is the most valuable hard wood in the Panjab, and grows at 2000 to 4500 feet in the Himalayas. In Nagpur, logs of it are procurable from 10 to 15 feet long, and 2½ to 3 feet in girth, at 6 annas the cubic foot. It is said to attain a great size in Chanda, and is employed in ornamental work, domes of gharries, etc. It was introduced into the Madras Presidency from Bengal, at the recommendation of Dr. Wallich. Its rapid growth recommends it for avenues, for the tree attains perfection in 28 years; it is propagated and reared with facility, and early attains a good working condition of timber. The wood is greyish brown, with darker coloured veins, very strong, but said to be not very durable. It is used in Bengal for gun-carriages, and furnishes shipbuilders with their crooked timbers and knees, being remarkably strong, but not so durable as could be wished. In the Dekhan the wood is used principally, from its strength and natural bend, for native hackeries; when it can be procured long and straight, it makes good shafts for buggies. The wood of the Ajmir tree is very dark and beautifully veined, like rosewood. Flowering time, the beginning of the hot season; the seed ripens about the close of the year.—*Voigt; Captain Macdonald; Mr. Rohde's MSS.; Irvine; Riddell; Roxburgh; Thompson; Stewart; Cleghorn; Captain Sankey.*

DALCHINI. PERS. Cinnamon; the Cassia lignea of the species of Cinnamomum trees.

DAL-DAL, the name of Mahomed's mule; also of the horse of Ali, son-in-law of Mahomed.

DAL-DAL or Dahil. HIND. Bog, quagmire, quicksand.

DALECHAMPIA. Of this genus of plants Wight gives Capensis, Indica, and velutina. D. arborea is Galedupa Indica. D. bidentata, *Blume* (D. Indica, *Wight;* D. velutina, *Wight*), grows at Gonagama, on the lower Badulla road from Kandy, but is not common.—*Thw. Zeyl.* p. 270.

DALECHAMPIA POMIFERA. Douk-ya-mad, BURM. Met with on the banks of streams in the Pegu valley, particularly in the Pommah Choung. The trees are from 3 to 4 feet in girth. Wood red or dark brown, and adapted for cabinet-making.—*Dr. M'Clelland.*

DALHI. HIND. Arable land.

DALHOUSIE. James Andrew Broun Ramsay, tenth Earl and first Marquis of Dalhousie, was born on the 22d April 1812. He was a third son by the heiress of the Brouns of Colstoun in Haddingtonshire. He was educated at Harrow, and subsequently at Christchurch, Oxford, where he was fourth class in classics (1833), and graduated M.A. in 1838. By the deaths of his two elder brothers he became Lord Ramsay in 1832. He was employed in the Ministry of Great Britain, and was Governor-General of India from the 12th January 1848 to the 29th February 1856. The period of his administration was marked by great changes, and posterity has styled him the Great Proconsul. He was naturally prompt and imperious; he was prompt to vindicate his authority, and he had quite a special faculty for making his displeasure dreaded. He never failed to reward good service, though even his friends regarded him with a certain awe; and it used to be said of him, that 'although his height was not imposing, he looked every inch a king.'

On reaching Calcutta, Lord Dalhousie proclaimed his policy: 'We are lords paramount of India, and our policy is to acquire as direct a dominion over the territories in possession of the native princes, as we already hold over the other half of India.'

Soon after his arrival, British officers were murdered at Multan, and Mulraj its governor was in revolt; the Sikhs were defeated, and the Panjab annexed to the British dominions. In 1852 the Government was involved in hostilities with Burma, where British traders had been insulted by the officers of the king of Ava, and in a few weeks the entire coast of Burma was occupied, and before the close of the year the province of Pegu was annexed. From that time to the end of his administration, the Indian Empire enjoyed comparative peace.

During his time a Legislative Council was organized, prison discipline was improved, a system of uniform and cheap postage was introduced, a portion of the Peninsula intersected by railway, and all the large towns brought into immediate connection by means of the electric telegraph, laid down by Dr. (Sir William) O'Shaughnessy, 4000 miles having been constructed and placed in working order between November 1853 and February 1856. The production of cotton, tea, and flax, the breeding of sheep, and the improvement of agricultural implements, all received his attention. The development of the resources of the country in iron, coal, and other minerals was a matter on which he bestowed peculiar care; and measures were also taken for the preservation of the forests, and for making their produce available. A new and uniform survey of the districts was commenced, and the limits of feudatory states accurately defined. Irrigation on a large scale was attended to in Sind, Madras, and Bombay; the navigation of the Ganges, Indus, Nerbadda, and Brahmaputra was improved; grand trunk roads were carried to Dehli, through the Panjab, and to Patna, and others made in Pegu and Sind. A road was also constructed to the frontiers of Tibet, commencing from the plains of the Sutlej, and another put in progress from Arakan over the Yoma ridge to Pegu. The most stupendous work, however, was the Ganges canal, carried out by the skill of Sir Proby T. Cautley. The department of public works was reformed throughout, and colleges founded to train young men specially in civil engineering. Schools and colleges were established and placed under Government inspection. Strenuous efforts were made for the eradication of sati, thuggee, and infanticide. The condition of the British soldier was greatly improved. Provision was also made for both Protestant and Roman Catholic worship on more equal terms, and extensive changes were made in matters of criminal and civil justice. The government of each Presidency, each lieutenant-governor, and the chief officer of every province, were required to send in to the Governor-General an annual administration report of the chief events that occurred within their several jurisdictions, in order to test the progress made by the nation at large. In his last minute, he said: 'No prudent man, who has any knowledge of Eastern affairs, would ever venture to predict the maintenance of continued peace within our Eastern possessions. Experience—frequent, hard, and recent experience—has taught us that wars from without, a rebellion from within, may at any time be raised against us, in quarters where they were the least to be expected, and by the most feeble and unlikely instruments. No man, therefore, can ever prudently hold forth assurance of continued peace in India.' For his success in the Panjab, Lord Dalhousie was raised to a marquisate in 1849; and on his return to Britain in May 1856, the East India Company settled on him a pension of £5000 a year. He had previously been appointed to the wardenship of the Cinque Ports on the death of the Duke of Wellington. He died on the 19th December 1860.

DALHOUSIE, municipal town, cantonment, and hill sanatorium in the Gurdaspur district of the Panjab, in lat. 32° 31′ 45″ N., long. 76° 0′ 15″ E. It occupies the summits and upper slopes of three mountain peaks of the main Himalayan range, east of the Ravi river. The hills consist of rugged granite, and the houses are perched in a few gentler slopes among the declivities.—*Imp. Gaz.*

DALI. Hind. From Daliah, a branch, a tray, on which complimentary presents of food, fruits, or vegetables are placed.

DALIMA. Hind. A class of Tuga in Muradabad.

DALIMBA, a hard, granular, coarse stone of Cuttack, worked into utensils of various kinds.

DAL-KOHLU, a sugar-cane press, in Ambala and Cis-Sutlej.

DAL-LA, or Giant's Peak, in Bhutan, N. of Tanong, in lat. 27° 50′ N., and long. 92° 34′ E. The top of the peak is 22,495 feet above the sea, as trigonometrically measured from Gohatti. This peak is the prominent feature in the Himalaya panorama of Central Assam.—*Schlag.*

DALLAL. Hind. A procurer, a horse-couper, an agent, a broker, a go-between. Dallalah, a courtesan. The Delilah of the Bible, a female go-between.

DALMA, a range of hills in Manbhum, occupied by the Kharria and Paharia. Dalma, its highest hill, is 3407 feet above the sea.

DALMAN, a town on the right bank of the Ganges, 16 miles south of Rai Bareli. It is said to have been founded about the 4th century A.D., by a brother of the raja of Kanouj. It was long in the possession of the Bhar, and the surrounding country was the scene of a protracted struggle maintained by that tribe against the Mahomedans. About 1400 A.D. the Bhar were almost annihilated by Sultan Ibrahim Sharki.—*Imp. Gaz.*

DALME-KATTEA. Singh. Wood-moth, Eumeta Cramerii.

DALOSINGHA, a tree of Ganjam and Gumsur. Ploughshares are sometimes made of it.—*Captain Macdonald.*

DALRYMPLE, ALEXANDER, Hydrographer to the East India Company. He died 1807. He was an active writer.

DALUWAN or Dalaman, the bark of the Broussonetia papyriferas, prepared for writing on.

DALYELL, N. A., and A. Gibson, joint authors of Dalyell's Bombay Flora. Mr. Dalyell contributed several memoirs on botanical subjects, and on the influence of trees on climate.

DAM. Arab. Also Dama, a prayer. 'May it be perpetual.' Dam daulatūhū, dam zillūhū, 'May his prosperity continue.'

DAM, a copper coin of India, now obsolete. In Akbar's time 40 dam of copper were equivalent in account to one rupee, and the dam of copper is itself defined at 5 tank, or 1 tola 8 mashas and 7 rati in weight, which at 186 grains per tola is equal to 323·5625 grains. There seems to have

been 9·29 chitals in each dam, and in the Sheer Shahi rupee 371·8 chitals, instead of the old 320 divisional coins of that name and value, which went to the lighter silver piece of former days. In the Ayin-i-Akbari, and in most revenue accounts, the dam is considered the 40th part of a rupee, but to the common people it is known as the 50th of a tuka; 25 therefore go to a pysa, and 12½ to an adhela. In the time of Alamgir, 46⅔ dam, and later, 80 and 90 dam, went to a rupee.

DAM. PERS. Price, cost. Be-dam, priceless.

DAMA. SANSK. A house. It is Domos, GR.; Domus, LAT.; Domii, SLAV; Daimah, CELT.—*Müller's Lectures*, p. 224.

DA-MA, spelled Mran-ma or Myamma, is that portion of the Burmese race who occupied the country above Prome.—*Mason*, p. 62.

DAMALCHERRY, a pass about 30 miles N. of Ambur, leading from Mysore to the Karnatic. On the 20th May 1740, Nawab Ali Dost fell here in action against the Mahrattas.—*Orme.*

DAMAN is a Portuguese settlement just 100 miles north of Bombay. It has a population of about 50,000, and an area of 82 square miles. The Portuguese, soon after its capture in the 16th century, converted a mosque into a church, and have since built eight other places of worship, besides docks and yards for shipbuilding. The settlement has two forts, and is ruled by a governor with civil and military functions, under the viceroy at Goa. There are some fine teak trees and other timber in the neighbourhood; and in former days Daman was noted for dyed piece-goods, and a flourishing trade in opium with China. The town on the right bank of the river Daman was sacked by the Portuguese in 1531, rebuilt by the natives, and retaken in 1558 by the Portuguese.

DAMAN-i-KOH is the name given to the low hills that form the basis of the higher ranges of the Himalaya, and in which such hill states as Kotahah and others are situated. It means the skirt of the hills, and is applied also to the skirt of the Santal Parganas, and also to the tract between the Suliman mountains and the west bank of the Indus, comprising portions of Dehra Ghazi Khan, Dehra Ismail Khan, and Kohat districts, between lat. 28° 40′ and 33° 20′ N., and long. 69° 30′ and 71° 20′ E.

DAMARA. Wilson's History of Kashmir describes this as an ancient people, as a fierce, intractable race, murderers of king Chakra Varma, and who opposed Lalata Ditya in his advance to the north or Uttara-kuru.

DAMARA or Damru, supposed to be a small hand-drum or rattle, usually seen in the hands of Siva or his avatars. This definition of the emblem is, however, doubtful; it has the appearance of an hour-glass, and rattles of this form are sold in all the bazars of India, and used by religious devotees and others to attract attention. —*Cole, Myth. Hind.* p. 377.

DAMASCUS city is about 2 miles in length, is surrounded by a fortified enclosure, dating back to the time of Selim I., and which was built on the site of the old walls raised by the Arabs in 650. Damascus was the usual residence of the khalifs of the Ommiah dynasty. During the convulsions which at last overthrew the khalifs, it had many changes of rulers, and was destroyed by Timur, A.D. 1400. It has eighteen gates, one of them being called Bab-i-Paulous, or the Gate of St. Paul. Damascus contains many places of worship; the largest and finest being that dedicated to St. John the Baptist. It was thoroughly repaired by the khalif Walid in the year 86 of the Hijira; its doors are of bronze, and beautifully wrought. A Mahomedan tradition says that at the end of the world St. John the Baptist will descend into this building, while Jesus Christ will come to the temple of Omar at Jerusalem, and Mahomed, the prophet of God, to the temple at Mecca. In the great bazar to receive the caravans, from 1200 to 1500 camels may assemble. Damascus was the general rendezvous of from 40,000 to 50,000 pilgrims, who assembled there from all points of Ottoman Europe and Asia, and even from Persia and Turkestan, in order to go with the caravan to Mecca; but most of the pilgrims now go by the Suez canal. Damascus was formerly celebrated for its manufacture of sword-blades, brass work, and peculiar heavy silks of shot colours. The population of Damascus amounts to 180,000 — 130,000 Mahomedans, 30,000 Christians, Greeks or Latins, and 20,000 Jews. The schismatic Greeks have a church of their own, but the Catholic Greeks have not, and perform their religious duties in the three Latin monasteries, viz. the Holy Monastery, that of the Lazzarists, the successors of the Jesuit missionaries, and that of the Capuchins. The Armenians and the Syrians have each a particular sanctuary, and the Jews have three synagogues. Damascus is the residence of a first-class mullah, and of the Greek Patriarch of Antioch, who has forty-two archbishops and bishops under him. The Pasha of Damascus bears the title of Prince of the Pilgrimage, because he was formerly charged to accompany the caravan to Mecca. The plain of Damascus is covered with magnificent gardens, planted with orange and lemon trees, cedars, fig and apricot trees, and shrubs of all kinds. The Baradi, the ancient Chrysorrhœa, a pure and limpid river, divides itself into seven branches, and waters the town and its fine gardens. The nearest seaports are Beyrout and Saida.

DAMASCUS, a commercial and art term, applied to a variegated structure and appearance on iron and steel gun-barrels, daggers, sword-blades, where, as in the Koteli twisted gun-barrel trade, the barrel is made of twisted bars, and nothing can be imagined more elegant. Damascus swords present on their surface a variegated appearance of watering. The blade was formed by mixture in nearly equal proportions of the celebrated wootz and soft iron, which, being welded together and repeatedly doubled, gives the desired appearance. Daggers and sword-blades thus formed are common among the retainers of the hill zamindars in the Northern Circars of the Peninsula of India, the handles of which, formed of iron, are frequently damascened in silver. Atkinson (Oriental Western Siberia, p. 120) says that Colonel Andsoff at Zlatavust had succeeded in manufacturing valuable Damascus blades, weapons combining edge and elasticity. The water was a succession seemingly of small bundles of almost parallel lines, occupying the whole breadth of the blade, the ends of the bundles crossing and mingling at the point of

junction. They are, however, a series of minute curves, forming together lines disposed in bundles articulated together, and dividing the length of the weapon into many sections. They have not the regular articulation of the articulated Khorasani blade, their lines are infinitely finer.—*Rohde, MSS.; Taylor, Saracen*, p. 130; *Powell.*

DAMASK.

Damaskwerk, . . DUT.	Kamtschatnua, . RUS.
Venise, ... FR.	Salfftki, ... ,,
Damasten Tafelzeng, GER.	Tela adamascada, . . SP.
Teladamaschina, . . IT.	

This is a fabric woven in a loom, with figures of flowers or other objects. The art is said to have been brought from Damascus, hence the name.

DAMASONIUM INDICUM. *Willde.*

Parmi kulla, . . BENG.	Nir veneki, . . . TEL.
Ottel-ambel, . . CAN.	

A pretty flowering annual, a native of sweet waters in India and Archipelago; flowers in the rainy season. The petals are of delicate white, and the long calyx has its corners ornamented with fringes, gathered into a kind of flounce or furbelow.—*Roxb.* i. p. 216.

DAMATHAT. BURM. The book containing the Burmese code of laws.

DAMAYANTI, daughter of Bhima, raja of Vidarbha, was famed for her radiant charms and exceeding grace. She chose Nala, raja of Nishada, at her Swayamvara, by throwing a wreath of flowers around his neck, and two children were born to them. Their story has been told by the poet. Nala took to gambling, and lost all but his wife, and was driven with her to the forest, where he urged her to return to her father's house, and, on her refusing this, he deserted her while asleep. She subsequently went to her father, and, failing to discover her husband's retreat, she declared she would hold another Swayamvara. To this the king of Oudh came, in a chariot driven by Nala, on which Damayante recognised her husband, and they were happily reunited.

DAMBULA or Dambulla, a celebrated rock Buddhist temple near Matellæ, in Ceylon. The temple has been hollowed out of a hill of stone, and, from its antiquity, its decorations, and its magnitude, is by far the richest in that island. It is supposed to have been founded B.C. 246 by Dewanampiya Tissa, the ally of Asoka, and friend and patron of Mahendra, who introduced Buddhism into Ceylon. The roof of the vault is covered with fresco paintings. Some of the statues of Buddha are upwards of 40 feet in length; but there is an admixture of Buddhist and Brahmanical emblems, as the Makara, a monstrous idol, with the trunk of an elephant, the feet of a lion, the teeth of a crocodile, and the ears of a pig, is a prominent figure. It was first endowed 86 B.C. —*Tennant.*

DAMBU TAGH, mountains of the province of Iran, yielding the topaz, beryl, schorl, and gold.

DAM-DUM, a venomous fly in the Phangan pass, the bite of which causes severe irritation.

DAMIETTA, a town in Egypt supposed to have given its name to the dimity fabric. It was long ago suggested that the word dimity is the Greek Dimitos, so called because woven with a double thread in the woof. Professor Skeat has lent his authority to this etymology.

DAM-i-MADAR, called also Dhummul, is a popular ceremony with the agricultural and lower classes in India. It consists in jumping into a fire, and treading it out, with the exclamation of 'Dam-i-Madar, Dam-i-Madar!' that is, 'By the breath of Madar, by the breath of Madar.' It is devoutly believed that not a hair of these devotees gets singed, and that those who have practised the ceremony are secure against the venom of snakes and scorpions. Badi-ud-Din Shah Madar, in honour of whom this ceremony annually takes place, was, according to the Mirat-i-Madaria, a converted Jew. He is said to have been born at Aleppo in 1050 A.D., and to have come to India in the reign of Sultan Ibrahim Sharki, and, having taken up his abode between Cawnpur and Farrakhabad, and expelled therefrom an evil genius called Mukun Deo, who infested the place, he gave the name of Mukunpur to his residence, and was buried there in 1433 A.D., at the good old age of nearly four hundred years. The tomb, which is a handsome structure, was raised over him by Sultan Ibrahim. He is believed still to be alive, and hence is frequently styled Zinda Shah Madar. The prophet Mahomed gave him the power of habs-i-dam, or retention of breath, and hence arose his longevity, as the number of his respirations was diminished at pleasure. There is a class of fakirs called Madaria, after his name. They generally wear black cloth, and are much addicted to the use of intoxicating drugs. A fair is held at the tomb during the first 17 days of Jamadi-ul-Awal.—*Elliot, Supp. Gloss.* See Madaria.

DAMIT, a tutelary spirit of the Javanese.

DAMMAJI GAEKWAR, styled Shamsher Bahadur, the first of the Gaekwar family, who founded the dynasty in A.D. 1720. He was an officer under Khandi Rao Holkar. The Gaekwar made a treaty with the British in 1802. See Mahratta Governments in India.

DAMMAPADAN, a work in Pali, containing moral precepts.—*Hardy, Eastern Monachism.*

DAMMARA, a genus of trees found in Australasia, New Hebrides, New Caledonia, New Zealand, the Fiji islands, Java, Borneo, and Amboyna. Their names are,—Dammara obtusa, *Lindley*, of the New Hebrides and Queen Charlotte's group; D. australis, *Lambert;* D. orientalis, *Lamb.;* D. Nitiensis, Fiji; D. macrophylla, *Lindley*, of New Hebrides; D. Moorii, *Lindley*, of New Caledonia; D. robusta, *Moore*, of the Burnett and Mary rivers of N. Australia; D. ovata, *Moore*, of the Isle of Pines.—*Roxb.; F. v. Mueller; Bennett.*

DAMMARA AUSTRALIS, *Lambert*, is the Agathis australis, the kawri tree of New Zealand, first noticed by Captain Cook. Its wood contains a considerable quantity of resin, and appears to shrink little. The mean girth of the tree is from 3 to 6 feet, and it is from 90 to 200 feet high. It is a close, even, and fine-grained wood of a very uniform texture; its colour is a light-yellowish brown, the lustre silky, the annual rings marked by a line of deeper tints of the same colour. It is used for masts and yards of ships, and seems admirably adapted for internal joiners' work. The bark thick, yielding tears of resin in great profusion. Enormous masses of a similar resin, many pounds in weight, are found in the soil in many places far from where these trees now grow, and are presumed to have the same origin. It is used in varnish-making. The perfectly straight trunk is clear of branches up to 80 or

100 feet, and a diameter 5 to 9 feet.—*Jam. Ed. Jour.* xiii. of 1825, p. 378; *Tredgold; Dr. Hooker; F. v. Mueller.*

DAMMARA ORIENTALIS. *Lambert.*

D. alba, *Rumph.* | Agathis loranthifolia, *Salis.*
Pinus dammara, *Lamb.* |

A tree of Amboyna; it yields dammer.—*Roxb.*

DAMME or Damma, in the Arafura Sea, is a high large island, 70 miles N.N.W. from Sermattan; the island is 15 miles long north and south, and at its N.E. extremity has a volcano, with hot springs.—*Horsburgh.*

DAMMER.

Pa-ma-yi, Lan-t'ang, CHIN.	Dummula, . . . SINGH.
Ral, Rala, . . . HIND.	Coongilium, . . TAM.
Damar, . . . MALAY.	Googhilum, . . TEL.
Yakshadupha, . SANSK.	Tala-gotso, . . . URIYA.

Dammer is a general name for the resins of several different trees, being applied to the Indian copal or gum anime of the Vateria Indica; to the New Zealand copal from the Dammara australis; to the hard brittle resin of the Dammara Amboyna; the brown resin of the Vatica robusta; to the black resin or pitch of the Vatica tumbugaia; and to the resins of species of Canarium, as Canarium pimela (Lan-t'ang, CHIN.), which yields the resin for the Chinese dammer. Agathis loranthifolia, *Salisb.*, grows on the lofty mountains of Amboyna, and, according to Dr. Wallich, in Tavoy. It is a very large tree, used in building. White dammer, a product of this tree, occurs in fragments of variable size, marked with reddish streaks, transparent, amber-like, brittle, with brilliant fracture, very inflammable, inodorous, and tasteless. It hangs from the branches, and resembles stalactites, the pieces being sometimes as large as the hand, and 4 to 8 inches long; some pieces are like anime resin. Dammer is found adhering to the branches, or in masses at the foot of the trees which yield it, or floating in rivers, drifted to them by the floods of the rainy season. It is produced in such abundance, and gathered with so little labour, that its market price seldom exceeds four or five shillings a hundredweight. The natives of the country apply it to most of the uses to which we put tar, pitch, and rosin.

Damar mata kuching, MALAY, Damar daging, and Damar batu, are gum products of the Malay Peninsula and of the Archipelago. Damar mata kuching, when mixed with the miniak kayu, or wood-oil, makes a durable varnish. Damar puteh is white dammer, and Damar selo is another dammer.

The dammers of the Madras Presidency are obtained from trees of the genera Vateria, Canarium, and Vatica. The two former, viz. Vateria and Canarium, yield by far the largest part, if not the whole, of the dammers produced on the western coast of the Peninsula of India, whilst the Vatica genus yields the greater part of that collected in the northern and eastern districts.

The Black Dammer of the Western Coast is from Canarium strictum, the Carpoo coongilium of Ainslie, the Dammara nigra legitima of Rumphius, and the Canari of the Maleala. This occurs in large stalactitic-shaped masses, of a bright shining black colour when viewed from a distance, but translucent and of a deep reddish-brown when held in thin laminæ between the eye and the light. It is perfectly homogeneous, and has a vitreous fracture. Its shape appears to be due to the fact of the balsam having exuded in a very fluid state, and trickled down the trunk of the tree, where it gradually hardens by exposure to the sun, the fresh resin continuing to flow over that already hardened, giving rise to the stalactitic appearance of the huge lumps of resin, the outside of which much resembles the guttering of wax caused by placing a lighted candle in a draught. It is insoluble in cold, but partially soluble in boiling, alcohol on the addition of camphor; when powdered, it is readily soluble in oil of turpentine. Powdered and burnt on the fire, it emits a more resinous smell, and burns with more smoke, than white dammer. The size of the lumps of this resin, together with its colour and the peculiarity of shape already mentioned, suffice to distinguish it from other Indian resins.

The White Dammer of the Western Coast is the Piney resin of the Vateria Indica and allied species of Linnæus and Wight, Choloroxylon daupadu of Buchanan and Ainslie, the Doopada resin of Mysore, and the Piney of the Malabar people. It has two varieties:—

Var. 1. Compact Piney resin, or first sort white dammer, or Indian copal, occurs in large lumps of all shapes, and varying in colour on the outside from a bright orange to a dull yellow, bearing evident marks of having adhered to the bark of the tree. It has a shining vitreous fracture, is very hard, and bears a great resemblance to amber. Its colour internally is of all shades, from a light green to a light yellow, the green tint predominating in the generality of specimens. It is more soluble in alcohol than black dammer, and burns with less smoke and a more agreeable odour. It is easily distinguishable from all other Indian resins by its superior hardness, its colour, and amber-like appearance.

Var. 2. Cellular Piney resin, or second sort white dammer, occurs either in small lumps or in large masses, generally of a shining appearance and balsamic smell. Has a very cellular structure, which is attributable partly to the mode of collection, and partly to the age of the tree. Notches being cut in the trunk of the trees sloping inwards and downwards, the resin collects in the cavity, and is either permitted to dry on the spot, or is collected and dried by the application of heat. It is of all shades, from light green to light yellow or white, and is usually translucent. Specimens are sometimes seen in which, from the desiccation having been improperly conducted, the resin is more opaque, of a dull green colour, and full of air-bubbles, presenting the appearance of having undergone a partial fermentation. This resin may be recognised by its cellular appearance and balsamic smell; but the balsamic smell, which is due to the volatile oil it contains, is gradually lost by long keeping or constant exposure to the air. On splitting open old and decayed trees, portions of a dark-coloured resin are often found, having the solid consistence of the first variety, but the inferior quality of the second.

The finest specimens of Piney resin are obtained by making incisions in the tree, and are in pale green translucent pieces of considerable size. The resin that exudes naturally usually contains much impurity. In most of its properties it resembles copal, but it possesses qualities which give it some advantages over the latter. Like copal, it is but slightly soluble in alcohol; but, as

Berzelius pointed out in the case of copal, it can be brought into solution by the addition of camphor to the spirit. It is easily soluble in chloroform, and thus might find a small application as a substitute for amber in photographers' varnish. It differs most advantageously from copal, by being at once soluble in turpentine, and drying also without the necessity of the preliminary destructive fusion required by that resin, a process which tends greatly to impair the colour of the varnish. The solution of the Piney resin in turpentine is turbid and milky, but by the addition of powdered charcoal, and subsequently filtering, it yields a solution transparent and colourless as water, and yields a varnish which dries with a purity and whiteness not to be surpassed. The solution in turpentine readily mixes with the drying oils. It is on these properties of the resin that its chance of becoming an article of trade will depend. In price it cannot compete with copal, when supply to the European market is regular and abundant. The ordinary price of the best copal in the English market is but £2, 10s. per cwt. Piney resin yields, on destructive distillation, 82 per cent. of an oil of agreeable odour, but not differing essentially from that obtained from much cheaper resins.

East Indian dammer, which is well known among varnish-makers, though frequently confounded with this, is the product of a very different tree, and is not produced in the Madras Presidency.

Dammers of the Northern and Eastern Districts.—Sal tree dammer, Vatica robusta and other species, occurs in sticks much resembling in shape the black dammer, but differing widely in colour and consistency. In colour it varies from a light yellow to a dark brown, the two colours being very frequently blended in the same lump, and giving it the appearance of having a regular grain. It is friable, and differs from the white dammer of the western coast in its inferior hardness, its opacity, and its peculiar form, and from the black dammer in its colour. There are extensive tracts of Vatica jungles in the Gumsur and Cuttack provinces. The Khand and Uriya races, living in and near these jungles, wound trees in several places; the resin issues, and is collected when sufficiently solid. The dammer collected from the decayed parts of the tree is of a dark colour. The tree is called Guggilam in Telugu, and Tala gotso in Uriya. The Khand and Uriya races make the leaves into the plates from which they eat their food, and also roll up tobacco in them to smoke like a cheroot. In time of famine, the above tribes live on a soup made from the fruit of this tree.

Vatica tumbuggaia grows also to a limited extent on the west coast, but yields little if any of the dammer collected there. It exudes an amber-coloured resin.

The White Dammer of Singapore is the product of Dammara orientalis. The Australian dammer, or kauri or cowri gum, or Australian copal, is obtained from the Dammara australis.

In Rhio Lingga Archipelago, dammer is obtained from the Meranti (Damar vatu), the Meranan (Damar-kruyong) and Balon trees (Damar mata kuching).

In Borneo, also, dammer is produced by many kinds of trees quite different from Marsden's Dammara orientalis. The white dammer is used for the same purposes as gum-copal. Damar mata kuching, or the cat's eye dammer, is the least common and most valuable, being beautifully transparent. The Damar daging, or flesh-like dammer, takes its name from its veined appearance, which causes it to resemble some kinds of agate. In Sumatra some of the trees producing dammer, yield valuable timber. The Damar laut tree, not mentioned by Rumphius, is employed at Penang for the frame timbers of ships, beams, and knees. Dammer is also the name of a gummy substance found floating on the sea off the E. African coast, which the people believe to be excreta of whales. Captain Burton supposes it to be unripe gum washed seaward during the rains.—*Powell; Beddome, Fl. Sylv.* p. 84; *Burton; Hawkes; Mad. Ex. J. Rep.; Dr. Wallich.*

DAMNI, also Daoni, HIND. An article of dress of Mahomedan women.

DAMODAR, a river of Bengal, which rises in the Chutia Nagpur watershed, and, after a S.E. course of about 350 miles, falls into the Hoogly just above the James and Mary Sands' shoal, which it has helped to deposit at the junction. Together with its tributaries, it forms the great line of drainage of the country stretching north-west from Calcutta to the fringe of the plateau of Central India. The Damodar river, tributary to the Hoogly, rises in lat. 23° 55′ N., and long. 84° 53′ E., and runs S.E. to Bardwan, S. to Diamond harbour. Its length is 350 miles. It runs through a rich country, which suffered in the middle of the 19th century with a terrible fever epidemic, that spread in 1868 into Birbhum. The Damoodah valley is rich in coal, which is very largely extracted. Damoodah is subject to sudden rises during the periodic rains, and has often burst its banks and devastated all around. One of the most severe inundations was in 1823, when this river overflowed the country for many miles, and many people perished. In that inundation a good-sized pinnace sailed through the Sooksagur bazar, and Chinsura and Chandernuggur were laid under water. The Santal race venerate the Damoodah.

DAMOH, a district lying between lat. 22° 10′ and 23° 30′ N., and long. 79° 5′ and 80° E. It is on the table-land of the Vindhyan mountains, and in its extreme length measures about 90 miles north to south, breadth 50 miles. The population is about 269,642,—aboriginal tribes, 32,528; Hindus, 237,204; Mahomedans, 8064; Buddhists and Jains, 5418; Gonds, 30,209 in 1872, the remainder consisting chiefly of Kurku; Brahmans, 21,378; the mass of the Hindu population consisting of Lodhi (33,342), Kurmi (20,664), and other inferior castes. The first known government was that of the Chandel Rajputs, whose seat of government was at Mahobar, in Bundelkhand. After the decadence of the Chandel, the country seems to have fallen into various hands at different times; but the most definite of the local traditions point to a period of Gond supremacy exercised from Khatola in Bundelkhand, the seat of a long since extinct Gond principality, and subsequently, as regards the southern portions of the district, from Chauragarh in Nerbadda valley, one of the capitals of the Mandla dynasty.

DAMOLA. HIND. A tola (180 grs.) of gold dust, a kanch.

DAMON and PYTHIAS, the two followers of Anaxagoras, are supposed by Major Cunningham to be the Sanskrit Dharmma, virtue or practical morality, and Buddha, wisdom. Even the word Pythagoras seems derived from πυθάς, or Buddha, and ἀγορεύω, to expound or announce. He is said to have married Theano (Sanskrit Dhyana, devout contemplation), and by her had a daughter, whom he named Damo (Sanskrit Dharmma, virtue or practical morality), and who became a most learned Pythagorean.

DAMONU. URIYA. Grewia tiliæfolia, used for fishing-rods; abundant at Palicondah.

DAMPIER STRAIT, called Gamen or Gemi by the Dutch, is formed by Battanta island on the south and that of Waygiou on the north side, and is about 72 miles long from Cape Mabo to Point Pigot. It affords a good channel for vessels passing from the Moluccas to the Pacific, and is very generally selected.—*Horsburgh; Journal of the Ind. Arch.* June 1852, p. 308.

DAMRI, a small copper coin, formerly current in the Karnatic; all copper coin; any small money. In N. India, a nominal coin equal to 3⅛ or 3¼ dam, or between 2 and 3 ganda, so that a damri varies between 8 to 12 kauri.

DAMRI MASJID, a pretty little mosque, near the fort of Ahmadnaggur.

DAM-ul-AKHWAIN. ARAB. Dragon's blood, gum from Calamus draco.

DAMWAST. HIND. An inferior tribe of Rajputs in the Benares district.—*Wilson.*

DAN. HIND. An-Dan-Khan comprehend the sum of sovereign rights in Rajasthan, being allegiance, commercial duties, mines, etc.

DAN, two Persian words, one from Dāshtan, to hold or have, the other from Dānistan, to know. These two derivatives form several compound words, as Attar-dan, a scent-bottle, a perfume-holder; Kalm-dan, pen-holder; and, from Danistan, Na-dan, ignorant. Dan, SANSK., a gift; Dan-pan, charity, from Da, to give.

DANA. HIND. Wise. Danai, wisdom. Dowlat-i-Hind, o danai Faring, is a Persian phrase, meaning, Give me India for wealth, but Europe for knowledge.

DANA. HIND. Any grain or seed; a grain weight. Bihi-dana, Cydonia vulgaris; Hazar-dana, Euphorbia hypericifolia, E. thymifolia; Kala-dana, Pharbitis nil; Ram-dana, Amaranthus mangostanus; Shakar-dana, Colebrookia oppositifolia.

DANAGA. KARN. A cowherd, a shepherd.

DANAIS TYTIA, a butterfly with semi-transparent bluish wings, and a border of rich reddish-brown. This is exactly reproduced in Papilio agestor and in Diadema nama; and all three insects not unfrequently come together in collections made at Darjiling.

DANAKIL tribes occupy the low-lying waterless region between Abyssinia and the sea, trackless and uncultivated.

DANAVA, an inhabitant of the Hindu mythological Mount Meru, described by the Aryan immigrants as enemies of the gods; probably the early inhabitants of the countries with whom the advancing Aryans came in contact. See Avatar; Meru. Danava is also described as a tribe on the Çali, or children of Danu-Beli; their leader was named Danavendra; their origin unknown.

DANCALI, a country in the north-east part of Abyssinia, extending 300 miles along the coast of the Red Sea. The soil is unproductive; and its chief riches consist in fossil, salt, and honey.

DANCING has been practised from the most ancient times by many races. David, king of Jerusalem, danced naked in a religious rite. Later than this Socrates regarded the dance as a part of religion. Most of the uncivilised non-Aryan races of British India have dances, as the Bhil, the Juanga, the Khand, the Kol. In Southern India, also, the Jakkulwar and Jattiwartalawar are dancers. Of the races in S.W. Bengal, the Jadur, Jumbir, Terriah, Khariah, Karni Rasa, Dawa, and Bahni have war dances. The Kol of Nagpur have several dances, which are all more or less connected with some religious ceremony. Among the Santal, also, the dance is known, and the whole of their religious observances are generally performed and attended to by the votaries whilst in a state of intoxication,—a custom which reminds us of the worship of Bacchus among the Greeks and Romans.

Dancing is not practised in India by any Aryan race of Hindus nor by Mahomedans; but Persians, Afghans, Mahomedans of India, and Hindus of all sects, gladly witness the performances of professional dancing women. Many of the non-Aryan or aboriginal races of India, however, particularly those who have not greatly advanced in civilisation, have their national dances; and the Uraon and Ho of Central India are passionately fond of it. The Kodaga race of Coorg have a national dance. The Mahomedan dancers are all women, in bands called taifa, and are all public. The Hindu dancers are also all women, but do not associate with others than Hindus, most of them being attached to the temples.

Many of the dances of wilder races are solemn attitudinizing, moving in a ring, and locking up close to each other, often holding sticks.

The natives of Australia in their corrobery run in Indian file or sideways, and as they stamp the ground they grunt.

DANCING DARVESH, a name given to the Mevleviyeh, also to the Rafai order of the darvesh of Turkey and Egypt. See Darvesh; Eesawiya.

DANCING GIRLS.

Hierodulæ . of BABYLON.	Deva-dasa, . . . SANSK.
Bayadere, ... FR.	Basava, ... TEL.
Kasbin; Kanchni, HIND.	Jogin, ... ,,
Murali, ... MAR.	Bogum wanlu, . . ,,
Balladuras, . . . PORT.	

Amongst the British in India, dancing girls is a term in general use to indicate the Hindu women devoted to the service of the Hindu idols in the temples, as also the bands of Hindu and Mahomedan women who practise singing and dancing for hire. For Hindu dancing girls see Deva-Dasa; for Mahomedan dancing girls, see Taifa. In the performance of the Hindu dancing girls in the two dances termed avancum and kancheene naeteum, their movements are combined with great agility, ease, and gracefulness, and with their nimble steps, the turning and twisting of their hands, eyes, face, features, and body agree, whilst they beat time with their feet. The feet generally placed flat, as they seldom dance on

their toes, the movements and position combine something of the waltz and Spanish cachucha,—they advance, retire, whirl around, drop down and rise again with ease and rapidity, whilst the several movements are kept in order with the twirling and twisting of their hands, features, body, etc. Some portions of the step resemble the hornpipe and jig, whilst they hop and skip from one leg to another, keeping time, now turning, now whirling, now capering, and now drooping, performing a coquettish pantomime with their antics, then affecting coyness, and dancing away from the assembly, by suddenly turning away as if careless of their allurements, but returning to the attack with greater vigour and increased blandishments. It is indeed surprising to witness their feats of strength and bodily powers of endurance, for, notwithstanding their frail make and delicate appearance, the amount of fatigue they endure, dancing as they do from nightfall to early hours of the morning, is astonishing. Their dancing is perfection; and the bodily fatigue they must undergo, from the attitudes and positions they combine in their dances, must be great. In what is called the sterria cothoo, athletic feats are performed,—resting their hands on the ground, and flinging their feet in the air with great rapidity, and thus twirling round and round, successively, performing various somersaults; lying full length on the ground with their hands and feet resting, contorting, twirling, and twisting their bodies in various ways; or, whilst resting on the hands and legs, with their backs to the ground and their chest and abdomen turned upwards, drawing the hands and feet as close together as possible; whilst their bodies are thus arched they, with their mouths, will pick up rupees from the ground. In this arched position, beating time with their hands and feet, they work round and round in a circle. During their performance they join their attendants in the songs that are sung, and regulate the various movements of their bodies to the expression given vent to in the song.

Modiye dūcūrūthū.—In this dance the word 'mod' is a term used to designate a craft or enchantment practised by a conjuror, who places or hides money or other valuables in a certain place, and often in the presence of his opponent, with the view of testing his ability, and challenges him to remove it, which the opponent endeavours to do by playing on a pipe termed 'maked;' and if he be not equally skilled, he is struck to the ground in a mysterious manner, sick and ill, frequently bleeding from the nose and mouth profusely. The dance is in imitation of this, by the girl playing on a 'maked,' dancing at the same time, and throwing herself on the ground; the right leg is stretched out at full length, forming a perfect angle with her body out on one side; on the other, the left leg, doubled under the knee, is stretched out in like manner on the opposite side, producing a most singular appearance, and as if there were no joint in the hips.

Colu auteum, or the stick dance, is formed by a number of girls of the same age, size, and dress, numbering from twelve to twenty-four or more, each having two sticks, one in each hand, about eighteen inches long, well turned, and painted with circular stripes of yellow, green, and red. Either to the roof, or across a piece of wood raised in support for the purpose, a stout skein of thread in different colours is suspended, and having as many strands as there are girls; the free ends of the strands are tied to the ends of the painted sticks each holds; the dance begins with the usual song and accompaniment of music, when each girl, striking her sticks, dances a kind of jig and hops from place to place, exchanging places with each other. This is done with such order and regularity, that the several strands are plaited with the utmost evenness into a stout cord or tape of many colours, according to the design. At a sign from the conductor, the same is undone with equal order and regularity, the girls dancing and exchanging places with each other without a single mistake or false step, either in the plaiting or unplaiting of the strands of thread. The readiness, grace, and ease with which the several movements are effected, are worthy of admiration. At some places, on festive occasions, during the peregrinations of the Hindu idol around the town in procession, these girls perform the stick dance on a platform, which is carried and precedes the idol. More frequently these and other dances are performed on foot in front, and at some distance from the procession, which stands still at a certain distance to allow of its being properly carried out.

Mahomedan dancing women attitudinize with their feet and hands, and move their eyes and change the expression of their face to indicate various emotions.

DAND. PUKH. A tank.

DAND. HIND. A fine, a mulct.

DAND. HIND. The support of the canopy on an ekka, etc.; a rod, an oar, a staff or wand. Hence Dandi, an oarsman.

DANDA. SANSK. Originally imports a staff, and amongst Hindu ascetics it figuratively signifies moral restraint, exercised especially in three ways, in the control of speech, body, and mind, or in word, deed, and thought. A joint reference to the literal and figurative sense of the term has given rise to the religious distinction termed Danda Grahanum, the taking up of the staff, or adopting the exercise of the moral restraints above mentioned, and carrying, as emblematic of such a purpose, either one, or, as in the Tridandi, three small wands or staves. Tridandi designates both these characteristics of the order.—*Wilson.*

DANDAKARANYA, or the forest of Dandaka, is celebrated in Indian story. Varaha Mihira, the great astronomer, mentions Dandaka along with other places in the south of India as follows:—Kerala, Karnata, Kanchipura, Konkana, Chinnapattana (now Madras), etc. In this list Dandaka is distinct from Konkana, or the Upper Kistna, and may, General Cunningham suggests, therefore perhaps be identified with the lower valley of the Kistna, of which Dhandakakata was the capital. Gen. Cunningham (Anc. Geog. of India, p. 544) seems to have been led to this surmise from M. Vivien de Saint-Martin having stated his suspicion that the name of Dandaka is connected with Dhandakakata. But there were in ancient times great forest tracts stretching across the Peninsula of India from east to west, portions of which still remain, and several parts of them seem to have been so designated. That described in the Ramayana was a forest near the Godavery river, in which Rama was residing when Ravana carried off Sita.

It has also with much probability been supposed to have been a forest anciently covering the south of the Peninsula, now the territory of the Marava and Kollari, whose features are often like those of the baboon, hence the origin of Valmiki's monkey army. The forest tract in the Syhadri mountains, in the Dekhan, and the plateau of Chutia Nagpur, have also been pointed to as parts of Dandakaranya.—*Cunningham's Anc. Geog.*

DANDA KASANWALA. HIND. Sticks used for wringing out skeins of silk from the dye vat.

DANDASA. HIND. Astringent barks of Juglans regia and other trees.

DANDASULU. TEL. Village watchers.

DANDAWAT, Dandam. SANSK. From Danda, a walking-stick. A Hindu form of salutation, bow, obeisance, prostration, performed amongst Hindus to each other, and is daily seen from a Hindu of inferior caste to a Brahman or higher caste. It consists in joining the hands with the tips of the fingers pointed upwards, and raising the hands so joined to the forehead. It seems the same as the Anjali (SANSK.), Hindu form of respectful obeisance. The head is slightly bowed, the palms of the hands are brought together, and raised laterally to the middle of the forehead, so that the tips of the thumbs only are in contact with it.—*Hind. Theat.* ii. p. 108. See Ashtanga danda.

DANDA-ZANI, HIND., literally stick-beating, a mode of torture said to have been practised by the subordinate officers in the private domains of the raja of Benares.

DANDELION. Pu-kung-ying, CHIN. The Chinese plant is said to be Leontodon taraxacum, also L. Chinense. It grows to the north of the Meikong hills.

DANDH, or 'Kolab,' in Sind, a tract of low land flooded by the inundation, partially or totally dry during the cold season, and at all times a hotbed of miasma.—*Burton, Scinde*, p. 377.

DANDHU PUNT. In the north of India, Baji Rao, the ex-Peshwa, who had been dethroned in 1818, lived on till 1853 in the enjoyment of his annual pension of £80,000. His adopted son, Dandhu Punt, styled the Nana Sahib, inherited his accumulated savings, but could obtain no further recognition. When the Bengal native soldiery mutinied and the people rebelled, his cruelties at Cawnpur to helpless women and children has made him execrated. He fled, and is supposed to have died in the Terai.—*Imp. Gaz.* iv. See Nana Rao.

DANDI. HIND. A Hindu sect who worship Siva, and represent the fourth, Asrama or mendicant, life, into which the Hindu is to enter, after passing through the previous stages of student, householder, and hermit. He shaves his hair and beard, wears only a cloth round his loins, and subsists on food obtained ready dressed from the houses of Brahmans, once a day only. Any Hindu of the first three classes, of student, householder, and hermit, may become a Sanyasi or Dandi. Indeed, in these days, a Hindu of any caste may adopt the life and emblems of this order. These constitute the Dandi, simply so termed, and are regarded as distinct from the primitive members of the order, to whom the appellation of Das-nami is also applied, and who admit none but Brahmans into their fraternity. But the Brahman can pass from any one of the first orders to the last at once. He becomes a Sanyasi, abandoning all sensual affection. The Dandi is distinguished by carrying a small dand or wand with several knots on it, and a piece of cloth dyed with red ochre, in which the Brahmanical cord is supposed to be enshrined and attached to it. The Dandi are followers of Sankaracharya, and are a numerous order of religious mendicants, many of whom have been eminent as writers on various subjects, especially on the Vedanta philosophy. They are divided into ten classes, hence their other name Das-nami, each of which is distinguished by a peculiar name, as Tirtha, Asrama, Vana, Aranya, Saraswati, Puri, Bharati, Gir or Giri, Parvata, and Sagara, which is added to the proper name of the individual, as Purushottama Gir, or Bodhendra Saraswati, etc. They are hence known collectively as the Dasmani, or ten-name Gosains. Of these, only three and a half tribes, the Tirtha, Asrama, Saraswati, and part of Bharati are now considered pure Dandi of Sankaracharya; the other six and a half members of the Das-nami are called Atit. They have abandoned the staff, the use of clothes, money, and ornaments, prepare their own food, and admit members from any order of Hindus. They are often collected in maths as well as the Dandi; but they mix freely in the business of the world, carry on trade, and often accumulate property, and they frequently officiate as priests at the shrines of some of the deities. Some of them even marry, and are then styled Sam-yogi. The Dandi are to the Saiva sect what the followers of Ramanuja are to those of the Vaishnava faith. Sankara's Dandi are sufficiently numerous in and about Benares.—*Wilson.* See Danda; Hindu.

DANDI, author of the Dasa-Kamara-Charita, or the Adventures of the Ten Princes, is supposed to have lived about the end of the 11th century. The scene is laid in Pashpapuri, a city of Magadha, then ruled by Raja Hansa, whose queen's name was Vasumati. It is a pleasing story in harmonious verse, arranged into two parts. The first, containing five chapters, ends with the marriage of the principal hero; the other has eight, and contains the adventures of the same prince and his companions. Unscrupulous deception, ready invention, extreme credulity and superstition, and disregard of human life, are strongly illustrated.

DANDI. HIND. In the Simla Himalaya, a hammock-shaped conveyance for travellers, slung on a pole, with straps for the feet and back, and carried by two bearers. It is a light litter suited for hill travelling.

DANDI BUTI. HIND. of Beas. Cleome ruta.

DA-NEE. BURM. Nipa fruticans.

DANG, a hill or precipice, the summit of a mountain, as Lal-dang. In Dehli, and generally in Upper India, the word is used to signify the high bank of a river. It is provincially corrupted into Dhang and Dhayung; the forest or jungle tracts in the Syhadri range are so called. A wild, a thicket, a place overrun with bushes, a tract of country, along, near to, or below the Ghats, not mountainous, but interspersed with hills so as to leave no extent of level ground. Dangi, HIND., a forester. Dangs is the designation of the tract of country situated within the limits of the Political Agency of Kandesh, bounded N.W. by the petty state of Warsavi in the Rewa Kanta Agency.—*Elliot; Imp. Gaz.*

DANGA-GURGUR. BENG. Coix gigantea.

DANGAH. In Persia, a custom exists of dividing fields, villages, whole districts, and even the water for irrigating the fields, into six parts, which are further subdivided into two unequal parts, the one containing four parts, Char-dangheh, and the other two parts, Do-dangheh.

DANGAH. HIND. Rebellion, riot, uprising.

DANGAR, in the Bombay Presidency, rice grown in the kharif or monsoon months. It is sown in small beds, and transplanted in July and August into beds which have been highly manured, flooded, and repeatedly ploughed. The crop ripens in October, yielding 20 to 40 seers the bigha.—*Gloss.*

DANGAREE, a coarse cotton cloth in use in India for common towels.

DANGAST. HIND. A class of Rajputs in Ghazipur.

DANGI. MAHR. A forester; an inhabitant of a low, hilly, and jungle tract. Also a tribe of Rajputs inhabiting the woody districts of Eastern Malwa; also a name given to the Bundelas.

DANIEL. Mr. Layard says his tomb was preserved amongst the ruins of Susa, or in a valley of the Bakhtiyari mountains. Daniel-i-Akbar, a name of Susan or Sushan on the Karan river. See Luristan. The Arabs made no opposition to Baron de Bode entering the chapel in which the coffin of Daniel is said to be deposited, on learning that Christians as well as Mahomedans acknowledge him to have been a prophet.—*De Bode's Travels*, ii. p. 190; *Layard, Nineveh*, i. p. 252. See Susa.

DANK. HIND. Jewellers' foil.

DANT. HIND. A tooth. Dant-tinka, an ancient form of deprecating anger, alluded to in the inscription on the lat of Firoz Shah at Dehli. The supplicant takes a straw or bit of grass in the mouth and stands on one leg. It is meant to imply that the supplicant is as the offended person's cow.—*H. Elliot.*

DANTA PURA, the modern Puri. A tooth (dant) of Buddha was sent there after his death and cremation. After lying there 800 years, it was, A.D. 311, sent to Ceylon, where, as is said, it still remains.

DANTI. HIND. A sickle, perhaps a corruption of Durantee.—*Elliot.*

DANTIWARA, a village in the Bastar state. It derives its importance from a celebrated temple to Danteswari or Kali, the household goddess of the rajas of Bastar for many generations. It is said that Meriah sacrifice used to be practised here in former years; and in front of the shrine is the stone pillar or block to which the animals now substituted are tied up before being killed.

DANU or D'hanu or D'hanao, a rude Burmese tribe near M'we-yen.

DANUK, a low tribe in Behar and the Upper Provinces of India, fowlers, hunters, also predial slaves.—*Wils.*

DANUSHA, the unerring bow, the 11th article produced by churning the ocean. See Karma.

DANYA. MALEAL. Coriander seed.

DAOUDI, believers in the divinity of king David among the Bakhtyari in Persia. The Georgians in Bokhara, though for centuries resident there, inwardly are Christians, outwardly Mahomedans.—*Wolff's Bokhara*, i. p. 54.

DAOUDPUTRA, a Mahomedan tribe who claim descent from the khalif Abbas, but supposed to be from Daoud, the first of the family who acquired a name. They are said to be Baluch changed by a long residence in Sind. They moved from Bahawulpur and seized land on the Sutlej, reducing the remains of the ancient Lungga and Johia, and introducing the Sind system of canals of irrigation; and both banks of the river below Pakpatan bear witness to their original industry and love of agriculture. Daoudputra is applied both to the country and to its possessors, the children of David. Daoud Khan is said to have been a native of Shikarpur, west of the Indus, who drew upon himself the arms of Kandahar. Unable to cope with his opponent, he abandoned his native place, passed his family and effects across the Indus, and followed them into the desert. The royal forces pursued, and, coming up with him at Sootialloh, Daoud destroyed his families, who impeded his flight, and faced his foes. They, appalled at this desperate act, deemed it unwise to attack him, and retreated. Daoud Khan, with his adherents, then settled in the Kutchi, or flats of Sind, and gradually extended his authority into the thul. He was succeeded by Mubarik Khan, who deprived the Bhatti of the district called Khadal, and settled in their chief town, Derrawal, founded by Rawul Deoraj in the eighth century. Derrawal was at that time inhabited by a branch of the Bhatti, broken off at a very early period, its chief holding the title of Rawul, and whose family since their expulsion have resided at Gurialah, belonging to Bikanir. The Daoudputra are to be met with in various parts of Sind.—*Tod's Rajasthan*, ii. p. 321. See Bahawulpur; Jut.

DAPHLA, Dophla, or Duffla, a tribe in a tract of country on the N.E. frontier of India. It lies north of Durang and Lakhimpur districts, in the province of Assam. They call themselves Bangni, a word signifying 'man' in their own language. In the cold season of 1874–75, an armed expedition was marched into the hills to recover captives.

DAPHNE, a genus of plants of which several species grow in India. They are of the natural order Thymalaceæ. A daphne grows in the Kashmirian mountains allied to D. gnidium and D. oleoides. It is essentially different from D. cannabina, from which, in Nepal, a paper is manufactured according to the Chinese manner. Acrid and dangerous properties appear to be common to them all; some species are remarkable for the toughness of their fibre, and for the economical purposes to which they are applied. From D. cannabina is prepared the best kind of writing paper in China, according to Loureiro; but in Nepal daphne paper is very brittle and bad. At the Great Exhibition of 1851, a huge sheet of Nepal paper was exhibited by Colonel Sykes. The lace-bark tree, D. lagetta, now Lagetta lintearia, of the West Indies, is remarkable for the beautiful net-like appearance of its several easily separable layers of bark, whence it has received its English name. A plant common in English gardens, and used in medicine on account of its acridity, is the D. mezereum of botanists.—*Bengal Disp.* p. 531; *Honigberger*, p. 268; *Eng. Cyc.*

DAPHNE CANNABINA. *Wall.* Paper shrub.

D. bholua, *Wall.* | D. papyracea, *Wall.*
D. odora, *Thunb.*

Niggi, Jeku, . . HIND. | Mahadeo ka phul, HIND.

A small evergreen perennial shrub, somewhat like a laurel, which bears poisonous berries. It

grows in Nepal, Sikkim, in Kamaon at 5000 to 9000 feet, the N.W. Himalaya generally at from 3500 to 8000 feet. It is with this shrub that the Nepal paper is made; and in Kamaon, etc., large quantities are manufactured from the purple-flowered variety. The bark is boiled in a metallic pot with oak ashes, which are highly alkaline. The softened bark is then pounded with a mallet in a stone mortar, till reduced to a pulp like dough. This pulp is churned with water into a very thin paste, until it lose all trace of fibre, and will diffuse and settle smoothly. In this state it is poured into a coarse sieve placed over a frame, with a cloth bottom floating on water. The sieve stops the coarse pieces, allows the fine emulsion to pass through, and then by agitation this is smoothly deposited over the cloth. Removing the frame, the water filters away, and the pulp dries rapidly by placing the frame before a fire.

The paper is subsequently polished by friction with a shell or piece of hard wood. Sheets have been made many yards square. It may be purchased at Khatmandu at 17 annas sicca for 3 seers. Bricks of the pulp are sold from 8 to 10 annas for 3 seers. The greater part of the paper is made by cis-Himalayan Bhutiah, east of the Kali river. The manufacture seems to have been introduced from China about the 14th century. This unsightly paper is much overrated. But it is tough when kept dry; can be used like cloth for wrapping up dry substances; and it can be used after having been saturated with water, provided it be carefully dried within a reasonable time after it has been wetted. The dried bark may be substituted for D. mezereum. The bazar mezereon is almost always inert from age. In Chumba, the flowers appear to be hung up as offerings in temples. — *J. L. Stewart; O'Sh.* p. 531; *Beng. Phar.* p. 279; *Cleghorn, P. R.*

DAPHNE MEZEREUM. *Linn.* Spurge-olive.

Mazrium, Adada, . ARAB.	Kameela, ... GR.
Iskhes, ... ,,	Mazriun, . . . PERS.

The berries are brisk but unsafe cathartics. Fresh bark is counter-irritant and external stimulant; the dried bark is a stimulant alterative in syphilitic, rheumatic, and scrofulous maladies. It is frequently combined with sarsaparilla, as in the Lisbon diet drink.—*O'Sh.* p. 530.

DAPHNE OLEOIDES. *Schreb.*

D. mucronata, *Royle.*	Kutti lal, Kanthan, JHEL.
Kutal of . . . HAZARA.	Gandlena, Gundalun, RAV.

This paper shrub grows in Kunawar and in the Panjab, and is used medicinally, and said to be used in papermaking. It is in great abundance from a little above Kawai to Kaghan. The pretty red berries are not unfrequently eaten, but are said to be apt to cause sickness.—*J. L. Stewart; Cleghorn.*

DAPHNIDIUM CUBEBA. *Smith.*

Laurus cubeba.	Pih-ching-kia, . . CHIN.

A plant of Cochin-China and the S. of China. The bark and berries are said to be used to cure fish. D. elongatum, *Nees*, and D. pulcherrimum, *Nees*, are trees of Darjiling hills.—*Kurz; Smith.*

DAPHNIPHYLLOPSIS CAPITATA. *Kurz.* A timber tree of the Darjiling hills.—*Kurz.*

DAPHNIPHYLLUM ROXBURGHII. *Baillon.*

Goughia Neilgherrense, *Wight, Icones.*
Nir chappay of the . . . BADAGA.

A good-sized glabrous tree, very common on the mountains on the west side of the Madras Presidency, and in Ceylon at elevations from 4000 feet upwards; also indigenous in Hong-Kong, Loo-Choo, Corea, and in Japan. The wood makes excellent fuel. Its foliage makes it highly ornamental for shrubberies, etc.—*Beddome, Fl. Sylv.*

DAPHNIS MYRRHÆ. *Smith.* Wu-yoh, CHIN. A shrub of several Chinese provinces, resembling the tea shrub. Root used medicinally.—*Smith.*

DAR. PERS., HIND. In the Persian, from Dashtan, to hold, a possessor, a place of abode; also from the Chaldee and Hebrew, meaning to encircle, to dwell. Used as a prefix and postfix to many compound nouns,—as Dār-ul-fana, the perishable abode, *i.e.* the world; Dar-ul-baka, the permanent abode, *i.e.* eternity; Amil-dar, a tax-gatherer; Ab-dar, watery, a water-cooler; Zamin-dar, a land-holder; Na-dar, a pauper (holder of nothing); Killa-dar, Chob-dar, Jawab-dar, etc.; Dar-us-shafa, a hospital; Dar-ul-khilafat, the khalif's residence; Dar-us-sultanat, the residence of a king, a capital; Dar-ul-harb, a country under a non-Mahomedan government, the seat of constant hostility or war, non-Mahomedans at all times being legitimate objects of attack.

Dar-ul-karar, a rhythmical addition to Kandahar. The words mean the abode of quiet, or city of stability. Throughout the East, Mahomedans often employ this kind of alliteration. After Choki, a chair, they will add choki-oki; to Bachah, a child, is added bach-kach; Hyderabad is farkhundah baniad, of happy foundation.

Dar-ul-karar, or city of permanence, is allegorically applied to the future world, as opposed to this, the Dunya-i-fani, the transitory world.

Dar-ul-khilafat, at Baghdad, the palace built by Al Mansur, the second khalif of the Abbas dynasty, and which his successors enlarged and furnished in the most costly manner. A piece of the Hajar-us-siah, or black stone of Mecca, was let into the threshold of the principal gateway, and a large curtain, made of the hangings of the temple, was suspended from a window of the gateway, to about the height of a man from the ground. Every person entering had to rub his eyes with the curtain, and to crawl over the black stone to avoid touching it with his feet.

DAR. PERS. A door, a gate; hence Dār-wān, a door-keeper, Dar-waza, a door, a gateway. Most cities in India have their gates named from the chief town to which they lead. Thus the Dehli gate, the Mecca gate.

DAR. HIND. A weight used in the tinsel-maker's apparatus.

DAR, a town near the valley of Kābul, with many sepulchral topes.

DARA. PUKHTU. A glen, a defile.

DARA or Durrah. MAHR. A body of the Pindari.

DARA, a king of Persia, son of king Darab, overcome by Alexander the Great.

DARAB, king of Persia, son of Kai Bahman or Ardeshir Daraz-Dast, Artaxerxes Longimanus.

DARABGIRD, one of the five ancient divisions, circles, or departments of ancient Fars. Darabgird was built by Darius I. It is 150 miles S.E. of Shiraz; is finely situated, and surrounded with orange and lemon and date groves; tobacco and other products are largely cultivated. The people have numerous flocks and herds. — *MacGregor*, p. 116.

DARAKHT. PERS. A tree.

Darakht-i-Azad, Melia sempervirens; Azadarachta Indica.
Darakht-i-Muql, Commiphora Madagascarensis.
Darakht-tamr-i-Hindi, Tamarindus Indicus.

DARANA. HIND. A scarecrow; from Darna.

DARARI-DANDA. HIND. A rolling-pin and concave receptacle used by native needle-makers for flattening wire.

DARBAND, a town of Daghistan, since 1813 in Russian territory. It has the citadel Naraini Kala, supposed to have been built by Alexander. The Caucasian wall extended from Darband. It was 21 feet high and 7 feet wide, and was intended as a defence against the Scythians from the north. It was first captured in 1722 by Peter the Great. Near it is the Kogre-Kafe mountain; at its foot the village of Dashkessine and the cave of the Dives, the dwelling-place of the giants of the Scripture. —*MacGregor; Porter's Travels*, i. p. 72; *Malcolm's Persia*, ii. p. 5.

DARBAR. HIND., PERS. A general reception by a ruler in British India, or by any officer of rank; a court, a royal court, a levee. Also the Sikh temple at Amritsar.

DARBHA. HIND. Poa cynosuroides, *Retz.*

DAR-CHINI. HIND. Barks of Cassia lignea, Cinnamomum iners, *Rein.*, Laurus cinnamomum, and C. albiflorum.

DARD, an Urdu poet of Dehli, whose name was Khaja Mir. He lived in the 18th century; his poems were of a plaintive and pathetic character, as the Nala-i-Dard, Ah-i-Sard, Soz-i-Dil, Shama-i-Mahfil.

DARD, a race lying along the Indus, to the westward of Ladakh, and to the N. and N.E. of the Snowy Range, who speak three distinct dialects. They use the Persian character in writing Dardu, the three dialects of which are called Shina, Khajuna, and Arniya. The Shina dialect is spoken by the people of Astor, Gilghit, and lower down in Chelas, Darel, Rohli, and Palas, on both banks of the Indus. The Khajuna, by the people of Hunza and Nagyr; and the Arniya in Yasan and Chitral. The Dard group of languages includes the Arniya, Astori, Gilghiti, Kalashamander, and Khajuna. The Kashmir people have their own peculiar language. In Gilghit, Astor, and Baltistan, the castes are Ronū, Shin, Yaskun, Kremin, and Dum or Dom. The Kremin is a mixed race. The Shin or Shina and Yaskun were the dominant race. In the N.W. Himalaya, the lowest castes are the Dogra and Dom. Astor has an area of 1600 square miles, on the left bank of the Indus. Gilghit, in Tibetan Gyilgyid, has an area of 2500 square miles, on the right bank of the Indus. The Dard or Durd, the people who now occupy the country called Dardu, are supposed by Vigne to be the Dadicæ (Δαδίκαι) of Herodotus. Darada, a country in the Hindu Kush, bordering on Kashmir, is mentioned by Pliny. The people are the Dard, and are mentioned in the Vishnu Purana. The Kashmiri has decided affinities with the Dard tongue. The Balti people of Little Tibet say that Ladakh, Iskardo, Khopalu, Purik, Nagyr, Gilghit, and Astor are distinct Tibets. Papps is a drug from Ladakh, seemingly composed of dough, which the Dards add to an infusion of corn to make the beer called mo. Wine is largely made by the Dards. Men and women amongst the Dards eat together. When men drink plain milk together, it is as an oath of eternal friendship. At the conclusion of the mullah's reading the marriage service, the bride and bridegroom partake of a spoonful of boiled milk. Dards are fond of chaughan bazi, or hockey on horseback, also called polo. The game is called tope in Astor; at Gilghit it is called bulla. The Dard legends and beast tales have been described by Dr. Leitner.—*Dowson; Latham; Vigne.*

DARDANELLES, two castles of Turkey. One, called Sestos, is in Roumania; the other, Abydos, in Natolia. Long. 26° 26′ E., lat. 40° 10′ N.

DAREGA, a round shield used by the fair red-haired Touareng race in Northern Africa.

DARENGRI. HIND. An astringent leaf used in Kashmir in dyeing.

DARFUR or Darfoor, a kingdom of Africa, on the borders of Nubia and Nigritia. The people are barbarous, and consist of native tribes, of a deep black complexion, with woolly hair.

DARGAH. HIND., PERS. A tomb or shrine, of which there are in India several of fame. Near Mangalore, at the village of Cuddry (two miles off), is Shaikh Furreed ka Dargah. It consists of a hole in the centre of the side of a perpendicular laterite rock, which is fabulously said to lead all the way to Hyderabad, 450 miles. The opening is square, about six feet above the ground, ascended by a flight of stone steps rudely constructed, and just large enough to allow of a person to crawl in. The cavern is very dark, and no one knows the exact size of it. Adjoining is a chasm with an opening left for people to creep in by. Tradition states that about A.D. 1738, there was a pir named Shaikh Furreed, who made chilla (*i.e.* neither speaking, eating, or drinking for forty days, but worshipping God and living retired from the world). He resided at Cuddry for twelve years, during which time he used to observe chillas, remaining for forty days together in the cavern, seeing and speaking to nobody, eating and drinking nothing; after the forty days were over, he was wont to come out for four or five days, but partake of no other food but the leaves of a plant (since named after him), Furreed-bootee, which grows wild in the surrounding jungles, and has a sweetish taste; he drank water, spoke during these days, said prayers in an adjoining stone building, and then retired again to this cavern to perform another forty days' chilla, and so on. At the end of twelve years he disappeared, and this being the road to Mecca, it is said that he set out for that town by the subterraneous route, and has never been heard of since. Mahomedans resort hither occasionally, and on Fridays cook victuals, and, having offered fatiha over them while burning incense, in his name distribute them among the fakirs resident there, as well as those who have accompanied them. If a dargah be situated in a place where no food can be dressed (from want of materials or otherwise), they take sweetmeats with them, which they substitute in its stead. This dargah is in the charge of a fakir, who receives the offerings that are made by visitors, and which are placed at the entrance of the cave; when he dies, the four principal makkan-walay (pirs), residing at the four principal makkans (or houses of pirs), spiritual guides (so called) at Mangalore, and six or ten of their murid (or disciples), select a successor; on such occasions numerous fakirs are likewise present. In Tipu Sultan's time, the individual in charge of this dargah received rupees

corresponding to the number of masts of the vessels that entered the roads,—for every ship, three rupees; patamars, etc., two rupees; manji, etc., one rupee. This was abolished when the place fell into the hands of the British.

A famed dargah is on the banks of the river at Mangalore, and consists of a large, long tomb, with minarets at each extremity. Lao Langar Shāh, a fakir, whose name it bears, is buried here. Lamps are lit here every night; and it is chiefly visited by the Tamil, a Hindu race, but also other Hindus and Mahomedans. Most Hindus, however, frequent Shaikh Furreed's dargah. Dargahs are resorted to when people are desirous of being freed from any distemper, misfortune, etc. If the individual who is enshrined in the dargah has been wealthy, large dinners are provided, fatiha offered, and the food distributed to any who choose to partake of it; there being sometimes kanchni ka taifa (band of dancing girls) to entertain the guests. Among the great, this takes place on every night of the year (and is never observed in the day-time); but among the poorer classes of people, every Monday and Thursday, or once a week or month.—*Herklots.*

DARHA, the tutelary deity of the Kol and Oraon.

DAR-HALD. HIND. Berberis lycium, B. Asiatica, B. aristata. The word means yellow wood, and is also applied to turmeric.

DARI, an ancient dialect of the Persians, supposed to have been spoken about Balkh.

DARI, Daree, or Durree. HIND. The cotton-striped or patterned carpeting of India; also a stout twill cloth, woven like a dari (carpet), only finer.

DARIA. PERS. A sea, a lake. Daria-Dara, a lake of Afghanistan, in lat. 33° 35′ N., and long. 64° 53′ E., 40 miles S. of Siah-Koh.

Daria-i-Neyriz, a lake in the province of Fars, about 10 miles E. of Shiraz. It is 60 miles long, and 3 to 5 miles broad, and is filled by the river Kur. Its surface is often covered by innumerable water birds.

Daria-i-Raza, the Aryan Palus of the ancients, a lake formed by the accumulation of the waters of the Helmand at the southern extremity of its course, and called the lake of Zarrah by Europeans. This is a contraction of Zarrenj, the ancient capital; and this again represents the Zarangi or Drangi of the Greeks. In old Persian books it is called Daria-Raza, or Little Sea. The present inhabitants of Seistan call it Meshila-i-Rustum, also Meshila-i-Seistan. Meshila merely means in Arabic, a muddy swamp. The ordinary name of the lake is Hamun, or the expanse.—*Ed. Ferrier's Journ.; MacGregor.* See Helmand.

DARIDR. HIND. Poverty. Daridr khedna, to drive out poverty, is a custom, on the morning of the Dewali, of taking a sieve or winnowing basket and beating it in every corner of the house, etc., for the purpose of averting poverty. The night preceding the ceremony is passed as a vigil, called Koja gara, as Lakshmi descended on this night, and promised wealth to all who were awake. At night, parties of merchants play cards at high stakes.—*H. Elliot.*

DARI-KHANA, a hall of audience, appropriated for ceremonies; carpets are spread.

DARIUS, Persian kings of the Kyanian dynasty, known as Dara. The first seems to have been Darius Hystaspes, whose name has been said to be derived from Hysna, to neigh, and Aspa, a horse. His Persian name was Gushtasp. His admiral, Scylax, reported so favourably of the wealth of India, that Darius invaded India, and annexed the provinces bordering on the Indus. His Indian possessions were the most valuable of his twenty satrapies, and are supposed to have included the Panjab; but there is no testimony to this beyond the authority of Herodotus (lib. iii. p. 100), and the doubtful voyage of Scylax down the Indus. Bunsen gives the following dates of the reigns of the kings Darius:—Darius, son of Hystaspes, B.C. 521 to 486; Darius Nothus, B.C. 423 to 405; Darius III., surnamed Codomanus, B.C. 335 to 332. The edicts of Darius Hystaspes are preserved in the Achæmenian inscriptions at Behistun, first translated by Sir Henry Rawlinson. Bactria is enumerated as one of his provinces in the inscription which he caused to be carved on the rock of Behistun.—*Hist. of Panjab*, p. 45.

DARIYAI. HIND. A plain silk fabric. Dariyai-baf, the silk-weaver. Dariyai dhup-chan (lit. sun ray), shot silk.

DARJILING, in lat. 27° 2′ 48″ N., and long. 88° 18′ 36″ E., in Sikkim, is a large station and sanatorium, 412 miles from Calcutta. The top of the Observatory hill is 7168 feet above the sea. Darjiling ridge, however, varies in height from 6500 to 7500 feet above the level of the sea. The mean rainfall is 130 inches, and mean temperature, 50°. To the N.W. towards Nepal, the snowy peaks of Kubra and Junnoo (respectively 24,005 feet and 25,312 feet) rise over the shoulder of Singalelah; whilst eastward the snowy mountains appear to form an unbroken range, trending north-east to the great mass of Donkia (23,176 feet), and thence south-east by the fingered peaks of Tunkola and the silver cone of Chola (17,320 feet), gradually sinking into the Bhutan mountains at Gipmoochi, 14,509 feet above sea-level. Darjiling was acquired by the British in 1835 as a sanatorium, a tract of country 138 square miles in extent being ceded by the raja of Sikkim, in return for an allowance of £300 per annum, afterwards raised to £600. Its population has increased from a few scattered tribes to upwards of 100,000, chiefly Murmi and Nepalese (32,338), Rajbansi Koch (23,124), the original Lepcha (3952), Dhimal and Mech (1766), along with Sharpa Bhutia, Limbu, Sanwar, and Chepang, and Brahmans, Rajputs, and Oraon. The Bhutia, Lepcha, and Murmi are Buddhists, and speak the Tibetan language. They are strong and active, and incline strongly to the Mongolian race. The Limbu, Sanwar, and Chepang are of a small Mongolian type, strongest in the Limbu, and their language is referable to either the Tibetan or Indian standard. The Mechi, Dhimal, and Garo are lowland tribes, with a Mongolian physiognomy, but are neither Hindus, Buddhists, nor Mahomedans. The Tharoo and Dhunwar are Buddhists or Mahomedans, with fair and barely Mongolian features. The Bahir, Kebant, Amatti, Maralia, Dhanook, and Dom are not Mongolian, but a dark race speaking Hindi or Bengali. The Koch or Rajbansi inhabit the Terai of Nepal and Sikkim, and have spread into British territory.

The mountainous country, at from 1500 to 4000 feet above the sea, is inhabited by the *Limbu*, a martial, beardless Mongolian race. From 4000 to

6000 feet, the hills are occupied by the *Lepcha*, the *Bhutia*, and *Murmi*. During the summer months, the summit of the great Singaloda spur separating Darjiling fram Nepal is occupied by the *Garong*, a pastoral race from Nepal, who graze their flocks at heights from 9000 to 14,500 feet, their great flocks being guarded by huge savage black dogs. The *Lepcha* Buddhists are aborigines; they are a fair, beardless, Mongolian race, omnivorous, amiable, and cheerful. They have a written language in a character of their own.

The *Limbu* are Hindu, Buddhist, and polytheist by turns, as circumstances or convenience require.

The *Bhutia* are from Bhutan, east of the Tista river. Many of them have beards and moustaches. They have a written language in the Tibetan character. They are Buddhist Mongolians. They are agricultural and pastoral.

The mountain slopes are so steep, that the spurs or little shelves are the only sites for habitation between the very rare flats on the river banks and the mountain ridges, above 6000 feet, beyond which elevation cultivation is rarely if ever carried by the natives of Sikkim. The varieties of grain are different, but as many as eight or ten kinds are grown without irrigation by the Lepcha, and the produce is described as very good, 80-fold. Much of this success is due to the great dampness of the climate; were it not for this, the culture of the grain would probably be abandoned by the Lepcha, who never remain for more than three seasons in one spot. The geological structure of the mountains of Sikkim is very uniform, the rocks being principally varieties of micaceous shale and gneiss. The soil is generally formed by the disintegration of these rocks, and is covered in some places with vegetable mould. At Darjiling the Minchu spring water is a carbonated and sulphuretted chalybeate, containing its iron in the peculiar state in which it is found in the Bath waters.—*B. H. Hodgson, Esq., C.S.; Indi. Anna. Medi. Science*, p. 264; *Hooker, Him. Journ.; Dr. Thomson in Eth. Soc. Journ.*

DARMA, a pass leading into Garhwal. Its occupants are said to be the descendants of a body of Mongols, whom Timur left behind him in Kamaon. They practise divination, taking their omens from the warm liver of a sacrificed sheep. They eat the yak and the cow. They inter their dead for a time, and then, in the month Kartik, they exhume and burn them.—*Cunningham's Ladakh; Latham's Ethnology.*

DARMA. Beng. Amphidonax karka, *Lind.* The darma grass matting is much used in Bengal to make walls of native huts and fences.

DARNING, or Rafu-gari, is a branch of the sewing art, which, though in Europe applied to the most homely purposes, requires the greatest skill in the East, where a defect in a costly shawl is to be made good, or a coarse thread is to be picked out of a piece of a muslin into which it has been accidentally introduced. So skilful are some of the rafu-gar, that they can extract a thread twenty yards long from a piece of the finest muslin, and replace it with one of the finest quality. They are principally employed in repairing the muslins and calicoes that are injured during bleaching; in removing knots, and joining broken threads; also in forming the gold and silver headings on cloths. — *Taylor; Royle, Arts of India.*

DAROGHA. Hind. A superintendent.

DAROO or Daru. Hind. A general term for ardent spirits, and equivalent to the Araq of the Arab and Persian. Daroo distilled from the mahwa flower is produced in great quantities in all the jungles of the Upper Godavery, and in several parts of the Bombay Presidency; but in the S.E. of Asia, rice, gur, or unclarified sugar, the fermented palm wines, are the substances commonly utilized. Daroo also means gunpowder; likewise also medicines.

DAROOD, properly Darud. Pers. Blessing or benediction. Darudi, a person who reads prayers or the Koran at tombs.

DARORAH. Hind. Gang robbery with violence.

DARRAH. Hind. A valley, a glen, a defile.

DARRANG, a district in Upper Assam, in a narrow strip of land, 126 miles long, between the lower ranges of the Himalaya and the Brahmaputra, which is navigable for steamers all the year round. The Aham are a wild tribe of Shan origin from the Burmese hills, who first entered the valley about the 13th century. They organized their conquered territory with minute precision, and held their own until the advent of the British. In Darrang they number only 3490. The Towang Bhutia are entirely independent of the state of Bhutan. They trade with Tibet, and are quiet and friendly. The Aka or Hrusso are a small tribe who used formerly to commit frequent raids on British territory. They now receive pasa or black-mail to the amount of £67 a year. Farther east are the Daphla, whose native mountains extend along the neighbouring district of Lakhimpur. In the year 1872, the village of Amtola, occupied by Daphla settlers, was attacked by a strong party of hill Daphla, and 44 persons were carried off to the mountains.

In Darrang, as in the rest of the upper valley of the Brahmaputra, the great majority of the population are of aboriginal descent. The aborigines of the census report are mainly composed of Lachari, who number 62,214 out of the total of 76,094; Rabha, 10,302; Daphla within the district boundaries are 134 in number; Koch, 46,788; Dom, 8023; and the Aham, 3490. Of Hindus proper, by far the most numerous caste is the Kolita (16,998), the ancient priesthood of Assam, who are now admitted to Hinduism as pure Sudras. The weaving castes are also strongly represented, with an aggregate of 18,550 members.—*Imp. Gaz.*

DARSANA. Sansk. Demonstration; a system of doctrine or philosophy, of which six schools are recognised by the Hindus:—

1. The *Sankhya* philosophy of Kapila was dualistic, teaching the distinction of soul and matter.

2. The *Yoga* or Patanjala system taught the practice of abstraction, or Yoga.

Logic or dialecties has two parts, viz.:

3. The *Nyaya*, as taught by Gautama or Akshapada; and

4. *Vaiseshika*, founded by Kanada or Kanabhaksha.

5. The *Purva Mimansa* philosophy, by Jaimini, treating of the purport of the ceremonies of the Vedas. It is commonly called the Mimansa.

6. The *Uttara Mimansa* or Vedanta, by Veda

Vyasa or Badarayana, inculcating the unity of spirit and matter.

The principal doctrines of the Uttara Mimansa are that God is the omniscient and omnipotent cause of the existence, continuance, and dissolution of the universe. It is supposed to have been founded three or four centuries before Christ. The Nyaya and Vaiseshika recognise a supreme being. The Yoga is theistical, and Sankhya atheistical. All have the same final object, the emancipation of the soul from future birth and existence, and its absorption into the supreme soul of the universe.

The Sankhya system was taught by Kapila. Its principal doctrine is that rest from transmigration is to be obtained by true knowledge, and that true knowledge consists in regarding man and the world as altogether worthless and perishable. Kapila added little or nothing about the eternal reality behind these transitory things, and this important portion of the scheme was completed by Patanjali, forming the second or Yoga system of philosophy. Patanjali's four chapters are appended in the best manuscripts to the Sutras (or leaves) of Kapila, and form together the work called Sankhyapravāchana.

The third philosophic system is the Nyaya of Gautama, which again was supplemented by the Vaiseshika, or fourth system of Kanada. These two darsanas both occupy themselves with elaborate investigations into the mental constitution of man and the laws of logic, as means for the attainment of true knowledge. Lastly, the fifth and sixth systems are called the Purva Mimansa and the Uttara Mimansa. The first originated by Jaimini, and the second by the eminent sage Vyasa. It is this last system, the Uttara Mimansa of Vyasa, to which the title of Vedanta is applied; the word meaning, 'the ultimate aim of the Vedas.' All the other systems of philosophy recognise the Vedas as sacred; but the two Mimansas treat them as absolute revelation, and are in fact commentaries and interpretations of their earlier and later portions.

The Vedanta simply teaches that the universe emanates in successive developments from Brahma or Paramatma, the supreme soul; that man's soul is identical in origin with the supreme soul; and that liberation from transmigration will be obtained so soon as man knows his soul to be one with the supreme soul. The Vedanta system represents the religion of Hindu philosophy, or rather the religion of philosophers. To suppose that men who accepted the Sankhya or Nyaya systems would therefore take no interest in the Vedanta, would be somewhat like supposing that if a man studied Aristotle he would necessarily despise the Psalms. The great Hindu theologian, Sankaracharya, author of the poem Atma-Bodha, was an enthusiastic Vedantist.

☞ Darsana with lay Hindus generally means performance of religious duties, visiting temples, seeing or reverencing idols.

DARUDI, from Darud, PERS., benediction, one who repeats benedictions at a tomb or public building.

DARUKA, in Hindu mythology, a female Asura, who, according to Colonel Vans Kennedy, was the leader of a host of Amazonian Asura, with whom the gods were afraid to engage in battle, from the dread of incurring the sin of feminicide. They in consequence applied to Siva, on whose solicitation Parvati produced from herself the form of Kali, having in her hands a trident and a skull. On beholding her, the affrighted gods ran away. Kali alone attacked Daruka and her hosts, and destroyed them.—*Cole. Myth. Hind.* p. 378.

DARUN-AJ-AKARBI. ARAB. Doronicum scorpoides, a kind of fern, the root and leaves of which reached Ajmir from Arabia *via* Bombay. Considered as a tonic. Four to six massa are a dose. One tola costs two rupees. — *Gen. Med. Top.*

DARVESH, from Dar, a door, and Vihtan, to beg, is the Persian term synonymous with the Arabic and Indian fakir, a Mahomedan religious mendicant. Originally there were twelve orders, viz. Rafai, Sadi, Sahravardi, Shibani, Mulavi, Kadiri, Nakshbandi, Vaisi, Jalwati, Khalwati, Bedawi, Dassuki. There have been many branches added, amongst whom may be mentioned the Banawa, Chishti, Kalandar, Madaria, Rasul-Shahi. The system of religious devotees originated amongst Mahomedans,—according to one tradition, with Owais bin Aamir. He had never seen Mahomed, but he so loved and revered him, that he caused two of his front teeth to be extracted, because Mahomed had lost two of his front teeth in the disastrous battle of Ohod, and the example given by Owais was followed by the khalifs Abubakr and Ali, and the associations of recluses created by them. But most of the existing orders of darvesh which are scattered over Mahomedan countries, trace back their origin to Jalal-ud-Din, Rumi, the author of the Masnavi-i-Sharif, who founded the Mulavi order. In European Turkey, the darvesh have formed somewhat prominent communities, and about sixty different orders, each named after its founder, are supposed to exist there. The Batashi or Bektashi of Constantinople are said to be quite atheistic, not attached to the principles of the Koran, nor firm believers in Mahomed as a prophet. They are generally of the sect of Ali, therefore Sufi or Mahomedan spiritualists. They have a takiah on the bank of the Tigris at Baghdad, on the west side of the town. The Rafai darvesh, so common in Turkey, inflict on themselves great self-torture. They are also known as the Eesawiya, *q.v.* Some of the wandering Indian fakirs travel so far west as Hungary, to visit the shrine of a santon, Gul-baba, and travel east to Tenasserim and Burma. One whom the editor met near Hingolee, in the Dekhan, was a native of the Panjab, but had been to Ceylon, Mergui, Tavoy, Rangoon, and Moulmein. In British India many fakirs are low, profligate men, held in great disesteem by all classes of the community, and some of them are utterly degraded in habits and mode of life. The bulk of them are Be-Sharra, literally without law, *i.e.* do not act up to the precepts of Mahomed, but are latitudinarians; a few are Ba-Sharra, or with law, following Mahomedanism. The latter are styled Salik; the Be-Sharra are the Majzub. Azad, Rasul-Shahi, Imam Shahi, Kalandar, are of both sects.

No character in the Moslem world is so proper for disguise as that of the darvesh. It is assumed by all ranks, ages, and creeds,—by the nobleman who has been disgraced at court, and by the peasant who is too idle to till the ground; by

Dives who is weary of life, and by Lazarus who begs bread from door to door.

The Madaria order are named after Badi-ud-Din, Shah Madar, called also Zandah Shah Madar, who is buried at Makanpur (ob. 1433 A.D.).

The Nakshbandi darvesh illustrate their theology with pictures.

Mevleviyeh, dancing darvesh, are a solemn and, for the most part, learned body of men, revolve like teetotums till they have addled their brain.

Gulshaniyeh, the Howlers of the guide-books, toss their heads backwards and forwards, and howl the name of Allah till they fall back foaming at the mouth in an epileptic fit.

The Rafaiyeh cut themselves with knives, eat live coals, chew glass, and perform other mad freaks for the same purpose, namely, to lose the idea of self and attain a fancied reabsorption in the Deity. How far the same motives may have actuated the prophets of Samuel's time, when Saul (as casual spectators at a darvesh celebration often do now) stripped himself naked and joined the wild prophetic dance (1 Samuel xix. 24), must be left to biblical scholars to decide.—*Burton's Meeca*, i. p. 21; *Osborn's Islam*, p. 92; *Herklots, Qanoon-i-Islam*; *H. Elliot*.

DARWAZ, a chieftaincy in the valley of the Oxus. It is north of Badakhshan, and is ruled by an independent Tajak chief. He claims a Grecian descent, like the mir of Badakhshan, and the chiefs of Chitral, Gilghit, Iskardo, and others. The Oxus sands here are washed for gold.—*MacGregor*, p. 224.

DARWAZAH. HIND. Door; the gate of a town or fortress. All great Mahomedan cities name their gateways generally as leading to other cities, such as Mecca-darwazah, Dehli-darwaza. Darwazah-i-Irak, the western gateway of the town of Herat. See Dar.

DARWAZYE, one of the Hazara states, the chief of which is of the Tournoulee.

DARYAN or Dryon, a strait above 120 miles long, from Pulo-Varela to the Carimons, and is bounded on the west side by the coast of Sumatra, False Durian, Sabon, and the contiguous islands; on the east side by the islands off the south and west sides of Lingin, Great and Little Durian, and the adjacent islands. Throughout these straits the tides are very irregular.—*Horsburgh*.

DAS. HIND. Ten. Dasaha, MAHR., the period of the ten days' impurity on the death of a relative. Dasoond, the tenth part. Dasa-Marma, the ten commandments of Valabhacharya. Dasagriva, or the 'Ten-necked,' a name of Ravana. Dasahara, or 'Ten-removing,' a name of Ganga.

DAS, Dāsa, Doss, forms part of the names of many Hindus of N. India and Bengal, and is of frequent occurrence amongst the Kayasth tribes. Dasa means servant, slave, the servant or slave of a deity, and corresponds to the Abd and Ghulam of the Mahomedans. The Arab Abdallah and the Hindu Iswara Das alike mean the servant of the Lord. Narayan Doss, Bhagavan Das, Krishen Doss, for instance, signify the slave of Narayan, Bhagavan, or Krishna. Ramdas is, in like manner, the slave of Rama. Deva Dasa are Hindu temple women, slaves of the temple deity. In the days of Akbar it was borne by Rajputs, as Raja Bhagwan Das, of the Kachwaha tribe. It is now seldom used by Rajputs except for illegitimate offspring.

DASA, an order of Vaishnava devotees.

DASAHARA or Dashara. SANSK. The tenth of Jeth Shukhl Paksh, which is the birthday of Ganga. Also is the tenth of Asin Shukl Paksh, Asoj or Ashwin shud, on which, after the worship and religious ceremonies performed during nine nights, the Hindus throw the images of Devi into the river. The day is celebrated with great pomp by the Mahrattas and Hindus of Mysore and of all Maharashtra. The festival occurs about the first days of October. It is supposed to relate to the autumnal equinox or the breaking up of the S.W. monsoon, when the weather becomes suitable for military operations. In Bengal it is a popular festival in honour of Durga, celebrated in the month Aswin (September—October), for nine days. The tenth day of Asoj is commemorative of the date on which the deified Rama commenced his expedition to Lanka for the recovery of Sita from Ravana. The nine days preceding the Dashara are the Naoratri, or 'nine-nights,' during which a Brahman is engaged to read the praises of Durga, and on the tenth perform the homa or fire-sacrifice, in which rice and ghi are poured into the fire. Bania women keep up a dance called garbha. As Arjuna and his brothers worshipped the shumee tree, the Acacia suma, and hung up their arms upon it, so the Hindus go forth to worship that tree on the festival of the Dashara. They address the tree under the name of Aparajita, the invincible goddess, sprinkle it with five ambrosial liquids, the panchamrit, a mixture of milk, curds, sugar, clarified butter, and honey, wash it with water, and hang garments upon it. They light lamps and burn incense before the symbol of Aparajita, make chandlos upon the tree, sprinkle it with rose-coloured water, and set offerings of food before it.

In this festival Hindu soldiers have converted the animals and instruments of modern warfare into emblems of their Bellona. Thus the horse is invoked to carry his master, first to victory, and then to repose. The flagstaff is the ensign of Indra; the sword is celebrated under several names; the bow and arrows are also praised; and even fire-arms have their proper pre-eminence of adoration. The Hindu artilleryman at all times regards the gun to which he is attached as an object of superstitious reverence, and usually bestows on it the name of some deity. During the Durga festival, the cannon belonging to the army were planted, praised, invoked, and propitiated by several species of offerings. On the morning of the tenth day, the Peshwa, with all his chiefs and soldiers, used to move out to the camp in the vicinity of the city, each being ranged under his particular banner, mounted on his best horse, dressed in his finest clothes, and with his arms highly polished. Horses, elephants, and camels were all arranged in their gayest trappings, and every corps spread its gaudiest flags and banners. The whole population of the capital, either as actors or spectators, joined in this grand procession, which moved towards the sacred tree, the object of adoration. After the offerings and prayers, the Peshwa plucked some leaves of the tree, on which all the cannon and musketry commenced firing. The Peshwa then plucked from a field, purchased for the occasion, a stalk of jawari or bajri, on which the whole

crowd fired off their arms or shot arrows, and rushed in an instant and tore up the whole. Each endeavoured to procure a share of the spoil. Some succeeded in carrying off a handful, whilst others contented themselves with a few stalks; all, however, returned home with shouts of joy, and the remainder of the day and night was devoted to festivity and mirth. Many other usages prevail at this festival, which are peculiar to the Mahrattas; among others, that of sacrificing sheep and buffaloes, sprinkling the blood on the horses with great ceremony, and distributing the flesh of the former to all ranks, Brahmans excepted. The chiefs often gave money to enable their soldiers to buy sheep to perform sacrifices, which, from furnishing them with a good dinner, were by many considered as the most essential ceremonies of the Dasahara.—*Forbes, Rasamala, Hindu Annals*, ii. p. 335.

DASA-KAMARA-CHARITA, Tales of the Ten Princes, a Sanskrit book by Sri Dandi.—*Dowson.* See Dandi.

DASANAKHI. HIND. An ancient missile weapon of India.

DASARATHA, king of Ayodhya, of the Solar race, a potent sovereign in ancient India, and father of Rama. His kingdom consisted of the eastern countries, Sindhu, Saurastra, Savira; southern countries, Anga, Banga, Magadha, Kosala, and Kasi. He was a descendant of Ikshwaku. Buchanan supposes him to have lived in the 15th century before the Christian era. According to Wilson, the sons of Dasaratha were Rama, Lakshmana, Bharata, and Satrughna. His chief queen, Kausalya, bore Rama; Kaikeyi gave birth to Bharata, and Su-mitra bore Lakshmana and Satrughna. At the time that Sita was married to Rama, Urmila, the other daughter of Janaka, was given to Lakshmana, and the two other brothers were married to Mandavi and Srutakirtti, the daughters of Kusadhwaja, the sovereign of Sankasya, or, according to the Agni Purana, of Kasi or Benares, and brother of Janaka. Dasaratha Jataka is the Buddhist story of king Rama.—*Hindu Theatre*, i. pp. 288-289.

DASARI. TEL., KAR. A mendicant of a class in the south of India, a worshipper of Vishnu.

DASATIR, sacred writings of the ancient Persian prophets, published by Mullah Firoz-bin-Kaus at Bombay in 1818, in 2 vols. 8vo.—*Buist's Cat.*

DASHA-BHOOJA. SANSK. From Dashan, ten, and Bhooja, an arm. Dashahara, SANSK., from Dashan, ten, and Hree, to take away. Dasha-koomara, SANSK., from Dashan, ten, and Koomara, a son. Dasha-dik-pala, SANSK. Pala signifies the cherishing of a person. Dasha-rat'ha, SANSK., from Dashan, ten, and Rat'ha, a chariot. Dashama-padshahé-grant'ha, SANSK., from Dashama, the tenth, padshah, king, and Grant'ha, a book.

DASHI. KASHMIR. The edging at the ends of a long shawl.

DASHMANTA or Dushyanta, a king of the Lunar race, husband of Sakuntala.

DASHT. PERS. A desert; also an open tract of country, a plain.

Dasht-i-Badu, the northern part of Dasht-i-Goran.

Dasht-i-be-Daulat, in Baluchistan, is an elevated valley or plain, situated to the N.E. of Mustung, at the head of the Bolan Pass. Its area is from 15 to 20 square miles, and some of its boundaries approach the Bolan pass. It has no towns or villages, but is occasionally dotted with the tomans of the Kurd tribe. Some portions of it are cultivated in the spring and summer months, but during the winter it is a bleak, howling wilderness, destitute of trees or any shelter; the snow lies deep on it, and cold winds whistle over its frozen surface. It is subject to the depredations of the Kaka tribe of Afghans, and caravans are frequently plundered by them. In the summer it is frequently clothed with the fragrant terk plant, and its surface diversified by fields of waving grain. It has no streams, but one or two wells have been dug, and water obtained with some difficulty. The cultivators are dependent on rain and heavy dews for the success of their labours. On the N. it communicates with the valley of Shal, on the E. it has the Kharlaki ridge, in which is the head of the Bolan pass, and on the W. and S. Chahaltan. It is pretty in spring, and parts are cultivated.

Dasht-i-Drugi, a small plain in Jalawan.

Dasht-i-Goran, or plain of the wild asses, is S. of Chappar, in the Kalat district, occupied by the Sunari section of the Zahri Brahui of Jalawan. It was once occupied by the Zigger Minghal, but their increasing numbers compelled them to migrate.

Dasht-i-Kapchak. Kapchak is a Turkish word, and Dasht means a wide uncultivated plain.

Dasht-i-Mat, a valley in Jalawan.

Dasht-i-Tik, part of Dasht Goran.

Dasht-Khor, in Kej, is fertilized by the river Khor, which disembogues near Juni, W. of Ras Pishkan. The occupants are Kaodai (Khudai?), Rind, Hot, Birdi, Bar, and Shahzada.—*Robertson; Pottinger; Hough; Mason; Cook; Markham, Embassy*, p. 34; *Ross.*

DASHTISTAN means a level country, from Dasht, a plain; but it is particularly applied to the low country extending along part of the shores of the Persian Gulf.—*Fraser's Khorasan.*

DASHYANTA was eldest son of Aulla, and father of the emperor Bharata by Sakuntala.

DASI. HIND. A female servant.

DAS-NAMAH, a Hindu sect, worshippers of Siva, also called Dandi. Sankaracharya was their founder. They take this name from the words Das, ten, and Namah, a class, because there were ten orders amongst them. See Dandi.

DASOOND, or tenth, in Mewar, as in Europe, was the stated sum to be levied in periods of emergency or danger.

DAS PADSHAH-KI-GRANTH. This and the Adi-Granth form the religious writings of the Sikh sect. See Sikhs.

DASRAT RAMA, a name of Rama Chandra.

DAST. PERS., HIND. The hand. Dastawez, a signature, a voucher. Dast Bosee, lit. hand-kissing. Dastah, a kalliyon, a small hand hookah. Dastana, a glove, also a flat brush for spreading newly-made paper. Dast Panna, a pair of tongs carried by fakirs.

DASTAGIR-WALAY, an appellation given by the Gyr-Mahdi Mahomedans to all other sects.

DASTAR or Pagri, the name given in India to the turband, worn on the head by Mahomedans of Turkey and India, and by Hindus. The word turband is unknown to Mahomedans of India. It is from Sarband, head-dress.

DASTAR-KHAN, a table-cloth, or rather a floor-cloth, being spread on the ground; but it is also used to denote the custom, whenever a guest enters a house, of laying a table, from which, under all circumstances, he must eat something. The man who attends to the duty is called Dastar-khan-ji. In Central Asia leather table-cloths have, in modern times, been replaced by bright-coloured Russian calico, or, amongst the richer classes, by silk with long fringes. — *Vambery, Bokhara*, pp. 201, 382.

DASTUR, a high priest of the Zoroastrians.

DASTUR. HIND. Custom, hence Dasturi, a customary fee, perquisites formerly paid by a dealer to servants when their master makes purchases.

DASTUR-ul-AMAL, a revenue work prepared in the time of Akbar. A body of instructions and tables for the use of revenue officers under the native Government of India.—*Wils.*

DASYA, in the Sanskrit writings, a race or races who, along with the M'hlecha, opposed the advancing Aryan race. It is probable that they were the prior occupants of the new countries, and were all reduced to subjection or slavery, the word being either from Des, a country, or from Dasa, a slave. The Aitareya Brahmana says most of the Dasya are sprung from Visvamitra, and Sanskrit writers applied the term Dasya to all the aborigines from the Naga of North-Eastern Bengal, throughout all India, to the indigenous races of Ceylon. They are usually supposed to have comprised the Bhil, Kol, Santal, Naga, and other races, who, when the Aryans entered India, were occupying the entire country between the Himalaya and Vindhya. They seem to have been worshippers of trees and serpents, and to have been the first to have adopted Buddhism. Fergusson (p. 13) supposes them to have been of Tibetan origin. They were overcome and ruled over by the Aryans. They built square tower-like temples, with a perpendicular base, but a curvilinear outline above.

DASYAULUS. *Thwaites.* Several species of this genus of middle-sized trees occur in Ceylon, viz. D. fulvus, at Hewessee in the Pasdoon Corle; D. microphyllus, in the south, but rare; D. Moonii, at Caltura near Ratnapura; and D. neriifolia, Gang mee, SINGH., common on the banks of rivers and streams in the warmer parts of the island. The last is the Bassia neriifolia of Moon's Cat. It is grown for shade in the cinnamon gardens, and its timber is used for common purposes.—*Thw.*

DATA, a mode of address among fakirs.

DATE PALMS are met with in almost every part of the south of Asia. In the Peninsula of India the wild date, Phœnix sylvestris, shoots up in every dip of ground, and it is common in portions of the Dacca, Mimensing, and Sunderbun districts. When not stunted in its growth by the extraction of its sap, it is a very handsome tree, rising to 30 or 40 feet in height, with a dense crown of leaves spreading in a hemispherical form on its summit. The leaves are from 10 to 15 feet long, and composed of numerous leaflets or pinules about 18 inches long; the fruit is only about one-fourth the size of the Arabian variety. The cultivators of the true date tree, Phœnix dactylifera, in Arabia, fertilize the clusters of blossoms in the female trees, by taking the stamina of the flowers of the male plant and placing them in the centre of each cluster of blossoms. In some parts of Arabia, however, the male trees are planted to windward, and the pollen, wafted by the wind, fertilizes the blossoms in all the trees in the gardens. The culture of the date is of great antiquity. It was emblematic of the Jewish nation. Jericho was the city of palm trees. The date palm was familiar to the Egyptians B.C. 2378. It is first seen in Babylonian monuments B.C. 1500, and first appears on the Assyrian monuments B.C. 858. A recent writer has supposed the date to be the conical figure on the top of the thyrsus of Bacchus. This fruit, according to Pliny, was consecrated to the worship of almost every heathen divinity; and the date palm is the sculptural emblem of all that is dignified, beautiful, and good, and entered largely into the ornamentation of temples. In India, the Phœnix sylvestris is used solely for the palm juice extracted from it. The process of tapping and extracting the juice goes on all the year round, but in Bengal it is continuous from the 1st November to the 15th of February. Some days previously, the lower leaves of the crown are stripped off all round, and a few extra leaves from the side of the tree intended to be tapped. On the part thus denuded a triangular incision is made with a knife, about an inch deep, so as to penetrate through the cortex and divide the sap vessels, one point of the triangle downwards, into which is inserted a piece of grooved bamboo, in order to direct the sap into an earthen pot suspended underneath it by a string. The pots are suspended in the evening, and, when sugar has to be made, are removed very early the following morning, ere the sun has sufficient heat to warm the juice, which would cause it immediately to ferment, and destroy its quality of crystallizing into sugar. The cutting being made in the afternoon in Bengal, next morning the pot is found to contain, from a full-grown tree, 10 seers of juice, the second morning 4 seers, and the third morning 2 seers of juice; the quantity exuding afterwards is so small, that no pot is suspended for the next four days. The boiling apparatus consists of a hole of about 3 feet in diameter, sunk about 2 feet in the ground, over which are supported by mud arches four thin earthen pans of a semi-globular shape, and 4 inches in diameter; the hole itself is the furnace, and has two apertures on opposite sides for feeding in the fuel and for the escape of the smoke. The fire is lit so soon as the juice is collected and poured into the four pans, which are kept constantly supplied with fresh juice as the water evaporates, until the whole produce of the morning is boiled down to the required density. As the contents of each pan become sufficiently boiled, they are ladled out into other earthen pots or jars of various sizes, from 5 to 20 seers of contents, according to the local custom, and in these the boiled extract cools, crystallizes into a hard compound of granulated sugar and molasses, and is brought to market for sale as goor. By subsequent processes the goor is deprived more or less of its molasses and impurities. A Persian poem celebrates the Arabian date palm, Phœnix dactylifera, and its 360 uses.

DATE PLUM, Yuen-ts-au, CHIN. Fruit of Diospyros kaki.

DATES of Phœnix dactylifera.

Wu-lau-tsze, . . .	CHIN.	Datteln, ...	GER.
Fan-tsau, ...	„	Khurma, Khajur,	HIND.
Dattes, ...	FR.	Dateri, ...	IT.

The best dates are the fruit of the Phœnix dactylifera, dried in the sun. They have a shrivelled appearance, and a pleasant subacid taste. The date trees on the coast of Oman form a continuous grove to Khorfakan, a distance of 150 miles, and the Arabs have a saying that a traveller may proceed the whole distance without ever losing their shade. Dates form the principal export from Oman, large quantities being taken to India. The Mahomedan and Hindu population are very partial to them. The best are brought from Basrah and Bahrein, those from Oman being classed next in excellence. Some are simply dried, and then strung on lines; others, which is the usual plan, are packed in baskets. The Phœnix dactylifera is invaluable to the desert tribes of Northern Africa and the Sahara, whose most important wants it supplies. The fruit is the common food of themselves and their cattle, while their huts and houses are chiefly constructed of date-wood. Makran dates are famed, and are largely exported. Multan, Dehra Ghazi Khan, and Muzaffargarh produce dates in large quantities from the Phœnix sylvestris, but of an inferior kind to those of Arabia; they are, however, preserved, either by being dried, or else by being boiled in oil and water, and then dried; when about to ripen, a piece of matting is put over the cluster to prevent the ravages of birds, etc.—*Wellsted's Travels*, i. 188; *Fraser's Journey*, 74; *Burton's Mecca; Powell's Panjab.*

DATIA, chief town of Datia state, Bundelkhand, lying on the road. from Agra to Sagal (Saugor), 125 miles south-east of the former, and 148 miles north-east of the latter, lat. 25° 40′ N., long. 78° 30′ E.; estimated population, 40,000, almost exclusively Hindus.

DATISCA CANNABINA. *Linn.* Ik'lbir, HIND. Grows in Kashmir, Kanawar, Nepal, and the Himalaya; its bark and the woody portions of the root are much esteemed in the Panjab for dyeing silk of a yellow colour. It is also an ingredient in producing a pleasing pale 'pista' green. It is exclusively a hill product. It is used as an expectorant in catarrh. The bark also contains a bitter principle like quassia. Root exported to Amritsar as a dyestuff.—*Stewart; Cleghorn; Cal. Cat. Ex.* 1862. See Dyes.

DATTA. SANSK. From Da, to give; abbreviated into Dat or Dut, a gift, a donation, a son given in adoption, a girl betrothed. Datta or Dutt is a subdivision of the writer caste of Bengal, and borne as a name, as Jai Krishn Dutt. The Datta came to Bengal along with the Kulin race.

DATTA JAYANTI, a Hindu festival held in honour of a deity named Datta.

DATU. MALAY. A governor under a sultan.

DATUNI, the root of the Croton tiglium; it is a very powerful purge, much used in prescriptions.

DATURA ALBA. *Rumph.*

D. metel, *Roxb.*, *Rheede.*

Jouz-mazil,	ARAB.	Safed dhatura,	HIND.
Pa-daing-phoo,	BURM.	Humata, Humatu,	MALE.
Nau-yang-hwa,	CHIN.	Velle umate,	TAM.
Man-to-lo-hwa,	,,	Tella umati,	TEL.
Sada dhatura,	HIND.		

The Datura genus of plants is common in India, both wild and cultivated; the colours of the flowers are white, yellow, purple, and blue. D. pontica is reputed to have contributed to the poisonous quality of the honey that was eaten by Xenophon's soldiers. Bishop Heber notices Datura alba in his Walk in Bengal:

> 'While to the cooler air confest
> The broad datura bares her breast
> Of fragrant scent and virgin white,
> A pearl around the locks of night.'

Its beautiful long white flowers in Rohtak are used as an offering to the shrines of certain deities. Its value as a curative in asthma is known both to Europeans and natives, who smoke the seed in their hookahs when so afflicted. The white and purple species are alike used by thieves to stupefy victims, but the white is considered the most efficient. The victims are usually discovered in a state of insensibility, and breathing hard and heavily; if removed, care should be taken not to expose them to the heat of the sun, which is fatal. The action of the poison is quicker in the hot weather than in the cold; much, of course, depends on the individual constitution of the victim. But usually in hot weather it begins to act in five minutes, and coma supervenes within the hour; in cold weather it begins to act in a quarter of an hour or twenty minutes. The seeds are given with sweetmeats, and the effects have been known to continue for two days, and still recovery take place; cold effusion and strong stimulant emetics constitute the most effectual treatment. The vision often continues obscured long after the general recovery takes place. This state is best remedied by blisters to the temples or nape of the neck, and by cold effusion. If given while the stomach is empty, a much smaller dose may induce all the preceding symptoms and prove fatal. This is well known to the Indian poisoners, who suit the time of administration according to the purpose they mean to serve.—*Powell; Stewart.*

DATURA FASTUOSA. *Roxb.*

Kala dhatura,	BENG.	Kachu-bong,	MALAY.
Purple thorn apple,	ENG.	Nella umata,	MALEAL.
Methel seed,	,,	Gaoz-giah,	PERS.
Downy thorn apple,	,,	Anhenta,	SINGH.
Dhatura,	HIND.	Karu umate,	TAM.
Rotikubung,	MALAY.	Nalla ummetta,	TEL.

This is very common over both of the Peninsulas of India. It is used in asthma. Both the single and double flowered varieties of this species may be often seen near Burman houses, and children not knowing its poisonous character sometimes eat the fruit, with very serious effects. Its large tulip-shaped white flower is sacred to Mahadeva.—*O'Sh.; Roxb.; Gen. Med. Top.* p. 133; *Cat. Exh.* 1862; *Mason; J. L. Stewart.*

DATURA STRAMONIUM. *Linn.*

Fuh-kia-rh, Fung-kia-rh, CHIN.; Thorn apple, ENG.

A native of waste places all over Europe. Its narcotic properties have been proved by Lindberger and others to correspond exactly with those of the belladonna and hyoscyamus. The alcholic extract of the seeds is a perfect substitute for belladonna for many of the purposes described under that head.—*O'Sh.* p. 469.

DATYA, in Hindu mythology, were Brahmans slain by the gods, but were resuscitated by Sukra, their guru, and attacked the gods in Swerga, from which the gods fled in various disguises,—Indra as a peacock, Yamuna as a crow, Kuvera a lizard, Agni a pigeon, Nairat a parrot, Varuna a partridge, Vayu a dove, etc. Indra thus lost his heaven; but he afterwards slew Vitra, the

Datya, and committed the crime of Brahmanicide, for which he had again to leave heaven and do penance. This myth seems to be an account of one of the ancient wars between the Aryan Brahmans and a race with whom they came in contact, or a relation of the suppression of the Vedic naturalism.—*Cole. Myth. Hind.* p. 376.

DAUCUS CAROTA. *Linn.* Carrot.

Istaflin-jazr, . . ARAB.	Mor-muj, Bal, Kach, PAN.
Jazar-ul-bostani, . ,,	Zirduk, ... PERS.
Hu-lo-peh, . . . CHIN.	Ganjara, . . . SANSK.
Staphulinos, . . . GR.	Grinjana, . . . ,,
Gajra, Gajur, Jugur, HIND.	Gajjara, . . TAM., TEL.

Cultivated all over India as a vegetable. Fruit carminative and diuretic. The root is officinal on account of its succulent nature, being favourable for making poultices, which are moderately stimulant. Two kinds in general use all over the Dekhan, are the red and yellow. To preserve carrots until the commencement of the rains in the months of March and April, cut off the green tops, and let the roots remain in the ground; this checks their growth, and by this means good carrots can be had until the middle of July. Yellow Cape answer the best for preserving.

DAUDZAI is a division of the Peshawur district, situated between the Khalil and Khalsa division and the Kābul river. The population in 1868 was 37,671, almost all Mahomedans, Syud, Moghul, Daudzai, Gujar, Khoja, Kashmiri, Khatri, and Arora. The Daudzai tribe in the Peshawur valley, with the Khalil and Mohmand, form the Ghoria Khel, which came from the banks of the Tarnak river in Afghanistan, and settled in Peshawur. They have three sections, the Mandaki, Mamur, and Yusuf. They number 10,000 families.—*MacGr. N. W. F. I.* i. p. 397.

DAUGHTER, from Duhitri, SANSK., milking.

DAUL or Dola. HIND. The boundary of a field, or boundary mark, or mound of earth for that purpose; Scotticé, Dool.

DAULA. HIND. White sugar-cane, the best kind.

DAULAT. ARAB. Fortune, empire, any monarchy. Daulat-ul-Aliyah-al-Usmaniyah, the Ottoman Government.

DAULATABAD, a town and fortress in the Hyderabad dominions, in lat. 19° 57′ N., and long. 75° 18′ E., 10 miles N.W. from Aurangabad. The fortress, also known by the name of Deogiri, has from remote antiquity been a stronghold of the rulers of the Dekhan. At the time of the Mahomedan invasion of the Dekhan in 1294, Deogiri had been in the hands of the Jadhao dynasty since the beginning of the 12th century, and was then the capital of Maharashtra. Ala-ud-Din suddenly galloped into the town, and announced himself as the advanced guard of the imperial army; the city surrendered, but the Jadhao dynasty was not finally extinguished till A.D. 1312. It received the name of Daulatabad from the emperor Muhammad, son of Taghalaq Shah, who tried to make it the capital of the empire in place of Dehli. See Deogiri.

DAULI, in Cuttack, has two separate local edicts, the remaining edicts corresponding with those at Girnar, in Gujerat. They are in the old Lat character, in Old Pali of the 3d or 4th century B.C., probably B.C. 306? Devanampiya, the young prince of Ujjain, is named 'the beloved of the gods.' The king is probably the father of Asoka, who was regent at Ujjain. Both edicts appoint two tupha or colleges for meditation and the propitiation of Heaven. These edicts repeatedly speak of this world and the world hereafter; and the people are expressly commanded to propitiate Heaven, and to confess and believe in God, who is the worthy object of obedience, or more literally, Him, the Eternal, ye shall propitiate by prayer.

DAUP-YAT, in Amherst, a timber employed for rafters. It is a beautiful, yellowish-white, compact wood, but has a tendency to split. The leaves are used as a dye.—*Captain Dance.*

DAUR. HIND. A large earthen vessel used by grain-parchers.

DAUR, amongst the Balute or village officers of the Dekhan, one of the inferior alute.

DAURANI, a tribe, or nation, inhabiting the tract of country, about 400 miles long, through which runs the road between Herat and Kandahar. Its breadth in the N.W. is about 80 miles, and in the S.E. 150 miles. Their country is bounded on the north by the Paropamisan mountains, inhabited by the Aimak and Hazara; on the west and S.W. is Seistan and desert of sand, the desert separating it from Baluchistan; on the south are Shorawak and the hills of Khajah Amran, which separate it from the Tarin and the Kakars, and on the east they join the Ghilzai. The chain of Khajah Amran, though not a mountain of the first rank, is high enough to bear snow for three months, and to be cold all the year. It is chiefly inhabited by shepherds, who belong to the Achakzai clan of the Daurani. They were formerly called the Abdali, till Ahmad Shah, in consequence of a dream of the famous saint at Chumkani, changed it to Daurani, and took himself the title of Shah Dur-i-Dauran. Some accounts describe the mountains of Toba as their most ancient abode. More numerous traditions represent them as having descended into the plains of Khorasan from the mountains of Ghor, which belong to the Paropamisan group, but leave it uncertain whether that tract was their original seat, and by what causes their emigration was occasioned. This tribe is divided into two great branches, Zeeruk and Panjpa; but these divisions are now only of use to distinguish the descent of the different clans. That of Zeeruk is reckoned by far the most honourable. From those branches spring nine clans, of which four belong to Zeeruk, and five to Panjpa:—*Zeeruk*—Popalzai, Alikuzai, Barakzai, Atchakzai. *Panjpa*—Nurzai, Alizai, Ishakzai, Khugiani.

The whole population of the country number about 600,000, of whom the Daurani are about one-half. They are largely pastoral. The better sort have their lands cultivated by hired labourers, Buzgar, or slaves, but often put their hand to necessary work. The poorer Daurani are often Buzur, but seldom labourers, these being chiefly Tajak and Afghan Hamsaya. The pastoral tribes dwell in kishdi or black tents, 20 to 25 feet long, and 10 or 12 broad, price about £4.

DAURI-GOSAVI. MAHR. A Gosain sect who beat the dauru, a small drum.

DAVALLIA, an elegant fern of Moulmein; fructifications in roundish separate spots near the margin. D. parallela and D. pilosa are of Bengal.

DAVARAJPATNAM, a table-land bounding the Neilgherries to the north.

DAVERSOLABETTA, a peak in lat. 11° 27′ N., long. 76° 43′ E., in the Neilgherries, two miles north of Ootacamund; 8380 feet above the sea.

DAVID. Fort St. David, a ruined fort, in lat. 11° 44′ 20″ N., and long. 79° 49′ 30″ E., 1½ miles north of Cuddalore, of which it may be called a suburb. Clive was appointed governor of it in 1756. In 1758 the French dismantled the fort, but sufficiently restored it in 1783 to withstand an attack by General Stuart.—*Imp. Gaz.*

DAVIS, Captain JOHN, in 1585 made the first of his three voyages to the north-west, and discovered the Strait which bears his name. On the eastern side of this wide sea, improperly termed a strait, he discovered and named what has retained his appellative, Cape Desolation; and on the western shore, Mount Raleigh, Cape Walsingham, Exeter Sound, and some other places still bear the names he gave them. In his second voyage, in 1586, he examined the coast on the west side of the strait between Cumberland Island and lat. 66½° N. In 1587, not discouraged by his want of success, he made a third voyage, and affirmed that he reached lat. 73° N. He examined the coast which he had seen before, gave names to some other places, but made no advance to solve the problem of the north-west passage. The discoveries which he made in his three voyages proved of great commercial importance, since to him more than any preceding or subsequent navigator has the whale fishery been indebted.

He was chief pilot in a Dutch mercantile voyage to the Malay principality of Acheen, the north part of Sumatra, and he wrote the story of this adventure. The two brothers Houtman were chief commanding officers of the Lion and Lioness; but one of them was slain, with a large number of his men, by a sudden and insidious attack from the Malays while feasting on board ship, and the other was taken captive. Both ships were then safely brought back to Holland by Davis, who survived to encounter a similar tragic fate in 1605. He was fifty-five years of age when he thus met with his death, and was on his third voyage to the Straits of Malacca. His second, from February 1601 to September 1603, was in the capacity of pilot-major to the Red Dragon, one of the English East India Company's first squadron of vessels, under Captain Sir James Lancaster. The last voyage, which proved fatal to Davis, was made by him as pilot of the Tiger, a vessel fitted out by Sir Edward Michelborne, who personally commanded, as it appears, without regard to the East India Company's exclusive privileges. Michelborne wrote the report given by Purchas. A gang of Japanese pirates, whose vessel lay alongside the Tiger in a harbour off Patana, not far from Singapore, were imprudently permitted to come aboard for hospitality. Michelborne says that Davis neglected to keep proper guard, or to remove their weapons; however that may have been, they attempted to seize the English ship, and in the fighting Davis and other men were killed.—*Sir John Ross, N. W. Passage.*

DAVIS, Sir JOHN FRANCIS, author of a General Description of the Empire of China and its Inhabitants; Sketches of China.

DAWA. Arab., Hind., Pers. A claim. Ladawa, no demands. Madda'a, a claimant. Madda-alei, a defendant.

DAWA. Hind. Medicine. Dawa-i-Atishak, gentian root. Dawa-i-Mubarak, Clerodendron siphonanthus. Dawa-i-Pechish, Ophelia elegans.

DAWAN. Hind. Threshing the corn by bullocks, attaching six or eight in a row, and driving them round a central pivot over the corn strewed on the floor.

DAWAR, known in old times as the Bilad-ud-dawar, and by the modern inhabitants as Zamin-i-dawar. A large province, contiguous to Rukhkhaj, Bast, and Ghor, and the opening of the latter to Sejistan. Elphinstone says, on the right bank of the river Helmand lies the rich country of Zamindawar, which has the Paropamisan mountains on the north, and some hills connected with that range are found within its limits. This fine country extends for forty or fifty miles to the west of the Helmand.—*Elph. Caubul*, p. 122; *Reinaud, Mem. sur l'Inde*, p. 173.

DAWAT, invitation, also exorcism, practised by Mahomedans in India to command the presence of genii and demons; for the protection from evil, casting out of devils, to create enmities, friendships, or love between people, to destroy or injure enemies, detect crimes. These are effected by philters, faleetahs or lamp-charms, smoke-charms, amulets.—*Herkl.*

DAWN.

Bhor, ...	Hind.	Sub'h-i-Sadiq, . .	Pers.
Jhajarkha, ...	,,	Sub'h-i-Kazib, . .	,,

The first grey luminosity is known as the Sub'h-i-Kazib, or false dawn, the true dawn being Sub'h-i-Sadiq. Where false dawns are visible, about two hours before dawn of day, the horizon becomes quite light, and is succeeded by impenetrable darkness. It is chiefly visible about August. An African traveller on the skirts of the Sahara, says he has seen it equally bright, though not equally beautiful, with the Sub'h-i-Kazib of Persia. It is, in fact, nothing but the zodiacal light, respecting the nature and cause of which crude conjectures only have hitherto been put forward.

> 'Tis dawn!—at least that earliest dawn
> Whose glimpses are again withdrawn,
> As if the morn had waked, and then
> Shut close her lids of light again.'

The dawn of the Rig Veda is personified as a lovely maiden, under the names,—Arjuni, for whom the Greeks have Argyronis; Brisaya, Briseis; Dahana, Daphne; Ushas, Eos; Sarama, Helen; Saranya, Erinys.

Panis, a wicked monster, is said to have tempted Sarama to be unfaithful to Indra, and among the Greeks Paris tempted Helen.

DAY, Mr., a servant of the English East India Company, who founded Madras in 1639.

DAY. Deputy Surgeon-General Francis Day, a Madras medical officer, who wrote on the fishes of India, Malabar, Cochin, and the British Islands. As Inspector-General of Fishes in India, he examined the rivers and seas from Persian Makran in the west, along two thousand miles of coast eastwards to Singapore; and from 1865 to the present time (1883), in reports to Government, which have all been printed, and in numerous articles to scientific journals, he has contributed to his favourite science an amount of information which no man of science working single-handed has, perhaps, ever before accom-

plished. The more prominent results of his great labours are given in the following volumes :—

In 1865, he published his Fishes of Malabar.
,, 1873, Reports on the Sea and the Fresh-water Fish and Fisheries of India and Burma.
,, 1875–1879, Fishes of India.
,, 1876, Fishes of Neilgherry Hills; Some Wynad Fishes.
,, 1867, Some Fishes of Madras and some of India.
In 1868, Fishes of India; 1869, do. of Orissa, Calcutta, and Burma.
,, 1870, Do. of Andaman, Nicobar, W. India, etc.
,, 1880–1883, Fishes of Great Britain and Ireland.

DAY.

Yom, ...	ARAB.	Giorno, ...	IT.
Divous, ...	CAN.	Dia, ...	SP.
Jour, ...	FR.	Nal, ...	TAM.
Tag, ...	GER.	Dinam, ...	TEL.
Roz; Din, .	HIND., PERS.	Ghyun, ...	TURK.

Latin.	Saxon.	Arabic.	Persian.	Hindustani.	Siamese.
Dies Solis.	Sun's day.	Yom-ul-ahd.	Ek-shumba.	Itewar.	Van Athet. =Day of the Sun.
Dies Lunæ.	Moon's day.	Yom-athnein.	Do-shumba.	Pir.	Van Chau. = ,, Moon.
Dies Martis.	Tiw's day.	Yom-thalath.	Si-shumba.	Mungul.	Van Ngankau. = ,, Labour.
Dies Mercurii.	Woden's day.	Yom-ur-arbia.	Char-shumba.	Charshumba.	Van Poeth. = ,, Meeting.
Dies Jovis.	Thor's day.	Yom-ul-khamis	Panj-shumba.	Jumarat.	Van Prahath. = ,, Hand-day.
Dies Veneris.	Friya's day.	Yom-jooma.	Jooma.	Jooma.	Van Sok. = ,, Rest.
Dies Saturni.	Saterne's day.	Yom us saba.	Shumba or Hafta.	Awul hufta.	Van Saun. = ,, Attraction.

English.	Burmese.	Jewish.	Tamil.	Rajput.	Singhalese.
Sunday.	Tanenganway.	Yom rishon.	Nayaru (sun).	Surya-war.	Erie-da.
Monday.	Ta nen la.	Yom sani.	Tingal (moon).	Som, or Indu-war.	Sandoo-da.
Tuesday.	En ga.	Yom salisa.	Shevvay (Mars).	Mangal-war.	Angeharrowa-da.
Wednesday.	Bud da hoo.	Yom rabihi.	Budhun (Mercury).	Bud-war.	Bada-da.
Thursday.	Kyapaday.	Yom umishi.	Vyazhum (Jupiter).	Vris'hpat-war.	Brahaspatin-da.
Friday.	Thoukkya.	Yom sisi.	Velli.	Sucra-war.	Sikkoora-da.
Saturday.	Tsa nay.	Yom sabat.	Sani (Saturn).	Sani, or Sanichra war.	Sennesoora-da.

From the remotest times, amongst the Chaldæans, Egyptians, Arabians, Hindus, Greeks, and the nations of northern Europe, there has been a hebdomadary division of the month. In general, the days are commenced by the day of the sun, followed by the moon, and the five planets, Mars, Mercury, Jupiter, Venus, and Saturn.

The following origin of the ancient names has been suggested in connection with astronomical science. The planetary arrangement of Ptolemy was thus :—1. Saturn; 2. Jupiter; 3. Mars; 4. the Sun; 5. Venus; 6. Mercury; 7. the Moon. Each of these planets was supposed to preside successively over each hour of the 24 of each day, in the order above given. In this way Saturn would preside over the first hour of the first day, Jupiter over the second hour, Mars over the third, the Sun over the fourth, and so on. Thus the Sun, presiding over the fourth, eleventh, and eighteenth hours of the first day, would preside over the first hour of the second day; and, carrying on the series, the Moon would preside over the first hour of the third day, Mars over the first hour of the fourth day, Mercury over the first hour of the fifth day, Jupiter over the first hour of the sixth day, and Venus over the first hour of the seventh day. Hence the names of the days yet used in the learned professions throughout Europe.

Four of the present English names of the days of the week are derived from the Saxon. Tiw, Woden, Thor, and Friya were deities of the pagan Saxons. Thor was the god of thunder, as well as the ancient Jove, and Friya was a goddess, the wife of Woden.

The Hindus, however, reckon by the light and dark halves of the moon, which they designate kista (or Krishna), paksham, and sakla paksham, though they, too, have a weekly arrangement. In the Rajput names of the day, Sooraj-war, or Adit-war, is Sunday, and the days of the week are from the other planets. Mangala is one of the oldest names of the Hindu Mars, Kumara, to whom the Woden's-day of the North-men, the Mardi of the French, and the Dies Martis of the Romans, are alike sacred. Mangala also means happy, the reverse of the origin of Mongol, said to mean sad. Vris'hut-pati is he who rides on the bull, the steed or vahan of the Rajput god of war; and Sucra is a cyclop, regent of the planet Venus.

The manner of reckoning the days by the ancient Jews, and which subsists amongst that people at the present time, is to commence the day at a certain hour of the evening, and to finish it on the next evening at the same hour. Thus their Sabbath begins on the afternoon of Friday, and is completed on the afternoon of Saturday. The Roman Catholic Church also commences its festivals in the evening; and this custom is retained in Britain in some of the popular observances, such as the eve of St. John and Christmas eve.

The civil day of Great Britain now commences at 12 o'clock midnight, and lasts till the same hour of the following night. The astronomical day begins at noon, and is counted up to 24 hours, terminating at the succeeding noon. This mode of reckoning the day is that used in the Nautical Almanac, and it sometimes leads to mistakes with persons not familiar with this manner of computation; a little consideration will obviate the difficulty. Thus January 10, fifteen hours, in astronomical time, is January 11, 3 in the morning, civil time. In France and most of the states of Europe, as with the British, the hours are counted up to 12 from midnight till noon, and from noon till midnight. In parts of Italy and of Germany, the day is held to commence about sunset, and the hours are counted on till the next sunset. This mode is very inconvenient to travellers, as the noon of the 'Italian hours' at the summer solstice is 16 o'clock, and 19 o'clock at the winter solstice.

The division of the day among Mahomedans is chiefly subservient to the stated time of performing their devotions, and is not generally very accurate. They begin their account at sunset, reckoning twelve hours from thence to sunrise, whether the night be long or short; from sunrise to sunset they also reckon twelve hours, and consequently a night hour is longer in the winter

than an hour of the day, and in summer the hours of the day are longer than those of the night. At the equinoxes alone, all the hours are of equal length, and then they coincide with those adopted by the British, French, and Germans, in commencement and duration, differing of course six hours in enumeration, so that six o'clock of Britain is their twelve, seven is their one, etc. At other periods of the year, also, their six o'clock coincides with British twelve, but every other hour differs more or less from those of Britain. The time of sunrise, and consequently the length of the day, being known, the length of each hour will be easily found by division, and the period of any given hour determined. Thus, if the sun rise at 7 o'clock, the length of the day will be ten hours (of 60 minutes each), and that of each hour 50 minutes. One o'clock, Mahomedan reckoning, will then be at 50 minutes after 7; 2 o'clock, 40 minutes after 8; and 3 o'clock will be half-past 9; and so on of the others. When the sun rises at 5 o'clock, the first three hours of the day will be completed severally at ten minutes after 6, twenty minutes after 7, and half-past 8. In every case 6 o'clock arrives exactly at midday, which in India is called Do pahar, or the second watch. Mahomedans in India also reckon part of a day for the whole; thus, what they mean by three days, is the day on which an event happens and the two following. The Mahomedans reckon the sidereal day in their time, from sunset to sunset, differing thus from the European civil day, midnight to midnight, or solar day, midday to midday.

Though the Gothic and Scandinavian nations have, in the cases of Tuesday, Wednesday, Thursday, and Friday, given the names of Scandinavian deities, Tuisco, Woden, Thor, Friya, to four days of the week, most of the northern nations have preserved the Latin names, as in French—Mardi, Mercredi, Jeudi, Vendredi; Spanish—Martes, Miercoles, Juenes, Viernes; Italian—Martedi, Mercoledi, Giovedi, Venerdi, while for Saturday they have taken the sabbatical word.—*Tod's Rajasthan*, i. pp. 232, 595; *Bowring's Siam*.

DAYA. SANSK. Gift, donation, inheritance.

DAYA BHAGA, a treatise by Jimuta Vahana on the law of inheritance current in Bengal. The Daya-Krama-Sangraha is by Sri Krishna Tarkalankara, and that by Raghunandana Bhatta Charya is called Daya-Tatwa.—*Dowson*.

DAYAK is the name given to all the wild tribes of Sumatra and Celebes, but is particularly applied to those of Borneo, where they are most numerous; some are wild savages, but others have fixed habitations, large barrack-like huts containing many families. They are ignorant of any written character. In their wars they clothe in prepared skins, their arms are the sword and spear and blow-pipe. The Kayan Dayak are idol-worshippers, keep their dead for some days, and inter in a coffin made of the hollow trunk of a tree. See Dyak.

DAYAL BIRD. Copsychus saularis. See Robin.

DAYAMUR, a magnificent peak in the Bara Lacha or Western Himalaya, visible from Ramnagur in the Panjab.

DEAD. The remains of the several races in South-Eastern Asia are variously disposed of. One of the most ancient of the races, the Parsee or Guebre, the followers of Zertusht or Zoroaster, expose their dead on a platform in a circular tower. The Buddhist Tibetans allow the dead to be dragged in an unseemly manner to a distance, and then exposed. The dead of the Buddhist Burmese of rank, particularly of the religious Phoungye monk, is laid in honey for a year, and then conveyed with much seeming rejoicing to the burning place, and burned amidst fireworks. The Chinese revere the dead, and make pilgrimages to their ancestors' graves. Their dead are placed in coffins made of great logs of wood, and lodged in chambers above ground in the manner of the ancient Jews. Some of these log coffins are costly, and it is usual for the rich Chinese to keep their coffins ready for their own use. The Saiva Hindu, the Jangam or Lingadari, the Pariah and non-Aryan races, and the five artisan classes of India, all inter their dead with their faces to the north. The Lingadari artisan dead are seated in the grave facing the north, and in some places are carried to the grave seated on a chair. The Vaishnava Hindu who die of ordinary diseases are burned on a funeral pyre; and it was not unusual amongst the burning classes of the Rajputs and Hindus of the Mahratta country and Northern India, for their widows to immolate themselves alongside the bodies of their deceased husbands. Amongst the Balinese, the widow and slaves of the deceased great are burned along with the deceased. But with the Vaishnava Hindu, unmarried persons, or such as have died of smallpox or cholera, are buried. The Mahomedan dead are all buried, and visits are paid to their graves. Dr. Livingstone describes the practice of the Balonda of S. Africa to be, to abandon the spot where a favourite wife has died.—*Livingstone, Travels*. See Burial Ceremonies.

DEADLY NIGHTSHADE, Atropa belladonna, *L.*, a powerful narcotic poison employed in medicine. It is a herbaceous plant of Europe, with solitary lurid flowers, and violet-black berries on short stalks, springing from the bases of the rather large ovate leaves.

DEAD SEA, called now Bahr-ul-Lut, or the Sea of Lot, into which the river Jordan disembogues. It is the largest lake in Palestine, being 40 miles long, with an average breadth of 9 miles. It occupies the valley of Siddim, in which were the cities of Sodom, Gomorrah, Admar, Zeboim, and Zoar, which sank by some convulsion of nature. It is called the Sea of the Plain, Deut. iii. 17, the Salt Sea in Deut. iii. 17, Josh. xv. 5, from the extremely salt and bitter taste of its waters, which hold 2 lbs. of salt in a gallon; and the East Sea in Ezek. xlvii. 18, Joel ii. 20, from its position with respect to the Judæan mountains. Josephus and the Roman writers call it the Lake Asphaltites, from the abundance of bitumen found in it. The more familiar name, the Dead Sea, is in allusion to the ancient tradition, erroneously but generally received, that no animal could exist in its salt and hydrosulphuric waters. Its surface is 1312 feet below that of the Mediterranean, and in places the water is 1320 feet deep. Hot springs abound near the mouth of the river Jordan. It is 4000 feet below Jerusalem; but the general slope of the intervening district is so regular, that from the spires of the city and the Mount of Olives one can look down directly upon its waters. — *Taylor, Saracen*, p. 63; *Maury's Phys. Geog.* p. 186; *Robertson's Tr.* p. 68.

DEAD SEA APPLES. See Hymenoptera.

DEATH'S HEAD MOTH, Acherontia satanas.

DEB. BENG., URIYA. A cognomen appropriate to Brahmans, as Chandradeb.

DEBAL or Dewal. SIND. An ancient city, celebrated as the emporium of the Indus during the middle ages. It has been supposed to have been the city of Brahmana, but site now unknown; supposed by Burnes and Burton to be the modern Tatta, which is styled Debal or Dewal (temple) by the Arabs and Persians. Mr. Elphinstone and M. Reinaud point to Kurachee, and Dr. Burnes and Mr. Crow indicate a site between Kurachee and Tatta. Mr. Thomas also gives Kurachee as the ancient Debal. The temple was probably on the promontory now occupied by Fort Manora, and was occupied by a pirate tribe called Tangamura. —*Elliot's Hist. of India.*

DEBAR, a celebrated artificial lake in Mewar, 20 miles S.E. of Udaipur (Oodeypore) town, Mewar, 10 or 12 miles N.W. from Chaond, where Pratap destroyed the army which Akbar had sent under the command of Farid Khan. Debar was formed by Jye Singh in A.D. 1681, raising a dam across the streams escaping from the Debar pool, and he named it Jye-Samudra, the Sea of Victory. It is 8 or 10 miles long, about a mile broad, and 960 feet above the sea. Its northern shore is dotted with picturesque fishing hamlets, and its surface with small wooded islands, adding greatly to the beauty of perhaps one of the largest artificial sheets of water in the world.

DE BARROS, JOAO, and Diego De Conto, two Portuguese writers, who, in concert, gave a history of the Portuguese in Asia. Jaoa de Barros held at Lisbon the office of Custodian of the Records of India. He was a contemporary of Albuquerque. He published three decades, his fourth being posthumous, but in these he celebrated the achievements of Albuquerque, to whom he stood in the same relation as Orme, the British historian, does to the British conqueror Clive. His companion writer was Diego de Conto, and their book was entitled Da Asia dos Feitos que as Portuguezes fozeram no descubrimento e conquista das terras e mares do Oriente, Lisbon, 1778. De Barros was born in A.D. 1496, and died in 1570. The first decade of his work was published in 1552, the second in 1553, the third in 1563, and the fourth after his death, in 1777-8.—*Tennant; Bikmore.*

DEBAR RUMI, thin crimson silk.

DEBI PATAN, a village in Gonda district, Oudh, with temples. Lat. 27° 32′ 8″ N., long. 82° 26′ 30″ E. Stated to be probably one of the oldest seats of the Saiva form of Hinduism in Northern India. A large religious trading fair, lasting for about ten days, and attended by about 100,000 persons, is held here each year.—*Imp. Gaz.*

DEBKI, BENG., a dance of the Arabs resembling in some respects that of the Albanians, and those who perform in it are scarcely less vehement in their gestures, or less extravagant in their excitement, than those wild mountaineers. They form a circle, holding one another by the hand, and, moving slowly round at first, go through a shuffling step with their feet, twisting their bodies into various attitudes. As the music quickens, their movements are more active; they stamp with their feet, shout their war-cry, and jump as they hurry round the musicians. The motions of the women are not without grace; but, as they wrap themselves in their coarse cloaks before they join in the dance, their forms, which the simple Arab shirt so well displays, are entirely concealed.—*Layard, Nineveh*, p. 119; *Baron de Bode's Travels.*

DE BODE. Baron C. A. de Bode, a traveller in the lands of Southern Persia, Luristan, and Arabistan.

DE BOIGNE. Benoit de Boigne, born 8th March 1751, at Chambery. He was the son of a furrier, and he joined the Irish Brigade in 1768 as an ensign. After a short service, he entered the Russian army, but, quitting that, after several misfortunes, he landed at Madras in 1777. He entered the 6th M.N.I. as an ensign, which he soon after quitted. In 1784? he took service with Madhaji Sindia, and shared in the battles of 1787, 1788. He then left, but again entered Sindia's service.

DEB-RAJA, the temporal ruler of the Bhot, from Deo, the deity.

DEBRA TABOR, a town in Amhara in Abyssinia, formerly a small village. It was afterwards a place of considerable size, and the residence of the emperor Theodore.

DEBREGEASIA EDULIS. *Weddell.* The Janatsi-itsigo or Teon-itsigo of Japan, is a bush with edible berries, and a fibre valuable for textile fabrics. D. dichotoma occurs in Java, and D. hypoleuca, D. velutina, and D. Wallichiana ascend the Himalayas for several thousand feet.—*F. von Mueller.*

DE BRITO. Philip de Brito y Nicote, surnamed Chango, *i.e.* Good Man, a Portuguese adventurer, who, about A.D. 1600, aided Shimili Shah, king of Arakan. He got possession of Syriam, and became virtually sovereign of Pegu, and conquered the neighbouring kingdom of Tounghoo, reducing its king to vassalage. At last, meeting with reverses, he was betrayed to the king of Ava, A.D. 1613, who impaled him on a hill overlooking Syriam fort, dying after two days of great agony. His wife, a Goanese lady, Donna Louise de Salhanha, with other captives, was carried to Ava, and their descendants are still distinguishable.

DEBROOGHUR, the chief station of Lakhimpur in Assam. From Debrooghur as far as Gowhatee in Lower Assam, there are immense tracts of land on both sides of the Berhampooter, suitable for tea cultivation.

DEBURAH. HEB. In the Hebrew Scriptures are several Hebrew words which in the English version have been translated Fly, viz. Oreb, Zebub, Deburrah, Tsira, Sarabim, Bak, Cinnim. The Orov or Orob, HEB., a swarm or assemblage, is translated in Psalm cv. 31, swarms of flies; but Exodus viii. 31, also Psalm lxxviii. 45, is supposed to allude to the mosquito. The Hebrew Zenon of Ecclesiastes x. 1 and Isaiah viii. 18 is not known. Flies are undoubtedly very troublesome at some seasons in tropical Asia, but an infusion of quassia sweetened with sugar, on a plate, destroys them. See Fly.

DECAISNEA, *sp.*, a very remarkable plant, which Dr. Hooker saw in flower in the Lachen valley, and called Loodooma by the Bhutia, and Nomorchi by the Lepcha. It grew on the ridge near Tumloong and the Ryot valley at 7000 feet; it bears a yellow fruit like short cucumbers, full

of a soft, sweet, milky pulp, and large black seeds. It belongs to the new genus, Stauntonia, of which two Himalayan kinds produce similar but less agreeable edible fruits, the Kole-pot of the Lepcha. Messrs. Cambessedes and Decaisne issued a volume on some of the plants of Jacquemont's voyage.—*Hook. Him. Jour.* ii. p. 198.

DECCAN. See Dekhan.

DECIUS. Ephesus, the chief town of Ionia, in Asia Minor, 45 miles south of Smyrna, was famous for its temple of Diana; and amongst the Mahomedans of the East, its story of the seven sleepers is continued, through the Koran. The legend is that when the emperor Decius persecuted the Christians, seven noble youths concealed themselves in a cavern, which was then blocked up with stones. They immediately fell into a deep slumber, which lasted for 187 years. At last the slaves of Adolius removed some of the stones for building materials, on which the seven sleepers were aroused, and despatched Jamblichus, one of their number, to the city, to procure food, on which the altered appearance of Ephesus, the age of the coin he presented to the baker, and his long beard, led to a discovery of the marvellous occurrence. The bishop of Ephesus, the clergy and magistrates, visited the cavern, and, after conversing with the somnambulists, they quietly expired. James, a Syrian bishop of the fifth century, devotes a homily to its praise; and the story of the seven sleepers is found in the Roman, Abyssinian, and Russian calendars. Mahomed introduced the tale in his Koran, as the Companions of the Cave, and says God caused them to turn over occasionally from right to left to preserve their health.—*Milner's Seven Churches*, p. 171; *Sale's Koran*, p. 219.

DECOITS are gangs associated for the purpose of plunder, who assemble by night, fall on an unsuspecting village, and kill those who offer resistance.—*Elph. India*, p. 377. See Daka.

DE CONTO. Diego de Conto, an officer of the Portuguese, who served in India, and died at Goa, 1600. He brought down from 1539, to his own time, the history of the Portuguese in India, commenced by De Barros. The joint history consists of 24 vols. 8vo. See De Barros.

DEDH, a race in Cutch, who are tanners, and who speak a dialect of the Cutchi. The word seems a modification of Dher.

DEEARA or Dewara. HIND. Alluvial soil, or an island formed in the bed of a river.—*Elliot.*

DEEG, a town and fortress in Bhartpur (Bhurtpur) state, Central India, lat. 27° 28′ N., and long. 77° 22′ E., lies in a lonely marshy tract amid numerous jhils or shallow lakes, fed by the stream of the Manas Nai. Here, on the 13th November 1804, a British force under General Fraser defeated the army of Holkar, and the Jat of Deeg having fired upon the conquerors, siege was laid to the town in December, and it was carried by storm on the 23d. It was dismantled after the capture of Bhartpur by Lord Combermere.—*Imp. Gaz.*

DEER.

Daim, ...	FR.	Cervi, ...	IT.
Hirsch, ...	GER.	Ciervo, ...	SP.
Ail, ...	HEB.	Man, ...	TAM.
Hirn, ...	HIND.	Karaja, ...	TURK.

A general term used by the British in India to designate several bovine animals, distinguishing them as the barking-deer, hog-deer, rib-faced-deer, sambur, and spotted deer. There are, however, frequent minglings of names, as there are a variety of scientific and vernacular synonyms. These animals are all eagerly pursued as game.

Giana of Tibet, Nepal, and sal forests, is the Cervus Wallichii of Cuvier.

Bara Singha or Buraya of Bengal, eastern and northern skirts of India, is the Rucervus duvaucelli of Cuvier.

Sangnai or Sangrai, of Munipore and Malay Peninsula, is the Panolia acuticornis and P. Eldii of Gray; the Cervus or Rusa frontalis of M'Clelland, and the Cervus Eldii of the Cal. Jour. Nat. Hist.

Sambur of the Mahrattas, Sambara, SANSK., an inhabitant of the Dekhan, Southern Mahratta country, of Sumatra, Borneo, and Banka, is the Rusa equina of Cuvier and Gray, the Cervus equinus of Cuvier, the Cervus or Rusa hippelaphus of Elliot, Rusa etam or Rusa kumbang of the inhabitants of Sumatra.

Sambur of Hodgson, a dweller in the forests of Northern India, is the Rusa hippelaphus of Cuvier and Gray, the Cervus hippelaphus of Gray.

Jarai or Jerrow of the great forests of India and of Ceylon, is the Rusa Aristotelis of Cuvier and Gray, the Cervus Aristotelis of Cuvier.

The Spotted deer, Chitra, SANSK., and Chital, HIND., of continental India and Southern Mahratta country and of the Malayan Peninsula, is the Axis maculata of Gray, the Cervus axis of Erxleben and Elliot.

The Hog deer of continental India and Assam, which is called by the vernacular names Para, Khar, Laghuna, and Sugoria, is the Hyelaphus porcinus of Sundeval, the Cervus porcinus of Zimmerman, and the Axis (Cervus) niger of Dr. Buchanan.

The Muntjak of the Sundanese, Kidang of the Javanese, the Kijang of the Malays of Sumatra, found in Banka, Borneo, Java, and Sumatra, is the Cervulus vaginalis of Bodd. and Gray, Cervus muntjac. of Zimmerman.

The Barking deer of Europeans, the Rib-faced deer of Pennant, dwells in the plains of India. It is the Baiker or Bekra of the Mahrattas according to Sykes and Elliot, the Ratwa and Kaher of the Indian continent of Hodgson, Cervus muntjac. of Sykes, Stylocerus ratwa of Hodgson.

Paddy-field deer of Ceylon is Axis oryzus of Kelaart.

Ravine deer or Bennet's deer, better known to Indian sportsmen as the Chinckara (Antilope Bennettii), is somewhat common on the Salt Range and most parts of the Panjab, but does not affect the Himalayas.

Deer-skins are exported from New York, New Orleans, Canada, and India. Antelope skins from the Cape of Good Hope are of good quality. Deer-skins are all shamoyed, or dressed in oil, chiefly for riding-breeches, and shamoyed leather of sheep, goat, and deer skins was formerly a lucrative branch of the leather trade of Great Britain. This kind of leather is employed for breeches, white or dyed, worn by persons who ride much on horseback. In wet weather leathern garments fit close to the skin, and are long in drying, so that the wearers are liable to colds, rheumatism, and other complaints. —*Jerdon; Adams.* See Antelope; Bovidæ; Cervidæ.

DEESA, a town and military station in Gujerat, on the bank of the Banās, lat. 24° 14′ 30″ N., about 350 feet above the sea; its rainfall is 12 and 14 inches, and the thermometer ranges from 50° to 110°. It is surrounded by a desert of sand. It is one of the hottest and most unhealthy stations in India, the thermometer (Fahrenheit) frequently ranging, during the months of March, April, May, and June, as high as 110 degrees. Deesa town is surrounded by a curtain with bastions.

DEG. HIND. Steel filings, used in firework-

making. A large copper caldron or globular vessel, a cooking pot. Deg-cha, a small pot.

DEGEI, pronounced Ndengei. The supreme god in Fiji, and known in the other groups as Tanga-roa or Taa-roa, Tanga being his proper name, Roa an adjective signifying the far-renowned, perhaps also the most high. To him is attributed the creation and government of the world; and there are no images of him, nor of any of the minor gods, collectively termed Kalou. His sway was everywhere acknowledged by the natives, and no attempts were ever made to elevate any local gods above him. Bure-Kalon is the temple.—*Galton's Vacation Tourists*, p. 269.

DEGHA CHUR. BENG. Islands formed by deposit of the alluvial soil brought down by the Ganges, Brahmaputra, and Megna rivers. So soon as they emerge from the water and cease to be overflowed by the tide, contracts are made for the land at a nominal rent. When bushes and grass appear, wild men, speaking a barbarous patois, come down to pasture large herds of cattle on the young herbage, putting up sheds for the beasts, but themselves bivouacking in the open. They pay grazing rent to the contractor of the island, and rent for cutting fuel. As the land becomes settled, contractors are ready to cultivate, and at length settle on it. They dig large tanks for fresh water, and raise high mounds for the foundations of their homesteads in the low country, which is intersected by numerous water-courses, and plant them round with betel, cocoanut, and date palms, plantains, and other plants.—*Geog. Mag.* June 1877.

DEH. PERS. A village; hence Dehgan, a villager, a cultivator. Dehi, pertaining to a village. Dehat, villages. Dehkani, a villager or cultivator.—*Wils.*

DE HAVILLAND. Colonel Thomas Fiott de Havilland, eldest son of Sir Peter de Havilland of Guernsey, born 1776. He received a cadetship for the Madras Infantry at the age of sixteen, but on the formation of the corps of Engineers he obtained a lieutenant's commission. He was present at the taking of Seringapatam as field engineer, was taken prisoner by the French at sea, but was soon released, and remained with his corps till 1812; then returned to Guernsey, and built Jerbourg barracks. Having returned to Madras, he planned and constructed the Mount road, built St. George's Church, now the Cathedral; also St. Andrew's Church, or the Scotch Kirk, which was long considered the perfection of architecture in Madras, and of which the steeple is still the tallest piece of masonry and its dome the finest in that city. He constructed the North Beach road as a bulwark against the encroachments of the sea, which then threatened to submerge the whole of Black Town.

DEHGAN or Deggan, a supposed Aryan tribe, once spread over Afghanistan, but latterly in the Kunair valley. Elphinstone says they are distinct from the Hindki, and must not be confounded with the Tajak, whom the Afghans sometimes call Dehgan, by corruption from Dehkan, a husbandman. The Deggans speak the language which is mentioned under the name of Lughmaunee in the Commentaries of Baber, the Ain-i-Akbari, and other books. The language seems to be composed of Sanskrit and modern Persian, with some words of Pushtu, and a very large mixture of some unknown root. The greater part of the words, however, are Sanskrit.

DEHLI, a city of Hindustan, built on the right bank of the Jumna, in lat. 28° 39′ N., and long. 77° 18′ E., and 800 feet above the sea. It gives its name to a revenue district under the Lieutenant-Governor of the Panjab. The whole country, for some 10 or 12 miles around the modern Dehli, is covered with the debris of ruined cities, which extend over an estimated area of 45 sq. miles. About fifteen centuries before the Christian era, the town of Indraprestha was in existence on the Jumna, in the vicinity of the site occupied by the modern Dehli. It was one of the five 'pat' or 'prastha,' viz. Panipat, Sonpat, Indrapat, Tilpat, and Baghpat, which Dhritorashtra gave to the Pandu. Now, however, Purana Killa and the Negumbod ghat on the Jumna are the only places which can be pointed to as probably connected with the ancient Indraprestha, and the ghat seems to have been a sacred place of pilgrimage even before the Pandu family settled there. The people still call Purana Killa, Indrapat, though Humayun new-named it Din-Panah, and Sher Shah styled it Sherghar. Thirty princes of the line of Yudishtra succeeded him on the throne, but only their names are known; and the last of them was Kashemaka, who was murdered by his minister Viserwa, whose line of fourteen princes held sway for five hundred years. The last of the Maurya was slain by the raja Kemayoun, styled Sakaditya, or chief of the Saka, who subsequently fell before Vikramaditya, and Avanti or Ujjain became the capital. Dehli was then in existence, because Vikramaditya was described as possessing it,—Dilli-pat-kahayo became king of Dehli. Ancient Dehli was 5 miles distant from Indraprestha, on a rocky hill to the S.W., and 11 miles from the modern Dehli. It is surmised that on the removal of the capital to Ujjain, the cities in that locality lay waste and desolate for eight centuries. Fa Hian, A.D. 400, and after him Hiwen Thsang, who travelled in the 8th century (A.D. 750), make no mention of Dehli, nor is it mentioned in the time of Mahmud, who sacked and plundered both Muttra and Thanésar. In A.D. 1052, however, Anangpal rebuilt it.

In A.D. 1191, Prithi-raj utterly routed Mahomed Gori at Tiruri, 14 miles from Thanésar, and compelled him to recross the Indus. But in 1193 Muhammad re-entered Hindustan with a mixed Turk, Tartar, and Afghan army, defeated the Hindu princes, murdered the king of Dehli, took Ajmir, and returned to Ghazni. From that time until the early years of the 19th century, ending in the mutiny of the Bengal army and the rebellion of the northern people in 1857, Dehli continued in the possession of successive rulers of different races,—Turk, Moghul, Persian, Afghan,—but all following Mahomedanism.

For nearly a hundred years, however, the nominal ruler had been merely titular. The emperor Shah Alam entered Dehli a prisoner with the Mahrattas on 22d December 1771. He continued a mere state prisoner in their hands till 1803, when he was released by Lord Lake. All the territories and resources assigned for his support by the Mahrattas were continued to him, and a pecuniary provision was granted in addition, fixed at Rs. 60,000, but afterwards increased to Rs. 1,00,000 a month. Shah Alam died on

the 19th November 1806, and was succeeded by Akbar Shah, who was succeeded in 1837 by his eldest son, Bahadur Shah. He was restricted to the neighbourhood of Dehli, he was not allowed to confer titles or to issue a currency, but he had the control of civil and criminal justice within the palace. When the mutiny of 1857 broke out, the mutineers in Dehli took possession of the town, fort, and stores, and applied to the king. Bahadur Shah's conduct was vacillating, but he subsequently identified himself with the rebel cause. After the fall of Dehli on the 20th September 1857, he was captured, and tried on the charges of—1st. Aiding and abetting the mutiny of British troops; 2d. Encouraging and assisting divers persons in waging war against the British Government; 3d. Assuming the sovereignty of India; 4th. Causing and being accessory to the murder of Christians. He was convicted on each charge on the 9th December 1858, and sent to Rangoon, where he died in 1862; and thus, after nearly five centuries of sovereign power, the Timurides ceased to reign. The prospect of sovereignty was short-lived. The Dehli massacre of Europeans occurred on the 11th May 1857. Dehli was assaulted on the 14th September 1857. From the 14th to the 17th of September, the Church, the Cutcherry, the College, the Kotwalli, the Magazine, and the Dehli Bank House were one after the other carried and recovered. On the 18th, the line of communication between the Magazine and the Kābul gate was completed. On the 19th, the Burn bastion, near the Lahore gate, was taken possession of by a surprise. This bastion is so called from Colonel Burn, who with a handful of men made a most memorable defence of Dehli in 1804, against an overwhelming army of Holkar, and the cannonade of 130 guns. Sir D. Ouchterlony, then Resident, wrote of this defence, that it cannot but reflect the greatest honour on the discipline, courage, and fortitude of British troops in the eyes of all Hindustan, to observe that with a small force they sustained a siege of nine days, repelled an assault, and defended a city 10 miles in circumference, which had ever before been given up at the first appearance of an enemy at its gates. The 20th of September was the day of the final recapture of Dehli. On that day the imperial palace was entered and found deserted. The main picket of the British forces was at the house of Hindu Rao, on the top of the ridge that is to the north-west of the city. The chief efforts of the rebels were directed against this post of the besiegers. From the 8th of June 1857, until the fall of Dehli, it had to sustain twenty-six attacks. On the 14th of September, the attacking force for the storming of the city was divided into four columns, with a reserve. The party fixed upon to blow open the Kashmir gate consisted of Lieutenants Salkeld and Home, Sergeants Carmichael, Burgess, and Smith, bugler Hawthorne, who accompanied the party to sound the advance when the gate was blown in, and eight native sappers under Havildar Madhu, to carry the bags of powder.

Muhammad of Ghor found Dehli occupied by the Tomara clan, Ajmir by the Chauhans, and Kanauj by the Rahtors. These Rajput states formed the natural breakwaters against invaders from the north-west. But their feuds are said to have left to the king of Dehli and Ajmir, then united under one Chauhan overlord, only 64 of his 108 warrior chiefs; and when, in 1193, the Afghans again swept down on the Panjab, Prithi-raj, of Dehli and Ajmir, was defeated and slain. His heroic princess burned herself on his funeral pile. Muhammad of Ghor having occupied Dehli, pressed on to Ajmir, and in 1194 overthrew the rival Hindu monarch of Kanauj, whose body was identified on the field of battle by his false teeth. The brave Rahtor Rajputs of Kanauj, with other of the Rajput clans in Northern India, quitted their homes in large bodies rather than submit to the stranger. They migrated to the regions bordering on the eastern desert of the Indus, and there founded the military kingdoms which bear their name, Rajputana, to this day. Since then Dehli was burned by Timur, 1398; occupied by Baber, 1526; sacked by Nadir, 1739; taken by Mahrattas, 1758; taken by British, 12th September 1803; and again recovered by British, 20th September 1857.

Dehli town in 1868 had a population of 154,417. Dehli district population, in an area of 1277 square miles, comprised Hindus, 438,886; Mahomedans, 130,645; Sikhs, 580; and others, 38,739, the total population being 608,850. Jats number 107,856, of remarkably industrious habits, agricultural skill, and promptitude in the payment of revenue. North of Dehli the greater part of the land is in their possession, though they often share their villages with Brahman coparceners. Gujars (22,164) are pastoral and semi-nomade, in the hilly plateau of the south. They are addicted to cattle-lifting and thieving. The other tribes comprise 14,109 Ahirs, 10,677 Rajputs, 15,776 Pathans, and 8392 Sayyids.

Akbar and Jahangir usually resided at Agra, Lahore, or Ajmir; and Dehli again languished in disfavour, till the reign of Shah Jahan. This emperor rebuilt the city in its present form, surrounding it with the existing fortifications, and adding the title of Shah-jahanabad, from his own name. He also built the Jamma Masjid, and reopened the Western Jumna Canal. Dehli is still enclosed on three sides by the lofty wall of solid stone, constructed by the emperor Shah Jahan, and subsequently strengthened by the British, at the beginning of the 19th century, with a ditch and glacis. The eastern side, where the city extends to the river bank, has no wall, but the high bank is faced with masonry. There are many architectural remains. In Purana Killa is the Keelar Kona mosque, which was commenced by Humayun, and finished by Sher Shah. It has five horseshoe arches, decorated with blue tiles and marble, and some of them have been noticed under architecture.

The *Palace of Shah Jahan*—now the fort—measures 1600 feet east and west by 3200 north and south, exclusive of the gateways.

Diwan-i-Khas, or Private Audience Hall (the most ornamented of all Shah Jahan's buildings), overhangs the river; nothing can exceed the delicacy of its inlaid work or the poetry of its design.

A little to the south of the Chandni Chauk is the *Jamma Masjid*, standing out boldly from a small rocky rising ground. It was built by Shah Jahan between the fourth and tenth years of his reign, and is one of the finest buildings of its kind in India.

The Kala Masjid, supposed to have been built by one of the early Afghan sovereigns, and the mosque of Roshan-ud-Daula, merit notice.

To the west, beyond the walls, is a little chapel in honour of a Musalman saint, Nizam-ud-Din, near whose shrine members of the late imperial family, up to the time of the mutiny, were buried, each in his own little enclosure, surrounded by very elegant lattice-work of white marble.

Iron Pillar.—The earliest authentic information regarding the city is derived from the iron pillar of Raja Dhava, set up in the 3d or 4th century B.C. (319). It consists of a solid shaft of metal, 16 inches in diameter, and about 50 feet in length, but less than half its height appears above the ground. A Sanskrit inscription, deeply cut on its western face, records the story of its origin. Mr. James Prinsep, the first decipherer of the legend, found that it commemorated the prowess of Raja Dhava, who obtained with his own arm an undivided sovereignty on the earth for a long period; while the letters appear to be 'the typical cuts inflicted on his enemies by his sword, writing his immortal fame.' It is the arm of fame (Kirti Bhuja) of Raja Dhava. There is another inscription on it, which has given rise to a tradition that attributes the erection of the pillar to Anang Pal, founder of the Tuar dynasty in the 8th century A.D. Anang Pal II. made Dehli the Tuar metropolis, surrounding it with a massive line of fortifications, whose ruins are still believed to exist in the great circle of masonry lying around the Kutub Minar. The date of this restoration has been preserved by a second inscription cut into the more ancient pillar of Raja Dhava: 'In Sambat 1109' (1052 A.D.), 'Anang Pal peopled Dilli.' Just a century later, under the reign of a third Anang Pal, last of the Tuar line, Dehli fell before Visaldeva or Bisaldeo, Chauhan ruler of Ajmir. The conqueror permitted the vanquished raja to retain possession as a vassal; and from a marriage between the two houses sprang the celebrated Prithi-raj, the last champion of Hindu independence in Upper India, who thus succeeded to the joint realms of the Tuars and the Chauhans. Prithi-raj further strengthened the defences of the city by an exterior wall, which ran round the fortifications of Anang Pal, and of which remains may still be traced for a considerable distance. In 1191, Shahab-ud-Din made his first invasion of Upper India. As above mentioned, the Rajput ruler Prithi-raj successfully defended his kingdom for the time; but two years later the Mahomedan invader returned, utterly overthrew the Hindus in a great battle, and put their prince to death in cold blood. Kutub-ud-Din, the Sultan's viceroy, attacked and took Dehli, which became thenceforth the Mahomedan capital. On the death of Shahab-ud-Din in 1206, the viceroy became an independent sovereign, and founder of the Slave dynasty, to whom old Dehli owes most of its grandest ruins.

Kutub-ud-Din's Mosque, according to the inscription on its entrance archway, was commenced immediately after the capture of the city in 1193. It was completed in three years, and enlarged during the reign of Altamsh, son-in-law of the founder. Eleven magnificent arches close its western façade, Mahomedan in outline and design, but carried out in detail by Hindu workmen, as the intricate lacework which covers every portion of the arcade sufficiently bears witness. Ibn Batuta, who saw the mosque about 150 years after its erection, describes it as unequalled either for beauty or extent.

The *Kutub Minar*, another celebrated monument of the great Slave king, stands in the S.E. corner of the outer courtyard. It rises to a height of 238 feet 1 inch, tapering gracefully from a diameter of 47 feet at the base to nearly 9 feet at the summit. The shaft consists of five storeys, enclosing a spiral staircase, and is crowned by a now broken cupola, which fell during an earthquake in 1803. The original purpose of the minaret was doubtless as a muazzan's tower, whence the āsan summons to prayer might be heard throughout the whole city. The site chosen for the mosque was that already occupied by Raja Dhava's pillar, which forms the centre ornament of the inner courtyard. Around, in every direction, spreads a heap of splendid ruins, the most striking of which is the unfinished minaret of Ala-ud-Din, commenced in 1311. The Slave dynasty retained the sovereignty till 1288, when Jalal-ud-Din founded a new line.

Firoz Shah Taghalaq removed the site of Dehli to a new town, Firozabad, which appears to have occupied the ground between the tomb of Humayun and the ridge. Amid the ruins of this prince's palace, just outside the modern south gate, stands one of Asoka's pillars, erected in the 3d century B.C. This monolith, 42 feet in height, known as Firoz Shah's lathi or club, contains a Pali inscription, which was deciphered by Mr. James Prinsep. It is supposed to have been brought from Shrughna, in A.D. 1356, by Firoz Shah on a truck to Khizrabad, and thence by water to Dehli, then called Firozabad, and set up in the courtyard of the palace of Firoz. Its head is now bare; but so late as A.D. 1611, when William Finch was there, it had a golden pinnacle, which gave it the name of Minar-i-Zarin, or golden minaret. It is a single shaft of pale-pink sandstone, and, like all Asoka's pillars, is 42 feet 7 inches high, of which the upper 35 feet are very highly polished.

In 1526, Baber, the sixth in descent from Timur, was the founder of the dynasty which lasted till 1857. He marched into India with a small force, overthrew Ibrahim Lodi, the last Afghan ruler, at Panipat, and entered Dehli in May of the same year. His son for a time was driven from India, but in 1555 Humayun regained his throne. He died within six months of his restoration. His tomb forms one of the most striking architectural monuments in the neighbourhood. Its white marble dome is a conspicuous object for miles around. It cost fifteen lakhs of rupees, and was erected by his widow, Hamida Banu, who is also interred near.

Bhoot Khana.—In Prithi-raj's capital were twenty-seven Hindu temples, of which several hundreds of richly-carved pillars still remain, to attest both the taste and the wealth of the last Hindu rulers of Dehli. The Bhoot Khana is a colonnaded courtyard, the materials of which were obtained from the demolition of the Hindu temples.

The *Alia Durwaza*, built by Ala-ud-Din, A.H. 710, A.D. 1310, is a beautiful specimen of Pathan architecture.

Roushan Charagh, built by Firoz Shah as a shrine to the memory of a famous saint, is at the S.W. corner of Siri or Shahpur.

The fortifications of *Taghalaqabad* form a stupendous structure.

The *Shalimar* gardens were made by the emperor Shah Jahan at a cost of a kror of rupees.

The *Zinat Masjid*, called also the Kumari Masjid, was built by Zinat-un-Nissa, the spinster daughter of Aurangzeb.—*Imp. Gaz.* See Architecture.

DEHRA, a small town in the N.W. Provinces of British India, in lat. 30° 19′ 59″ N., long. 78° 5′ 57″ E., 2300 feet above the sea, with 7316 inhabitants. It is the principal station of the Dehra Doon revenue district, of 1021 sq. miles, with 116,945 inhabitants. The district consists of the double valley of Dehra proper, and the outlying mountain tract of Jaunsār Bāwar. To the S. are the Siwalik Hills, a mass of Himalayan debris. It is cut off from the Doab of the Ganges and Jumna by the Siwalik Hills. It has been largely occupied with tea plantations, and many Europeans reside in the town of Dehra. Dehra seems a corruption of Darrah or Tarai, a valley, or, amongst the Mahrattas, Therri, as Bhima therri, Seena therri. The Ganges, passing between this district and Garhwal, pours rapidly over beds of boulder, through several channels, encircling jungle-clad islets, and debouches at length upon the plains at Hardwar. The Jumna sweeps round the whole south-western boundary, and reaches the level uplands near Badshah Mahal, in Saharanpur district, an ancient hunting seat of the Dehli emperors. The Brahmans (10,279) and Rajputs (33,125) are each divided into the mountain and the lowland clans. The highland Brahmans will eat any kind of meat except beef.

The Mehra race inhabit the remoter portions of the eastern Doon, inferior both in physique and intelligence, and timidly averse to intercourse with strangers. The Dom or Dhūm have dingy black skins and woolly hair; they form the servile class, only just emancipated from actual slavery under British rule.

DEHRA GHAZI KHAN, a town and a district in the Dehrajat division of the Panjab. The town is in a low alluvial tract, 4 miles from the right or west bank of the Indus, in lat. 30° 3′ 47″ N., and long. 70° 49′ 8″ E. It commands important routes and the navigation of the Indus. It leads to the commercial towns of Multan and Bahawulpur, which adjoin it, and is about equidistant from Amritsar and the opulent town of Shikarpur in Sind. The district has an area of 4740 square miles, and in 1868 had 308,840 inhabitants, viz. 38,467 Hindus, 264,527 Mahomedans, and 1124 Sikhs. The plain tribes are the Nootkani, Lund, and Dreshuk, all of them well conducted. Their lands are classed as Pachad, or lands irrigated by hill streams, and Sind, or lands within the influence of the river. The latter class has enormously increased. The soil is a tenacious clay, fertile if well irrigated, but almost entirely sterile if without water. The canals have been greatly extended, partly by the chiefs of the Baluch clans, and partly by the Government. The geographical boundary between the Pathan and Baluch races in the hills nearly corresponds with the northern limit of the district, and it naturally follows that the Baluchis are more numerous in Dehra Ghazi Khan than in any other portion of the Panjab. Each clan owes allegiance to a feudatory chieftain or tumandar.

DEHRA ISMAIL KHAN, a town and a revenue district in the Dehrajat division of the Panjab, the town being built on the right or west bank of the Indus, in lat. 31° 50′ N., and long. 70° 55′ 44″ E. In 1868 the town had 24,906 inhabitants, a third part Hindus. The population of the district in 1868 was 394,864 souls,—338,387 Musalmans, 48,756 Hindus, 1587 Sikhs, and 6134 others. Amongst the Hindus, the Arora numbered 42,087; they comprise the principal trading classes, a few wealthy families being found in the larger towns, the majority being petty dealers in corn or money throughout the country villages. Dehra Ismail Khan is the market town of the Lohani merchants. It is subject to alteration from the inundations of the river, which on one occasion swept away the entire town. It is nearer to the great commercial city of Amritsar than any of the other places on the Indus, and lies on the road between it and Kābul. It is one of the eligible commercial sites on the Indus. It yields iron, coal, and sulphur. —*Bengal As. Trans.* viii. p. 250; *Papers, East India (Cabul and Afghanistan)*; *Imp. Gaz.*

DEHRAJAT, a revenue division of the Panjab, lying between lat. 28° 27′ and 33° 15′ N., and long. 69° 35′ and 72° 2′ E.; area, 15,007 square miles, and population 991,251 in 1868. It comprises the districts of Dehra Ghazi Khan, Dehra Ismail Khan, and Bunnu. It is on the right bank of the Indus, below the Salt Range, and to the point where that river is joined by the waters of the Panjab. It comprises about two-thirds of the narrow strip of land which lies between the Indus and the Suliman mountains, and extends from the hills and valleys of the Kohat district to the Sind frontier. The lower part bears the local name of Sind from bordering on the Indus, and the upper that of Daman, or skirt, from its bordering on the Suliman mountains. The country is flat and in many places fertile, but to the westward of the river there are no wells. A fringe of cultivation and jungle extends along the bank of the great river, and terminates, as you advance into the interior, in a flat desert country, where a precarious supply of water from the hills affords a poor cultivation in the vicinity of the thinly scattered villages. The Tank chief is a Pathan of good family. The nawab of Dehra Ismail Khan belongs to the princely Saddozai race. South of Dehra Ismail Khan lies the large tract of Dehra Ghazi Khan, which extends as far west as the mountains and along the Indus to Sind. Its principal chiefs usually behaved well, even at times when their brethren of the hills were in a state of hostility against British subjects. The plain tribes are the Nutkani, Lund, and Dreshuk, all of them well conducted; they had a certain number of fighting men, but they were long victimized by the Bozdar and Gurchani.

The Dehra Ghazi Khan district has the Dreshuk and Mazari.

Adjoining the frontier of Dehra Ghazi Khan district are the Khutran, Kosa, Laghari, Gurchani, Murri, and Bugti.

Dehra Ismail Khan district, Bunnuchi, Murwati, Butani chiefs of Tank, chiefs of Kolache, chiefs of Dehra Ismail Khan, Nutkani, Lund.

Adjoining frontier of Dehra Ismail Khan district are Sheorani, Oosterani, Kusrani, Bozdar.

Adjoining frontier of Kohat district, Buzoti, Sipah, Orakzai, Zymoosht Afghans, Turi.

Adjoining frontier of Kohat and Dehra Ismail Khan district, Waziri.

The tribes, from north to south, of the Dehrajat frontier come in the following order :—

Pathan tribes—	*Baluchi*—Kusrani.
Ahmadzai, Waziri.	*Pathan*—Khetrani.
Utmanzai, ,,	*Baluch tribes*—
Mahsud, ,,	Bozdar. | Laghari.
Butani.	Lund. | Gurchani.
Sheorani.	Kosa. | Mazari.
Usteranah.	

—*Papers, East India* (*Cabul and Afghanistan*), 1859; *Elphinstone's Caubul; The Derajat, or Hist. of the Panjab; Aitcheson's Treaties.*

DEHWAL, in Central Oudh, a village official who performs some duties for the cultivators. He also sets up the holi, a stem of the castor-oil plant, and five pieces of cow-dung fuel, on the Basant Panchami.

DEHWAR. PERS. A villager, a farmer. The Tajak race on the northern borders of Afghanistan are called Dehgan. The Dehwar residing with the Babi, at Kalat, are supposed to be descendants of Tajak from Balkh. They are an agricultural, hard-working, poor people, who dwell in villages, and do not migrate. Their language is nearly pure Persian.—*Dr. Cooke in Bo. Med. Trans.* 1860.

DEHWAR, also written Dewar and Deehwar, in Northern India, the village deity, the deity under whose care the village is placed; the *genius loci*, to whom, at each harvest, a portion of grain is set apart. The corresponding term in the north-west is Thanapati, the lord of the place; in Bundelkhand, Gram deota or Gramma-deva. In Saugor the deity is styled Miroyea, from the fact of his being the guardian of boundaries. The Dehwar is also very commonly, and even where these local names prevail, styled Bhoomia, from Bhoom, land. The occupation of the Dehwar is very much like that of the Roman Lares rurales,

'qui compita servant,
Et vigilant nostra semper in urbe Lares.'

The Dehwar deities have various local names, such as Kutesuree, Burnaichu, Hunwut, Bhoom Sen, Chanwur, Casheenath, Munsa Ram, Hurdour, Rutnoo, Huree Ram, Jharkhund Eesoor, Kall Sen, Bisharee; ofttimes they are the spirits of good men, of Brahmans or village heroes, but who, when they become objects of worship, come to be generally considered very malicious devils; and ofttimes they are nothing but mere epithets of the Dii majores. In some places their images are of male, in others of female, figures. In many places the villagers, for fear of misrepresenting their Gramma deota, erect a stone without form or feature, like the si Deo si Deæ of the Romans, which ambiguous expression was addressed to their tutelary gods, to obviate all chance of mistake. The worship of these village gods is fixed to no stated day. In some places it occurs on the 14th of every month; in others, on the full moon of Cheyt; at others, on the full moon of Katik, and so on. The unshapen stone or log of wood is a common form of the village deity of the Peninsula; but Hanuman is a frequent form between the Nerbadda and the Kistna rivers; and to the south is the Ai, the Amman or Amma, or some deified hero, or a shapeless stone from the bed of a river. These Dehwar or Gramma deota are ante-Brahmanical; and with respect to the gods of the south of India there are many circumstances of their worship which are not of Hindu origin.—*Elliot, quoting Bombay Literary Transactions; Journal R. A. S.*, Nos. ix. and x.; *Buchanan's East Ind.* ii. pp. 138, 352, 478; *Wilson's Hindu Theatre*, i. p. 21, ii. p. 64.

DEIFIED WARRIORS are largely worshipped in the Peninsula of India. Rama, one of these, was the leader of an invasion of the southern part of the Peninsula of India and of Ceylon. He advanced into the forests of Dandakaranya, scattering the prior inhabitants as he advanced, whom he described as Rakshasa and demons, driving some of them into the forests and mountain retreats, where they still reside in a barbarous freedom, and reducing others to the state of predial slavery, in which the Pariah, the Pallar, Cherumar, and other humbled races are now dwelling in the plains. To such invasions is owing the circumstance that each province in India has its own peculiar helot race; and each range of mountains and each forest tract its own tribes of wild savages, either wholly independent, or partially subject to their more civilised neighbours in the open country. We may instance the Pahari of the Rajmahal hills on the banks of the Ganges, and from their locality westwards through all the races in the Vindhya hills, the Meena, the Mhair, the Bhil, the Koli, southwards through the Gond races in Bustar and Gondwana. Amongst the Santal, the Gond, the Kond, Chenchwar, Souriah, the Yanady, the Irular, the Kurumbar, the Beder, Kallar, to the Maleali or mountaineers in the south, an infinite succession of races and tribes, with customs and speaking languages differing greatly from the inhabitants in the plains, besides whom are numerous homeless races, as the Korava, Wadawar, Yerkalwar, and Pardi. The ancient Sanskrit writers give other names of ancient races with whom the Aryans came in contact in their advance to the Ganges, some of which cannot now be traced.

DEIOPEIA PULCHELLA, an insect common in British India. It feeds on the kernel of the seed of Phyrostigma venenosum, which contains a poisonous principle, and the excrement of its larvæ contains the poisonous principle of the bean unaltered.

DEITY. See Allah; Bhagwan; Deo; Deva; Eswara; Khuda.

DEKA-CHANG, in Cachar and amongst the Assamese, is a club-house for the grown-up young unmarried men of the tribes of the eastern frontier, who reside there from adolescence. The Garo and tribes of Central India and Archipelago also follow this custom. It is a town-house or bachelor hall, like the choultry of the south of India.

DEKHAN. India south of the Vindhya range and of the Nerbadda and Satpura, is termed the Peninsula by the British, but northern Hindus and Mahomedans call it the Dakshana or Dekhan, meaning south. At its broadest part, in lat. 22° N., it is 1200 miles across, but it tapers away towards the south, and in lat. 7° 40′ N. ends in Cape Comorin, the Indian Ocean washing its western, and the Bay of Bengal its eastern shores. A range of mountains runs along each side of this peninsula, parallel with the coast, leaving between them and the sea, in their whole length from north to south, a belt of low level land from 20 to 50 miles in breadth. These two ranges are termed the Eastern Ghats, and the Syhadri mountains or Western Ghats, and have elevations of 1200 to 3000 feet respectively; but solitary mountains and

spurs from the western range attain to 6000 and 8000 feet above the level of the sea. The Western Ghats, on the side next the sea, at places sink precipitously to the level belt below. The Eastern Ghats do not fall so abruptly; but both ranges are covered with thick forests, through which a few passes lead from the coasts into the interior of the country, which is upraised by the mountains into table-lands from 1200 to 3000 feet above the sea, the general declivity of the land being from west to east. The Bombay and Madras armies are distributed over the Dekhan, and branch out into adjoining provinces. Thus the Bombay Presidency has its troops in Gujerat, Cutch, and Sind on the north-west of the Peninsula; and the Madras troops hold British Burma, Mysore, Travancore, and Cochin. Though Dekhan signifies the south, as Poorub does the east, when applied to Bengal and its dependencies, at the present day the term is generally restricted to the Hyderabad and Dowlatabad provinces lying between Berar and the Kistna, and from the Syhadri or Western Ghats eastwards to Telingana. The Hindus and British in Northern India, however, make the Dekhan more extensive, and regard it as including all the southern table-land, supported as it were by a triangle formed by the Satpura or sub-Vindhya on the N., the Syhadri or Western Ghats on the west, and the Eastern Ghats on the east, the Satpura range constituting the base of the triangle. The length from the Satpura range to Salem, and breadth from Mahabaleshwar to Sirguja, are about 700 miles. But if Chutia Nagpur be considered as part of this great table-land, it may be said to extend nearly 250 miles further in a N.E. direction, or about 950 miles in all. Its highest parts are those nearest the Western Ghats, and in the centre of Mysore. Mahabaleshwar, in lat. 18° N., and long. 73° 45′ E., is 4700 feet; the source of Kistna, 4500 feet; source of Godavery, 3000 feet; Poona, 1823 feet; source of Manjera, 3019 feet; and the rivers rising in ravines between spurs of the Western Ghats, wind their way through Eastern Ghats across the Dekhan, the slope being in that direction. The plains of Nagpur, 1000 feet, slope to S.E., drained by Wain-Ganga, which falls into the Godavery. Hyderabad is 1800 feet; Secunderabad, in lat. 17° 26′ N., lat. 78° 33′ E., is 1837 feet. Beder, in lat. 17° 53′ N., long. 77° 36′ E., is 2359 feet. From the Wain-Ganga the surface rises towards N.E., where Rypur, lat 21° 12′ N., long. 81° 40′ E., is 1747 feet; source of Mahanadi, 2111 feet. Nundidrug, highest in Mysore, 4856 feet, slope from hence on all sides, S. to Bangalore, 3000 feet; E. to plains of Carnatic-Chitoor, 1100 feet; N. to plains of Gooty, 1182 feet; and those of Bellary plains, 1600 feet; Gooty plains, 1182 feet; Cuddapah town, 507 feet; and E. part of Cuddapah district, 450 feet.

A great outburst of greenstone or trap rock covers all Berar from the Nerbadda to Bombay, and southwards through Nirmul to Naldrug; between Naldrug and Beder, and for 100 miles north and south of Beder, are great hills of laterite. The area covered by trap in the Peninsula of India can be little less than 200,000 square miles. Except the hollow of the Loonar lake, there is no trace of any crater in this volcanic region: 20 miles to the east of Nirmul, and a few miles south of the mountains, hornblende slate occurs, resting on granite and quartz rock. The countries through which the Gatparba and the Malparba run, and the lower course of the Kistna, Bhima, and Tumbudra, and all about Kalladgi, Kurnool, and Cuddapah, are formed of strata of limestone and clay-slate. The granitic platform of the Dekhan, which intervenes between the Kistna and the Godavery, is intersected by numerous greenstone dykes, sometimes porphyritic, having for the greater part a direction from E. to W. The inhabitants of this great table-land region are nations speaking Gondi, Mahrati, Telugu, and Canarese; and for 120 miles north-west from the town of Sadashipet, running on through Beder and Dangapura, the three last languages join, and the villages are styled Si-bhasha-basti, three-tongue towns. This mingling line is in the Hyderabad Dominions, a State in subsidiary alliance formed from out of the lands of the Gond, Teling, Mahratta, and Canarese races, Persian and Urdu or Hindustani being the court languages.

Away on the N.W. of the Dekhan are the races speaking Konkani and Gujerati, to the N.E. are the Gond and the Uriya races, and the Kandh or Kondh. To the extreme south are races speaking Canarese, Tamil, and Maleala, none of all of whom, however, are reckoned as populations of Dekhan proper. Besides, there are several uncivilised savage or semi-savage races, as the Bhil and the Koli of the N.W., the Khand, the Juanga, the Sowra of the N.E., the Ramusi of the Daulatabad and Hyderabad provinces, the Dher, Mang, Mhar, Pariah, Holar, Eskar, who are mostly predial slaves, the Berud near the Kolhapur state, the Beder population in the Raichore Doab, the homeless wandering Wadara, Upara, Kathadi, Dumar, Korawa, Yerkala, Banjara, the cowherd and shepherd Dhangar and Kurubar, the hill and forest Badaga, Erular, Male Arasar.

It was not till A.D. 1471 that the Mahomedans of the Dekhan extended their arms to the Northern Circars. At this time the Uriya raja of what is now the Ganjam country, died without issue, and his adopted son, Mungul Rai, and his cousin Humner (?) became competitors for the succession. During Mahmud's time (in 1512), the Bahmani dominion was dismembered, and five Dekhani kingdoms set up. The country now known as the Northern Circars fell under the dominion of the Kutub Shahi state, whose capital was Golconda, near Hyderabad. That portion south of the Godavery became tributary without difficulty; but Wistna Doe, or Gajapati, a powerful prince of Orissa, who ruled in Rajamundry and Chicacole, withheld submission, and it was not till A.D. 1571 that his pretensions were lowered. The Northern Circars was occupied by the British in 1766. The British now rule over the Ceded Districts of Bellary, Cuddapah, and Kurnool, over the S. Mahratta country, part of ancient Daulatabad; and they have assigned to them all Berar. The Nizam holds Hyderabad; and a few small chiefs rule in the Central Provinces, in Gondwana, along the line of the Godavery, in Orissa, and near the Kistna river.—*Elliot; Annl. Ind. Adm.* xi. p. 243; *Rennell's Memoir.*

DEKHANI HEMP is prepared from the Hibiscus cannabinus. It is also called Ambaree. Dekhani brown hemp of Bombay is from Crotalaria juncea, *Linn.*

DELADA, in the Malegawa temple at Kandy, is

the most devoutly worshipped relic of their religion which is possessed by the Buddhist nations of the East. Long before the Christian era, it was adored by the Buddhist sovereigns of Orissa, and was originally deposited in the great temple of Jaganath, then a Buddhist foundation. Its first deposition in Ceylon was in the 4th century A.D. The Buddhists of Ceylon have a tradition that whoever can succeed in retaining it must of necessity become the sovereign of the country. The Chinese traveller, Fa Hian, mentions amongst the precious relics worshipped in the 5th century by the Buddhists of Ladakh, a vase in which Buddha had spat, and one of his teeth; another tooth was similarly cherished by the king of Nakia, in Afghanistan, eastward of Ghazni. In an adjoining monastery the monks preserved the cuttings of his hair and nails. Fa Hian also describes a shadow of Buddha, which was shown to him at Nakia, but admits his inability to describe the process of its preservation.—*Tennant's Ceylon*, p. 239. See Buddha.

DELAI LAMA lives in the Bouddha La monastery outside of Lhassa, and is believed to be the living incarnation of the deity. But there are four or five subordinate incarnations in different parts of Tibet and Mongolia, objects of worship in the places where they reside, and by particular sects of Buddhists. In the centre of the Bouddha La is a building of four storeys, crowned by a dome covered entirely with sheets of gold.—*Fergusson*, p. 312.

DE L'HOSTE, CAPTAIN, an officer of the Bombay army, author of Memoirs on Scinde; On the Nerbudda River; Journal of a March from Ahmadabad to Sukkur, Upper Scinde; Notes on the Meteorology of the Phoonda Ghaut.—*Dr. Buist's Cat.; Bom. Geo. Trans.* i. p. 22.

DELIMA HEBECARPA, a creeper of Penang and Java. D. Sarmentosa, *Linn.*, a shrub with small white flowers in panicles; grows in the southern parts of Ceylon up to an elevation of 1000 feet.—*Thw.* p. 21; *Riddell; Voigt.*

DELMI, also called Buya, a family who overthrew the Samani. They were from the district of Mazenderan, in which their founder was a fisherman. They seized the western provinces of Persia, seized on Baghdad and the person of the khalif, and ruled (A.D. 932-1055, A.H. 321-448) for 100 years over an extensive territory in his name. The Amir Azan, Delmi, built the dam called Band-i-Amir, the Bendamir of Europeans. —*Elph.* p. 272. See Bendamir.

DELPHINIDÆ, a family of mammals of the order Cetaceæ, or the whale tribe, which live in the ocean. Amongst them are the whales, the largest of creatures now existing; also the dolphins, the porpoises, and the dugong. They have fin-like anterior extremities, the posterior extremities being absent, or rather their place supplied by a large horizontal caudal fin or tail. They have no hair on their skin, have no outer ear, and the bones of the neck are so compressed as to leave the animal without the appearance of a neck. Some of them eat plants, or are phytophagous; some are zoophagous, or animal-eaters. Seven species of cetaceans have been described from the Bay of Bengal, six of the family Delphinidæ, the seventh belonging to the sperm whales, Physeteridæ, and called Physeter (Euphysetes) simus. The family Delphinidæ, or porpoises, has 5 genera and 14 species, viz. Delphinus, 8 species; Steno, 2 species; Neomeris, 1 species; Platanista, 2 species; and Globiocephalus, 1 species. The family Balænidæ, or whales, has 4 genera and 7 species, viz. Balænoptera, 1 species; Balæna, 4 species; Physeter, 1 species; and Phocæna, 1 species. Sub-order Sirenia, herbivorous Cetacea, has 1 genus, Halicore, and 3 species.

DELPHINÆ.

Neomeris phocenoides, *Gray*, Delphinus melas, *Terns.* A dolphin of the Indian Ocean.

Phocæna communis, Ph. Rondeletii, *Willoughby*, Delphinus phocæna, *Linn.* Common porpoise.

Grampus sakamata, *Schlegel*, Sakam kuzira, JAPAN. Found off the coast of Japan.

G. Sieboldii, Naiso gata, JAPAN. A native of the coasts of Japan.

G. macrorhynchus, black fish of the South Sea whalers, inhabits the South Seas.

Delphinapterus Peronii, right whale porpoise of whalers. Is found on the Brazil bank, off the coasts of New Guinea, and the higher southern latitudes. It lives in large shoals, and its flesh is esteemed a delicacy. It is black, but the beak, the pectoral fins, and under part of the body are white.

Delphinus.—Seafaring people call the species of this genus bottle-nose, bottle-head, flounder-head, grampus, porpoise, sometimes even whale, and give the name of dolphin to the Coryphæna, a scomberoid fish which changes colour when dying. There are several species of Delphinus recognised.

D. delphis. The dolphin attains a length of 9 to 10 feet. Greek legends make it the friend and companion of man.

D. orca, the grampus, measures 25 feet in length, and is 12 or 13 feet round. It is the most voracious of all the dolphin tribe.

D. Heavisidii, hastated dolphin, the South Sea and Cape of Good Hope.

D. obscurus, the dusky dolphin, inhabits the Southern Ocean and Cape of Good Hope.

D. abusalam, Red Sea.

D. eutropia, Pacific Ocean and Chili.

D. Novæ Zealandiæ, the New Zealand dolphin, New Zealand and Cape Gable.

D. Forsteri, Forster's dolphin, Pacific Ocean between N. Caledonia and Norfolk Island.

D. Sao, inhabits Madagascar.

D. longirostris, Cape dolphin, about the Cape of Good Hope and the Southern Ocean.

Steno Malayanus, Dolphinus plumbeus, *Dussumier, Cuvier;* Delphinus Malayanus, *Lesson apud Cuvier;* Parampuan Laut, MALAY; Dolphin ventre roux of Paris Museum. Inhabits the Malabar coast and coasts of Penang. It is numerous, and rather heavy in its movements, but is rarely captured, except by chance in the stake-nets. It eats small fishes, Clupea and Glyphisidon cœlestinus, *Cuvier.*

S. frontanus, inhabits the Indian Ocean and the Pacific.

Platanista Gangetica, *Gray*, Delphinus Shawensis, *Bl.;* D. Gangeticus, *Roxb.;* Platanista of Pliny; Dauphine du Gange, *F. Cuvier;* Sou-sou of India; Susa of Buffon. Inhabits the Indian seas, the Ganges, and Irawadi.

Halicore Dugong, Trichechus dugong, *Gmel.;* Dugungus Indicus, *Ham.*; Indian dugong, ENG.; Le dugong des Indes, FR. Inhabits the shallows of the Indian Ocean and about Ceylon, where the water is not more than two or three fathoms deep. It does not appear to frequent the land or the fresh water. Its flesh is delicate. The dugong was noticed as occurring in Ceylon by the early Arab sailors, by Megasthenes (Fragm. lix.) and Ælian, and subsequently by the Portuguese. It is this creature which has given rise to the tales about mermaids, which have till the present day occupied the world, and doubtless had their origin in the tales of the Arab sailors. They are phytophagous, or plant-eaters.

H. Indicus, *Owen*, the Malay dugong, an inhabitant of the narrow seas of the Eastern Archipelago.

H. tabernaculi, *Ruppell*, the dugong of the Red Sea, has a feeble voice, and feeds on algæ. It is about ten feet long. In February and March, bloody battles occur between the males. Its flesh, teeth, and skins are utilized.

H. australis, manate of Dampier, white-tailed manate of Pennant. It is a native of the west coast of Australia.

H. Indicus, *F. Cuvier;* Trichechus dugong, *Erxleben;* Halicore cetacea, *Illeger;* Halicore dugong, *Cuvier apud Raffles;* Halicore tabernaculum, *Ruppell;* Dugungus Marinus, *Tiedemann apud Schinz.*

Dugong of Buffon. | Parampuan laut, MALAY.
Dugong, . . . MALAY. |

Under these synonyms Dr. Theodore Cantor unites all the above, which he says inhabits the Red Sea, the seas of the Malay Peninsula, Singapore, Sumatra, the Philippine Islands, Moluccas, Sunda Islands, and New Holland.—*Cat. Mam. Mus.; E. I. C. Hartwig; English Cyclopædia*, p. 913; *Mr. Blyth in Beng. As. Soc. Journ.; Tennant's Ceylon; Dr. Theodore Cantor in Beng. As. Soc. Journal* of 11th December 1846.

DELPHINIUM, a genus of plants of the natural order Ranunculaceæ, of which several species, D. ajacis, D. Brunonianum, D. consolida, D. glaciale, and D. Oliverianum, occur in India and the south of Asia.

Delphinium ajacis, *Linn.*

Larkspur, ... ENG. | Na-furman, . . HIND.

Is cultivated in gardens in India during the cold season. The properties of the seeds agree with those of the stavesacre kind.—*O'Sh.*

Delphinium Brunonianum, *Cleg.*

Musk plant, . . . ENG. | Nepari, ... PANJ.

Grows in the Sutlej valley between Rampur and Sungnam, at an elevation of 14,000 feet. Smells powerfully of musk.—*Cleghorn's Panj. Rep.*

Delphinium glaciale, *Hooker*, of E. Nepal, is one of the most alpine plants in the world, growing at an elevation of 17,000 feet. It is abundant in the valley of the Chomiochoo near Tungu, in Tibet, and exhales a rank smell of musk.—*Hook.*

Delphinium pauciflorum, *O'Sh.*

Judwar, HIND. of BOMBAY. | Nirbisi of HIMALAYA.

A tuberous root in Sirmoor, without poisonous properties. The best comes from Lahore.—*O'Sh.*

Delphinium staphisagria, *L.*, the stavesacre or lousewort, a biennial plant, native of the Levant, Teneriffe, and Asia Minor. The powder taken internally acts as a violent cathartic and emetic. It is made into an ointment used for destroying vermin in the hair. The seeds intoxicate fish.—*O'Sh.* p. 168.

DELPHOS, a town in Greece where was an ancient oracle and place of worship, in a cave of the earth called Delphi, the word Delphi being synonymous with Yoni. See Delphi; Yavana.

DELUGE.

Tufan, . ARAB., TURK. | Diluvio, . . . IT., SP.
Ueberschwemmung, GER. |

The deluge of the Old Testament was known to the Chaldæans, the Aryan Hindus, the Parsees, the Hebrews, Christians, and Mahomedans. The last three religionists have their account of it in the 6th to the 9th chapter of Genesis, in which it is related how the Almighty, in consequence of the wickedness of mankind, brought a flood of rain for forty days on the earth, and destroyed all but Noah, his wife, his sons, and their wives, with pairs of all animals.

The Chaldeo-Babylonian narrative of the event is recorded in the great epic poem of the town of Uruk, three copies of which were made for the royal library, in the 8th century B.C., by order of Assur-bani-pal, king of Assyria, from a very ancient copy of it in the sacerdotal library of the town of Uruk, seemingly of the time of Abraham. The narrative follows with great exactness the same course as that of Genesis, which, in chapters vi. vii. viii. and ix., gives two different narratives. The cataclysm there noticed corresponds with the rising and overflow of the Tigris and Euphrates, from the middle of March to the end of May, and 26 days later the Jehovist makes Noah leave the ark.

Berosus, who had access to Babylonian records, says a god appeared to Xisuthros in a dream, prophesied a flood, and bade him bury sacred records in the City of the Sun at Sippara. The flood came, Xisuthros released birds to ascertain the state of the country, the occupants disembarked, and recovered the interred records.

The account which the Hindus have of the deluge is described in the Satapatha Brahmana of the Rig Veda, also with variations in the Mahabharata, in the Bhagavata Purana, in the Agni Purana, and in the Matsya Purana. The first of these does not indicate who was the person saved; the Mahabharata indicates Brahma, and the Puranas, Vishnu. The first of the Hindu accounts of this is found in the Satapatha Brahmana. In it the 7th Menu Vaivasata one morning caught a fish, which told him of the coming flood, and, on the advice of the fish, he built a ship, which he attached to the horn of the fish, sailed over the northern mountain, and attached it to a tree till the waters subsided, when he found all living things destroyed.

The essence of the extract from the Agni Purana is this:—'When ocean quitted his bounds and caused universal destruction by Brahma's command, Vaivaswata Menu (Noah), who dwelt near the Himalaya mountains, was giving water to the gods in the Kritmala river, when a small fish fell into his hand. A voice commanded him to preserve it. The fish expanded to an enormous size. Menu, with his sons and their wives, and the sages, with the seed of every living thing, entered into a vessel, which was fastened to a horn on the head of the fish, and thus they were preserved.' In this fable the grand northern chain is given as that to which the abode of the great patriarch of mankind approximated.

In the Puranas it is not Menu Vaivasata, the 7th Menu, whom the divine fish saves from the deluge, but Satyavrata, the king of the Dasya, the man who loves justice and truth. The Bhagavata Purana says, 'In seven days, said Vishnu to Satyavrata, the three worlds shall be submerged.'

The West Iranians, now represented by the Parsees, had a knowledge of a deluge, in which Yima, the father of the human race, was warned by Ahuramazda to hedge in a square garden (vara), and cause the germs of men, beasts, and plants to enter it, in order to escape annihilation.

The Greeks had two legends as to deluges, one connected with Ogyges, king of Bœotia, the other the Thessalian legend of Deucalion, who, by the advice of Prometheus, built a coffer, which floated at the mercy of the waves, and after ten days stranded on Mount Parnassus. The former seems connected with a rise of the lake Cupais; the latter seems to relate to the whole earth.

The great inundation recorded in the historic books of China, as having occurred B.C. 2357, in the reign of the emperor Yao, seems to have been occasioned by a rise of the Hoang-ho, a local event long subsequent to the fully historic periods of Egypt and Babylon. The date of the completion of the works undertaken by the minister Yu, to repair the damage done by this flood, lies between B.C. 2278 and 2062.

DEMAVAND, in lat. 35° 50′ N., long. 52° E., a lofty peak on the Elburz range, between Irak Ajami and Mazandaran. A high road leads from Teheran by the town of Demavand to Ask, the capital of the district of Laurijan. The hot baths of Demavand are situated in this locality, at Garmsair, near Garm-ab. They are two in number: one, the tepid bath, is situated within 100 yards of the town of Ask, on the right bank of the river. It rises in an oval basin, measuring about 30 feet by 20, and about 3 feet in depth, formed by deposit from the spring, which gushes up with great force in the centre of the basin, together with a considerable amount of gas. The water contains sulphur, iron, soda, and magnesia. The other spring, which is situated about two miles further down the valley, and on the mountain of Demavand, is so intensely hot (148°), that the water has to be conducted through canals for some distance before it is collected in an artificial basin, in which the patients bathe. This water contains magnesia, iron, and sulphur in much larger proportions. Near Ask there is also a spring of cold water, strongly impregnated with iron. From Ask a road leads down to the town of Amil, but it is extremely dangerous, lives being lost annually from mules and their riders falling over the precipice, along the face of which it runs. Demavand bears N. 65° E. of Teheran, about 40 miles distant, and its pale lofty summit forms a magnificent pyramid as it shoots up from the high range of Elburz. The cone of Demavand is doubtless of volcanic origin, and consists of a number of ridges, which run from the summit to the base, leaving between them deep ravines filled in general with snow and ice, beneath which lies a mass of debris fallen from the upper part of the mountain. The height of the mountain is 21,520 feet. The cone terminates in a crater about 85 yards in diameter, which is nearly surrounded by jagged rocks.—*Chesney*, p. 15; *MacGregor*.

DEMETRIUS. Grecian kings, successors of Alexander, rulers in Syria; there were three of this name:—Demetrius I., surnamed Soter, B.C. 162; Demetrius II., surnamed Nicator, B.C. 147; Demetrius III., surnamed Eucærus, B.C. 94.

DEMOCRITUS, there is authority for believing, went to Egypt and Babylon, but his more distant travels to India are legendary.

DEMODURA, a variety of the Saligrama.

DEMON.

Esprit, ... Fr. | Demonio, . . . It., Sp.
Geist, ... Ger. |

Demon-worship is observed amongst all the non-Aryan races in India, but is perhaps carried out to its fullest extent, and most openly, amongst the Shanar people in the south of the Peninsula. This worship has little or no similarity to any Hindu cultus, being mostly directed to appease the malignancy of evil spirits, the shades or saya of persons who have recently died. In some parts of India there is a mixing up of demon and spirit worship and hero-worship with that of the Hindu deities. In the Dekhan, the deified sage Vithoba and his early expounders are extensively worshipped as local divinities. Byroba, the local deity of herdsmen, is largely worshipped in the Dekhan, as also is Kandoba, the deified hero of shepherds. Outside almost every Hindu village in the Dekhan, is a circle of large stones, sacred to Vetal, a demon-god of the non-Aryan races. Amongst the evil genii of all India is a being or beings called Rakshasa, of giant bulk, terrible teeth, who feast on dead bodies; and the Rakshasa is recognised by Aryan and non-Aryan. The bhoot, acknowledged all over India, more resembles the ghost of Europe. The Rev. Dr. Caldwell, in his work on the devil-worship of the Shanar, has shown how continuously the people of India are making new deities or demons. On the left bank of the stream, at the village of Assaye, at which Sindia's artillery was posted during that battle, is a tree beneath which is the tomb of an officer who fell during the battle, and his spirit is punctually worshipped by all the people of the neighbourhood. Sir Bartle Frere found an order in existence at Government House, Dapoorie, handed down by each non-commissioned officer, for the native sentry on guard, to present arms if a cat or dog, jackal or goat, entered or left the house or crossed near his beat during certain hours of the night, because it was a ghost of a former governor, who was still remembered as one of the best and kindest of rulers. The raja of Wanparty, one of that Reddi race who have founded small principalities along the banks of the Kistna river, died in 1868 at Hyderabad. He had led a turbulent life, and retained to the last much of the spirit of his youth. At the close of that year an outbreak of cholera occurred in that neighbourhood, which the people attributed to the spirit of Wanparty, and they made a clay image of him, riding on an elephant, and placed near him the clay image of a Brinjari, and worshipped all with the Mahabali sacrifice. In India, the Jan, the Gin of the Arabian Nights, is only known amongst the Mahomedans. In Sind, the Jan resembles the Pwecca, or Puck of Britain; the Jan of the Baluch hills is wayward and often morose, but not necessarily malignant. He is described as dwarfish, with large eyes, and covered with long hairs, and often changes to the form of a camel, goat, or other animal. On meeting a Jan, it is essential not to be alarmed, to use civil language. The Jan can become the servant of man, and work hard.

The deep-rooted belief in devils and in demoniacal possession was proved by the mortuary statistics of the N.W. Provinces of India for the year 1865, from which it appears that in 3463 cases, the relatives of the deceased would assign no other causes of death than witchcraft, evil spirits, and devils.

In Ceylon is a class of demigods, who, under the name of Yakshyo, are supposed to inhabit the waters, and dwell on the sides of Mount Meru, and who are distinguished not only for gentleness and benevolence, but even by a veneration for Buddha, who, in one of his earlier transmigrations, was himself born under the form of a Yakshyo. The Yakka, malignant spirits of Ceylon, are the authors of indefinite evil; and the Singhalese have a demon or Sanne for each form of disease, who is supposed to be its direct agent and inflictor, and who is

accordingly invoked for its removal; and others, who delight in the miseries of mankind, are to be propitiated before the arrival of any event over which their pernicious influence might otherwise prevail. Hence, on every domestic occurrence, as well as in every domestic calamity, the services of the Kattadia or devil-priests are sought, and their ceremonies performed, generally with observances so barbarous as to be the most revolting evidence still extant of the uncivilised habits of the Singhalese. Especially in cases of sickness and danger the assistance of the devil-dancer is implicitly relied on. An altar, decorated with garlands, is erected within sight of the patient, and on this an animal, frequently a cock, is to be sacrificed for his recovery. Another kind of demon-worship in Ceylon is a debased form of Hinduism, where the priest or Kapua is the performer.

Mr. Forbes, in the Ras Mala (p. 378), says the bhoot and pret of Gujerat are believed to reside in the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where a death has occurred, or at cross-roads,—for which reason people set at these places food for the use of the bhoot. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of Wuroon Deo, however, are stationed wherever there is water, to prevent the bhoot from drinking, and the thirst is therefore as continual as it is intense. The bhoot feed upon all kinds of refuse. The goblin of the best class—he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects—is called a 'Poorwuj Deo,' and resides in his own house or in a sacred fig-tree. The Poorwuj Deo, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants, and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Gujerat that serpents are always to be found wherever a hoard is buried, and that these are the bhoot of the deceased owners, who have remained upon earth from affection to their wealth. The Arabian Jin also frequents cross-roads; and the fairies of the Scottish lowlands carry bows made of the ribs of a man buried where three lairds' lands meet, as in A Midsummer Night's Dream (Act iii. sec. 2):

'Damned spirits all,
That in cross-ways and floods have burial.'

'Desert places' in Gujerat correspond exactly with the 'dry places' (*ἀνύδρων τόπων*), assigned to the evil spirits in Matthew xii. 43, Luke xi. 24. The custom of placing food for spirits is very general throughout the world. In the dialogue of Dives and Pauper, printed by Richard Pynson in 1493, among the superstitions then in use at the beginning of the year, the following is mentioned: 'Alle that take hede to dysmal dayes, or use nyce observances in the newe moone, or in the newe yeere, as setting of mete or drynke by nighte on the benche to fede alholde or gobelyn.' The powers which the bhoot and pret exercise are the following: They take possession of a corpse, and speak through its mouth; they exhibit themselves in the form which they possessed when living; they enter into a living man, and cause him to speak as they please; sometimes they afflict him with fever or various other diseases; sometimes they assume the forms of animals, and frighten people by suddenly vanishing in a flash of fire; sometimes, remaining invisible, they speak in whispers. A bhoot has been known to come to fisticuffs with a man, and to carry a man off and set him down in a distant place. It is even said that women are sometimes found with child by bhoots.

The Jain Shastras teach a different doctrine in regard to spirits from that which is taught by the Puranas. They assert that there are eight kinds of Vyuntur Deo, and eight of Wan-Vyuntur Deo, who reside below the earth. Each of these has two Indra, or sovereigns, ruling respectively the northern and southern regions, and who are in colour black, white, or blue. The Vyuntur and Wan-Vyuntur Deo appear upon earth, where they possess the bodies of men, exhibit themselves in various shapes, and perform many strange feats, whence their common name of Kootohulee (or surprising) Deo. Below them reside the Bhuwunputee Deo, who also sometimes appear on earth. Below these, again, are the Narkina or infernal spirits. Above this earth, in the atmosphere, five kinds of 'Deo of splendour' reside, the sun, moon, stars, and others. Above them, in twelve Deo Loka, the Deo who ride in chariots dwell; these, sometimes drawn by their own desire, or compelled by charms, appear in the world, but they do harm to no one. Above them are nine classes of Grivek, and five of Unootur Vimani. They are of great power, and never visit the earth. Men who have lived a life of austerity and righteousness are born again in these classes of upper or lower Deo, but the sinner is not born in them. Of old, a man who had performed the rite of 'Uthum' by fasting for three days, acquired the power of calling the Deo to him; but now, it is said, these Deo never visit the earth at any one's call.

In Gujerat, where people wish to prevent the removal of a jungle tree, they paint a trident upon it with vermilion, or, if that be inconvenient, throw down a number of stones at the root of the tree. Whoever, after this, passes by, is sure to add a stone or two to the heap, believing the place to be the residence of a bhoot. If stones are not easily procurable, a bit of old rag is thrown so as to adhere to the tree, and every one who passes by follows the example once set. They call the spot the 'Rag-uncle's.' In places where trees are scarce, these 'uncles' are very common, and people are much annoyed with the dread of touching them. The name 'uncle' is given to the bhoot by women as a term of respect. Men are less superstitious. Similarly, whenever in any place there is a hillock or mound upon which a few stones have been piled one above the other, every passer-by considers himself bound to add a stone to the heap, considering that the spot is the residence of some Deo, and that if any one raise a little temple there his house will flourish. Such monuments are also set up in places where a person has been slain or wounded. Cairns of

this kind are frequently connected with the dead,—

'On many a cairn's grey pyramid,
Where urns of mighty chiefs lie hid.'

—*Rasamala, Hindu Annals*, ii. pp. 379, 387; *Brand's Hindu Annals*, ii. p. 378. See Amma; Dehwar; Devils; Devil-Worship.

DENAR, a coin of Turkish Arabia. It is the denarius of the Romans. Dirhem is the drachma, and Falus (in the singular) is the follis of the Romans (Ouseley's Travels, ii. p. 490). The denarius was reduced by Augustus Cæsar from 90 to 60 grains, and by Constantine to 40 grains. —*Prinsep; J. B. A. S.*, Sept. 1832.

DENDENG. MALAY. Jerked beef; animal muscular fibre, preserved by drying in the sun, nearly the only mode of curing flesh in the Archipelago. Dendeng is made of the flesh of deer, oxen, and buffaloes, and by the Chinese of that of the wild hog. It is a considerable article of native trade.—*Crawfurd's Dict.* p. 120.

DENDROBIUM, a genus of air-plants of the natural order Orchiaceæ, which occur in south-eastern Asia and Australia.

album.	densiflorum.	macrostachyum.
aggregatum.	denudans.	Paxtonii.
alpestre.	filiforme.	pendulum.
aureum.	formosum.	pierardi.
barbatulum.	flavum.	pulchellum.
bicameratum.	Gibsonii.	pumilum.
Cambridgeanum.	graminifolium.	purpureum.
candidum.	heterocarpum.	ramosissimum.
calceolus.	Heyneanum.	secundum.
cœrulescens.	humilis.	stuposum.
clavatum.	Jenkinsii.	sulcatum.
crumenatum.	Jerdonianum.	teretifolium.
chrysanthum.	longicornu.	

The most interesting of the air-plants on the Tenasserim coast is a dendrobium, the flowers of which are white, with a yellow lip, three or four inches in diameter, and exquisitely fragrant. The plant blossoms in March, but it flowers to the close of October, and may be seen whitening under the emerald foliage of the groves nearly six months of the year. The Burmese call it the silver flower.

Dendrobium Ceraia.

Shih-huh, . . . CHIN. | Hwang-ts'au, . . CHIN.

This Chinese species of dendrobium grows on stones.—*Smith; Mason.*

DENDROCALAMUS GIGANTEUS, *Munro*, of Malacca and adjacent islands; one of the mightiest of all bamboos.—*V. Mueller.*

DENDROCALAMUS HAMILTONII, *Nees*, ascends the Himalayas from 2000 to 6000 feet, and rises 60 feet high. Its young shoots are edible. —*Brandis; Kurz; V. Mueller.*

DENDROCALAMUS STRICTUS. *Nees.*

Bambusa stricta, *Roxb.*	B. pubescens, *Lodd.*
B. verticellata, *Rottler.*	Nastus strictus, *Smith.*
Male bamboo, . . ENG.	Sadhanapu veduru, . TEL.

The male bamboo has nearly solid stems, and is much in use for spear-shafts, building purposes, and many other uses. It is absent from Ceylon, except in a cultivated state. It is very general throughout the Madras Presidency, on the dry slopes of the mountains up to 3000 feet elevation. It is common in Bombay, Bengal, and Burma, and extends to Singapore and Java. It flowers frequently, Colonel Beddome believes every year, and does not die down after flowering.—*Beddome.*

DENDROCALAMUS TULDA. *Nees.*

Bambusa tulda, *Roxb.*	Peka bans, Pia bans, HIND.
Tulda bans, . . . BENG.	Bashine bans, . . ,,

The common bamboo of Bengal. Its tender shoots are used as pickles.

DENDROCITTA RUFA, a pleasingly coloured rufous tree magpie, of all India.

DENDROCYGNA, a genus of water-fowl, known in India to sportsmen as the whistling duck. They are common to the northern and southern hemispheres. See Aves; Birds.

DENDROPHIDÆ, a family of harmless snakes, consisting of the following genera:—

Gonyosoma oxycephalum, *Boie*, Andamans, Assam, Pegu, Mergui.
G. gramineum, *Gunth.*, Khassya.
G. rœnatum, *Gray*, Khassya.
Dendrophis pictus, *Gmel.*, Bengal, Assam, Andamans, Arabia, Pegu, Malacca.
Rhodopleuron, *Schl.*, Amboyna.
Chrysopsoelea ornata, *Shaw*, Shang-hai, Malacca.

The Dendrophis genus is common, known as tree-snakes, the name being from the Greek, Dendron, a tree, and Ophis, a serpent. They are also called whip-snakes.

DENGI is the common passage and ferry boat on the river Ganges. It is a comfortless rickety-looking boat, and dangerous to travel in. Caught by the bore even in the middle of the river, if crowded, the dengis are swamped. The punsui is a light and fast boat, longer, broader, and sharper than the dengi, and more comfortable.

DENGUE, fugitive and erratic epidemic rheumatism. This disease, when it first appeared in the British West India Islands, was called the dandy fever, from the stiffness and constraint which it gave to the limbs and body. The Spaniards of the neighbouring islands mistook the term for their word Dengue, denoting prudery, which might also well express stiffness, and hence the term Dengue became at last the name of the disease.

DENKENACOTTA, the finest forest in the Salem collectorate of the Madras Presidency. It contains sandal-wood and acha-wood.—*Cons. Rep.*

DENMARK, a kingdom in the north of Europe. Tranquebar was the first possession of the Danes in India. It was purchased by them from a raja of Tanjore. They also held Serampore in Bengal, Porto Novo on the Coromandel coast, Eddova and Kolchery on the Malabar coast, and other forts and factories. On the 22d February 1845, for £125,000 sterling, Denmark ceded, by treaty, all its Indian possessions at Balasore, Tranquebar, and Frederick's Nagore, or Serampore.

DENWAR, a name given by Mr. Hodgson to a border tribe between Nepal and the Bhot country. See Chepang; Haiyu.

DEO, Dev, Deva, Dewa. SANSK. A god, a deity; hence Dewalai or Dewal, a house of idols, a temple, a pagoda. It is the Zeus of the Greeks and Deus of the Romans, and is possibly the original of the name of Siva, often called Seo, Sheo, Shev, or Sheb; Devi is a goddess. Deo is also used to designate a demon, an idol, genii, giant, a spirit, shade, or ghost, and a hobgoblin. The village tutelary deity or Dehwar of Hindustan, the Gramadeva of S. Indus, has a portion of grain set apart at each harvest. It is commonly represented by a shapeless stone, but has distinct names, as Bhum-sen, Kateswari, Hanwat, Hari Ram. In his concluding letter on Comparative Philo-

logy, Professor Spiegel illustrates from that source the Indo-Germanic notions of the deity. Deva, Sanskrit, Latin Deus, denotes shining, glittering. It is an appellative, and occurs in the plural as often as in the singular; whence it has justly been inferred that even before their separation the Indo-Germans were polytheists; likewise Bhaga, the distributor, is used also in the plural. Well-attested names of deities are connected with Deva. Dyaus is heaven; Apam napat, aquarum nepos, is the generative power residing in the waters. See Dehwar; Demon; Devil.

DEO, seat of the Deo rajas, one of the most ancient families of Behar, in the Aurangabad subdivision, Gaya district. They trace their descent from the Ranas of Udaipur (Oodeypore). Four generations of unswerving loyalty to the East India Company and the Queen Empress have been rewarded by liberal grants of land and villages; and Sir Jai Prakash Singh, K.C.S.I., received the title of Maharaja Bahadur, with a Knight Commandership of the Star of India, for his services in 1857. It is the seat of a famous temple, at which thousands of people congregate twice a year, to hold the Ch'hat festival in honour of the sun-god.—*Imp. Gaz.*

DEOBAND, from Deo-ban, a sacred grove; a small town in Saharunpur district, N.W. Provinces, of the same name. Half a mile from the town is a small lake, the Devi-kund, whose banks are covered with temples, ghats, and sati monuments, which are much frequented. Deoband is of Hindu origin, with a legendary history of 3000 years. The Pandava are said to have passed their first exile within its precincts. The fortress was one of the earliest to fall before the Musalman saint, Sàlàr-Masaud Ghazi. A religious assembly takes place yearly in a neighbouring wood.—*Imp. Gaz.*

DEODAR. HIND. The Cedrus deodara, *Loudon*, is a valuable timber tree in the forests of the N.W. Himalaya under the Panjab Government, and in the Feudatory States of Jummu and Kashmir, in the Liawa and Uj divisions, on the banks of the Chenab, with the Bhutna, the Marru Wardwan, the Jhelum below Baramula, also the Kishenganga. The cones of the deodar are identical with those of the cedar of Lebanon; the deodar has generally longer and more pale bluish leaves and weeping branches, but these characters seem to be unusually developed in English gardens, for several persons, well acquainted with the deodar at Simla, when asked to point it out in the Kew Gardens, have indicated the cedar of Lebanon; and when shown the deodar, declare that they never saw that plant in the Himalaya. Deodar is also applied to the Chickrassia tabularis and Juniperus excelsa; and in Kulu and on the Beas, deodara is applied to the Cupressus torulosa and the Sethia Indica.—*Hooker's Him. Jour.* ii. p. 41.

DEO-DHANGA, or holy hill, is a peak in lat. 87° E., upwards of 29,000 feet high? Deo-dhanga and Mount Everest, 29,002, are about 100 miles N.E. of Khatmandu; both are midway between Gosainthan and Kangchun.—*Beng. As. Soc. Jour.* 1856.

DEO-GHANTA. HIND. Sacred metal bells.

DEOGHUR, or Byjnath, is a small town in the zilla of Birbhum, famous for its temples, visited every year by thousands of pilgrims from the North-West Provinces of India. It is situated in the great table-land which extends from near Bardwan to Dunwa Ghat, in Behar. Granite, syenite, and gneiss, traversed by greenstone dykes, are the prevailing rocks around. Veins of lead ore, partly pure, partly in the state of galena or sulphuret, traverse the principal copper vein at right angles. Both have been analyzed, and found of remarkable richness. The nearest coal is forty miles off; the nearest point on the river where the ore could be shipped for Calcutta is sixty, the road being tolerable all the way. The copper might in all likelihood be separated from the malachite by stamping and washing.

DEOGIRI, now called Dowlatabad, is about 12 miles from Aurangabad, in the Dekhan; is a scarped rock of considerable height, with a roadway leading up through the rock. Its position is commanding, and from the most ancient times was a stronghold of the rulers in that part of India. The name seems to have been sometimes written Deoghur. Ala-ud-Din, nephew and general of Jalal-ud-Din, in A.D. 1294 swept across the Nerbadda and captured Deogiri, and besides money and jewels, obtained the cession of Ellichpur and its dependencies, and the raja was further to pay tribute annually. Ala-ud-Din, on his return, was met by his uncle, Sultan Jalal-ud-Din Khilji, whom he assassinated, 1295, as he was patted on the cheek, and then ascended the throne. Subsequently he invaded and conquered Gujerat, and took its beautiful rani, Kamala Devi, into his household. About A.D. 1300 he repulsed an invasion of the Moghuls under Katallagh Khan. In A.D. 1303 he captured the fort of Chittore, but was immediately recalled to check an invasion of the Moghuls, whom he repulsed a third and fourth time in 1305 and 1306. In 1306 he sent Malik Kafur, his general, a eunuch, and who had been the slave of a merchant at Cambay, to chastise the raja of Deogiri, which Kafur effected, and also subdued the Mahrattas. In A.D. 1309 Malik Kafur captured Warangal, then the capital of Telingana. In 1310 he reduced Belal-Deo, raja of the Karnatic, with whom the Belal dynasty ended. He overran the whole of the eastern provinces as far as Ramisseram, opposite Ceylon, where he erected a mosque to commemorate his victories; and in A.D. 1311 he returned to Dehli, laden with plunder. In 1312 he despatched Kafur a second time to punish Ram Deva, king of Deogiri, and son of the former Ram Deo, who was put to death, and the kingdom annexed. He next carried his arms over all the Mahratta territory and the Karnatic, and soon after died.—*Briqq's Nizam.* See Dowlatabad.

DEO-KORA, the household god of the Garo race. It is a small bell-metal dish with embossed figures, hung up in the house and worshipped, and sacrifice offered. See Deo-Ghanta.

DEOLEE, in Rajputana, in lat. 25° 54′ N., and long. 74° 59′ E., is the headquarters of the Haraoti and Tonk political agency, comprising the states of Bundi, Kotah, Tonk, Jhallawur, and Shahpura. It is 57 miles S.E. from Nasseerabad.

DEO MUNNI? sacred beads of Assam.

DEOOLA are temples sacred to Jaganath; they rise from the foundation in a gradual slope like a sugar-loaf, with an iron image of Garuda on the pinnacle. These temples, made of brick, are ascended by a flight of steps, and contain only one room. The word is Deo-alaya, the House of God.

DEO-PANI, a stream which falls into the Brahma Kund.

DEO PATTAN, a district in the S.W. of India, in which was the temple of Somanath taken by Mahmud of Ghazni in 1024.

DEOPRAYAG, a village in the Garhwal district of the N.W. Provinces, in lat. 30° 8′ N., and long. 78° 39′ E., at the confluence of the Alaknanda and the Bhagirathi, and 2266 feet above sea-level. The united stream takes the name of the Ganges, and the point of junction forms one of the five sacred halting-places in the pilgrimage which Hindus make to Himachal. The village is perched 100 feet above the water's edge, on the scarped side of a mountain, which rises behind it to a height of 800 feet. The great temple of Rama Chandra, built of massive uncemented masonry, stands upon a terrace in the upper part of the town, and consists of an irregular pyramid, capped by a white cupola with a golden ball and spire. Religious ablutions take place at three basins, excavated in the rock at the point of junction of the holy streams.

DEORA is the tribe of the Sarohi princes, chiefs of Abu and Sarohi. It is a branch of the Chauhan Rajputs, whose cradle is said to be on the summit of Abu, whence they spread over the regions skirting the Aravalli to Ajmir, establishing many minor principalities, as Nadol, Jhalor, and others, long before the Rahtor of Jodhpur had set foot in Maroo, but were yet enjoying all the pomp of royalty in the splendid city of Kanauj. Sarohi, Abu, and Chandravati then appertained to the Pramara race; nor was it until the thirteenth century that the uncle of Kana Deo, prince of Jhalore, treacherously obtained possession of the former with its dependencies, by the slaughter of the Pramara race. The city, now the residence of the Deora princes, is comparatively of modern date, the ancient Sarohi lying behind a second range of mountains. The Rahtor and Deora are the bravest of the Rajput races. Achilgarh, or the immoveable castle, is the name of the fortress of the Deora.—*Tod's Tr.* p. 61; *Rajasthan*, ii. pp. 39, 57; *Annals of Mewar*, p. 334.

DEORHI. HIND. A threshold, a household; the household of a person of rank, generally of a Mahomedan noble, answering to the Bab of the Constantinople palace, or the Porte, also to the foot of the throne.

DEORI, priests of the Aka race. Deoshi, the sacrificial priest of the Kooch. Deota, a deity.

DEOTSA, a small plateau or table-land adjoining that of Balti. It and the Balti table-land form a territory 60 miles long and 36 broad, and are part of the territory of Balti. It is high above the forest line or birch region, and tenanted only by the marmot, with a few dwarf willows and herbaceous species as its plants. It is a thinly-inhabited steppe, 13,000 feet above the sea-level, between Skardo and Kashmir, belonging to Baltistan.—*Vigne.*

DE PAYVA. See Pedro da Covillam.

DERA BULLU, a small territory in the Kouen Lun valley, in Turkestan; the valley of the Yarkand river, near this, is 16,883 feet above the sea, in lat. 35° 49′ N., and long. 77° 31′ E.

DERAH or Diarah, HIND., answers to Chur in Lower Bengal, and signifies the long rich alluvial flats which generally line the banks of such rivers as the Gunduk, the Ganges, and the Kosai, and increase, diminish, or completely melt away, owing to the action of the stream in the rainy season.

DEREAH. HIND. Bhera, MAHR. A wood of the Nagpur forests, of great strength; the average logs are from 6½ to 10½ feet long, and from 2 to 3 feet in girth. It has a winding, and, as it were, netted grain, from which, as well as the extraordinary toughness of its fibres, butchers invariably use it for chopping blocks.—*Captain Sankey.*

DERI, a dialect of the Persian language, which is used by the Zoroastrians in Persia; it is not the Zend. It is also described as an ancient dialect of Persian spoken at Balkh, but also as the modern Persian tongue. It is derived from the Parsee, which displaced the rougher Pehlevi, though Pehlevi is still used in the sacred writings at Sherwan.

DES, Desa. SANSK. In Rohilkhand, the Des is the cleared villages on the borders of the Terai; in the Himalayan regions it means the plains of Hindustan. With the Mahrattas, it means the country between the Syhadri and Balaghat hills, the Karnatic and the Godavery river; it also means any plain, open, or champagne country. In the Dekhan it is used to signify a champagne country. Of the words derived from it and its other applications, Des is a native country; Desmukh and Despande are Mahratta revenue officers; Desai, a superintendent of a district; Desastha, Desath or Deshasth, a Mahratta Brahman; Par-desi, a foreigner.

DESERTS of Asia, biaban of the Persians, and Chul of Turkestan. A chain of deserts extend from the Canary Islands in the Atlantic Ocean to the Yellow Sea, crossing Africa and Arabia, through parts of Central Persia, Seistan, Korasan, Afghanistan, and Baluchistan, onwards to the east of the Indus, into Rajputana; and the link, broken by the Himalaya, is found in the great sand sea of the Gobi. They are mostly uninhabitable, from the absence of water and the intense heat, but have occasional oases of rich vegetation, where water springs occur, or where the Nile, the Tigris, the Euphrates, the Indus, and their affluents enrich the country. To the westward, the seas of sand of the African and Arabian wastes are seldom raised above, often sink below, the level of the ocean. To the eastward of the rich tract in Persia, Kerman, Seistan, Chinese Tartary, and Mongolia, the desert consists of series of plateaux, having from 3000 to nearly 10,000 feet of elevation.

The *Eastern Desert of Egypt*, near Jabl Gyr, has ancient green, red, and purple porphyry quarries at Jabl Dakkan (Mons Porphyritis); and breccia quarries occur at Wadi Keuch, which were worked in the time of the first Osirtasen, supposed to have been the Pharaoh who ruled over Egypt in the time of Joseph.

The *Desert of Arabia* extends from where the borders of Syria touch the Euphrates in the north, to near the coast of Hadramaut in the south. It is continued between Syria and the Euphrates; between Hejaz and Jabal Shammar and the Najd provinces, and between Yemen and Oman, and again on the east, between the provinces of Najd and Al Hasa on the Persian Gulf.

There are oases in this desert, and in the winter and after rains are scattered patches of grass, and the Bedouin find pasture on the borders; but in

the hot season the sun pours down its heat in unopposed fierceness. That part miscalled the Syrian desert by Europeans, was the Arabia Deserta of Ptolemy, and is now known as Al Hammad. That in the neighbourhood of Damascus is called Badiyah us Sham.

The *Desert of Syria* lies between Mesopotamia and the coast region of Syria and its southern part, Palestine. It is a great chalk plateau, about 1800 feet above the sea, bounded on the west side by a great depression.

Desert of Kharazm.—Between the Caspian and the Oxus is a desert tract of firm gravel, broken into undulations, and covered with a rich pasture of aromatic herbs, and water is found in some of the hollows on its surface. It is known as the desert of Khiva or Kharazm, also as the Regan, and from June to September is liable to destructive hot winds, in which man and beast perish, even the hardy camel perishing miserably. The Baluchi call this wind Julo, the flame, also Bad-i-Simoom, or the poison wind. There is great heat of skin, quickly ending in death. The approach of the wind is ushered in by an oppressive calm in the air, and a degree of heat that affects the eyes; the precaution then adopted by travellers is to cover themselves over, and lie prostrate on the earth. Pottinger says (Travels, p. 136) that any cloth, however thin, will obviate the deleterious effects of the Bad-i-Simoom on the human body.

The *Great Salt Desert of Central Persia* is called the Daria-i-Kavir. It stretches north and south across the eastern part of that country from Nishabor in the north, to Kirman on the south, and sinks to its lowest level opposite to the Seistan basin. It may be below the sea-level, and is certainly not far above it. It is the principal of the Kavir or Kafeh salt swamps of Persia. Wherever the alluvial soil of the Persian plateau is exposed to sufficient moisture, either by the overflow of rivers, by surface drainage from the hills, or by the want of sufficient slope to carry off desert rainfall, a saline efflorescence is produced, which, forming a thin whitish crust on the surface, retains the moisture beneath for a considerable time, and thus creates in winter and spring a treacherous and impassable bog. About lat. 34° N. it is 6 miles wide.

The *Great Desert of Khorasan* commences east of Koom, and stretches almost due east to the north of Khoor. From near this it turns to the south, and gradually lessens in width. At its broadest, S. of Damghan, it is about 150 miles broad, but generally where the roads cross it its breadth is from 80 to 100 miles. It is a barrier more difficult than any mountains in N. Persia and Khorasan (MacGregor, Khorasan), a desert plain without one blade of grass, one leaf of any kind, or living thing of any sort. Its dark soil is covered with a thick saline efflorescence, which glitters painfully on the eyes, and is felt crunching under the feet. Here and there are darker moist patches. The Kavir is honeycombed with holes about 9 inches deep, and the size of a man's head.

The *Desert of Kizl-Koom* (red sand) extends over an area of 35,000 square miles.

The desert called *Reg-i-Sistan* or *Reg-i-Baluchistan*, on the S.W. part of Afghanistan, extends from the highlands of Kalat to the boundary or Sarhad mountains south of Seistan. It extends from the Mushti range in the south, to the plain of Kandahar on the north, where it ends in a belt, ten or fifteen miles wide, of high desert cliffs, called Chol or dry land. The nomades pasture their cattle there in winter, as it produces a rich pasture at that season of the year.

The *Great Indian Desert*, on the eastern side of the Indus, lies between Sind and Rajputana. It is a sandy tract, but is covered with shrubs, and in places small trees grow. The population is thin, but villages are found throughout; and immense herds of camels, cattle, sheep, and goats are pastured. It is entirely destitute of streams of water, with but few hills of rock, and a large portion of the surface consists of sandhills of considerable height, called Thar or Thurr, or T'hul. When rain falls, crops of bajra (Penicillaria) are raised; and when they fail, the population live principally on the milk of cattle and on imported grain. Throughout the sandy tracts of this desert the vegetation consists of the Calligonum polygonoides (Phog, HIND.; Tob, SIND.), Ærua javanica (Bhui, HIND.; Bahusa, SIND.), Anabasis multiflora (Lana, HIND.), and Mart, a coarse grass growing in tufts, abounding on the sandhills, and spreading for miles on the plains. Phog and Bhui, also Orthanthera viminea (Kip, HIND.), are peculiar to the sandhills. Between the sandhills, Calotropis procera, Salvadora Persica, Acacia rupestris (or Kejri), Capparis aphylla, Zizyphus jujuba, and a few other plants, are commonly found. After rain, numerous herbs spring up, and a grass called Brut (? Cenchrus biflorus), the spiny seeds of which attach themselves to one's clothes like burrs. Divested of their spiny covering, they are made into a kind of bread. Birds are numerous; hyænas, wolves, jackals, the desert fox, Vulpes leucopus, V. Bengalensis, also Lynx Felis caracal occur; and the desert jerhoa rat, Gerbillus hurrianæ, in incredible numbers, perhaps a burrow in every square yard.

A traveller proceeding from the 'Khachee' or flats of Sind to the east, sees the line of the desert distinctly marked, with its elevated teeba or sand ridges, under which flows the Sankra, which is generally dry, except at periodical inundations. These sandhills are of considerable elevation, and may be considered the limit of the inundation of the 'Sweet-river,' the Meetha Muran, a Scythic or Tartar name for river, and by which alone the Indus is known from the Punjnud to the ocean. The teeba or sandhills occupy a large tract in Eastern Sind, extending the whole length of the province along the edge of the Indus alluvium. They are in ridges which run E. and W. or N.E. and S.W. Sir B. Frere says some of them are 400 or 500 feet high.

The Runn, Ran, or Rinn is a salt marsh, 150 miles broad, into which the Loni or Looni or salt river enters, and then runs on to the sea. The Looni rises in the Aravalli. In Marwar it separates the fertile land from the desert, afterwards runs through the Chauhan territory, dividing it into the eastern part, called Raj-Bah or Sooi-Bah, and the western part, called Parkar or 'beyond the Khar or Looni.' The Kaggar rises in the Siwalik Hills, flows under Bhatnair walls, and once emptied itself between Jeysulmir and Rori Bukkur. The rainfall is 18 inches at Nagar Parkar, 11·8 inches at Omerkot, but much less near Jeysulmir and the centre of the desert.

The Desert of India is known on its borders as Maroost'hali, the region of death, from Mri, SANSK., to die, and St'hali, arid or dry land, but is also known as the desert of Rajputana. Maroost'hali is bounded on the north by the flat skirting the Gara; on the south by the Runn, and Koliwara; on the east by the Aravalli; and on the west by the valley of Sind. It covers an area of 77,600 square miles. But for the Aravalli, which runs N.E. and S.W., dividing Rajputana into two equal parts, Central India would be submerged in sand; nay, lofty and continuous as is this chain, extending almost from the sea to Dehli, wherever there are passages or depressions, there floating sand-clouds are wafted through or over, and form a little t'hul even in the bosom of fertility. Whoever has crossed the Bunas near Tonk, where the sand for some miles resembles waves of the sea, will comprehend this remark. This desert has small scattered spots of fertility, with great arid portions called thar, thur, or t'hul, denoting tracts particularly sterile, therefore the converse of the oasis of the Greeks, and each with a distinct name, as the t'hul of Kawur, the t'hul of Goga, and others. A tradition exists to the effect that in remote ages it was ruled by Powar or Pramara Rajput princes from nine fortresses, viz. Poogul, Mundore, Maru, Abu, Kheralu, Parkar, Chotun, Omerkot, Arora, and Lodorva. From Bhalotra on the Looni, throughout the whole of Dhat and Oomra-i-Soomra, the western portion of Jeysulmir, and a broad strip between the southern limits of Daodputra and Bikanir, there is real solitude and desolation. But from the Sutlej to the Runn, a space of 500 miles of longitudinal distance, and varying in breadth from 50 to 100 miles, numerous oases are found, where the shepherds from the valley of the Indus and the T'hul pasture their flocks. The springs of water in these places have various appellations, ter, par, rar, dur, all expressive of the element, round which assemble the Rajur, Soda, Mangulia, and Sahrai, inhabiting the desert. The whole of Bikanir and that part of Shekhavat north of the Aravalli are comprehended in the desert. Jeysulmir is nearly in the centre of what may be termed entire desert, is in fact an oasis, but the largest oasis of the desert, everywhere insulated by immense masses of t'hul, some of which are 40 miles in breadth. The rock on which the castle is built has three peaks or tri-cuta. Westward from this, from 400 or 500 miles, with 100 or 200 miles in breadth, are little scattered oases, on which the shepherds of the desert have their huts.

The whole of the Bikanir principality, with the exception of a few isolated spots or oases scattered here and there, consists more or less of sand. From the eastern to the western boundary, in the line of greatest breadth, it is one continuous plain of sand, though the teeba or sandhills commence in the centre of the country, the principal chain originating in the tracts bordering the eastern valley of the Indus, and terminating its elevations about the heart of Bikanir. On the N.E. quarter, from Rajgurh to Nohur and Raotsir, the soil is good, being black earth, slightly mixed with sand, and having water near enough to the surface for irrigation; it produces wheat, gram, and even rice in considerable quantities. The same soil exists from Bhatnair to the banks of the Gara. The whole of the Mohilla tract is a fertile oasis, the teeba just terminating their extreme offsets on its northern limit; being flooded in the periodical rains, wheat is abundantly produced. In 1881, the population of Bikanir was 509,021.

The deterioration of the Bikanir region, within three centuries since the Rajput supplanted the Jit, almost warrants our belief of the assertion that these deserts were once fertile and populous. The princes of Bikanir used to take the field at the head of 10,000 of their kindred retainers. The commercial towns of Churu, Rajgurh, and Rinne, as entrepôts, supplied the country with the productions of Sind and the provinces to the westward, or of those of Gangetic India. The same cause affected Jeysulmir, Bikanir, and the more eastern principalities. The Maldote of Jeysulmir, and the Larkhani of Jeypore, were as notorious as the Beedawut of Bikanir; and to these may be added the Sahrai, Khossa, and Rajurh, in the more western desert, who in their habits and principles Tod described as demoralized as the Bedouins of Arabia. The line of greatest breadth of Bikanir extends from Poogul to Rajgurh, and measures about 180 miles, while the length from north to south between Bhatnair and Mahajin is about 160 miles; the area may not exceed 22,000 miles. Formerly they reckoned 2700 towns, villages, and hamlets scattered over this space, one-half of which are no longer in existence. The tract to the N.W. of Jaetpur in Colonel Tod's time was perfectly desolate, and nearly so from that point to Bhatnair; to the N.E. the population was but scanty, which observation also applied to the parts from the meridian of Bikanir to the Jeysulmir frontier; while internally from these points it is more uniform, and equals the northern parts of Marwar. Three-fourths of the people are Jit; the rest are their conquerors, descendants of Beeka, including the Sarsote Brahmans, Charans, Bards, and a few of the debased classes, whose numbers are not one-tenth of the Rajputs. In Colonel Tod's time the Jit were the most wealthy as well as the most numerous portion of the community. Many of the old Bhumia landlords, representatives of their ancient communal heads, were men of substance. *Sarsote*, properly Saraswati, Brahmans are found in considerable numbers throughout this tract. They aver that they were masters of the country prior to the Jit colonists. They are a peaceable, industrious race, and without a single prejudice of the order. They eat meat, smoke tobacco, cultivate the soil, and trade even in the sacred kine. The *Charan* are the sacred order of these regions. The warlike tribes esteem the heroic lays of the Bard more than the homily of the Brahman. The Charan are throughout reverenced by the Rahtor, and hold lands, literally, on the tenure of an old song.

The *Jhallawar* or *Jhalore* tract is one of the most important divisions of Marwar. In 1881 its population was 340,488. It is separated from Sewanchi by the Sookri and Khari, which, with many smaller streams, flow through them from the Aravalli and Abu, aiding to fertilize its 360 towns and villages, forming a part of the fiscal domains of Marwar. The important fortress of Jhalore, guarding the southern frontier of Marwar, stands on the extremity of the range extending north to Sewanoh. *Sewanchi* is the tract between

the Looni and Sookri. Macholah and Morseen are the two principal dependencies of Jhalore. Beenmal and Sanchore are the two principal divisions to the south, each containing 80 villages. Bhadrajoon, a fief of Jhalore, has a Joda chief and Meena population.

The *T'hul of Goga* is very thinly inhabited; it has many sandhills, t'hul-ka-teeba.

The *T'hul of Tiruroe* lies between Goga Deo and Jeysulmir.

The *T'hul of Khawar* is between Jeysulmir and Barmair, in the most remote angle of Marwar.

Barmair t'hul, also called the *Malli-nat'h-ka-t'hul*, is occupied by cattle-breeders.

The *Kherdur*, or land of Kher, and Nagar Gooroh, on the Looni, are the chief t'hul.

The *Chauhan Rajput* of the desert has, on the N. and E., the above tracts of Marwar, to the south Koliwara and the Runn, to the west the desert of Dhat. The sterile ridge which passes through Chotun to Jeysulmir passes west of Bankasir on to Nagar Parkar. The wells are 65 to 130 feet deep. The Sahrai, Khossa, Koli, and Bhil inhabitants are predatory. The Chauhan Rajput does not wear the zonar, and does not much respect the Brahmans. The Pit'hil and Banya are farmers and traders.

Malli and Noe, gardeners and barbers, are important members of every Rajput family, and to be found in all the villages, of which they are invariably the cooks.

Choora and Thaori were, in Colonel Tod's time, actually castes of robbers,—the former from the Lakhi jungle, the latter from Mewar. Most of the chieftains had a few in their pay, entertained for the most desperate services. The Bahaderan chief had expelled all his Rajputs, and retained only Choora and Thaori. The Choora were highly esteemed for fidelity, and the barriers and portals throughout this tract were in their custody. They enjoy a very singular perquisite, which would go far to prove their being the aborigines of the country, namely, a fee of four copper coins on every dead subject, when the funeral ceremonies are over.

The *Rahtor* of Bikanir bear a martial reputation. The Rahtor of the desert have fewer prejudices than their more eastern brethren; they will eat food without inquiring by whom it was dressed, and will drink either wine or water, without asking to whom the cup belonged. They would make the best soldiers in the world if they would submit to discipline, as they are brave, hardy, easily satisfied, and very patient; but in the inordinate use of opium, and smoking intoxicating herbs, are said to exceed all the Chatees Rajcula, the thirty-six royal tribes of India. The piala or 'cup' is a favourite with every Rajput who can afford it, and is, as well as opium, a panacea for ennui, arising from the absence of all mental stimulants, in which they are more deficient, from the nature of the country, than most of their warlike countrymen.

Bhatnair, now an integral part of Bikanir, was anciently the chief abode of another Jit community, so powerful as at one time to provoke the vengeance of kings, and at others to succour them when in distress. The Bhatti annals confirm what might have been assumed without suspicion, that to a colony of this race Bhatnair owes its name, though not its existence. The whole of the northern part is called Nair in the ancient geographical nomenclature of Maroost'hali; and when some of the Bhatti clans became Mahomedan proselytes, they changed the vowel a to u, to distinguish them from the parent stock, viz. Bhatti for Bhutti. In all probability, the Yadu-Bhatti is the original Yuti colony from Central Asia; and the Jit prince of Salpur was the predecessor of these very races. Bhatnair has attained great historical celebrity, from its position being in the route of invasion from Central Asia to India. It is more than probable that the Jit race who resisted the advance of Mahmud of Ghazni in a naval warfare on the Indus, had long before that period established themselves in the desert as well as in the Panjab; and as we find them occupying a place amongst the thirty-six royal tribes, we may infer that they had political power many centuries before that conqueror. In A.D. 1205, only twelve years after the conquest of India by Shahab-ud-Din, his successor Kutub-ud-Din was compelled to conduct the war in person against the Jit of the northern desert, to prevent their wresting the important post of Hansi from the empire; and when the unfortunate and intrepid queen Razzia, the worthy heiress of the great Firoz, was compelled to abandon her throne to a usurper, she sought and found protection amongst the Jit, who, with their Scythic brethren the Ghikar, assembled all their forces, and marched, with their queen at their head, like Tomyris of old, to meet her foes. She was not destined to enjoy the same revenge, but gained a glorious death in the attempt to overturn the Salic law of India. Again, in A.D. 1397, when Timur invaded India, Bhatnair was attacked for having distressed him exceedingly on his invasion of Multan, when he in person scoured the country, and cut off a tribe of banditti called Jit. In short, the Bhatti and Jit were so intermingled, that distinction was impossible. Shortly after Timur's invasion, a colony of Bhatti migrated from Marote and Phoolra, under their leader Bersi, and assaulted and captured Bhatnair from a Mahomedan chief.

The Indian desert differs very materially from that portion of the great African desert in the same latitudes. Water at 20 feet, was found at Mourzuk by Captain Lyon; this, in the Indian desert, is unheard of. At Daismok'h, near the capital, the wells are more than 200 cubits, or 300 feet, in depth; and it is rare that water fit for man is found at a less distance from the surface than 60 feet, in the tracts decidedly termed t'hul or desert; though some of the flats or oases, such as that of Mohilla, are exceptions, and abundance of brackish water fit for cattle is found throughout at about 30 feet. All the wells are lined with basketwork made of p'hok twigs, and the water is generally drawn up by hand-lines. Water is sold in all the large towns by the Malli race, or gardeners, who have the monopoly of this article. Most families have large cisterns or reservoirs called tanka, which are filled in the rainy season. They are of masonry, with a small trap-door at the top, made to exclude the external air, and having a lock and key affixed. Some large tanka are established for the community, and this water keeps sweet for eight and twelve months' consumption.

It was through this tract that Humayun sought refuge to the Dhat country; and at Omerkot, its capital, Akbar was born. Omerkot was

wrested from the Soda race by the Rahtor tribe of Marwar, and since then the chiefs of the expelled clan have dwelt in Chore, 15 miles N.E. of Omerkot. At one time, every third year brought famine. The Soda women of this desert tract of Dhatta are proverbially handsome. In this desert and in the valley of the Indus are the Soda, Cat'hi, and Mallani, descendants of the Sogdi, Cat'hi, and Malli, of Getes and Yuti, many of whom call themselves Baluch, or keep the ancient name of Numri, whilst the Zj'hut or Jut retain their primitive appellation; also remains of the Johya and Dahya, who, with the Gete, Jut, or Hun, hold places amongst the 36 royal races of ancient India. The Baraha and Lohana tribes are there, the Sahrai, the great robber of the desert, the Bhatti, Rahtor, Joda, Chauhan, Kaorwa, Johya, Sultano, Arora, Khoomra, Sindil, Maisuri, Bishnavi, Jakhur, 'Shiag, Ashiag, and Pooniah.

The origin of the Mahomedan Kullora and Sahrai is doubtful, but the Nyad or proselytes from Rajput or other Hindu tribes are Jut, Rajur, Oomra, Soomra, Mair or Mer, Mor or Mohor, Baluch, Loomri or Looka, Sumaicha, Mangulia, Baggreah, Dahya, Johya, Khairowi, Jangurea, Oondur, Bairowi, Bawuri, Tawuri, Chrendea, Khossa, Sudani, Lohana. These converts were ferocious and intolerant.

Arora, a thrifty race, tradesmen and farmers.

Bhattiah, formerly martial, now traders like the Arora, and both these have commercial agencies all over India.

Brahman, Bishnavi, cultivators and graziers, numerous in Dhat, some in Chore and in Omerkot, Dharnas, and Mitti.

Daodputra, founded by Daoud Khan from Shikarpur.

Dhote or *Dhati*, like the Kaorwa, a pastoral race of Dhat; their cows give 8 or 10 seers of milk daily.

Kaorwa, a peaceable nomade race, chiefly in the t'hul of Dhat, rear cattle.

Kullora and *Talpur*, Sind tribes, which furnished the last two ruling dynasties. The Kullora claim descent from the Abbasside khalifs, and the Talpuri from Mahomed, but both seem to be Baluch, which are essentially of Jit or Gete origin. The Talpuri (Tal or Tar, Borassus flabelliformis or palmyra, and Pura, a town) amount to one-fourth of the population of Hyderabad, which they call Lohri or Little Sind. There are none in the T'hul.

Lohana, numerous in Dhat and Talpura; they are scribes and shopkeepers.

Jakhur, *'Shiag*, and *Pooniah*, harmless, industrious, in the desert and the valley, are denominations of the Jit race, but most of these sections have became Mahomedans, and call themselves Zj'hut.

Johya, *Dahya*, and *Mangulia*, once Rajputs, are now Mahomedans; are few either in the valley or desert, as also are the Baluch, Bairowi, Khairowi, Jangurea, Oondur, and Baggreah, descended from the Pramar and Sankla Rajputs.

Zj'hut, *Jut*, or *Jit*, dwell in Sind from the sea to Daodputra, but not on the T'hul. They are the oldest of the proselytes to Mahomedanism.

Mair or *Mer*, of Bhatti origin.

Mor or *Mohor*, of Bhatti origin.

Noomri, *Loomri*, or *Looka*, all of which mean fox, a subdivision of the Baluch race.

Oomra and *Soomra* are converts from the Puar or Pramara race; have mixed largely with Mahomedans.

Rajur, a convert from the Bhatti, cultivators, shepherds, and thieves, and evil-livers.

Rebarri, a race who in Hindustan profess Mahomedanism, and rear camels, here were a tribe who rear camels, or, with the Bhatti, stole them.

Sahrai is the most numerous of the Mahomedan tribes of the desert, of which he was the terror. The Khossa is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless.

The *Soda* is scattered over the desert, some are Mahomedans; the Sumaicha is a Mahomedan proselyte from the Soda.

Sumaicha, converts to Mahomedanism from the Soda race; some are pastoral, some are plunderers. They are dirty, and never shave.

Tawuri, *T'hori*, or *Tori*, dwell in the t'huls of Daodputra, Beejnote, Noke and Noakote, and Oodur; they own and hire out camels, but, like the Bawuri and Khengar, are great thieves, and are called 'bhoot,' or evil spirits, and sons of the devil.

Desert of Gobi. The great highway between Pekin and Europe from time immemorial, has been the caravan tract from the western end of the great wall across this desert. The route issues from the western end of the great wall, and, moving through the Kiayu pass, has to traverse N.W. 500 miles of a desolate sand tract to reach the city of Khamil. At this town the road bifurcates, the upper branch leading through Barkul, Urumchi, and Kurkur-usu into Zungaria; the lower through Pijan, Turfan, Karashar, and Kuchu to Aksa in Eastern Turkestan. While Chinese rule prevailed, Zungaria and Eastern Turkestan formed the province of Ili.

Gobi desert in 1860 reached within 6 miles of the town of Ilchi on the N.E., but its shifting sands move along in vast billows, overpowering everything. Mr. Johnson was told that on one occasion, in the space of 24 hours, 360 towns were buried. Ilchi and Yarkand are said to have been founded after this event. Near Ilchi, the edge of this desert has the appearance of a low range of broken hills, and consists of hillocks of moving sand, varying in height from 200 to 400 feet.

The belief that wildernesses are haunted places, is a very old and general one. Jesus himself, in a very solemn passage (Luke xi. 24), adopts the Jewish phraseology as to this belief. Pliny says (vii. 2) that in the deserts of Africa phantoms in human shape appear to travellers, and immediately vanish again. But the belief is especially prevalent among the nations of Central Asia. By them deserts are held to be the especial headquarters and rendezvous of malignant spirits; hence the wilderness of Turan, and particularly the great sand waste of Gobi, have from hoar antiquity had an evil fame. The Turks have a saying that evil spirits play at ball in desert places. Both Fa Hian and Marco Polo allude to the evil genii of the deserts of Central Asia; and Rubruquis tells of a frightful defile, where the demons were said to snatch travellers off their horses. The Afghans believe each of the nume-

rous solitudes in the mountains and deserts of their country to be inhabited by a lonely demon, whom they call the Ghol-i-Biaban, or spirit of the waste, a gigantic and frightful spectre, which devours passengers.—*Schmidt*, p. 352; *Yule's Cathay*, i. p. 157; *Tod's Rajasthan*, i. p. 19, ii. pp. 196, 202, 211, 289; *Mignan's Travels*, p. 32; *MacGregor, Khorasan; Mr. Johnson, R. Geog. Soc. Jr.* 1867; *Sir Bartle Frere on the Runn of Cutch; Pottinger's Travels; G. Rawlinson*, i. p. 1; *Major R. D. Upton*, p. 165.

DESHASTH. MAHR. A native country. Deshasthulu, natives. Deshasth is a term by which the Brahmans of Maharashtra are designated. They are described as a class of sedentary habits, extremely fond of their native place, very fond of display, and fond of rich and splendid clothes. On occasions of marriage and other festival ceremonies, they are lavish. Deshastha Brahmans have acquired some literary celebrity, and have been largely employed under the several governments of India, chiefly in the revenue departments. The few Prakrit poets that have made their appearance are Deshasth, such as Wamon, Moropant, and Jagnath. Deshasth Brahmans are better-featured than the Konkanasths, but the Konkanasth Brahman is fairer.

The social and political life of the Konkanasth Brahmans has undergone a complete change since the beginning of the 18th century. Before that they were solely an agricultural class of people, visiting towns only on very unavoidable occasions. They possessed a good knowledge of the Vedas and Shastras, and were liberally rewarded on that account by the patrons of those branches of learning. They rarely held offices under Government, or in mercantile houses; on the advent of the British, they were compelled to look out for employment, and they at once spread all over the extensive table-land of Syhadri, called the Desh. Every department of Government contains Konkanasth Brahmans, and they have shown themselves active, intelligent, liberal-minded men. The Deshastha from time out of mind have been in the possession of the rich table-land, and been Zamindars, Deshmukhs, Deshpandies, etc. They have never been distinguished for their knowledge of the Vedas or the Shastras. Once they were in sole possession of Government offices, but they have been greatly thrown into the background by the Konkanasth. All the lower class of offices, such as village accountants, etc., are, however, still in their hands.

DESI, indigenous, belonging to the country. Par-desi, a foreigner, a stranger, a native of Northern India.—*Elliot; Wilson.*

DESIDERI. Père Desideri, a missionary, started from Goa in November 1713, and, passing through Dehli and Kashmir into Baltistan, arrived at Leh or Ladakh on the 25th June 1714, and remained there for an entire year. From thence he continued his journey, in the autumn of 1715, to Lhassa, by a route of extreme elevation and great cold, which occupied from August 1715 to March 1716. Desideri found the temporal sovereignty of Lhassa in the hands of a Tartar prince (a Si Fan), who had recently conquered the country. —*Prinsep's Tibet*, p. 15.

DESIMA, the commercial site long occupied by the Dutch in Japan. It stands upon, and wholly covers, a little artificial fan-shaped islet, about 600 feet in length by 240 in breadth, and is joined to the island and town of Nagasaki by a small stone bridge, at the end of which was a strong Japanese guard-house. — *MacFarlane's Japan*, p. 54.

DES-KULKURNI, under the Mahratta government, a revenue officer.

DESMANTHUS NATANS. *Willde.*

Pani najak, . . BENG. | Sunday kiray, . . TAM.

This sensitive plant, with reddish flowers, floats in the tanks of India. Spongy bodies, formed between the joints, act as floats. When the water leaves it, it soon perishes. The leaflets and pods are eaten by the natives.—*Jaffrey; Voigt; Thwaites.*

DESMODIUM, a genus of small trees and bushes of the natural order Fabaceæ. Voigt enumerates twenty-eight species in India. The bark of D. argenteum is steeped in water and made into ropes, which, when as thick as the wrist, bore a heavy strain where English rope snapped. The bark of D. tiliæfolia is also made into rope, and its leaves are the shal-purni of the Panjab bazar. Dr. Cleghorn says the Desmodium paper shrub is exceedingly plentiful in the districts of Chota and Bara Banghal, and in the Ravi valley; the plant having a wider range, and the bark being more easily stripped off, the fibre would be available in the plains at less cost than that of Daphne papyracea.—*Drs. J. L. Stewart, Panjab Pl.; Voigt, Riddell, Cleghorn, Panjab Report.*

DESMODIUM ARGENTEUM. *Wall.*

Sambar, . . . CHENAB. | Muss, Chiti of . SUTLEJ.
Pri, ... RAVI. | Martan, Mort, . ,,

A shrub of some size, which is found on several of the rivers, where the climate is somewhat dry, at from 3500 to 9000 feet. In Kanawar its bark is used for ropes, after steeping in water. These are not lasting, but very strong; and on the Hindustan and Tibet road, when plaited as thick as the wrist, were found to stand under a heavy temporary strain when English rope snapped. Cleghorn states that in Kanawar the bark is used for making paper.—*J. L. Stewart, M.D.*

DESMODIUM GYRANS, *D. C.;* Hedysarum gyrans, *Linn.* This small plant has pale yellow flowers, tinged with blue; its leaf is composed of three parts, a large broad leaf, having at its base two straight leaves. And during the entire lifetime of the plant, night and day, in drought or in humidity, exposed to the sun or in darkness, these small leaves make unceasingly little droopings, somewhat resembling the movements of the second hand of a watch. One of the two rises, and at the same time its twin leaf falls to a like amount. When the first descends the second remounts, and so on. These movements are more or less rapid in proportion to the heat and moisture of the weather. In India, these have been counted up to sixty regular falls in a minute. The large leaf makes similar movements, but less marked.

DESMODIUM TILIÆFOLIUM. *Don.*

Kathi, ... BEAS. | Chamkat, . . JHELUM.
Gurkats, ... CHEN. | Marara, . . . KANGRA.
Dud shambar, . . ,, | Kalanchi, . . . PANJ.
Gur shagal, . . . ,, | Pirhi, Pri, . . . RAVI.
Chamgar, Chamra, JHEL. | Laber, Kali-mort, SUTLEJ.

This large, pretty flowering shrub grows near all the Panjab rivers at 2800 to 8000 feet of elevation. It is browsed by cattle; the twigs are

used for tying loads; and its tough bark is recommended for papermaking. Its lilac-coloured flowers grow in clusters.

DESMODIUM TRIFLORUM. *De Candolle.*

D. heterophyllum, *D.C.*	H. stipulaceum, *Burm.*
Hedysarum trifl., *L.*, *Willd.*	Æschynomene trifl., *Poir.*
Kudalia, . BENG., HIND.	Munudna-muddu, . TEL.

Grows in Bengal and Peninsular India in several varieties. The fresh plant is applied to indolent sores.—*Drury; F. v. Mueller.*

DESMOSTEMON ZEYLANICUS. *Thw.* Walkakunu-gaha of the Singhalese. Central province of Ceylon, up to 4000 feet. Timber used for ordinary work.—*Wright; Fergusson.*

DESMUKH or Deshmukh, a hereditary native officer under the Mahratta governments, exercising chief police and revenue authority over a district. In the Akola district of Berar there are many Mahomedan Deshmukhs, descendants of Mahratta and Brahman converts.

DESPANDYA, the hereditary revenue accountant of a district.

DESWAL, a tribe of Taga, in villages of Bhagpur.

DESWALA. HIND. Applied by Mahrattas to a native of the N.W. Provinces.

DESYADES. PANJ. Land beyond the influence of inundation.

DETERGENTS. The Hindu and Mahomedan natives of India employ the following vegetable substances as detergents in the place of soaps:—Elupa kottai, kullee munnoo, kuppu munjal, kusthoori munjal, mara kalam pattai, nalla yennai, patchi pairu, ponnung kattai, sikai, sikaranthool, vellum cumboo.

DETICUS, *sp.*, insects of the grasshopper tribe; they are kept by the Chinese in cages, for combating. They live for months in captivity.—*G. Bennett*, p. 271.

DEUTZIA STAMINEA.

Phul kanri . of HAZARA.	Sai . . . . of CHAMBA.
Phurili . . of KASHMIR.	Aruchi, Deus, of BUSHAHR.

A small-sized Panjab wood, white and close-grained. The Deutzia genus is of the natural order Philadelphaceæ. The leaves of D. scabra of Japan are so rough, that they are used for joiners' work.—*Powell.*

DEVA, a deity; Devi, a goddess. The term is Sanskrit, and from the root Div, to shine, or Diu, the sky, the air, and is written and pronounced Deo, Deb, Dewa. Deva is cognate with the Latin Deus, Greek Ζεύς, Lithuanian Diewas, modern Persian and Hindi Deo,—Dewal (deo and alaya) being the house of God. Maha-deva, a title given to Siva by the Saiva sect, means great or supreme god, as Maha-devi, his wife,—title of Bhavani or Parvati,—means the supreme goddess. Deva, however, may equally, by the Vaishnava, be Vishnu. The word may also denote an idol, a man of high rank or sovereign, or a Brahman, or as a cognomen suited to Brahmans, as Chandra-deb. Amongst the compounds of this word are Dewal or Deval, a Hindu temple, from Deva-alaya, a house of God; Deva-sena, from Deva, a god, and Sena, a soldier; Deva-jani, from Deva, a god, and Jaya, a wife; Devarshi, from Deva, a god, and Rishi, a sage. The Devata are subordinate deities in Hindu mythology; divine beings, celestials. They are not superior deities, nor are they deified mortals. The Devata people Swarga, the paradise of Indra, but are found also in Kailasa, that of Vishnu. When the Western Aryans broke off from their brethren the East Aryans and rejected the worship of their gods, the word Deva, which they specially applied to them, came to have a meaning equivalent to fiend, devil. The last term comes from the Greek, Latin, Italian, French.

Amongst the Hindus, there are three kinds of Devata, or deities to whom worship is given,—the Gramadevata, or village god; the Kula Devata, the race or household or family god; and the Ishta Devata, the patron or personal deity of individuals. Adhi-devata is a primitive deity, Sthana Devata is a local deity. The Aryan Hindu does not recognise the village gods of S. India, but the non-Hindu Turanian races largely worship them; and even many of those Turanian races who have been converted to Hinduism worship them. They are mostly shapeless pieces of wood or stone smeared with vermilion, and mostly represent evil spirits or devils. These are the Amma, Ammun, and Amür of the eastern and southern parts of the Peninsula, and the Satwai, Bhairo, Massoba, Chamanda, Asra, Ai, and Marri-ai of the northern and western parts of the Peninsula, all of whom are recognised as causing harm to individuals. In health they are neglected; but when sickness occurs, either to individuals or as an epidemic, these spirits of evil are worshipped with much solemnity, and bloody sacrifices are made to them of goats and sheep and bullocks and buffaloes.

DEVA-DARA. HIND. Cedrus deodara, *Loud.*; Erythroxylon areolatum? Devadaram, TAM., is Sethia Indica, *D.C.*; and Guatteria longifolia, *Wall.*

DEVA-DARSANA. SANSK. In the south of India, a visit to an idol by a bride and bridegroom, with their friends, at a particular period after marriage.

DEVA-DASA. SANSK.

Hierodulæ of BABYLON.	Murali, ... MAHR.
Dancing girls, . . ENG.	Balladeiras, . . PORT.
Temple ,, . . ,,	Basava, ... TEL.
Bayadere, . . . FR.	Jogin, Bhavin, . . ,,

To the temples of Venus in Western Asia, and in later times in Greece, large bodies of hierodulæ were attached, who were at once prostitutes and ministers to the goddess. The daughters of the most illustrious families in Armenia passed from the service of the goddess Anaitis into matrimony with those of equal rank, and no stain adhered to them from their former mode of life. We find traces of the same usage in the distant settlements of the Phœnicians on Mount Eryx, and at Sicca Venerea in the Carthaginian territory. In Babylon, no woman, of whatever rank, could escape the obligation of once prostituting herself in the temple of Mylitta. This debt once acquitted, as the necessary preliminary to marriage, they were ever afterwards faithful to its obligations, with whatever price they might be tempted. In Hindu mythology, the Deva-dasa are the courtesans of Swarga, the heaven of Siva. The earthly Deva-dasa women, or dancing girls in attendance at the temples of the Hindu deities, by their name of Deva-dasa call themselves the servants or slaves of the god. Exodus xxxii. 19 tells us of the Israelites dancing in the presence of the idol which Aaron had made for them in the form of a calf, doubtless the Nandi bull, the vahan of Siva of the Hindus of to-day, and dancing before the

Hindu idols is a daily rite, and takes place at every Hindu festival.

The temple women of the Hindus originally appear to have been intended for the gratification of the Brahmans only, but they were, in some parts of India, obliged to yield to all who solicited them, though consecrated in a special manner to the worship of the Hindu gods. Every temple, according to its size, entertains a band of them, to the number of eight, twelve, or more. The service they perform consists of dancing and singing. The first they execute with grace, though with lascivious attitudes and motions. Their chanting is generally confined to the obscene songs which relate to some circumstance or other of the licentious lives of their gods. They perform their religious duties at the temple to which they belong twice a day, morning and evening. They are also obliged to assist at all the public ceremonies, which they enliven with their dance and song. They are reared to this life from their infancy. They are taken from any caste, and are not unfrequently of respectable birth. It is nothing uncommon to hear of pregnant women, in the belief that it will tend to their happy delivery, making a vow, with the consent of their husband, to devote the child then in the womb, if it should turn out a girl, to the service of the pagoda. And in doing so they imagine they are performing a meritorious duty. The life to which the daughter is destined brings no disgrace on the family. Until towards the middle of the 19th century, these women were the only Hindu females in India who might learn to read, to sing, and to dance. Such accomplishments belonged to them exclusively, and were for that reason held by the rest of the sex in such abhorrence, that every virtuous woman would have considered the mention of them as an affront. That feeling has now greatly changed. They are now very generally kept by the wealthier Hindu men. In some of the Hindu temples they are numerous. The temple of Kamakhya or Kamichcha is sacred to Durga, the Sakti of Siva. It is built on a hill rising about 700 feet from the river Brahmaputra, just below Gowhatty. It is said that in former times there were 5000 young girls attached to the temple. In 1872 there were still some hundreds there. In an inscription on a slab in the Bengal Asiatic Society's Museum, of date Samvat 32 of the Gaur era, about A.D. 1174, mention is made of Bhava Deva giving 100 damsels to a temple.

The eldest daughter of every family of the weaver caste, at the small town of Tiru-kalli-kundram in the Chingleput collectorate of the Madras Presidency, is devoted to the temple. She is sent to the pagoda before the age of puberty, where dancing and music masters are provided. The Murli girls of the Mahratta country correspond to the Basava of the Teling race. The Basava women are usually devoted to the god Siva, and become prostitutes. They are called the Linga or Garudu Basava, according as they are devoted to one or other deity. They are called also Jogin, and they are married sometimes to a dagger, sometimes to an idol. In making female children over to the service of a temple, a girl, generally an infant, is taken and dedicated for life to the service of some idol by a ceremony called Shej. A khanjar or dagger is put on the ground, and the girl who is to undergo the ceremony puts a garland on the knife. Her mother then puts rice on the girl's forehead. The officiating Bhutt then weds the girl to the dagger, just as if he were uniting her to a boy in marriage, by reciting the Mangalasalok, or marriage stanzas, a curtain being held between the girl and the dagger. The girl thus becomes a Bhavin, dedicated to the service of the temple. In many parts of the south of India, the non-Aryan races thus devote their young women, in order that they may follow prostitution openly, under the cloak of a religious rite. It is not easy to trace the origin of this custom; but at the Mylitta festivals, which were connected with the worship of Baal or Moloch, the women, as slaves to the goddess, were obliged to purchase exemption from being sacrificed by prostitution. Almost all the Jewish prophets down to Jeremiah complain that this service was carried on in the high places by the Jews. In general, throughout the Dekhan southwards to Cape Comorin, devoting a female child to the gods for the purpose of being common, as a Murli, Basava, Bhavin, or Jogin, is deemed disreputable. But the Deva-dasa or temple servants are in a recognised office, and are obtained from Hindu races whose custom it has been for ages; or by Hindus vowing, in sickness or other affliction, to give one of their daughters to some particular temple, and the vow is scrupulously kept at the proper time; or by adoption. In the selection of girls for adoption in this profession, good-looking, well-made girls are chosen, and they are taught to dance at the early age of five. Older girls, when they adopt the profession, are also taught to dance. The lessons in dancing are given daily, two hours before daylight in the morning, one of which is devoted to singing and the other to dancing. In the evening, after 4 P.M., the same number of hours are devoted, so that each girl has to practise for four hours daily, and in about three years she is supposed to have mastered the arts of singing and dancing. In Southern India there are reckoned six chief kinds of dancing:—1. Audo girathoo; 2. Ananecum; 3. Lenchenee nateum; 4. Moodeiydoo cirathoo; 5. Hereacoothoo; 6. Colu auteum. And the art of dancing, or Abimayam, is said to be exhibited in six different ways during these performances,—1. By the movements of the eyes, and 2. action of the features, and 3. attitude of the breast and chest, and 4. position of the hands, and 5. action of the feet, and 6. by calisthenic performances. By commencing their studies at the early age of five, these girls are able to make their appearance at about seven or eight years of age, very rarely earlier than that, and they continue dancing till thirty or forty years of age. When attached to pagodas, they receive certain sums as wages, the amount of which is dependent on the wealth, sanctity, and popularity of the particular temple which they have joined. The money salary they receive is nominal, seldom exceeding a few annas, and sometimes a rupee or two a month. The chief object in being paid this sum as a salary, is to indicate that they are servants of the temple; in addition to this, one or more of them receive a meal a day, consisting merely of a mass of boiled rice rolled into a ball. They are required to dance six times a day at the temple before the deity, while the priests are officiating, but this duty is performed by turns. Dancing girls attached to pagodas are generally wealthy, and when they appear before

the public are well covered with the usual gold ornaments; if poor, tinsel is used, or golden ones are borrowed from others. Their heads, ears, nose, neck, arms, wrists, fingers, ankles, and toes are overdecked with jewels, and their hair frequently has flowers. The hair is divided in front along the centre, combed back, and plaited into a single plait, falling loose on the back like a tail, averaging from two to two and a half feet in length, and always ornamented with jewels and flowers. Their dancing dress comprises usually the short bodice or choli, a pair of ravake or string drawers tied at the waist, termed paijama or pavadai (both these are generally of silk), and a white or coloured muslin wrapper or saree. One end of the saree is wound round the waist, and two, three, or more feet, according to the length, is gathered and tucked into the portion encircling the waist, and permitting of a folding fringe or gathering of the cloth in front; while the other end, taken after the usual native fashion over the left shoulder, falls towards the waist, where the end or munthani is opened out and allowed to drop in front, one end of it being tucked into the waist on the side and the other left free. This portion of the saree is usually highly ornamented with golden thread, tinsel, etc. The free end descends to the middle or lower part of the thighs; the other free end of the saree hanging down towards the legs is now caught hold of, passed between the legs, and fastened to the tie around the waist at the back, and the whole encircled by a gold or silver waist-belt. By this mode of dress a fold of the muslin saree forms a loop round each leg, and descends nearly down to the ankles, whilst the gathering hangs in the front between the legs free. At home they wear the choli and saree, with a petticoat or pavadai; this, in fact, is their usual dress, except when about performing they exchange the pavadai for the paijama or sharai. The pavadai is made of chintz or silk, according to the means of the individual. A string of small brass bells, known by the name of shullungay or jedjum, is tied around each leg immediately beneath the ankles.

The dancing girl caste have peculiar laws for adoption and inheritance. A dancing girl can adopt a daughter, with the permission of the authorities of the pagoda to which she belongs; but she cannot adopt a son for the transmission of property, it being immaterial whether she have a son or not. The adopted girl cannot share her mother's property during her lifetime; and although she may be the heiress, she is not bound by the laws of caste to support her brother's widow. Among dancing girls property descends in the female line first, and then to males as in other castes. In the failure of issue, the property of a dancing girl goes to the pagoda to which she belongs. A simple recognition on the part of a dancing girl of a child as her daughter, in the presence of one or more individuals, is sufficient to constitute her claim to adoption.

Dancing girls are respected by the several castes or sects of Hindus, and are allowed to sit in the assembly of the most respectable men, such honour not being accorded to their own wives and daughters. As a rule, it is seldom that these women have children of their own, unless, perhaps, they had lived in continual concubinage with some single individual; consequently they are always anxious to adopt girls, not only to become their successors in the temple, but that they may inherit their property likewise. Formerly a large trade was carried on by kidnapping good-looking girls from large towns and remote villages, who were sold to these women. Famines in Ganjam, Orissa, and Bengal were taken advantage of, not only by abandoned characters, but also by immoral native princes, for the basest purposes. During a criminal session in Calcutta, two women were sentenced to seven years' imprisonment each, for having purchased a girl under sixteen years of age, for one rupee ten annas. In some places there are said to exist two kinds of dancing girls,—the dancing women differing from the pagoda dancers. The latter are said to live in concubinage as a rule. They are a privileged class under the Aylah Santanam, or descent by the daughter's children, or in the female line, and the law of Dhya applies to them; Dhiya Baga, or division by favour, Merasi heritage of right to official emoluments, operates as an inducement. These classes are recognised as Dasi and Deva Dasi. The Dasi dancing women belong for the most part to itinerant bands, and are frequently made up of women of low caste, who practise their professional accomplishments and prefer living in concubinage. The Siva temple of the Soournamookie (Kalastry), a zamindari in the North Arcot district, maintains a large establishment of what is termed Deva Dasi or pagoda dancers, forming a distinct community there (Audapapalu), who live exclusively in concubinage. Their sons, who know no father, pass by the appellation of Nagari Kumarada, or sons of the country, and are slaves to the zamindar. Of the daughters, after supplying the vacancies in the pagoda staff, the remainder are brought in the list of drudges of the palace. The dancing-master or teacher receives from fifty to five hundred rupees, with other presents, for teaching a girl the usual dances. This generally forms a contract which is greatly dependent on the wealth and position of the parties.

Dancing girls, when performing, are accompanied by two men singers, termed Nuthuvan and Padowen, who, while singing, also play the cymbals; these instruments are of two kinds and sizes. While the cymbal is played with the right hand, the left hand, open, is generally applied to the left ear while they sing, bowing their bodies forward as well as from side to side, contorting their faces in like manner, and making grimaces. In singing they scream as loud as their voice and lungs will admit; one or more old women join in the song, and frequently clap their hands during the performance; they are generally dancing girls who have given up the profession from age or other causes. Some of the girls are very good-looking, handsome, with open countenances, large sparkling eyes, regular features, and intelligent pleasing appearance. They are perfectly self-possessed in manner, verging on assurance, staring at one with their large, intelligent-looking eyes. Notwithstanding, they possess a vast deal of courtesy and polish, tempered with languid grace and serene self-possession, whilst their manners are courteous and their bearing unembarrassed, possessing all the teaching which experience of the worst side of human nature gives, and they know but one form of pleasure, the degrading manner in which

their lives are spent. The majority possess some natural gifts. As to conversational powers, they seldom possess any beyond the usual laugh and giggle, and monosyllabic replies given to commonplace questions. Some of the Telugu girls are very handsome, of a light pale colour, somewhat yellowish in tinge, with softness of face and feature, a gentleness of manner, with a peculiar grace and ease, which one would little expect to find among them. A ladylike manner, modesty and gentleness, such beautiful small hands and little taper fingers, the ankles so neatly turned, as to meet the admiration of the greatest connoisseur. They can generally read and write their own language, and pretty correctly—some two languages. One girl at Conjeveram wrote three; the third was English, in which she wrote her name in a fair round hand, and spoke the language with some fluency; Tamil and Telugu were the other two languages, which she wrote tolerably well. She was said to have received her education in a mission school at Madras, but did not appear ashamed of her profession. She was doubtless a girl who had been devoted to the temple in her infancy. A similar case of a mission-taught girl occurred in Mysore about 1870. Their songs generally comprise praises in honour of their several idols, filled with repetitions and unmeaning expletives. These songs are often vulgar and lewd, and sung before assemblies of men, and before the deities, but they time the quality of their songs to suit the place and audience before which they have to appear. Nautches are given on all occasions of marriage ceremonies, feasts, and other public occasions. Among rajas, zamindars, and others, they are almost things of daily occurrence. A few of these girls can play the native guitar or violin tolerably well, and some of their songs have a mournful and melancholy tune; the harsh grating of the songs of the attendants, and the rattling of the wind instruments and tom-toms, are, however, disliked by European ears, though they charm the natives. When their services are demanded outside the temple, larger sums of money have to be paid for them, the charge being increased according to the renown and position of the girl, as some few will not give their services to any one unless a raja or some person of rank. Some travel to other districts when their services are needed by petty rajas or zamindars, and they are contracted for as many days as they have to perform, in addition to being well paid. They frequently receive valuable presents, in money, shawls, gold bangles or rings, which are bestowed on them during the performance. Every village of importance has a temple with a few of these women attached to it, and in some of the large towns, possessing temples of repute for sanctity, these are filled with them. It is perhaps one of the worst institutions connected with Hinduism, from the recognition and support it receives from all classes of idol-worshipping devotees, the women being the victims of such a system, recognised and patronised in every part of India where Hinduism predominates. These poor creatures being taught to read and write their own and other languages, with a view to be better able to master the lewd immoral songs; whilst their own wives, the mothers of their children, are deprived of learning of any kind, and are carefully shut out from society, not even allowed to appear in public before any assembly of men, and are allowed, further, to grow up in the greatest ignorance and superstition. To some extent female education and enlightenment are now penetrating the masses, and the natives themselves are seeking enlightenment and intelligence, from which their own mothers, wives, and daughters have hitherto been secluded.—*Dr. Shortt, the Anthropological Society of London Journ.* iii., 1867–68.

DEVADAT, brother-in-law of Sakya. He raised a schism against the teaching of Sakya, whom he attempted to kill, but, according to the Buddhist legend regarding him, the earth opened and destroyed him and all his followers, and as he fell down into hell he was transfixed with three perpendicular hot irons, whilst three others pierced his shoulders transversely. The Burmese consider that Devadat was Jesus Christ, and the Siamese think that Devadat is the God of Europe.

DEVA-DATA or Deo-dat, a Hindu man's name, literally god-given—Theodotus.

DEVA-DEVI, an island in Bombay harbour, known to sailors as Butcher Island. The native name, properly Deva-dwipa, means the Island of the gods, or Holy Island.

DEVADIGAR. KARN. A low-caste menial in the temples of the south of India.—*Wils.*

DEVAKI, sister or cousin to Kansa, king of Mathura, and the wife of Vasudeva. Krishna was their eighth child.

DEVAL. HIND. A Hindu temple, a Christian church.

DEVALA, MAHR., also Devalana, KARN., a Brahman of an inferior order, who attends upon idols, and lives upon the offerings made to them. Devalaya, from Deva, a god, and Alaya, a house, a temple; the house of God. The same term is applied to an oath taken in a temple.

DEVALA. Several Sanskrit writers had this title. One was author of a code of law, one an astronomer, one was grandfather of Panini, and one a Hindu mendicant who resided at Hurdwar, and was one of the Smriti writers.—*Ward*, iv. p. 28.

DEVALA. HIND. An ordeal. See Divination.

DEVA-LOKA. SANSK. The habitations of the Deva. In Hinduism there are six celestial worlds between the earth and the Brahma-loka.—*Hardy's Eastern Monachism*, p. 435.

DEVA-NAGARI, an alphabet in use in India. It was introduced into Tibet from Kashmir in the first half of the 7th century of the Christian era. Deva-Nagari is the ancient alphabet of India, inscriptional, in capitals, and is a modification of the inscriptional and monitary Pali. The alphabets of the various languages allied to the Hindi are modifications of the Deva-Nagari alphabet. It is the character in which Sanskrit is usually written. Mr. Wathen, like Mr. Prinsep, refers the modern Deva-Nagari, through various changes which he shows in inscriptions of different ages, to the Old Pali lat or column character.

DEVANG. KARN. A Lingaet, one who carries the emblem of Siva on his person.

DEV-ANGA or Devanaga. TEL. Devangada, KARN. The title assumed by the caste of weavers in the Karnatica.

DEVANGANA, amongst Hindus, the celestial minstrels who perform before Mahadeva. They are also called Gandharva, also Apsaras. Their instruments are the tambourine, cymbals, castanets, lute, and violin.

DEVANHALLI, a small town in Mysore, 23 miles from Bangalore. It was formerly the seat of a family of Polygars, who traced their descent from one of the refugees of the Morasa Wakkala tribe, who founded petty dynasties throughout Mysore in the 14th century. The last of the Gauda, as the chiefs were called, was overthrown in 1748 by the Hindu raja of Mysore. It was in the siege of Devanhalli, on this occasion, that Hyder Ali first gained distinction as a volunteer horseman, and it was here that his son Tipu was born. Hyder erected a fort of stone, which was captured by Lord Cornwallis in 1791.—*Imp. Gaz.*

DEVA PAL DEVA. From a copper tablet discovered at Monghir, Raja Deva Pal Deva appears to have reigned in the 9th century as far as the Karnatic and Tibet.?

DEVARAM, a famous Saiva poem, part of the so-called Tamil Veda.

DEVASTHALA. SANSK. A temple of the Hindus, any sacred place.

DEVASTHANAM, the superintendence of Hindu temples, conducted by trustees called Dharma Karta.

DEVATA, from Deva, a divinity, a spirit, a demigod. The Devata are benign spirits, governed by Indra, properly the inhabitants of the North Pole, for the Devata are said to have day when the Daitya have the night, and *vice versâ*. Amongst the Hindus there are several kinds of Devata or deities to whom worship is given,—the Gramma-devata or village god; the Kula-devata, the race, household, or family god; and the Ishta-devata, the patron or personal deity of individuals; Adi-devata is the primitive deity; Sthana-devata, local deity. The Aryan Hindu does not recognise the village gods of Southern India, but the non-Hindu Turanian races largely worship them; and even many of those Turanian races who have been converted to Hinduism, worship them. They are mostly shapeless pieces of wood or stone smeared with vermilion, and usually represent evil spirits or devils. These are the Amma, Amman, and Amur of the eastern and southern parts of the Peninsula, and the Satwai, Bhairo, Massoba, Chamanda, Asra, Ai, and Marryai of the northern and western parts of the Peninsula, all of whom are recognised as causing harm to individuals. In health they are neglected; but when sickness occurs, either to individuals, or as an epidemic, these spirits of evil are worshipped with much solemnity, and bloody sacrifices are made to them of goats and sheep, and bullocks and buffaloes. Gotra or Kula mean a family, and is used amongst Kshatriya and Vaisyas as well as Brahmans. The Gotra depend on a real or imaginary community of blood, and then correspond to what we call families. No Hindu house is supposed to be without its tutelary divinity, but the notion attached to this character is now very far from precise. The deity who is the object of hereditary or family worship, the Kula-devata, is always Siva, or Vishnu, or Durga, or other principal personage of the Hindu mythology; but the Griha-devata or household god rarely bears any distinct appellation. In Bengal, the domestic god is sometimes the Saligram, sometimes the tulasi plant, sometimes a basket with a little rice in it, and sometimes a water jar, to any of which a brief adoration is daily addressed, most usually by the females of the family. Occasionally small images of Lakshmi or Chandi fulfil the office, or, should a snake appear, it is worshipped as the guardian of the dwelling. In general, in former times, the household deities were regarded as the unseen spirits of ill, the ghosts and goblins who hovered about every spot, and claimed some particular sites as their own. At the close of all ceremonies, offerings were made to them in the open air, to keep them in good humour, by scattering a little rice, with a short formula. Thus, at the end of the daily ceremony, the householder is enjoined by Menu (3.90) 'to throw up his oblation (bali) in the open air to all the gods, to those who walk by day, and those who walk by night.' In this light the household god corresponds better with the *genii locorum* than with the Lares or Penates of antiquity.—*Wilson's Hindu Theatre; Warren, Kala Sanhita.*

DEVA-TOTTHA-PANA. SANSK. Dismissing or releasing the deities who have been invited to a ceremony, at its conclusion.

DEVAYANAI or Devasena, one of Subhramanya's wives.

DEVENDRA, the king of the Deva.

DEVER, the tribal designation of the Maravar race in Ramnad, Madura, Shivaganga, and Tinnevelly. It seems identical with the Telugu Dewara or Devera, a respectful mode of address to a superior.

DEVI. SANSK. A goddess, the feminine of Deva, a god. It is one of the titles of the Hindu goddess Durga, also known as Kali, and when used alone is understood to designate Parvati, the sakti or wife of Siva. Devi, as Durga, in the south of India is represented in paintings as a beautiful woman riding on a tiger, but in a fierce and menacing attitude, as if advancing to the destruction of one of the giants, against whom her incarnations were assumed. Devi, as Kali, in another form, an especial favourite in Bengal, is represented with a black skin, and a hideous and terrible countenance streaming with blood, encircled with snakes, hung round with skulls and human heads, and in all respects resembling a fury rather than a goddess. Her rites in those countries correspond with this character. Goats and sheep and other animals, and even human beings, are offered in sacrifice. See Chandra; Dasahara or Dashara; Kali; Kerari; Linga; Lustral Ceremonies; Mahadeva; Mahadevi; Parvati; Sacrifice, Satarupa; Serpent, Vishnu; Yavana.

DEVICOTTAH, a fortress on a small island at the mouth of the Colerun, in lat. 11° 22′ N. Devicottah frequently changed hands during the contests between the British and French in the 18th century.

DEVIL BIRD of Ceylon has its ordinary cry like that of a hen just caught. Its screams are like those of a youth in agony. It is said to be an owl, the Syrnium Indrani, also a species of Gualama. Mr. Mitford supposed it to be a goat-sucker, a cuckoo, or a blackbird.

DEVIL GOAD.

Croton oblongifolium, *R.* iii. p. 685.

Bhatamkusam, . SANSK. | Bhutala bhairi, . TEL.

The Telugu name signifies 'demon driver' or 'devil goad,' and sticks made of this tree are carried as a protection against evil spirits.

DEVILS and Devil-dancers. The ordinary

word in use in the Tamil country to designate a devil is Paisacha or Pisacha, and the temple raised to a Paisacha is a Pekoil; but the former seems rather to be an evil spirit, and the latter a temple to an evil spirit. All the Aryan and non-Aryan Hindu and Buddhist races of India, and all the races in the Malaya and the Eastern Archipelagoes recognise the existence of spirits both good and bad; and the whole series of the funeral ceremonies from the date of the demise of a Hindu until the demise of his son, are instituted from the belief that the spirit of the deceased is present and can accept oblations; and there are even instances where contracts have been entered into or renewed with the spirit of a deceased owner. The Hindus have a hell, Narakam, and a devil, but the spirits of the non-Aryan races seem to refer to evil spirits. In their belief, if any good man die, his spirit may occupy a tree or stone or other locality, and be an evil spirit; may even take possession of one of his votaries, in which event the screaming and gesticulating of the possessed person are attributed to the spirit in possession, and in the Urdu tongue the phrase would be, 'Saya, uska ang bhara,' the shade has filled his body; and the possessed person prophesies. In their belief, every malady may be the infliction of an evil spirit. To dispossess the spirit, wild music and dancing are had recourse to, and the possessed, generally a woman, exhausted by her Pythonizing, falls down utterly exhausted, is seized with violent hysteria, or goes into convulsions. The non-Aryan races are constantly recognising new spirits from amongst deceased natives of India or Europeans, particularly from amongst those whom death or accident have suddenly cut off, and they have also introduced the deities of the Hindus as demons; but the Amman or earth-deity is in every village throughout S. India, and the worship of all the demon gods is by blood-sacrifices and ardent spirits. Amongst the Shanar race in the south of the Peninsula of India, the belief is that sometimes demons are content with frightening the timid without doing any real harm. Failures in trade or in crops are attributed to demons. People hear a strange noise at night, and immediately they see a devil making his escape in the shape of a dog as large as a hyæna, or a cat with eyes like two lamps. In the dusk of the evening devils have been observed in a burial or burning ground, assuming various shapes, one after another, as often as the eye of the observer is turned away; and they have often been known at night to ride across the country on invisible horses, or glide over marshy lands in the shape of a wandering, flickering light. In all their journeyings they move along without touching the ground, their elevation above the ground being proportioned to their rank and importance. Dr. Caldwell has known a village deserted, and the people afraid even to remove the materials of their houses, in consequence of the terror caused by stones being thrown on their roofs at night by invisible hands. Demons more malicious still have sometimes been known, under cover of the night, to insert combustible materials under the eaves of thatched roofs. Even in the day-time, about the close of the hot season, when the winds fail, demons may often be seen careering along in the shape of a whirlwind, catching up and whisking about in their fierce play every dry stick and leaf that happens to lie in their path. In short, writes Dr. Caldwell, the demons do much evil, but no good. They often cause terror, but never bestow benefits, or evince any affection for their votaries. They must be placated by sacrifice, because they are so mischievous; but there is no use supplicating their favour. If in any case the hope of obtaining a benefit seems to be their votary's motive in worshipping them, further inquiry proves that it is under the supposition that the demon's malignity stands in the way of what would otherwise be obtained as a matter of course. And it may be said to be the object of the worship of all the non-Aryan races, to avert from themselves the evils which the demons could inflict; for gratitude for good received, or resignation to the will of a Supreme, are not parts of the Amman or spirit-worship. A similar superstition respecting goblins and demons exists all over India. Every Hindu work containing allusions to native life, and the dictionaries of all the Hindu dialects, prove the general prevalence of a belief in the existence of malicious mischievous demons, in demoniacal inflictions and possessions, and in the power of exorcisms. The chief peculiarity of the superstition, as it exists amongst the Shanars, consists in their systematic worship of the demons in which all believe. In every part of India, innumerable legends respecting goblins and their malice are current; but scarcely any trace of their worship in the proper sense of the term, much less of their exclusive worship, can be discovered beyond the districts in which Shanars, or other primitive illiterate tribes, are found. In travelling down to Tinnevelly from the north, the first village which is found to be inhabited by Shanars, Virduputty, about thirty miles south of Madura, is the first place where Dr. Caldwell observed systematic devil-worship. In like manner, in Travancore, devil-worship appears to commence with the first appearance of the Shanar race in the neighbourhood of Trivandrum, from whence it becomes more and more prevalent as you approach Cape Comorin. The demon-worship of the Shanars and a few other illiterate tribes is a degradation beneath which the human mind cannot descend. The places in which the demons are worshipped are commonly termed Pe-koil, or devil-temples; some of the temples, especially those erected to the sanguinary forms of Kali, are small, mean, tomb-like buildings, with an image at the further end of the cloister. But the majority of the devil-temples are built neither with stone nor brick; the roof is neither terraced nor tiled, nor even thatched. A heap of earth, raised into a pyramidical shape, and adorned with streaks of whitewash, sometimes alternating with red ochre, constitutes both the temple and the demon's image; and a smaller heap in front of the temple, with a flat surface, forms the altar. In such cases a large conspicuous tree—a tamarind tree, an umbrella tree (Acacia planifrons), or even a palmyra, whose leaves have never been cut or trimmed — will generally be observed in the vicinity. This tree is supposed to be the devil's ordinary dwelling-place, from which he snuffs up the odour of the sacrificial blood, and descends unseen to join in the feast. Turnour mentions that an ordinance of one of the kings of Ceylon commanded that a devil-dancer should be provided for every ten villages.

Buddhists of Ceylon still resort to the incantations of the devil-dancers in case of danger or emergency.

The educated European of the 19th century cannot realize the dread in which the Hindu stands of devils. They haunt his paths from the cradle to the grave. The Tamil proverb in fact says, 'The devil who seizes you in the cradle, goes with you to the funeral pile.' The chief anxiety of the Tamil father, when his child is about to be brought into the world, is to see that the leaves of the margosa tree are carefully fixed over the threshold, to prevent the devils from entering and seizing upon the child at the moment of birth. If he have lost two children before, and this be a son, a bracelet is placed upon the child's arm as a safeguard, a golden ring is fixed in its nose, and it is solemnly dedicated to some particular demon, who is entreated to protect it. The child is then perhaps named Payen (the Devil's Own), a name of frequent occurrence in S. India. The ring is allowed to remain in the nose till the child is grown, a great feast is then made by the parents, and sacrifices of sheep or cocks offered at the shrine of the tutelary demon. The periods of marriage and pregnancy are times at which devils are supposed to be especially malignant, and ceremonies are then performed to avert the influence of the evil eye, ill omens, and devils. In so slight a matter as the boring of a child's ears for ear-rings, it is considered necessary to propitiate Karuppan with the sacrifice of a goat, or a cock at least. A European seeing a crowd assembled under an odiya tree (Odina pinnata), which the massive iron chain hanging from its trunk betokened to be dedicated to Karuppan, rode up, and found there the quivering body of a ram just sacrificed to the demon. The head had been severed from the body by one blow of a large sickle-shaped weapon, which was courteously handed for inspection. It was made, handle as well as blade, of native iron, and had lately been presented to the shrine by a devotee. The sacrificer had made the present offering on the auspicious occasion of an infant son having his ears bored. The head of the ram fell, as usual, to the share of the officiating priest, while the body, slung on a pole, and carried on the shoulders of two men, amid the beating of tom-toms was taken home to furnish the evening feast. No temple was near, but on a pedestal under the tree reposed a hideous object made of potter's ware. This particular demon is supposed to be, when propitiated, very liberal in the bestowal of benefits; and the pujari mentioned to the looker-on that if he would make a sacrifice of a goat or two, he would guarantee that his devil should obtain for him a lucrative appointment under Government! The sacrifice of goats is almost continuous,—sometimes as many as twenty goats are sacrificed at one time. The flesh is generally cut up, cooked, and eaten on the spot; and round the shrines may often be seen a number of small earthen ovens. The strongest oath a Sudra can take is to swear by the most famous devil of the district; and often, before a lawsuit is carried into court, the aggrieved party will say to his opponent, 'I will be satisfied if you will go to such a demon's shrine, and there, on the justice of your cause, blow out the flame of a lamp in the presence of the Kali.' A man who would not hesitate a moment to commit perjury in court, would never dare to perform this ceremony knowing his cause to be unjust, for then he firmly believes that he would immediately be stricken down by the demon. So swears Latinus in the Æneid:

'Tango aras, medios ignes et numina testor.'

Under this ever-present fear of demons, the Hindu often hesitates to go even a hundred yards in the dark. He will not enter a forest alone; he fears to stand on the borders of a lonely lake, for there dwells the spirit which in Scotland is known by the name of the Kelpie, and it is near the water where, he has heard, may be often seen in the darkness of the night the 'fiery-mouthed devil,' ignis-fatuus. But most of all he fears the sandy plain, for it is a notion thoroughly oriental, that the unclean spirit 'walketh through dry places,' which are called in Tamil, Pai Kadu, devil-deserts. Devils are especially said to abound in the sandy wastes between Madura and Tinnevelly, where the mirage (in Tamil, Pai Ter, the devil's chariot), is frequently seen, and is said to be produced by them. When a fire takes place in a village, it is owing to the wrath of the village devil. His worship has been neglected, or some insult has been offered to him, and he thirsts for revenge. Near the village of Vediarpuram, in the Tanjore district, for about four or five years accidental fires had been of annual occurrence, and it was commonly reported to be owing to the anger of Aiyanar, a demon whose shrine is situated to the west of the village. A banyan tree near the spot, dedicated to him, was some years ago felled without his permission, and since that time the enraged demon, refusing to be propitiated by the usual sacrifices, yearly burned down a house or two. Many races besides Hindus are very prone to make vows in times of sickness. Formerly, we are told, people used to go from all parts of England to Canterbury,

'The holy blissful martyr for to seek,
That them hath holpen when that they were sick.'

The Hindu makes a vow to go to a particular shrine, and there pour offerings of oil and spices. If a diseased member have been restored, oftentimes a golden image of it is made and presented to the shrine. A person suffered from a serious affection of the eyes. A vow was made that in case of recovery two golden eyes should be made and presented to the shrine of Mari Amman. In like manner, the Philistines, we read, when afflicted with emerods, thought, after consulting with their soothsayers, that they could best propitiate the God of Israel by making and offering to him golden images of the emerods. As may be expected, the devils are most busy in the

'last scene of all
That ends this strange eventful history;'

and a young girl fears to cross a dying man, lest his latest breath should pass into her, in which case she would be possessed beyond recovery. For a similar reason, a Hindu at the point of death, is always removed to expire without the house, which would otherwise be haunted. As the corpse is carried away, parched rice is scattered along the route of the funeral procession. It is believed that the devils will stop to pick it up, and it is considered advisable to keep them so engaged till next sunrise, for should they return to the house before that time, they would probably not be satisfied without another victim. A native

proverb says, 'A Saturday's corpse goes not alone.' When, therefore, a death takes place on a Saturday, to prevent evil consequences, a live cock is taken with the corpse to the burning ground, and it is there given away to some person of low caste, or, like the scapegoat of old, allowed to escape into the adjacent jungle. Brahmans, averse to bloody sacrifices, substitute for a cock the bolt of the door of the house, which they burn with the corpse. When a dead body is buried, instead of being burnt, as in the case of Suniyasi (ascetic devotees), salt is placed in the grave, and frequently with it the leaves of the margosa tree, so famous as a charm against devils. Salt was till recently also in England placed on the corpse of Roman and Lutheran Christians, for the avowed purpose of keeping it secure from the evil one, and the practice is still said to linger in the Highlands of Scotland. It was seen in 1833, placed over the dead body of a young girl at Greenwich. The Highlanders, indeed, in many of their superstitions are remarkably similar to the Hindus. They formerly planted the rowan or mountain ash, regarding it as a safeguard against devils, just as the Hindus regard the margosa. Throughout India, the belief is as common as it was formerly in Europe, that a man who dies a sudden or a violent death becomes a demon. All the women in the district are immediately possessed by him, and innumerable mischiefs result. A Brahman, accidentally drowned in the river Cauvery, about the year 1870, became in consequence a Brahma Rakshasa, one of the fiercest of demons. An officer of artillery, killed at the battle of Assaye, was buried beneath a tree near the village, and his spirit is worshipped there to the present day. Dr. Caldwell mentions the case of Captain Pole, an English officer who was mortally wounded at the taking of the Travancore lines in A.D. 1809, and has been invoked by the Shanars. His worship consisted in the offering to his manes of spirituous liquors and cheroots. About the middle of the 19th century, a Brahman who was sentenced to be hanged at Madras, for the murder of another Brahman going on pilgrimage from Benares to Rameswaram, threatened that though they were about to hang him, he would not die, but would become a Brahma Rakshasa, and torment all those who had given evidence against him.

Bells and chains are almost always used in devil-worship and exorcism; the notion involved seems less to be that of scaring the devil, than that of charming him, just as a snake-charmer charms a snake by music. Near the fanes of the popular devils there are massive iron chains hanging from the trees, with bells and knives attached to them. In the well-known Sanskrit work, the Hitopadesa, occurs a story relating to a famous devil, called Ghanta-karna or Bell-ear. This Rakshasa was believed to dwell on the top of a mountain near the town of Brahmapura. One day a thief, having stolen a bell (probably one of those near the demon's fane), was killed by a tiger as he was carrying off his plunder. The monkeys who dwelt in the adjacent forest obtained the bell, and amused themselves by ringing it. The people of the town having found the dead body of the man, and continually hearing the sound of the bell, were filled with intense horror, fully believing that the demon, enraged, had killed the thief, and was now ringing the bell. The town was in consequence nearly deserted, when an old woman, guessing the truth, went to the king, and said that for a small sum she would undertake to settle the demon. The king, delighted, gave her what she asked, and the old woman, after tracing the cabalistic circle,—the Kolam,—and pretending to go through certain incantations, entered the forest. By means of fruits which she strewed on the ground, she was enabled to decoy the monkeys, and, having obtained the bell as a trophy of her victory over the demon, she returned in triumph to the town. So little has the belief in devils been shaken, that in the India of the present day, it would, in a like case, be just as easy to deceive the people, and even their native Hindu rulers. Dr. Caldwell mentions that the process of demonification is still going on amongst the Shanars; and in every case the characteristics of the devil and his worship are derived from the character and exploits of his human prototype. There is a continued succession of devils claiming the adoration of the Shanars, and after a time sinking into forgetfulness. Among the demons most feared at the middle of the 19th century, he mentions Palevesham, a notorious robber during the latter period of the Mahomedan government.

A few of the demons are forms of Kali, connected with a debased and comparatively modern development of the Brahmanical system.

Devil-worship in Ceylon by the Rodya is performed in the jungle. A kind of altar is erected, and covered with the skin of the plantain tree. It is then scented with dammer resin, and cooked vegetables, placed on a plantain leaf, are laid on it, to which is added rice and flowers, and the blood of a red cock. The Kattadiya, or devil-dancer, then recites a charm, and the cure is supposed to be complete. The offering is left to be eaten by birds or animals. The devils Gerre and Meleyi are of two kinds.—*Dr. Caldwell on the Shanar; Kenrich's Phœnicia*, pp. 307, 314; *Dubois' India, quoted in Cole.'s Hind. Myth.* p. 378; *Sonnerat's Voyage*, p. 29; *Bunsen*, iv. p. 210; *Williams' Story of Nala*, p. 208.

DEVILS' HORSES. See Insects.

DEVISTHAN, a Hindu temple. Devisthana, temple revenue.

DEVOTTHANA. SANSK. Also Deotthan. The eleventh day of the light half of the month Kartik, when Vishnu is supposed to rise up from his four months' sleep at the end of the rainy season.

DE VRIESE, author of various memoirs on Malayan Island Plants, and also of a Monograph of Marattiaceæ, a work of great labour.

DEW.

H'nung, ...	BURM.	Shabnam, Aoos, .	HIND.
Rosée, ...	FR.	Ruggiada, ...	IT.
Thau, ...	GER.	Roci, ...	SP.

Some one has ventured the remark that at full moon, near the equator, more dew falls than at new moon, and to this are ascribed the moon heads (man hoofden), which, however, Jansen had but once seen during all the years which he had spent between the tropics. In British India, during the cold weather months, when rain very rarely falls, the dew is of very great importance to all the crops then in the ground.—*Jansen, in Murray's Phys. Geog.* p. 146.

DEWA, a divine being, whether resident upon earth or in a dewa-loka.—*Hardy*, p. 435.

DEWAK. HIND. Termes, white ants.

DEWAL. The Hindu temple in which the idol is placed, is called, as temples generally are, Dewal or Deval, from Deva, a deity, and Aleiya, a house, or, literally, a house of god. The British and other people call it pagoda, a word unknown in India beyond the reach of European colloquial instruction, but which has been supposed to be derived from But-khana, two Persian words, or But-gada, Telugu words, both meaning the ghost-house. It may, however, be from Paigudi, a devil temple; also from Dahgopa, a Buddhist relic shrine. Dewal, in Sind, was so called from its celebrated pagoda. Its site is now doubtful.

DEWALA. HIND. Bankrupt.

DEWALA DEVI, daughter of Kamala Devi. On the fall of Nerwalla, the ancient capital of Gujerat, Kamala Devi was captured and taken into the harem of Ala-ud-Din; but her daughter Dewala Devi escaped with her father. She had been asked in marriage by the son of Ram Deo, the raja of Deogiri (Dowlatabad), but her father, proud of his Rajput origin, had refused to give her to a Mahratta, even though a prince. Kamala Deva, however, having expressed to Ala-ud-Din a wish to be joined by her daughter, Ala-ud-Din sent a strong army under a general to bring Dewala Devi to Dehli. In this extremity her father accepted the Mahratta prince, and sent off his daughter under an escort, but the escort was overtaken, the fair maiden seized, and carried to Dehli, where she was married to Khizr Khan, son of Ala-ud-Din. A few years after the death of Ala-ud-Din, the throne of Dehli was filled by Kafoor, a converted Hindu, who put out the eyes of Khizr Khan, filled the capital with Hindu troops, put to death all the survivors of Ala-ud-Din's family, and transferred Dewala Devi to his own zanana. See Kamala Devi.

DEWALDI, a heroine of Hindustan. When Cholan was on the throne of Dehli, Dewaldi roused her sons to battle, and, observing their unwillingness, she said, 'Would that the gods had made me barren, that I had never borne sons, who thus abandon the name of the Rajputs, and refuse to succour their prince in danger!' They acceded to her request. She then said, 'Farewell, my children, be true to your salt; and should you lose your head for your prince, doubt not you will obtain the celestial crown.' When Akbar invaded Chitor, the mother of Putta of Kailwa charged her son to put on the saffron robe, and die for his country.—*Calcutta Review*, No. 109.

DEWALI, properly Dipawali. SANSK. From Dipa, a lamp, and Ali, a row. A Hindu religious festival held about the end of October, in the last two days of the last half of Aswin and three days of Kartik, in honour of the goddess Kali and of Lakshmi, and to commemorate the destruction by Vishnu of the demon Taraki. The Hindus, after bathing in the Ganges or other river, anoint with oil, put on their best attire, perform a sraddha, and at night worship Lakshmi. On this festival of lamps all Hindus propitiate Lakshmi, the goddess of wealth and fortune, by offering at her shrine. In Rajasthan, on the Amavus, or ides of Kartik, every city, village, and encampment exhibits a blaze of splendour from lamps. Stuffs, pieces of gold and sweetmeats, are carried in trays and consecrated at the temple of Lakshmi, to whom the day is consecrated. The rana of Mewar dines with his prime minister; and this officer and his near relatives offer an oblation by pouring oil into a terra-cotta lamp, which the sovereign holds. Every votary of Lakshmi tries his chance of the dice, and from their success in the Dewali foretell the state of their affairs for the ensuing year. On the first day of the Dewali, the whole Hindu population of an Indian city bear branches of the sami, tulsi, and other sacred trees in procession, and walk round all the temples in the neighbourhood, offer salutation and prayer to their country's gods, in their several incarnations. A rainfall at that period of the year is highly advantageous to growing crops, and a proverb of the people of N. India is,—

'Je min piya Diwali,
Jiya phus, jiya hali.'

'If showers fall about the time of the Diwali festival,' [what matter] whether you are lazy (lit. a bundle of sticks) or a real ploughman, [the crops are sure to be equally fine.]—*Postans' W. India*, ii. p. 177; *Tod's Rajasthan*, i. 70, 279. See Leviticus xxiii. 40.

DEWAN. ARAB., PERS. In India, the chief officer of a second-rate sovereign. In Persia, a court of justice or of other business. A reception room is generally called the Dewan-i-Am, or public reception-hall. The Dewan Khana is the office room of the dewan, that part of the house of a Mahomedan where the master receives his visitors, and in which the men-servants reside; and the Dewani means pertaining to the dewan. The Dewani Adalat, under the E. I. Company, was a court of civil and criminal jurisdiction.—*Rich's Kurdistan*, i. p. 83.

Dewan, PERS., a collection into one volume of the entire odes of an author, whether in the Persian or the Hindustani tongue. In bringing them together, they are arranged alphabetically according to the letters in which the verses terminate. The Dewan-i-Sadi and Dewan-i-Hafiz are generally known.

Dewani is the civil department, in contrast to the foujdari or criminal. Dewan-i-Am, a privy council chamber. The Dewani of Bengal, Behar, and Orissa was conferred on the British by Shah Alam II., on the 12th August 1765. The office was a viceroyalty, and comprised the collection of the revenue, then three kror of rupees, and the administration of civil justice. The net revenue was two kror.

DEWANAGI-WANLU. TEL. Religious mendicants in Southern India, who accept charity only from one or other of the artisan goldsmith castes.

DEWA PUJA, or worship of the implements in use as the means of subsistence, observed by all Hindus, and by all the Kayasth caste at the Dewali and Hooly festivals.—*Malcolm's Central India*, ii. p. 167.

DEWAR, Diwar, perhaps more correctly Deehwar or Dehwar, is the god under whose special care a village is placed; the gramma-deva or *genius loci*, for whom a portion of grain is always set apart at each harvest.—*Elliot.*

DEWAR-GIRI. HIND. Tapestry, or cloth for adorning a wall.

DEWAS, a native state in Malwa, lat. 22° 42′ to 23° 5′ N., long. 75° 57′ to 76° 21′ E. The Dewas chieftaincy is held by a Mahratta, whose

ancestors came to Malwa with the first Baji Rao. The revenue of the state is 4,25,000 rupees, the area 256 square miles, and the population 25,000 souls. The chiefs have each received a sunnud guaranteeing to them the right of adoption. The chiefs are equal in rank, and have an equal share in all receipts. Each receives a salute of fifteen guns.—*Aitcheson's Treaties*, iv. p. 334.

DEWAT, the 6th note in the musical scale, 'La.'

DEXTRIN has the same composition as starch, but it is soluble in cold water.

DHA. BURM. A bill, a sword; in various forms, it is the inseparable companion of every man among the hundred forest tribes of Trans-Gangetic India. Among the civilised Burmans, however, it is more confined to the lower orders, the peasant and boatman, except as a weapon of war. The Burman's dha is a weapon about three feet long, with a slight uniform curve from end to end. About three-sevenths of this length is helve, the rest blade. The blade is generally about an inch and a quarter wide, with an obtuse point. It serves every purpose that a cutting weapon can serve, from making a toothpick to felling a tree, killing a pig or an enemy in battle. Very long and heavy dhas are worn by officials of the Burmese court.—*Yule's Embassy*, p. 158.

DHAE. HIND. A nurse. In Rajputana, the Dhabhae, or foster-brothers, often hold lands in perpetuity, and are employed in the most confidential places, on embassies, marriages, etc.—*Tod's Rajasthan*, i. p. 278.

D'HAGHA. GUJ. Thread.

DHAGOBA. See Buddha; Dagoba; Dhatu-garbha; Topes.

DHAHIMA, a tribe of Rajputs recorded amongst the 36 royal races. They were the lords of Biana, and bore a high name for deeds of chivalry. Colonel Tod considered the tribe to be extinct, but they have three or four villages in Baghput. There are also Dhahima Ahir and Dhahima Jat in the same neighbourhood.—*Rajasthan*, i. p. 199.

DHAI or Dahi. HIND. Curdled milk.

DHAKH of Kashmir, a red and white bean, Phaseolus lunatus, etc.

D'HAKKA. SANSK. A form of the drum that was one of the insignia of royalty of the Chalukya dynasty when ruling at Kalian.

DHAKUN, a witch. Witchcraft is believed in all over Rajputana; but the people of Mewar, whose capital is Udaipur, have most faith in the belief. Her powers are believed to be unlimited, particularly at seasons of the Dassera and Dewali. In certain provinces a man will not marry into a family unless they have a witch among them, who may protect him from evil. Such witches are called Rakhavali, or guardians. The Jiggar Khor, or liver-eater of Sind, is the genuine vampire. An officer, after a long chase in the valley of Udaipur, speared a hyena, whose abode was the tombs, and was known as the steed on which the witch of Ar sallied forth at night. Evil was predicted; and a dangerous fall subsequently, in chasing an elk, was attributed to his sacrilegious slaughter of the weird sister's steed.—*Tod's Rajasthan.*

DHAL. HIND. A shield, an ear ornament.

D'HALIZ-KOONDLANA, treading the threshold, a Mahomedan marriage ceremony.

DHAL-PHOR. HIND. A sept of the Kurmi, a great agricultural tribe in Hindustan; the words mean clod-breaker.

DHAL SAHIB, a Maharram ālam, or banner; literally, Mr. Shield.

DHAMA-PADAM, a Buddhist sacred book of high authority. It gives the most faithful picture of the ethical spirit of Buddha's teachings.—*Bunsen, God in Hist.* i. p. 343.

DHAMAYANGYEE. Flat arches of stone and brick are not uncommon in Burma. Captain Yule observed two of brick, in windows in the Dhamayangyee temple at Pagan, where no suggestion of European or Indian aid could have helped. There is one flat stone arch in the northern gate of the fort, and another in a tomb, at Kurnool. There is one in the mediæval building of Roslin Castle, and in the magnificent Saracen gateway of Cairo, called Bab-el-Fitoor.—*Yule's Embassy.*

DHAMEE, this old Rajput state became independent of Kuhlor after the Gurkha war. The state was bound to supply forty begar, but this was commuted to a tribute of Rs. 720. Revenue, Rs. 4000; population, 2853.

DHAMEK, near Benares, a fine grove, the ancient Mriga-dawa, where Buddha first publicly preached his doctrine, which king Asoka commemorated by erecting a tower.

DHAMI. HIND. A follower of Prannath, a Hindu reformer who flourished in the 17th century in Bundelkhand.—*Wilson.*

DHAMMA. PALI. Dharma, SANSK. Law, duty; the doctrines or sacred writings of the Buddhists.—*Hardy, Eastern Monachism*, p. 435.

DHAMMAN or Dhamnoo. PANJ. Grewia elastica, *Royle*; G. oppositifolia, *Buch.* Grewia tiliæfolia? are trees of Cuttack. G. elastica has a reddish-coloured wood, pliable, strong, very plentiful in the Santal jungles; used chiefly for cart wheels.—*Calcutta Eng. Journal*, July 1860.

DHAMNAR, about 40 miles S.E. from Nemuch, but close to Chundivassa, contains Buddhist caves with a Brahmanical rock-temple behind. The principal group are Buddhist.—*Burgess*, p. 392.

DHAMNI. HIND. Portulaca oleracea? P. sativa, DUKH., Helicteres isora.

DHAMUN. HIND. Green tea, in Ladakh; also brick tea, in Kashmir. Tea in cakes, both black and green.

DHAN. HIND. Oryza sativa, unhusked rice or paddy, also growing rice. Dhan marri, a rice field.

DHAN. HIND. Wealth. Tan, Man, Dhan, body, mind, and substance.

DHANA, the Gond portion of a Hindu village, which is always separate from the rest. Also applied generally in the north-west as Wuzra, Nugla, or Poorwa.—*Elliot's Suppt. Gloss.*

DHANAK. HIND. Very narrow gold ribbon.

DHANAPATTI and Srimantoo, a romantic Hindu tale of adventures of a father and son, wealthy Banya merchants of the Ganges, who travelled to Coromandel, Ceylon, Java. Both of them were imprisoned in Ceylon.

DHAND. SIND. A pool of water, a marsh.

DHANDORA. HIND. Proclamation by beat of drum.

DHANGA. HIND. Riot, rebellion; any hiding-place of robbers.

DHANGAR is the Danaga of the Canarese-speaking races. The Dhangar in Telingana are in twelve tribes, who do not eat together nor intermarry. In the centre and south of the Peninsula, Dhangar are shepherds and wool-weavers,

kitchen gardeners and labourers. In the hill country of Ramgarh and Chutia Nagpur, there is a tribe so called, some of whom descend periodically into the plains for labour. There are 8059 Dhangar in Amraoti. Many Dhangar are settled in the towns of the south of India, occupied as labourers, kitchen gardeners, and dairymen, and they arrange themselves accordingly. Dhangars have largely settled as cultivators in the Indapur, Bhimatherry, and Purandhar talukas of the Bombay Presidency. The Maharaja Holkar, the sovereign of Malwa, whose capital is Indur, is a Dhangar. The Asal, or pure Dhangar, are pastoral only. The pastoral Segar Dhangar also weave blankets. The Teling Dhangar are cultivators, milkmen, and weavers of coarse woollens. The Mahratta Dhangar graze cattle and sheep, and clarify their butter into ghi. The Bangar Dhangar are purely shepherds, as is indicated by the term 'Ban-gar,' wild man or forest man.

The Dhangar of the peninsular Dekhan are of two sections, the Kota Pullia Dhangar, who keep sheep, and the Barji Hatkar, or 'shepherds with the spears.' The latter still hold much land on the N. borders of the Nizam's territory, and, until the British took it over, were notorious for pugnacity and rebellion, and they still continue a quarrelsome and obstinate race. They are supposed to have come from Hindustan in twelve tribes, and been impelled by the Gonds towards Hingoli and Bassim, which locality got the name of Bara Hatia, or the twelve tribes. They now occupy the hills on the north bank of the Païn Ganga. To die in the chase or in war is deemed honourable; and the Hatkar who is so killed is burned with his feet to the east; otherwise he is interred sitting with a small piece of gold in his mouth. The Hatkar are fine, able-bodied men, independent but arrogant; many of them never shave nor cut the hair of their face. The Hatkar can only have one laggan, but may have several pāt wives. Their widows can contract a pāt marriage.

The Dhangar in the centre of the Peninsula are dark, almost black men, of slender and spare forms; they are quite dissimilar from the Gaoli in personal appearance, and all the sheep (Kuru, Karnatica, a sheep) are under the Kurubaru or Kurumbar race. They are also wholly distinct from the Ydayan or Yadava cowherd race, who are known in all the Tamil country as 'Pillai.' In all probability the dispersed Kurumbar of the Peninsula of India, some of them in towns and others almost nomade, are the fragments of the great shepherd race who held sway in the Arcot district in the early centuries of the Christian era. The Kurumbar and Dhangar have no similarity in appearance.

Dhangar, in the Lukti territory, bordering on Udaipur and Sultanpur, are short but muscular and able-bodied men, who speak a separate language. They do not follow Hindu rites, and they have no temples, but set up near their villages a stone with some rude carvings, which they worship in times of famine or sickness or calamity. They bury but sometimes burn their dead.

The Gaola is a cowherd, a dairyman, from Hindustan to Hyderabad.

The Kurubar are in the Canarese region, in the centre of the Peninsula. The Kurubar or Kurumbar and the Gaola dairymen keep aloof from each other.

The Mirda are a caste of migratory shepherds in the south of India.—*C. J. P. C. R.* pp. 6 and 7; *Campbell*, p. 33.

DHANGAR BASSA, a bachelor hall amongst the Bhuiya.

DHANK, 30 miles N.W. from Junagarh, formerly an important city, has a group of small caves. A few miles to its west is the village of Siddhsar, and in a ravine, called Jhinjuri Jhar, are five plain caves, cut out in calcareous sandstone. N.W. of Dhank, near Hariesan, on the W. side of Gadka Hill, are other nine caves.—*Burgess*, p. 201.

DHANKLI. HIND. A machine for raising water, called Pecottah in Tamil.

DHANUK. HIND. A bowman. Dhanuk and Danusha are names of a race in Northern India, but numerous in Behar, employed as archers, fowlers, and house guards, also in several menial occupations both of the house and field. Wherever they reside, the females are specially in request as midwives. Dr. Buchanan describes the Dhanuk of Behar, Bhagulpur, and Puraniya as engaged in agriculture like the Kurmi. Many of them are agricultural slaves. The Dhanuk are descended, according to the Padma Purana, from a Chamar and a Chandal woman. From the Dhanuk have proceeded Aherya, who are said not to eat dead carcases, as the Dhanuk do. There are reported to be seven subdivisions of the Dhanuk, Loungbusta, Mut'hurea, Kut'hurea, Jyswar, Magahi, Dojwar, and Chhilatya. These do not intermarry, or even eat or smoke together. They mix, indeed, so little with one another, that an individual Dhanuk is seldom able to mention more than two, or at most three, of these names as belonging to his fraternity. There are several Dhanuk in Dehli, and they are scattered over the North-Western Provinces; but Behar is the country in which they most abound. —*Wils. Glos.; Elliot's Suppl. Gloss.; Postans' Western India*, i. p. 167.

DHANUR VEDA, a book on weapons.

DHANWANTARI. There have probably been several persons of this name, and at different eras. The name occurs, along with those of Charaka and Susruta, in poems written in the time of Nala Raja. Professor Wilson supposed Charaka and Susruta to be of the 9th or 10th centuries A.D. A Dhanwantari is supposed to have been king of Kasi or Benares, and as such styled Deva-dasa Kasi Raja. He is regarded as the founder of Hindu medicine, and he takes in India the place occupied by Æsculapius amongst the Greeks. A medical work, bearing this name as its author, is still extant, and in use amongst all the Hindu physicians of British India. His era can only be conjectured to have been before Christ. The name is applied also to a teacher of medical science, to whom the authorship of the Ayur Veda is attributed; but other physicians, Bhela, Devodasa, and Palakapya, are also so named; and a physician of this name was one of 'the nine gems' at the court of Vikrama. It is also the name of a Vedic deity, to whom offerings at twilight were made in the N.E. quarter. In one Brahmanical account of the deluge, a Dhanwantari is said to have been, with other thirteen precious products, a physician produced at the churning of the ocean. Takaji-ca-coond, or 'fountain of the snake-king,' is about two miles east of Naoli, near the boundary of Bhynsror and Bhanpura. The road, through a jungle, over the

flat highland or Pat'har, presents no indication of the fountain, until you suddenly find yourself on the brink of a precipice nearly 200 feet in depth, crowded with noble trees, on which the knotted korū is conspicuous. The descent to this glen is over masses of rock; and about half-way down a small platform, are two shrines, one containing the statue of Takshac, the snake-king, the other of Dhanwantari, the physician who was produced at the churning of the ocean. The coond or fountain is at the southern extremity of the abyss. Dhanwantari of the Hindus has not an attendant serpent, like his brother Æsculapius of Greece. 'The health-bestowing Dhanwantari, the celestial physician, arose from the sea when churned for the beverage of immortality.' He is generally represented as a venerable man with a book in his hand.—*Rajasthan*, ii. p. 718; *Colem.'s Hind. Myth.* p. 383; *Moor*, p. 342; *Dowson.*

DHAOLA DHAR or Dhalola Dhar, a mountain chain in Kangra district, Panjab, formed by a projecting fork of the outer Himalayan range. Below, the waste of snow-fields is succeeded by a belt of pines, giving way to oaks as the flanks are descended, and finally merging into a cultivated vale, watered by perennial streams. The highest peak attains an elevation of 15,956 feet above sea-level, while the valley has a general height of about 2000 feet. Dhaola Dhar means White Mountain, from Dhavala, SANSK., white. The whole length of the outer or sub-Himalaya is nearly 300 miles from S.E. to N.E. It is pierced by the Ravi, the Chenab, the Punach, and the Jhelum rivers, which divide it into separate districts. The snow-line is about 16,000 feet in height. Dhaola Dhar is called by several names in the maps,—Mani Mahes ki Dhar, or the mountains of the holy lake of Mani Mahes; and Hugel calls it Palam-ki-dar and Chamba-ki-dar. The rocks are clay and mica slate.—*Imperial Gazetteer; Cleghorn's Report*, p. 97.

DHAR, a native state in Central India, between lat. 22° 1′ and 23° 8′ N., and long. 74° 43′ and 75° 35′ E.; and the town of Dhar, lat. 22° 35′ N., long. 75° 21′ E., in Malwa, 33 miles W. of Mhow. The level of the railway, 1850 feet. The Puar family was one of the most distinguished in early Mahratta history; and Anand Rao Puar is usually considered as the founder of the principality of Dhar, which, with some adjoining districts, and the tribute of some Rajput chiefs, was assigned to him by the first Baji Rao, Peshwa. For twenty years before the British conquest of Malwa, the Dhar state was subjected to a continued series of spoliations, chiefly at the hands of Sindia and Holkar, and was preserved from destruction only by the talents and courage of Meena Bai. Anand Rao Puar died in 1807, and was succeeded by his posthumous son, Ramchander Rao Puar, on whose mother, Meena Bai, the administration devolved. Ramchander died early, but Meena Bai, with the consent of the neighbouring chiefs, adopted her sister's son, under the name of Ramchand Puar. The Dhar state rebelled in 1857, and was confiscated, but it was subsequently restored to Anand Rao Puar, with exception of the Bairsea pargana. The area of the state is estimated at 2091 square miles, and the population at about 125,000 souls.—*Buch. Hamilton; Treaties, Engagements, and Sunnuds*, iv. p. 425.

DHARA. SANSK. A bearer or supporter. Chau-dhari, the four bearers, supporters of the platforms of Hindu temples.

DHARALA. MAHR. Applied to the Koli, Paggi, and others, who habitually wear arms.

DHARI, name of a waterfall near the Hirnphal, or Deer's Leap, on the Nerbudda.

DHARICHA. HIND. Second husband of a widow.

DHARINJO. URIYA. A common tree of Ganjam and Gumsur; extreme height 60 feet, circumference 4 feet. The bark is used medicinally by women after childbirth; the juice of the leaves is supposed to cure itch.—*Captain Macdonald.*

DHARMA, a tract of country in Kumāun district, N.W. Provinces, lying on the Tibetan side of the main Himalayan range, between lat. 30° 5′ and 30° 30′ N., and between long. 80° 25′ and 80° 45′ E. It is of considerable elevation, its chief peak, Lebong, rising 18,942 feet above sea-level; while the Dharma pass, on the northern frontier, leading into Hundes, reaches a height of about 15,000 feet. The habitable portion consists of narrow and very rugged valleys, traversed by the river Dhauli and its tributaries. The inhabitants are Bhotiya, a Tibetan race, who carry on a trade between Hundes and Kumaun, by means of pack-sheep, over the Dharma pass. Estimated area, about 400 square miles.—*Imp. Gaz.*

DHARMA. HIND., SANSK. Charity, law, virtue, morality, justice, religious ritual, religious law, legal or moral duty. Dharma, Artha, and Kama are the three principles on which Hindus base their ideas of life and its duties. Dharma, the acquisition of virtue and religious merit and obedience to the ordinances of religion; Artha, the acquisition of arts, friends, and property, land, gold, wealth, cattle, equipages; and Kama is the enjoyment of appropriate objects by the five senses. Dharma-karta, the manager of a Hindu temple, a churchwarden. Dharmsala, a resting-place for travellers. Dharma-sala, a religious assembly. Dharma-sastra, the Hindu code of laws, the whole science of law. Dharma-kari, a judge. Dharma-das, a temple servant. Dharma-swama, literally faith (dharma), to his lord (swama). In the Dharmarcha or Dharm-adharma ordeal, figures or drawings of dharma and adharma, virtue and vice, are covered with cow-dung and put in a covered vessel, and the accused is allowed to draw; if the dharma image be withdrawn, he is innocent.

DHARMA, the eight scriptures of the Nepalese Buddhists.

DHARMAPADESAKA, the teacher of Dharma, the ordinary term in use to designate a religious teacher.

DHARMAPURI, a mythological city of the Hindus, twelve months' journey from Yamapuri, another fabulous city of Hindu mythology. It is the same with the purgatory of St. Patrick in the gold island.

DHARMA-RAJA, the title of the spiritual ruler of Bhutan, literally king of virtue. He succeeds by incarnation.

DHARMA-RAJA, Shinje, Telūgū, and Choigyal, Tibetan, is from Dharma, justice, and Raja, a king. A name of the Hindu deity Yama in his beneficent form. He is the king of justice, whose countenance the virtuous only see; the wicked see him as king of the infernal regions. In the Hindu religion he is the god of eternal justice. Antaka

is an attribute of Yama or Dharma-raja, in the character of the destroyer.—*Cole.'s Myth.* p. 379.

DHARMA-SASTRA, the whole code of Hindu law, but more especially applied to the laws of Manu, Yajnawalkya, and other sages, variously enumerated from 18 to 42, who are supposed to have recorded the Smriti, or recollections of what they received from a divine source. Of these, the greatest are Manu and Yajnawalkya. The works are generally in three parts,—Achara, rules of conduct and practice; Vyavahara, judicature; and Praya schitta, penance.—*Dowson.*

DHARMA-SUTRA, a term sometimes given to the Samaya charika rules.—*Müller.*

DHARMSALA, a sanatorium in the Kangra district of the Panjab, in long. 76° 22′ 46″ E., and lat. 32° 15′ 42″ N. The houses are built up the hill, the lowest being at 4000 feet, the highest 7000 feet. The sanatorium is on one of the spurs running south from the great range of Dhaola Dhar. This range runs east and west, at heights of from 13,000 to 19,000 feet, and forms a great wall on the north; it is due to this range that the climate of Dharmsala is so mild, and has such a heavy rainfall. Kangra, said by Lord Canning to be the most beautiful district in India excepting Kashmir, is surrounded by lofty mountains, interspersed with undulating hills, and situated between the rivers Ravi and Sutlej. On one side it has the territories of Kashmir and Chumba, on the other the wild but romantic hunting-fields of Kulu, Spiti, and Ladakh. Various races of men, speaking different languages, are distributed over its surface. Every tone of climate and variety of vegetation is here to be met with, from the scorching heat and exuberant growth of the tropics, and barren heights destitute of verdure and capped with perpetual snow.—*Dr. W. P. Dickson*, 1870; *India Annals*, No. 227, 1870; *Paharee.*

DHARMSALA. Hind. A building erected for a religious or charitable purpose. It is like the sarai or caravansari of Persia. A house for the accommodation of travellers or pilgrims, or for the reception of the sick or poor. In India they are of varied forms,—sometimes a quadrangle, open all round and to the sky, and with one entrance; sometimes small rooms, both on the inside and outside of the surrounding walls.

DHARNA BAITHNA, literally, to sit Dharna, was a practice put in force in several parts of India by creditors, who sat down before the doors of their debtors, so as to close all exit unless over the sitter's body, and thus compel a payment of their claims. The practice, up to the 19th century, was familiar at Benares, and may be translated caption or arrest. It was used by the Brahmans to gain a point which could not be accomplished by any other means; and the process was as follows:—A brahman who adopts this expedient for the purpose mentioned, proceeds to the door or house of the person against whom it is directed, or wherever he may most conveniently intercept him. He there sits down in dharna, with poison or a poniard, or some other instrument of suicide in his hand, and, threatening to use it if his adversary should attempt to molest or pass him, he thus completely arrests the debtor. In this situation the brahman fasts; and by the rigour of the etiquette, which is rarely infringed, the unfortunate object of his arrest ought also to fast, and thus they both remain until the institutor of the dharna obtains satisfaction. In this, as he seldom makes the attempt without resolution to persevere, he rarely fails; for if the party thus arrested were to suffer the brahman sitting in dharna to perish by hunger, the sin would for ever be upon his head. This practice has become almost unheard of in late years; the last occasion in Madras was about A.D. 1846; but formerly even the interference of British courts often proved insufficient to check it, as it had been deemed in general most prudent to avoid for this purpose the use of coercion, from an apprehension that the first appearance of it might drive the sitter in dharna to suicide. The discredit of the act would not only fall upon the officers of justice, but upon the Government itself. The practice of sitting in dharna was not confined to brahman men. It was had recourse to by Benu Bhai, the widow of a man of the brahmanical tribe, who had a litigation with her brother-in-law, Bal Kishen, which was tried by arbitration, and the trial and sentence were revised by the court of justice at Benares, and again in appeal. The suit of Benu Bhai involved a claim of property and a consideration of caste, which her antagonist declared she had forfeited. Originally it was practised by brahmans, but was prohibited by Res. 7 of 1820 of the Bengal Code. In the south of India it is done before idols for obtaining the object of desire. It is an ancient practice. Genesis xxiv. says, 'I will not eat until I have told mine errand,' and a brahman sometimes went to a house, sat down, and refused to eat till he had obtained the object he had in view. The 'Englishman' newspaper relates that about 1850, a man named Chutterbhooj, son of a well-known and respectable Charan of Udaipur, carried to the late chief of that state certain grievances which he considered himself to be suffering in connection with his village. Failing to secure redress by ordinary measures, he took the unusual course of intruding on the chief without permission, for which breach of etiquette he was forbidden to enter the palace again. Accordingly, being under a sense of degradation, ill-feeling, and annoyance, engendered by the prohibitory order, he indulged in satires and philippics against his chief, who thereupon confiscated his village. Upon this, Chutterbhooj proceeded to Sulumbur, which at that time was at enmity with the chief of Udaipur, and this step only incensed the chief all the more against him. Here he appears to have been provided for, but subsequently wandered about from place to place trying to obtain redress, but without being able to secure either the forgiveness of his chief or the restitution of his village. In this state of feeling he appears to have given way to the superstitious idea, still prevailing amongst the Rajputs, that the shedding of his own blood or the blood of his family would bring destruction upon those who had offended him, if it did not secure a ready attention to his real or imaginary wrongs. In 1859, therefore, whilst travelling through the jungle with his two wives, two slave girls, and a servant, together with a party of the Meena, who were his retainers, he one day dismounted and gave his horse in charge to the servant, and began to smoke. Then, advancing a little distance, he suddenly killed the servant, and called upon the Meenas to dismount the women. His orders were obeyed. One slave girl fled away with her boy to a neighbouring village, and escaped, but the three

other women were killed. The slave girl informed the villagers of what had occurred, and they went out and saw the dead bodies, and carried them away, and burnt them. The slave girl died the next year, and Chutterbhooj never turned up for six years after the offence had been committed. He then came in and confessed to having murdered the women and servant. Accordingly he was tried and convicted of murder, and the Viceroy was fully of opinion that the man deserved hanging, but that, considering the number of years which had elapsed, the prevalence of superstition, and the lawlessness which prevailed in that part of Rajputana at the period in question, when many such acts were committed with impunity, His Excellency commuted the sentence to transportation for life. The inviolability of a brahman, and the sin attached to causing the death of one in any way, is inseparable, and to this, according to Sir William Jones, may be traced the practice of dharna.

DHARNI, a Nepal weight of three seers.

DHARWAR, a town which gives its name to a revenue district in the Southern Mahratta country, lying between lat. 14° 17′ and 15° 50′ N., and long. 74° 51′ and 75° 57′ E., with 988,037 inhabitants. Between 1787 and 1796, famine occurred from a succession of droughts, accompanied by swarms of locusts. The next famine was in 1802–3, occasioned by the immigration of people from the valley of the Godavery and the march of the Peshwa's army through the country. In 1832, from want of rain, prices ruled very high. Owing to successive hot seasons, famines recurred in the years 1866 and 1877.—*Imp. Gaz.*

DHASHT-i-KIPCHAK, the Sahara of Asia.

DHASRA, religious mendicants in Southern India, who hold an iron worshipping lamp in their hands, and perform on the jangata, tarte, and sinku. They walk before a corpse when being carried to the funeral pile.

DHAT, an isolated and now dependent chieftainship of which Oomerkote is the capital. It separates the Bhatti race from the Jareja race. Its prince is of the Pramara race and Soda tribe, ancient lords of all Sind. The Dhatti is the Rajput tribe inhabiting Dhat, and in no greater numbers than the Kaorwa, whom they resemble in their habits, being entirely pastoral, cultivating a few patches of land, and trusting to the heavens alone to bring it forward. They barter the ghi, or clarified butter, made from the produce of their herds, for grain and other necessaries of life. Rabri and chauch, or porridge and buttermilk, form the grand fare of the desert. A couple of seers of flour of bajra, jooar, and kaijri is mixed with some seers of chauch, and exposed to the fire, but not boiled, and this mess will suffice for a large family. The cows of the desert are much larger than those of the plains of India, and give from eight to ten seers (eight or ten quarts) of milk daily. The produce of four cows will amply subsist a family of ten persons from the sale of ghi; and their prices vary with their productive powers, from ten to fifteen rupees each. Rabri, analogous to the kous-kous of the African desert, is often made with camel's milk, from which ghi cannot be extracted, and which soon becomes a living mass when put aside. Dried fish from the valley of Sind is conveyed into the desert on horses or camels, and finds a ready sale amongst all classes, even as far east as Barmair. It is sold at two dokra (coppers) a seer. The poora, or temporary hamlets of the Dhatti, consisting at most of ten huts in each, resemble those of the Kaorwa.—*Tod's Rajasthan*, i. p. 45.

DHATUGARBHA, from Dhatu, relic, Garbha or Gabba, a casket, softened into the Dhagoba, is the altar, shrine, or relic receptacle in which the relics of Buddha are kept. The dhagoba is the descendant of the sepulchral tumulus of the Turanian races, whether found in Etruria, Lydia, or among the Scyths of the northern steppes. By some it is supposed to be the source of the word Pagoda. It is also known by the Sanskrit word Chaitya. Dhagoba is a Buddhist shrine enclosing or protecting some sacred relic; but by some they are supposed to be shrines built over the remains of persons of the Buddhist faith, and consecrated to their saints.—*Prinsep's Antiquities by Thomas*, p. 154. See Dhagoba.

DHAULI, 20 miles south of Khatak, and 20 miles north of Jaganath, has two separate edicts of Asoka. The first edict is addressed to the public officers of the city of Tosali, and commands murderers to be imprisoned. Both edicts appoint two tuphas, or colleges for meditation and the propitiation of Heaven. The question of atheism in ancient Buddhism is set at rest by these edicts, which repeatedly speak of this world and the world hereafter; and the people are expressly commanded to propitiate Heaven, and to 'confess and believe in God, who is the worthy object of obedience;' or, more literally, 'Him, the eternal, ye shall propitiate by prayer.'—vi. p. 442.

DHAURA. Hind. Grislea tomentosa. The scarlet flowers, dhau ka phool, are considered stimulating, and given to women in labour; are also used in dyeing. The gum, dhaura or dhau ka gond, is white in colour, like the katira and tragacanth gums, swells in water. In dyeing cloth it is applied to those parts that the dye is not wished to touch. It is eaten in Luddoo. One maund costs ten rupees.—*Gen. Med. Top.* p. 133.

DHAURI. Hind. Coarse leather shoes.

DHAUSSA. Hind. A kettle-drum, carried on horseback.

DHAVA. Hind. A thatch grass.

DHAWALIGIRI, a mountain in Nepal, in lat. 29° 11′ N., long. 82° 59′ E. One of the loftiest peaks of the Himalayas, rising 27,600 feet above sea-level.—*Imp. Gaz.*

DHAWAR. Mahr. A tribe of iron-smelters.

DHAYA. Hind. Land on a river bank, but subject to the occasional overflow of water; also ridges along the dry course of a river, which has turned in another direction.

DHE. Hind. In the N.W. Provinces, a subdivision of the Jat tribe.

DHE. Hind. of the Cis-Sutlej. Old mounds yielding saltpetre earth.

DHEKUDI. Mahr. A water-lift, the pe-cottah of the Tamil, and dhenkli of Hindustan. Dhenka or Dhenki is a lever of any kind; a pedal for husking rice. The rice is first damped with water. It is a mortar with a pestle worked as a treadle.

DHELLA. Hind. Small weights for separating the gold strands in tinsel-making.

DHENKLI. Hind. A water lever, a machine for raising water, the pe-cottah or yettam of the

Tamil countries. It consists of a horizontal lever, with a weight at one end and a bucket of iron or an earthen pot at the other, slung from or resting on an upright bamboo or pole; this, being lowered into the well and returned to its original place, brings up a bucket of water. The name is provincially corrupted into dhooklee, dhiklee, and in Gorakhpur into dheokul. The word appears to be derived from Dhulkana, to roll, to overturn. The posts which act as the fulcra are called t'hoonya; the rope, burt; and the bucket, kurwala. The dhenkli is seldom used in the Panjab proper, except for the irrigation of rice fields, and in river tracts for melons and tobacco. In the Peninsula of India it is in use in all the finer garden or even in field cultivation.—*Elliot's Sup. Gloss.; Powell's Handbook*, p. 208.

DHER, a non-Aryan race, many of them dwelling as predial slaves in parts of India, in the Panjab, rare in the N.W. Provinces, many in the Saugor territory. In the Nagpur territory they have acquired some consideration from their employment as Dalal or writ-servers. In the Dekhan they are doubtless the same as the Holiar of the Canarese, the Mhar of the Mahrattas, and the Pariah of the Tamil and Teling races. In the Western Provinces, though they are not often found in any numbers, they appear to have left the remembrance of their name, for it is a common term of abuse to call a man a Barra Dher, or a low-caste fellow. They eat dead animals, clean skins and sell them to Chamar tanners. In Rajputana, the Dher will not eat hogs, either tame or wild; the latter they hold in great abomination, notwithstanding their Rajput masters look upon them as a luxury. Dherwarah, the locality outside the Hindu towns where the Dher race reside.—*Elliot's Sup. Gloss.; Journal, R.A.S.* p. 224.

D'HERBELOT, author of Bibliothèque Orientale La Haye, 1777.

DHERI, a Sufi sect in Persia, who believe the world is uncreated and indissoluble.—*Malcolm.*

DHEVARA, a tribe of boatmen.

DHEWUS. HIND. Dalbergia Ujjainensis, a timber of Nagpur, of a light colour, liable to be devoured by white ants. Its strength is considerable. The young trees are cut for bandy poles. It sells at 8 annas the cubic foot. — *Captain Sankey; Major Pearse.*

DHIMAK. HIND. White ants; properly Dewak.

DHIMAL, a race in the sal forest of the Terai, who, about the close of the eighteenth century, migrated to the north and east of the Koch from Nepal. The Dhimal dwell between the Kuki and Dhonla, between the open plains and the higher levels of the mountains, and their villages, though distinct, the people not intermarrying, are intermixed with the Bodo. The Dhimal differ from the Bodo in their language and their pantheon. The deities Data and Bidata preside over marriage, the feast of which is prolonged through three days, and costs from 30 to 40 rupees. They bury their dead. The Dhimal of the eastern portion of the Terai are estimated at about 15,000 souls. — *Latham's Descriptive Ethnology.* See Bodo; India.

DHIMAR, a branch of the bearer or Kahar race, but sometimes considered offshoots of the Mullah or boatman race. They are chiefly employed in fishing and palanquin-bearing.—*Wils.*

DHIMEREE. URIYA? A tree of Ganjam and Gumsur; extreme height 40 feet, circumference 4½ feet. Bandy wheels are sometimes made of the wood; but it is considered sacred, and is burnt when libations are offered. The fruit is eaten; a juice extracted from the root is used in rheumatism. —*Captain Macdonald.*

DHINGAN, in Purniah, an agricultural slave.

DHINGANA, vulgo Dheegana (lit. a forfeit), a demand of a forfeit at a game. Dhingana Budhnee, the earthen pot used on this occasion.

DHI RAJ. SANSK. A monarch, an emperor, a ruler.—*Gloss.*

DHIRHOR, a tribe of the Ahir in Benares and Gorakhpur. They are reckoned in the Tashrih-ul-Akwam amongst the Doab Ahir.

DHOB. It is customary for Hindu fathers to bind round the arm of the new-born infant a root of that species of the amirdhob, the imperishable dhob grass, the Cynodon dactylon, well known for its nutritive properties and luxuriant vegetation under the most intense heat.

DHOBAL, a brahman tribe in Garhwal.

DHOBI. HIND. A washerman; one of the lowest castes of Hindus. A woman is called Dhobin. Various subdivisions are recognised, the members of which do not eat, drink, or intermarry together. There are seven such in the N.W. P., but the septs differ, or are at least differently named in different provinces. Their names are the Magadhiya, Ajudhiya, Kanaujiya, Belwar, Gosar, Bathare, and Pagahiya. Other tribes, Shaikh and Bhaika, are Musalmans. The cultivating Dhobi do not intermarry with the washing Dhobi. The class calling themselves Rajdhob are said generally to be engaged in the operation of rice-cleaning.

The cleansing is effected by steaming, and beating the clothes on a stone. The poorest Hindu does not wash his own clothes.—*Sherring's Tribes; Calcutta Review*, No. 110.

DHOBI'S EARTH is a native carbonate of soda, called sajji matti in Hindustani, and applacaram in Tamil and Telugu. It is a whitish-grey, sandy efflorescence, which often covers miles of country where decayed white granite forms the surface soil. This earth begins to accumulate in the dry weather; immediately after the rains, it can be scraped off the surface to the depth of two or three inches, and by repeated boiling and the addition of a little quicklime the alkali is obtained of considerable strength. With a little care, very clean carbonate of soda can be obtained, fit for the manufacture of toilet soap, white glass, and glazes for pottery. The Nellore, Cuddapah, Masulipatam, and Chingleput districts yield this earth in great quantities; and it is also found largely at Puducottah, Hyderabad, Bellary, and Mysore. The richest in alkali is from the territories of the Nizam, the quantity of anhydrous carbonate being about 67 per cent. Repeated attempts have been made to prepare barilla from it for exportation, and very fair specimens have been exported at different times, but the moderate price of the carbonate of soda of England, prepared from sea salt, will always prevent this from being a remunerative article of export. The coloured frits for bangle glass, in making which it is used, have lately, however, become an article of export from the Madras Presidency. It exists in immense quantities in many parts of India, in Bengal especially, in the districts of Monghir, Purniah, and

Cawnpur. It contains from 40 to 50 per cent. of carbonate of soda, traces of sulphate of soda, organic matter, clay, sand, and oxide of iron. The salt can be extracted by washing the mineral without incineration, but the organic matter is dissolved at the same time, and gives a deep brown solution, from which pure crystals cannot be obtained. Firing destroys this substance, and then the solution is colourless. But care must be taken not to push the heat beyond low redness, for the alkali at a higher temperature combines with the sand and clay, and the whole runs into green glass, insoluble in water. In Europe, barilla is prepared either by burning seaweeds and lixiviating the ashes, the product being termed kelp and barilla, or by decomposing common salt by sulphuric acid, and then roasting the resulting sulphate with chalk, sawdust, and fragments of iron. The mass when washed gives the carbonate of soda.—*Mr. R. Reynolds in Pharmaceutical Journal*, 1853, xii.; *M. E. of* 1855 *and* 1857; *Beng. Phar.*

DHOGREE, Kangra hillmen who work at iron-smelting.

DHOL. HIND. A large drum, both sides covered with leather, and played upon with the hands. Dholuk or Dholkee, a drum only one side covered with leather; a small drum.

DHOLE. HIND. The wild dog.

DHOLI, a Gond tribe who dwell in jungly districts, and are employed as goatherds.

DHOLNA. HIND. A sort of amulet.

DHOLPUR, a town on the banks of the river Chambal, which flows for 100 miles through Dholpur territory. Dholpur state lies between lat. 26° 22′ and 26° 57′ N., and long. 77° 26′ and 78° 19′ E., with an area of 1174 square miles and 227,976 inhabitants. The most numerous classes are Brahmans 36,884, and Chamars 32,092. Thakurs number 23,703; Gujars, 17,229; Kachhi, 15,090; Mina, 10,620; and Lodha, 8050. The remainder of the population is divided among 75 other castes. There are 9964 Mahomedans, who reside for the most part in the towns of Bari and Dholpur.

Lukindar Singh, known as the rana of Gohud, was the first of the chiefs of Dholpur with whom the British Government formed political relations. The family belong to the Jat tribe, and first rose to notice under the Peshwa Baji Rao. After the overthrow of the Mahrattas at Panipat, the uncle of Lukindar Singh rebelled, and possessed himself of the fort of Gwalior. During the Mahratta war which ended in the peace of Salbye, the British in 1799 formed a treaty with him. Much discussion, however, arose in 1803, 1804, and 1805, but ultimately the river Chambal became the boundary between Sindia's territories and Dholpur. Maharana Keerut Singh lived to a great age. He died in 1836, and was succeeded by Bhagwant Singh, who rendered assistance to the fugitives from Gwalior in 1857, but his minister Deo Huns incurred the displeasure of Government by plundering villages in the Agra district. Bhagwant Singh received the right of adoption, and was declared entitled to a salute of fifteen guns. The military force of the state consists of about 2000 men.—*Treaties, etc.*, iv. p. 108; *Imp. Gaz.*

DHONDAL. MAHR. A black stony ground, retentive of water.

DHONDAL and Gogawut are two tribes amongst the most ancient of the allodial chieftains of the Indian desert; the Dhondal being descendants of Rao Gango, the Gogawut of the famous Goga the Chauhan, who defended the Sutlej in the earliest Mahomedan invasion recorded. Both Goga and his steed Jowadia are famed in Rajasthan.—*Rajasthan*, ii. p. 90.

DHONEE. HIND. A fire lighted by fakirs, over which they sit, imbibing its smoke.

DHONI. HIND. A coasting sloop. See Boat.

DHONPATTA. HIND. A leaf used in tanning.

DHOR, HIND., TEL.; Dhoria, CAN.; Dhorata, MAHR., are found in most of the larger villages of Southern India. They are tanners, but are regarded as Hindus, and, unlike the Mhar and Mhang, reside within the villages. They do not partake of animals that die of disease. They never devote their young women to the gods. They are looked on by the Pariah or Dher as vile, and are not associated with in eating or intermarrying. The Dhor are robust, fair, short men, with well-developed chests, wide faces, light-coloured eyes, many of them with a light moustache, and in all their features they present evidence of a Mongol origin. They never eat the large horned cattle, the cow, buffalo, or bullock, nor do they eat dead animals; but fowls, fish, deer, goats, and sheep are lawful. They marry in their own tribe, making the marriage procession on a bullock, and say that they are not entitled to proceed on a horse. Like almost all the idol-worshipping races of India, they worship, at anniversaries, the chief implements of their trade, which in their case is the tan-pit or earthen jar in which the hides are steeped, streaked with red lead; but they weekly cow-dung a small spot in their house, on which they burn incense, place flowers and wheaten cakes covered with rice, bow down, worship, and eat. The deity thus invoked, one family at Oodghir said, was Bawa Adam, whom they consider to be Mahadeva; and inquiry elicited the information that about 60 or 80 miles west of Punderpur is a stone named Bawa, or Father Adam. It is doubtless the ordinary lingam there. They also worshipped Ai, whom they designate as the Bhawani at Taljapur, but Khandoba at Malligaum also receives their worship. The temple guardians, however, do not permit the Dhor to approach near to the idols, as their trade of workers in skins and hides makes them unclean. They bury the dead who have fallen victims to smallpox and cholera, but those from some other diseases are burned; a pregnant woman dying is burned. They make leather from hides, and manufacture such articles as are used for water purposes, the mot bucket, the dhol and pak'hal.

DHOR, horned cattle; also called Gai-goru.

DHOTAR or Adhotar. HIND. Coarse muslin.

DHOTE or Dhatti is the Rajput tribe inhabiting Dhat. See Dhat.

DHOTI. HIND. Dovati, SANSK. The unsewed garment with which Hindu men clothe the lower parts of their persons. It is mentioned by Nearchus. It is passed round the waist, then between the legs, and fastened by being tucked in behind, and the appearance becomes that of wide or narrow trousers. A coarse cotton one, worn by cultivators and labourers in the field, may cost about two rupees. One of yellow silk, called pitambar, is largely made at Benares. With every Hindu man, of all parts of India alike, the dhoti is an indispensable garment. Should he even wear drawers or trousers, he will have a dhoti, large or small,

underneath. It is a single piece of cloth, from two and a half to three and a half yards long by two to three feet broad, with ornamented ends and borders; but may be somewhat broader and longer. As a general rule, there is literally no change up to the present day, from the costume of the male figures in Buddhist and Hindu sculptures of nearly two thousand years ago. All other articles of male attire are sewn garments, cut out by tailors and made by them; and there are, perhaps, as many varieties of vests and tunics, angraka, joobbha, koorta, chapkun, mirzai, and the like, as there are surtouts, paletots, cambridges, etc., fashioned in Europe. Many of these are worn by Mahomedans and Hindus alike, the only difference being that the Hindu ties or buttons his vest on the right side, the Mahomedans on the left. Hindu tailors are found everywhere, possibly descendants of the needle-plying handicraftsmen, who, like the weavers, smiths, and carpenters, found a place in the enumeration of trades in Menu's Institutes and the Yagnyawalkya. The texture of the dhoti, saree, and lungi fabrics, manufactured in Britain and sent to India, is not that required by the people, nor what they are accustomed to. It is in general too close, too much like calico, in fact, which of course makes the garment hot, heavy in wear, and difficult to wash. Again, the surface becomes rough, and, as it is generally called, fuzzy in use, while the native fabric remains free. Comparatively few native women of any class or degree wear white; if they do wear it, the dress has broad borders and ends. But all classes wear coloured cloths,—black, red, blue, occasionally orange and green, violet and grey. All through Western, Central, and Southern India, sarees are striped and checked in an infinite variety of patterns. Narrainpet, Dhanwar, and Muktul, in the Nizam's territories, Gudduk and Bettigerry in Dharwar, Kolhapur, Nasik, Yeola, and many other manufacturing towns in the Dekhan, Arnee in the south, and elsewhere, send out articles of excellent texture, with beautifully-arranged colours and patterns, both in stripes and checks.

DHOWA. Hind. A whitish-coloured wood, close-grained and hard. Plentiful in the Santal jungles and hills from Ranibahal to Hasdiha. Used for cart-wheels, beams, and door-posts by the natives, also for mallets and tent pegs.—*Calcutta Engineers' Journal*, July 1860.

DHRANGADRA, a native state in Kattyawar. Its chiefs are of the Jhala family, and of great antiquity.—*Imp. Gaz.*

DHRISHTA-DYUMNA, brother of Draupadi, and commander-in-chief of the Pandava in their war with the Kaurava. He killed Drona, and was in turn killed by Aswatthaman, son of Drona. —*Dowson.*

DHRITA RASHTRA, elder son of Krishna Dwaipayana by the widow of Vichitra Virya, king of Hastinapura. He was brother of Pandu, but was blind, and on that account was set aside from the throne; but he succeeded to it on Pandu retiring. He married Gandhari, and his sons, Duhsasana and Duryodhana, were named Kaurava. He had abdicated in favour of Duryodhana, at whose suggestion he banished the Pandava princes, his own nephews, from his kingdom. It was his sons and those of his brother Pandu who fought for supremacy at Kuru Kshetra. The chief of his sons were Duryodhana, Duhsasana, Vikarna, and Chitrasena. His sons fell in the eighteen days' battle of Kuru Kshetra. Gandhari, after the battle of Kuru Kshetra, retired with Dhritarashtra and his mother Kunti to the jungle on the Ganges, where the maharaja died, or was burned in a forest fire.

DHRUVA, generally the pole of a great circle of the sphere, particularly the celestial poles. Uttara Dhruva, the North Pole, also the Polar Star; Dacshina Dhruva, the South Pole. This term is also used to signify a constant arc, referring to the distance of a planet from the beginning of the sidereal zodiac. Dhruva means more commonly an epoch to which a computation is referred. Lastly, it is the name of the Yoga Star of the 12th Nacshatra, supposed to be the same as β Leonis.—*Warren's Kala Sanhita.*

DHUA. In Bikanir, the six items of the revenue are,—Khalisa, or fiscal revenue; Dhua; Angah; town and transit duties; Pusaeti or plough-tax; and Malbah.—*Rajasthan*, ii. p. 205.

DHUBBOOS, a rod of iron about a foot long, with a knob at one end and a sharp point at the other, having from fifty to a hundred hollow rings, which, when shaken, rattle against one another; used by fakirs, who wield it about, striking their abdomen of a sudden with the sharp point.

DHUB-KALA, the Indian hot season. According to the Shastra, the seasons are six in number, each comprising two months. A more definite division is Choumasa or Burk'ha, the four months of the rainy season; Seeala, Jara, or Mohasa, the cold season; and Dhub-kala or K'hursa, the hot season.—*Elliot.*

DHUBKI, a wood of Nepal, also called bechia-cori, sulla, and surrendhul. Its branches are used in Nepal as torches; the fragrant turpentine which it yields is employed in sacrifices and in medicated salves, and its wood is converted into rafters for houses.—*Smith's Five Years*, p. 67.

DHUL. Hind. A grass; grows in the marshes (jhil) of Cachar; and the grasses of the jungle are the khak, eekur, and tera.

DHULBHUM, called also Ghatsillah, a large pargana east of the Kolehan, attached to the Singbhum district, first colonized by the Bhumij. —*Dalton*, p. 156.

DHULIA, a civil and military station in Kandesh.

DHULI-BATTA, of Coorg. Literally, sweeping of the threshing-floor; a cess levied on land holdings.—*Glossary.*

DHUMKAR. Kulu. A woman's shawl or wrapper.

DHUMKURIA, among the non-Aryan tribes a hall for bachelors.

DHUN. Hind. Any low valley at the foot of a mountain, as the valley intervening between the true Himalaya and the Siwalik or outer hills is the Dehra-dhun, Jaswun-dhun, etc. The fixed gradations of true Himalaya, viz. dhun or valleys, sandstone or Siwalik range, 'bhaver' or forest tracts, and lowest of all the Terai, which consists of arid tracts or else swamps at the foot of the mountains, which are so constant and marked in the central Himalaya, are not observable at all in the Panjab.

DHUNA. Hind. Small cups made out of leaves by the Dosali.

DHUNA or Jhoona, a resinous gum obtained

from the Vatica robusta by making incisions in the stem of the tree, from which the resin exudes.

DHUNCHEE, the Dunicha or Dhuncha of Bengal, is cultivated for its fibres, which are made into ropes and nets. It is the Sesbania aculeata, *Persoon*. For its culture, the soil is generally low and wet, and not requiring much preparation, as the plant is hardy, growing from six to ten feet, and rapid in growth. It is considered a meliorating crop. The sowing is when the soil has been moistened by the first showers of April or May. About thirty pounds of seed are allowed to the acre, and less weeding is required than for jute. The crop is ready to cut in September and October, though the fibre does not suffer, if left standing till the seed is ripe, in November. The process of steeping and cleaning the fibre is similar to that required for sunn, which is Crotalaria juncea. The general produce of an acre is from one hundred to one thousand pounds of fibre, the current price somewhat less than that of pāt, viz. Corchorus olitorius and C. capsularis. The expense of cultivation, including land rent, is about nine rupees. The fibres are long (six to seven feet), but coarser and more harsh than those of hemp, unless cut at a very early period. From its great strength, it is well calculated for the manufacture of cordage and cables. In Bengal, the fishermen make drag-ropes to their nets of this fibre, on account of its strength, and durability in water. Indeed, by the Bengalese it is considered more durable in water than either sunn or pāt. It is really a very excellent fibre for common cord and twine purposes, and certainly very much superior in strength and durability to jute. It is also a much hardier plant than jute; the latter, indeed, being rather an uncertain crop for the production of the fine long silky fibre so much called for in England. Though rather wiry, it is strong, and remarkable for its contraction when wetted,—so much so, that it would even carry away the mainmast of a ship by mere contraction. Mr. Deneef, a Belgian farmer employed in India, presented samples of the Bengal hemp, called dhuncha, to the Agri-Horticultural Society in November 1840, and stated that they had been dressed after the Belgian mode. A bigha, he says, will yield 173 lbs. of cleaned fibre, and 92 lbs. of seed. A woman can dress about 4 lbs. a day. In April 1851, Captain Thomson presented a dressed sample of the fibre of the dhuncha of Bengal, and a piece of rope made of it. This rope, he stated, had been used in various ways for nearly two years, and, from various reports upon it, he thought it likely to come into extensive use. In the arsenal of Fort William, a three and a half inch rope of dhunchee broke with not less than 75 cwt., though the Government proof required for such rope was only 49 cwt. The price of the dhunchee in the interior has long been about Rs. 18 per maund. Dr. Royle thought it would probably fetch from £30 to £35 a ton, and, after being introduced and known, perhaps £5 more. It was also valued by others at £35 in 1853.—*Royle, Fib. Pl.* p. 293.

DHUND. Hind. A monumental mound. Beesil-Deo, a contemporary of Jeypal, the Tuar king of Dehli, lived about A.D. 1032-1096. He seems to have become a convert to Mahomedanism. But, for his subsequent expiation of this crime, he is represented in the garb of a penitent; and the mound (dhund) where he took up his abode still exists at Kalik Jobnair, and is called after him, Beesil-ka-d'hund.—*Rajasthan*, ii. p. 454.

DHUNDHUMARA, a king of Oudh of the Solar line, properly called Kuvalayaswa, but termed Dhundhumara, from slaying a demon named Dhundhu, who annoyed the saint Uttanka.

DHUNDI. Hind. An agricultural tribe of Mahomedans in the Multan division, on the banks of the Sutlej.

DHUNIA, the lowest caste in the Himalaya, who employ themselves as gold-washers, cotton-carders.

DHUNJEBHOY FRAMJEE, a learned Parsee of Bombay, author of a Zend and English and Zend and Gujerati dictionary. At the commencement of the work is a comparative table of the Zend alphabet, with those of the Persian, Pehlvi, Hebrew, Cuneiform, Sanskrit, Gujerati, Greek and Roman languages. The second plate contains a comparison of the Zend orthography according to the different systems of sixteen Asiatic and European orientalists. Preliminary Discourse on the Origin and Authenticity of the Zend Language and Zendavesta. The Pehlvi Alphabets, published with observations on the Lapidary, Cursive, and Numismatic Pehlvi Writings, Tablets, Manuscripts, and Coins.

DHU NUWAZ was the surname of Yusuf, a king of Yemen, who, having, like some of his predecessors, embraced Judaism, terribly persecuted all who would not do so likewise. He put them to death by various tortures, the most common of which was throwing them into a glowing pit of fire, whence he had the opprobrious appellation of the 'Lord of the Pit.' This persecution is mentioned in the Koran, chapter 85. Dhu Nuwaz reigned till about 70 years before Mahomed, and was defeated by a force sent from Abyssinia, and slain.

DHUP or Dhupri. Hind. Juniperus excelsa, incense. J. communis, Chalei ke dhup; J. excelsa, Jari dhup, Dhupa. The word is also applied to many fragrant things used for burning, as incense offered to idols, *e.g.* to the root of Dolomiæa macrocephala, to juniper or to benzoin, to Juniperus excelsa, J. arborea, pencil cedar.

DHURGONTEE. In the time of Akbar, Dhurgontee, queen of Gurha Mundala, ruled over the Saugor and Nerbadda territories, and the greater part of Berar. She was a daughter of the reigning Chundal prince of Mahoba. He gave his daughter only on condition that the Gond prince who demanded her should, to save his character, come with an army of 50,000 men to take her. He did so, and, nothing loth, Dhurgontee departed to reign over a country where her name is now more revered than that of any other sovereign it has ever had. She was killed about the end of the 16th century, about 12 miles from Jubbulpur, while gallantly leading on her troops in their third and last attempt to stem the torrent of Mahomedan invasion. Her tomb is still to be seen where she fell, in a narrow defile between two hills, and a pair of large rounded stones which stand near are, according to popular belief, her royal drums turned into stone, which in the dead of the night are still heard resounding through the woods, and calling the spirits of her warriors from their thousand graves around her. The travellers who pass this solitary spot respect-

fully place upon the tomb the prettiest specimen they can find of the crystals which abound in the neighbourhood.—*Sleeman's Rambles*, p. 254; *Journ. As. Soc. of Bengal*, p. 213.

DHURJATI, a title of Siva or Mahadeva. The term means, He who weareth his hair bound about his head in the form of a tiara, in which style it is worn by the Jogi or Sanyasi devotees and other adherents of Siva.

DHUS, HIND., was an expedient to hasten the compliance of a demand from a dependent. A party of horse proceeds to the township, and are commanded to receive so much per day till the exaction is complied with. If the dhus is refused, it is considered tantamount to an appeal to arms. —*Rajasthan*, ii. p. 413.

DHUSAR, a tribe in Benares who came originally from Dehli. They cultivate a peculiar strain or measure of music, in which they are unsurpassed. The Dhusar rigidly maintain the purity of their order, and the performance of Hindu ceremonies and duties, and neither eat meat nor drink any kind of spirit.—*Sherring's Tribes.*

DHYA. HIND. In the Central Provinces the squatter cuts down and burns the trees, and sows seed among the ashes, usually abandoning the place after three crops, and repeating the process at another place. It is the Kumri cultivation of the south of the Peninsula.

DHYANA. SINGH. From Dhvoi, to think. Religious meditation, mental abstraction, a Buddhist and Hindu practice. Ward says, in this act of devotion the worshipper of Siva, for instance, closes his eyes, places his arms before him, and, repeating the names of the god, ruminates thus:—His colour is like a mountain of silver, etc. Dhyani or Anupapadaka, are celestial Buddha saints. Dhyani Bodhisatwa, authors of creation.—*Ward's Hindus*, ii. p. 67.

DHYE. HIND. Sour milk, the Yaoort of the Turk races, and Sauer Milch of the Germans. It is used in all Asiatic and European countries, except in England. Every native of India, Hindu and Mahomedan, eats dhye, plain with rice or bread, and in all sorts of cookery, both vegetarian and otherwise. It is made of several degrees of sourness, to suit the taste of customers. Boiling milk is poured into a porous earthenware vessel, the inside of which has been rubbed with a portion of the previous day's sour milk. It sets immediately. It much resembles butter milk.

DI, Doi, Ti, Thi, Tsi, Tui, in several of the ancient tongues of India, mean water, as in the rivers Rapti, Tapti, Kampti, Yang-tse-kiang, Goomti. Di, in Assamese and in Cachar, water; hence the names of their rivers, Dihong, Dibing, Digaro, Dihang. Da in Damodar has the same meaning; and the Brahmaputra is called Doima, the river mother. The Dihong is generally regarded as the continuation of the Tsan Pu, and with the two Dihing rivers, makes the Brahmaputra river. These two are called the Noa Dihing and the Buri Dihing. The Dihong is supposed to pierce through the Abor hills.—*Dalton, Ethnology of Bengal*, p. 87.

DIACOPE, a genus of fishes belonging to the section Acanthopterygii and family Percidæ. Many large and beautiful species inhabit the Indian seas. D. octolineata, a very beautiful species, caught off the coast of the Mauritius, is of a brilliant reddish-yellow colour, shaded into white on the belly, and is adorned with four longitudinal blue stripes on each side of the body; these stripes are margined with black. It is about 10 inches in length. Some of the species attain the length of 3 feet and upwards.—*Eng. Cyc.* p. 323.

DIALIUM OVOIDEUM. *Thw.* Gal-seyembala, SINGH. A valuable timber tree of Ceylon, north of Kandy. The wood is strong and handsome, and well adapted for ornamental furniture; the fruit has an agreeable acid flavour, and is sold in the bazars.—*Beddome, Fl. Sylv.*

DIAMACHUS, an ambassador from the Greeks of Babylon to Mitragupta, son of Chandragupta. Mitragupta was known to the Greeks by the name of Alletro Chidas. Diamachus was the next Greek ambassador after Megasthenes.—*Cal. Rev.* 1868.

DIAMER PEAK, or Nanga Parbat, in lat. 35° 14′ 4″ N., and long. 74° 34′ 5″ E., in Hasora. Top of the peak is 26,629 feet above the sea. This peak, the highest in Hasora, is situated close to the remarkable bend made by the Indus.

DIAMOND.

Almas, AR., PERS., RUS.	Kamala, Kumala, MALAY.
Kin-kang-shi, . . CHIN.	Intan, ... ,,
Jahalom, ... HEB.	Mass, ... PERS.
Hira, . . . GUJ., HIND.	Virum vachira kallu, TAM.

The diamond is a crystallized mineral. On account of its lustre and hardness, it is reckoned the most valuable of all precious stones. The form is cubical, frequently in twin crystals, cleavage highly perfect, rarely massive. The bulk of the forms are those of the octahedron, an octahedron having six planes on the edges, or a dodecahedron with rhombic faces. Lustre brilliant adamantine. Colour white or colourless, occasionally with tints of blue, yellow, red, orange, green, brown, or black. Transparent to translucent when dark-coloured. Fracture conchoidal, H. 10, sp. gr. 3·5295 to 3·55. Exhibits vitreous electricity when rubbed. Index of refraction, 2·439. Becomes phosphorescent on exposure to light, and the smaller diamonds become phosphorescent by a much shorter exposure than required for those of a larger size. The diamond is carbon in its purest form, and its combustibility was ascertained by the Tuscan philosophers. About 30 per cent. of diamonds are under half a carat, and one in a thousand may be above 24 carats. Diamonds have been obtained in India, from very ancient times. Ptolemy's Geography, said to have been composed sixty years after the time of Pliny, mentions the diamonds found on the banks of the Sumbulpore river; also speaks of Arcati (the capital of the Soræ or Sora-mandalum, from whence corruptly Coromandel), Mesolia (the district which contains Masulipatam), and the river Cauvery under the name of Chabaris. Rennell supposes Punnah in Bundelkhand to be the Panassa of Ptolemy, and quotes the Ayin-i-Akbari as naming Biragur on the west of Boad near the Mahanadi river, adding that there is indeed a mine of more modern date in the vicinity of Sumbulpore. Ptolemy's Adamas river answers perfectly to the Mahanadi; and the district of Sabaræ, on its banks, is said by him to abound in diamonds. Tavernier visited the Raolconda diamond mines at the confluence of the Kistna and Bhima rivers, which were also noticed by Cæsar Frederick; and both Tavernier

and Rennell notice the diamond mines of the Pennar river, and near Gandicotta, also those of Colore (Kulur?) on the south bank of the Kistna, not far from Condavir.

The diamond mines of the Peninsula of India and Central India lie between lat. 13° and 25° N. They occur in irregular arid patches, sometimes basin-shaped, in hilly districts on the great elevated plains bordering the more considerable rivers that have an easterly and southerly course to the Bay of Bengal. Diamonds of considerable size are not rarely found in the sands of these streams and of their tributaries; but their geognostic situs must be referred to the sandstone and sandstone conglomerates at Ovalumpilly; Condapettah, in the Chinoor taluk on the banks of the Pennar, about 6 miles from Cuddapah; at Lamdur and Panchatgapadu; at Banaganapilly on the Kurnool frontier; at Ramulucottah and other places in Kurnool, and at Munimadagoo, north of Ghooty.

Further to the north and east diamonds are found on the banks of the Kistna, in the vicinity of Condapilly, in a plain formed by the alluvium of the river. Still further north, in the bed and alluvium of the Mahanadi river, especially at Sumbulpore, and about the mouths of the Hebe, Khelu, and Maund streams. Diamonds are also found in the bed of the Godavery about Badrachellum.

To the north-west of the districts here noticed, are the diamond mines of Punnah in Bundelkhand. They occur in a table-land covered by a reddish soil, which lies over a bed of rolled pebbles of the sandstone formation, in which the diamonds are found.

The Kurnool geological formation of the modern geologists occupies all the low ground of the Khundair valley, in the middle of the basin, and another large space in the Palnad. It consists of shales, limestones, quartzites, and, lowest of all, sandstones.

The Banaganapilly sandstone of the Kurnool formation is 10 to 20 feet thick, and is the only rock of that region in which the diamond is known to be found. Diggings are carried on in many parts of the country on or near the Kurnool formation, but mostly in the superficial gravels. At Banaganapilly, however, there have been extensive workings in the bottom sandstone. Shallow pits, not more than 15 feet deep, are sunk in the sandstone, and short galleries driven in the diamond layer, which must be at the very base of the group, or close to the bottom bed. In this locality the workings of the diamond miners are crowded over particular spots, whilst large areas adjoining, of the very same deposits, are left untouched. If this irregular working be only due to some delusion of the diamond seekers, a large field still awaits exploration. The Cuddapah geological formation has four great groups, called the Krishna, Nullamallay, Cheyair, and Pampugni groups. These consist of slates and quartzites. The Cuddapah basin is about 210 miles long, and of a crescent shape. Its N.E. horn is the Palnad, and reaches to Juggiapet, a few miles N. of the Krishna river, an area of 13,500 square miles. More than a third of the area is taken up by the overlying Kurnool formation.

The *Banaganapilly* district is about 30 miles long from N. to S., and 26 in breadth from E. to W., lying between lat. 15° and 16° N. in the centre of the Ceded Districts. Its E. and S. part consists of a fertile plain of the regur or cotton soil, bounded on its N. and S. aspects by detached ridges of hills of clayslate and sandstone, which run from Kurnool towards Ghooty, Cuddapah, and Tripati, and terminate at Naggeri, N.W. of Madras. The Banaganapilly diamond mines are situated in and near a low range of hills about half a mile from the town. The diamond mines near Cuddapah are about 7 miles N.E. from the town, on both banks of the Pennar river, where this washes the foot of a range of hills. The mines at Cuddapah have, it is said, been worked for several hundred years with various success. In the Chinnur taluk, in which Cuddapah is the largest town, there are two places, called Condapetta and Ovalumpilly, where diamonds occur. In the next taluk, on the west side of this, diamonds are dug at Lamdur and Panchatgapadu. Several mines exist near Ghooty.

The *Ovalumpilly* mines are on the west side of the river, about 6 miles from Cuddapah, and 3 miles from the Kanaperty mines. They are situated on a gentle ascent, about half a mile from the Pennar, in a well-cultivated country, and within a very short distance of three villages. They are chiefly on ground belonging to Ovalumpilly.

In the mines at Cuddapah, the uppermost stratum consists of sand or gravel, mixed with a small proportion of loam. Its thickness scarcely exceeds a foot and a half. Immediately under it is a bed of stiff bluish or black mud, similar to what is seen in places that have been inundated. It is about 4 feet thick, and contains no stones. The diamond bed comes next, and is easily distinguished from the incumbent bed, by the great number of large rounded stones which it contains. It is about 2 or 2½ feet thick, and is composed of large round stones, pebbles, and gravel, cemented together by clay; in the dry seasons, it is as dry as the bed which lies immediately above.

At *Ramalcottah*, about 20 miles from Kurnool, are many diamond pits in small ferruginous gravel. Iron ore, red hematite, occurs in all the hills in the neighbourhood of Ramalcottah. There are also diamond mines at Munimadagu, and Wudjar Karur near Ghooty; and during the Mahomedan rule diamonds were dug in the Sidhout Hills, a continuation of the Nullamallay range, and also near the village of Durjipilly. Diamond mines occur at Naikenabad Mullanarum, near Timmericottah, and in the bed of the Kistna river near Nagajurecondah.

Sandstone conglomerate extends eastwards from Banaganapilly to Condapilly and Mallavelly, in all which localities diamonds are found.

Mallavelly, a village 16 miles W.S.W. of Ellore, is one of seven villages near which diamond mines exist. The names of the other six villages in which diamonds are found are Gani Partala or Partial, Atkur, Burthenypada, Pertalla, Wustapilly, and Kodavetty Kallu. At Mallavelly, the hollow flat where the diamond pits are excavated is a low swampy plain. Being surrounded by a bank or rising of the soil in a circular manner, it has the appearance of having been once a lake. The banks are formed of the red ferruginous sandy soil prevailing all round this place. The diamond pits are in general

excavated at the north end of the bank that surrounds the hollow. The deepest could not be more than 12 feet, and they never came to a hard mass of rock.

Partial is about 50 miles from Masulipatam, but the diamonds were of small size, and the searchers did not earn 4 or 5 rupees a month. In the northern diamond mines, particularly those of Partial, Dr. Heynes found in the diamond bed a great number of fine chalcedony and cornelian pebbles and garnets. The larger stones formed the greatest part of the diamond bed.

The district of the diamond mines of *Golconda* was ceded to the Nizam by the British under a special treaty, but is enclosed by British territory. Diamond mines not far from *Condapilly* are constantly worked. There are none found at Golconda, or in the Golconda district, but they were formerly cut and polished there.

The diamond washings of the *Mahanadi*, a little above Sumbulpore, are exclusively from alluvial diggings; but the fact that they occur just outside and below the great lower Vindhyan basin, has suggested the conjecture that the gems are derived from those rocks, on the ground that these are the equivalents of the diamond-bearing beds of Southern India. The Joorah, who are fishermen by caste, are the diamond searchers of the Mahanadi, at a place called Heeracode, near Chanderpore, adjacent to the place where the river Mand joins the Mahanadi. The river here makes a sudden turn to the left, where, amongst the smaller streams, which they dam up for a time, the diamonds are searched for during the hot season, generally commencing at the termination of the monsoon. The men throw the sand on the bank, and the women wash and expose it to the sun and select the diamonds.

In the main *Vindhyan basin*, diamonds are only known to occur in the Upper Vindhyans. Here, as everywhere, the great majority of the diggings are alluvial, but the principal workings are in a bed at the very base of the Rewa shales. Notwithstanding the immense range of this group, it is only known to be productive within a small area of the Panna State, on the borders of the Bundelkhand gneiss, and the surface diggings are confined to the same neighbourhood. Here, as in the Banaganapilly mines, the diamond-layer is conglomeratic.

A notice of the *Pannah* mines is in Dalrymple's Indian Repertory (ii. p. 471), and there described as on a range of hills situated about 42 coss S.S.W. of Kalpi. The hills are called by the natives Band Achil; they extend about 12 coss in length and about 2 or 3 in breadth, and are divided into 21 districts, of which only the following nineteen names are given:—Pirnah, Gurriah, Anwont Pokennu, Channu, Birdu, Kallianpur, Pullu, Raipur, Etawa, Maharajpur, Rajpur, Kimmerah, Gadahsiah, Ranpur, Cherriapuri, Attupurah, Merah, Singupurah, and Mujiguah. Diamonds are found in all these districts, but those of Maharajpur, Rajpur, Kimmerah, and Gadahsiah are the largest and best.

In the *Bundelkhand* area, a cherty contact rock coats the gneiss under the Kaimur sandstone; and in Chattarkot hill the contact rock occurs under the limestone, holding its position as a true bottom rock. It has been conjectured that this peculiar contact rock may possibly be an original nidus of the diamond. A common form of it is a semi-vitreous sandstone. Large pebbles of it are very abundant in the conglomerate diamond bed of the Rewa shales at the Panna mines, and are said to be broken up in the search for diamonds. The search for diamonds in Panna is not, however, confined to positions in which the gems could be derived from any existing outcrop of the Rewa shales. There are numerous pits of surface diggings in the gorges and on the slope of the Upper Rewa sandstone, south of Panna.

The *Chinese Shan-tung* diamonds are mostly very minute, varying in size from a millet seed to a pin's head, though occasionally larger ones are met with. Men with thick straw shoes on, walk about in the sands of the valleys and streams of the diamond mountains of Chin-kang-ling, some 15 miles S.E. of Yi-chow-foo. The shoes are burnt, the diamonds being searched for in the ashes. As in the case with amethysts and rock-crystal in the Lao-shan, the priests in the temples in the Chin-kang-ling are the principal dealers in these small diamonds. From them they are bought by glaziers at the large fairs held every year at Chu-chow, Lai-chow-foo, and Hwang-hsien.

The diamond has been found in *Borneo*, in the district of Landak, in the territory of Pontianak, in long. 109° E., about 40 miles N. of the equator, and they occur from thence as far as Banjarmasin, between long. 114° and 115° E. The mines are worked by the Dyak, Malay, and Chinese. The gems are found in a yellow-coloured rubble or gravel, which occurs at various depths, the greatest to which a shaft has been known to be sunk being between 50 and 60 feet. Six different alluvial strata occur before reaching the diamond-yielding one, which the Malays call the areng. These strata are, a black mould, a yellow sandy clay, a red clay, a blue clay, a blue clay intermixed with gravel, called by the Malays ampir, or near at hand, and lastly a stiff yellow clay, in which the diamonds are embedded. The prince of Matan has a rough diamond of 367 carats, but its genuineness has been suspected. It was found in 1787 at Landak.

The first *South African* diamond was found in 1867. A little girl was playing with it on the floor of a house in Albania, Griqualand West. Soon afterwards the Star of South Africa, weighing 83 carats, was found. The Porten-Rhodes diamond was found in the Kimberley mine, 12th February 1880. It weighed 150 carats uncut, and £60,000 had been offered for it. Kimberley mine is the richest there. It has an area of about 7 acres, and its first owner sold it for £6000; but in 1880 it was yielding £20,000 to £25,000 in rents, for about 400 claims.

After the Star of the South of Africa, a diamond was found in 1872 which weighed 288½ carats. In 1880 the gross weight of packages passed through the Kimberley post office was 1440 lbs. 12 oz. avoirdupois, the estimated value being £336,897. At the end of the year, 22,000 blacks and 1700 white men were employed in the Kimberley division mines.

The *Du Toit* diamond was found in 1878 at Du Toit's pan. It has been cut, and weighs 244 carats. It is the largest cut diamond.

Large diamonds are usually heirlooms in great families, and almost every royal house in Europe has one or more celebrated gems.

The *Court of Holland* has one of a conical shape, valued at £10,368.

The buttons of the silk stole of King Joseph I. of *Portugal* were each a fine brilliant worth about £5000, or, in the aggregate of twenty, £100,000.

George IV. of Britain purchased a magnificent brilliant of a blue colour, which formed the chief ornament of the crown at his coronation. It cost £20,000.

The *Pigot Diamond*, brought to England by Earl Pigot, on his return from the Governor-Generalship of India, was disposed of in 1801 by lottery for £30,000. It afterwards passed into the hands of one of the Portuguese princes. It weighs 49 carats, and is valued at £40,000.

In the *Crown Jewels of France* there was a rich brilliant of a sky-blue colour. It weighs 67 carats and 2-16ths, and is valued at £40,000.

The *Maximilian Diamond* of the Austrian royal family is of a yellow colour, and rose-cut. It has been rated at 139½ carats, and valued at £155,682.

The *Sanci Diamond* originally belonged to an Eastern merchant, from whose hands it passed into those of Charles the Bold of Burgundy. Charles wore it in his cap at the battle of Nancy in 1475, where he was killed. A Swiss mercenary found the gem, and sold it to a priest for a florin, about twenty pence of British money. The priest sold it again for about 2s. 6d. After this it came into the hands of Antonia, king of Portugal, who pledged it to a gentleman named De Sanci for 40,000 francs, and afterwards, being unable to redeem it, he sold it to the same gentleman for 100,000 francs. A descendant of this gentleman, having occasion to deposit the family jewel with the Federal Government of Switzerland, entrusted it to the care of a faithful servant for that purpose. The servant disappeared for a long time, but so confident was De Sanci of his honesty, that he caused search to be made in his track, and found him at last murdered and half buried. In his stomach was found the brilliant, he having swallowed it to preserve it for his master!

The *Russian Diamond* is in the crown of Russia. Some Indian had placed it in the socket of an idol's eye. An Irish soldier gouged out the optic. After going through many adventures, it was sold by Count Orloff to the Empress Catharine in 1775 for £90,000 in present money, an annuity of £4000, and a patent of nobility. It is of the size of a pigeon's egg, and of a flat oval form. It weighs 179 carats, or 716 grains, and is without a flaw. Besides this stone, there is a stone among the Russian crown jewels valued at £369,800.

The *Pitt Diamond*.—Mr. Pitt, the grandfather of the Right Hon. William Pitt, when Governor of Madras, purchased a diamond from a native for £12,500. When re-cut it was worth twelve times the money, and weighs 136¾ carats. The small laminæ, shreds, and cuttings from it were valued at £8000. It was purchased in 1717 by the Duke of Orleans for £135,000, and in the negotiations £5000 were expended. In 1791 a commission of jewellers valued the stone at twelve millions of francs, or nearly £500,000 sterling. Its original weight was 410 carats.

The *Persian Court* possesses the Sea of Glory and the Mountain of Light, the one valued at £145,000, and the other at £34,848.

The *Nizam* or *Hyderabad Diamond* belongs to the Nawab of Hyderabad. It measures 2·48 inches in length by 1·35 inches in breadth, and ⅞ths of an inch in thickness, in the rough state. The gem was found in the mud wall of a native house, and was purchased for the Nizam. A child was playing with it as a stone, and on eight annas being offered for it, its value was ascertained. A small portion of the gem had been broken off one end before it was offered for sale. It weighs 1108 grains, nearly 277 carats (another authority says 340 carats).

The *Moghul Diamond* was described by Tavernier. He says: 'The water (of it) is perfection, and it weighs 319½ ratis, which are equal to 280 of our carats, the rati being seven-eighths of a carat. When Mirimgola, who betrayed the king of Golconda, his master, made a gift of this stone to Shah Jahan, from whom it descended, it was uncut, and weighed 900 ratis, which are equal to 787½ carats, and it had many flaws. If this stone had been in Europe, it would have been differently treated, for some good pieces would have been taken from it, and the stone left much larger; as it is, it has been almost polished away. It was a Venetian (Hortensio Borgio) who cut it, for which he was badly paid. They reproached him for having spoilt the stone, which ought to have remained heavier, and instead of paying him, the emperor made him pay a fine of Rs.10,000, and would have taken still more if he had possessed it. If the Venetian had known his work better, he might have taken some good pieces off, without doing injury to the king, and without having expended so much trouble in polishing it, but he was not a very accomplished diamond-cutter.' That Moghul diamond cannot now be traced. Many believe that the Orloff diamond and a stone now in Persia were cleaved from the Great Moghul.

The *Koh-i-Nur Diamond* belongs to Queen Victoria, Empress of India. When Shah Shuja was driven from Kābul, he became the nominal guest and actual prisoner of Ranjit Singh, who spared no means to obtain possession of this precious gem. In this he succeeded in 1813. After the death of Ranjit, it was occasionally worn by Kurruk Singh and Sher Singh. After the murder of the latter, it remained in the Lahore treasury until the supersession of Dhulip Singh and the annexation of the Panjab by the British. Upon the annexation of the Panjab, it was stipulated that the Koh-i-Nur should be surrendered to the Queen of Great Britain. It arrived in London on the 30th June 1850, and on the 3d July was presented to the Queen. It then weighed 186 carats, and looked like a very precious gem. It was cut by M. Voorsanger of Amsterdam, at a cost of £8000. It was placed on the mill by the Duke of Wellington on July 16th, 1852, to be cut, and was completely finished on September 7th, having taken thirty-eight days to cut, working for twelve hours per day without cessation. It was reduced to 106$\frac{1}{16}$ carats, and is valued at £100,000. It is a greyish stone, and, as jewellers say, too much spread, and was so very difficult to manage as to require to be twice cut. It has been suggested to be the Moghul diamond, but Tavernier states the weight of that at 280 carats, and the Koh-i-Nur had only 186 before cutting.

The *Brazil Diamond*, called also the Great Braganza, the largest diamond known, belongs to the house of Braganza. When Dom John of Portugal (afterwards John VI.) arrived at the Brazils in

1808, a negro conveyed a letter to him, in which he professed an ardent desire to present, in person, a large diamond which he had found. The regent granted him an escort, and the negro arrived and presented the stone. It is like a darkish-yellow pebble, kidney-shaped and oblong, about the size of a pullet's egg. Its weight is over 11 ounces, or 1680 carats. The Brazilian jewellers (Romé Delisle) value it at three thousand millions of crusades, or £300,000,000! but it is believed to be a white topaz.

The *Star of the South of America*, a stone of singular beauty, was found by a negress in Brazil in 1853. It weighed 254 carats, but has been cut down to 125. It was sold for £3000, but £80,000 were since realized for it from the Gaekwar of Baroda.

The diamonds of India are classed by native jewellers as white, yellow, red, green, and black; the coloured ones are extremely rare, but they are occasionally found of a white colour spotted with red, which are rejected as bad. They are classed by the northern native jewellers into three kinds,—Hira-ba-rang-i-nausadir, greyish, or the colour of sal-ammoniac; Hira makduni, of paler colour; and Almas-i-hadidi. Hindus distinguish four kinds of diamond, differing from each other in beauty and value, called, 1. Brahma, 2. Kshatriya, 3. Vaisya, and 4. Sudra,—names derived from the castes in which the Hindus are arranged. The Brahma diamond is described as of the colour of clear milk; the Kshatriya, of clear honey; the Vaisya, of cream; and the Sudra, of a smoky greyish white.

Diamonds in the rough are unattractive pebbles. Even with those who profess to be acquainted with precious stones, the white sapphire and topaz occasionally pass for the diamond. Some of the Ceylon diamonds which the Singhalese offer for sale are made of rock-crystal. The art of cutting diamonds is practised to some extent in India. A knowledge of this art, however, is not very common, as may be concluded when we mention that all Europe only possesses, in Amsterdam, one great diamond-cutting establishment, filled by workmen of the Jewish race, and in London another. The diamonds seen in such abundance amongst the wealthy natives of India are almost all cut in Europe.

Diamond-cutting is effected by a horizontal iron plate of about ten inches in diameter, called a schiff or mill, which revolves from 2000 to 3000 times per minute. The diamond is fixed in a ball of pewter, at the end of an arm, resting upon the table in which the plate revolves; the other end, at which the ball containing the diamond is fixed, is pressed upon the wheel by iron weights at the discretion of the workman. The diamond is cut by taking advantage of its cleavage, and also by abrasion with its own powder, and by friction with another diamond. It is a process of great labour, and many hours are spent in producing a single facet. They are cut into various forms, called the brilliant, the rose, and the table. The *brilliant* (brilliolette or briolette) form shows the gem to the best advantage, and is always set with the table upwards. In the *rose* the entire surface is covered with equilateral triangles, terminating in a sharp point at the summit. This form is used when the spread of surface is too great for its depth, and it could not be cut into the brilliant form without great loss. The *table* is applied to such diamonds as may be regarded as plates, laminæ, or slabs of small depth compared to their superficial extent. The brilliant and the rose lose in cutting and polishing somewhat less than half the weight. In the formation of either a brilliant or rose diamond, so much is cut away that the weight of the polished gem is not more than half that of the rough crystal out of which it was formed. They were usually cut in the rose pattern till the middle of the 18th century; but roses are, in general, only now used where the space in the setting prohibits the introduction of the brilliant form, brilliants being at present universally worn. The double cut brilliant is at present the common form. Diamonds were first cut in Europe in 1456 by Louis Berquen, a citizen of Bruges.

According to Jaffries, the value of diamonds is in the duplicate ratio of their weights. Thus, if an uncut diamond of one carat be worth £2, that of one cut and polished would be valued at £8 sterling in the brilliant. A carat weighs four nominal grains, or 3·166 grains troy. At this rate a cut diamond of two carats would be $2\times8\times2=$ £32; one of three, $3\times8\times3=$£72; one of four, $4\times8\times4=$£128; and one of five, $5\times8\times5=$£200. The rose diamond is of inferior value, but has been rated at £4 the carat when polished. For the purpose of estimating diamonds of inconsiderable size, the jeweller employs a gauge, in the handle of which are embedded small crystals of various relative sizes, from $\frac{1}{16}$th to $\frac{1}{4}$th of a carat, and a comparison is therewith made when there are numbers of various minute sizes. The rough diamond is called bort; and points are those small fragments with naturally acute angles which are set in glaziers' cutting diamonds, and sell at £10 the carat.

Most precious stones will scratch, but diamonds alone cut glass. It is also employed for the lenses of microscopes. It has but little chromatic aberration, but the frequent irregularity of its structure is a drawback to its employment for this purpose.

There seems to have always been a considerable traffic in this precious stone, carried on by the mercantile body on the east coast of peninsular India. In Madras, up to about the year 1840, what may be called the country transactions with England were conducted through European firms. The diamonds exported by them consisted of the small uncut stones, which were sent to London in packets called bulses; and the mercantile character of the Messrs. de Fries of Madras stood so high in the London market, that their packets or bulses were sold there by weight without examination. Latterly, however, the export trade fell into the hands of the native community, amongst whom there is a considerable tendency to speculate on prices. The course of trade has thus been somewhat changed. Prices have risen at least 20 per cent.; and if Europeans do now engage in the business, it is chiefly in importing from London. — *Tavernier's Travels*, pp. 135–149; *Sir S. Raffles' Hist. of Java; Low's Sarawak; Rennell's Memoir*, pp. 233–290; *Pennant's Hindustan; Heyne's Tracts; Captain Cullen; Lt. Newbold; Dalrymple's Repository; Voysey's Journal; Dana, Manual of Mineralogy; Catalogue of Great Exhibition of* 1851 (Class xxiii.); *Eng. Cyc.* p. 323; *Ainslie's Materia Medica; Mason's Tenasserim;*

Powell's Handbook; Tomlinson, p. 309; *Mr. Tennant in Illustrated London News*, 31st January 1852; *Crawfurd's Dict.* p. 120; *Medlicott, Blanford, and Ball, Geology of India.*

DIAMOND CANING, a mode of using coloured rattans for caning the bottoms of chairs, etc., by boring the holes and putting on a first layer of rattan stripes, and a cross layer to form the diamond figures, ornamented with colours, and gilded. The colours are used, in powder, mixed with copal varnish, and the gold leaf is applied over a coat of gold size. It has a splendid effect, and is very durable.

DIANA of the Ephesians is the counterpart of the Hindu Kali. Diana of the Greeks is represented in Hindu mythology by Atavi Devi.

DIANTHUS, a genus of flowering plants cultivated in gardens. D. caryophyllus, or clove pink, clove flower, and D. Chinensis are called Karnphul; the latter is of various colours.

Dianthus caryophyllus, Ts'ien-chun-lo, CHIN.; its long dried stalks are made into brooms.

Dianthus Fischeri, Ku-meh, CHIN., and Shih-shuh, CHIN., grows all over China.

DIAPER.

Drel, ... DUT.	Tela tessuta a opere, . IT.
Linge ouvre, . . . FR.	Salfetotsschnoe, . RUS.
Drell, ... GER.	Manteles alemaniscas, SP.

A fine flowered linen, used for tablecloths and napkins, manufactured in the north of Ireland, Germany, and Scotland. Diapers are also made of cotton, in imitation of the linen goods bearing the same name. The shot diaper of Masulipatam, so made that it is difficult to ascertain whether it be not shot with silk, is a cotton fabric, excellent in quality and colour.—*M. Ex. Jur. Reports.*

DIAR of Hazara, Cedrus deodara, *Loud.*

DIARBAKAR, a pashalik of Asiatic Turkey, between lat. 37° 28′ and 39° 30′ N., and long. 38° 30′ and 42° 10′ E. Its people occupy 2702 villages and towns, and many dwell in tents. They are Arabs, Kurds, 588,540; Christians, 129,990; Yezdi, 9804; and Kazzilbash, 15,006. The Christians are of the Armenian, Catholic, and Greek Churches. Diarbakar town is on the banks of the river Tigris. In its prosperity it contained 40,000 houses, with numerous cotton looms constantly at work. The Diarbakar branch of the Tigris passes by Rodwan and Hasan Keif, before it joins the Tigris proper. The Mahallemi Kurds live in caverns hereabouts, cut in the cliffs of the Tigris. There is a prodigious number of these caves, which are said to be very ancient, and cut into different apartments. Altoon Soo, the river Caprus of antiquity, is called the Lesser Zab by Abulfeda. It joins the Tigris below Diarbakar, but it is an error to call the river Altoon, which is an epithet only belonging to the bridge, from what it cost, Altoon meaning gold or money.—*MacGregor; Rich's Kurdistan*, i. p. 379, ii. p. 13.

DIATOMACEÆ, the Hazani-Yusuf of the Panjab, is a minute silicious shell of a triangular form, one of the Diatomaceæ found floating on lakes and ponds in the hills of Kashmir, whence it is skimmed off and dried. It was erroneously described by Honigberger and others as a seed.—*Powell*, i. p. 384.

DIAZ. Bartholomew Diaz, in the reign of John II., king of Portugal, proceeded with three vessels to ascertain the southern boundary of the African continent, and, driven from the land near the south cape, he ultimately regained the African shores east of the cape, at a bay which they called the Bay of Cows. The men seeing the land trend easterly here, began to murmur, and compelled Diaz to return. As they shaped their course homewards, they rounded that famous point in August 1486, to which Diaz gave the name of 'Cabo Tormentoso,' the Cape of Tempests, but which John, with more foresight as to the future importance of the discovery, changed to that of the Cape of Good Hope. Diaz was the first who, in recent times, doubled the Cape of Good Hope. He landed at Calicut about the beginning of the 16th century, soon after the discovery of America by Columbus. He was afterwards drowned in one of four ships lost by Cabral, in his voyage from Brazil to Calicut.—*Tennant's Ceylon.* See Albuquerque; Cabral; Debul; Vasco da Gama.

DIBARADANE or Dipartanai, or offering of fire, from Dipa, a lamp, and Aradana, to sacrifice, is a daily ceremony in honour of the Hindu gods, and makes the last part of the worship. The Brahman who officiates holds in one hand a small bell, which he sounds, and in the other a copper lamp full of ghi; he makes it pass and re-pass round the statue of the god he worships. During this time the dancing girls dance and sing his praises, after which the assistants, in contemplation, with hands joined, address their vows to the idol; the Brahman then breaks the garland with which the idol is adorned, distributes the fragments to the people, and receives from them the offerings they have brought to the divinity. The dance before the gods during divine service, and on festival days, was a ceremony much used by the ancients. The priests of Mars, called Sati, were held in great esteem by the Romans. They danced at Delos during divine service. This dance was performed in a very singular manner among the Greeks and the Romans: they moved from the left side of the altar to the right, meaning to intimate the course of the heavens, which moves from the east to the west; they then returned from the right side to the left side, which represented the motion of the planets. King David danced before the ark when brought back from the Philistines. We find in Exodus that the Jews danced before the golden calf; but there never has been a people like the Hindus, who choose girls of no virtue to dance before their idols.—*Sonnerat's Voyage*, pp. 157-59.

DIB-GRASS, the Anglo-Hindi name of several plants. In the Panjab it is the Cynodon dactylon, and there called Khabbal; on the banks of the Ravi it is the Typha angustifolia, and mats are made of it; in Sind it is the T. elephantina; in Hindustan it is the Poa cynosuroides. The Hariali, Cynodon dactylon, is the creeping grass which is collected for horses by the grass-cutters.

DIBROGARH, a district in the east end of the Assam valley, which produces coal.

DIBYA or Divya. SANSK. Divination; in Hindu law, the ordeal.

DIC, in Hindu astronomy, the four cardinal points of the compass. Asta dic, the eight principal points, including the cardinal ones. The Asta dic are called the eight corners of the world over each of which a divinity is supposed to preside.—*Warren's Kala Sanhita.* See Dicpala.

DICE.

Taarlingen,	Dut.	Buwah pari; D'ad'o,	Malay
Dés (à jouer),	Fr.	Kosti,	Rus.
Würfel,	Ger.	Dados,	Sp.
Passe,	Hind.	Tawla-zari,	Turk.
Dadi,	It.		

Those used in Europe are cubical pieces of ivory, bone, or ebony, marked with dots on each of their sides, from 1 to 6, according to the number of the face, and used for playing games of chance. Those used by the Hindus are oblong pieces of bone or ivory. The story of Draupadi being staked and lost by Yudishtra, the eldest of the Pandava, to Duryodhana, is equalled by one in Ainsworth's Old St. Paul's, and others in the History of England.—*Faulkner.*

DICHIT or Dikshit, a vernacular corruption for Dikshita, a name given to Brahmans, and the title of one of the sixteen branches of the Kanoujia Brahmans; it is also borne by some families of Mahratta Brahmans; and in Gazipur and adjacent provinces by a tribe of Rajputs.—*Wilson.*

DICHROSTACHYS CINEREA. *W. and A.*

Mimosa cinerea, *Linn.*		Acacia cinerea, *Spreng.*	
Deshmanthus cinereus, *Willde.*		Acacia dalea, *Desv.*	
		Caillea cinerea, *G. and P.*	
Vurtuli,	Hind.	Vadatala,	Tam.
Andara-gass,	Singh.	Veluturu, Yel-tur,	Tel.
Wara-tara,	Tam.		

A small scrubby tree or large shrub, abundant in the hot and drier parts of Ceylon, Coimbatore, and waste places of the inland country in the Bombay Presidency, Archipelago, and North Australia. Flowers showy. The wood is very hard, strong, and good for pegs.—*Drs. Wight, Gibson; Flor. Andh.; Thw. Zeyl.; Roxb.*

DICKSONIA BILLARDIERII. *F. von Mueller.*

Cibotium Billardierii, *Kaul.*		D. antarctica, *Labill.*	

A tree-fern abundant in the humid forests of Tasmania, S.E. Australia, and New Zealand, attaining a height of 30 to 50 feet. It is one of the tallest of all the fern trees of the globe, and certainly also the most hardy, the vitality being fully retained for several months. This species occasionally occurs with a divided trunk. Round the circumference of its top no fewer than nineteen crowns have been counted, and within the circumference there must be half as many more. D. squarrosa is the most southern tree-fern in the world, native of New Zealand.—*Von Mueller; W. Archer.*

DICLIPTERA ROXBURGHII. *N. ab E.*

Somni of	Beas.	Lakshmana of	Panjab.
Kirch of	Jhelum.		

A medicinal plant; grows up to 6500 feet in the Western Himalaya.—*Dr. J. L. Stewart.*

DICPALA, eight guardians of holy places worshipped in India. See Dic.

DICRANOCEPHALUS ADAMSI. *Pascoe.* A beetle of Corea, a double-helmeted coleoptera. It occurs also on the Himalayas.

DICRURIDÆ, a family of birds, comprising the genera Chibia, Chaptia, Bhringa, Edolius, Dicrurus. One of the genus Dicrurus is the drongo shrike of the Peninsula of India. Other species are D. cærulescens, D. leucopygia, and D. edoliformis. See Birds.

DID or Deed. Pers. A Sufi Mahomedan rite; the viewing or beholding of the deity, pointed out by the moorshid or teacher.

DI-DITSH, N'guon, Moi, Ro-moi, and Ke-moi, rude tribes occupying the mountain ranges between Tonkin and Cochin-China, and between Cochin-China and Kambogia.—*Latham's Ethnol.*

DIDYMOCARPUS, a genus of plants. Dr. Wight gives as species, D. Humboldtiana, lyrata, ovalifolia, Rottleriana, and tomentosa. D. aromaticus is stated by Dr. Wallich to be used as a perfume and aromatic drug, called by the natives Kumkuma and Rani Govindi.—*Royle*, p. 294; *O'Sh.*

DIEG. At this place a battle was fought and won by Lord Lake. See Battles.

DIEGO GARCIA, one of the Chagos Islands, is about 14 miles long, and extends from lat. 7° 13⅓′ to 7° 27½′ S. It is low, and generally only 8 or 10 feet above high-water tides.—*Horsburgh.*

DIEN-NEEUNG. Burm. In Amherst, a timber used for rice-pounders; it is a close-grained, compact, brown, hard wood.

DIGA, a form of marriage amongst the polyandrist Kandyans in Ceylon, in which the wife dwells in her husband's house.

DIGAMBARA, or sky-clad, also called Nirgrantha, without a bond, and Nagnata, naked. These are gymnosophist mendicants, who live absolutely separated from society, and from all family connections. Their name is commonly understood as sky-clad, and is derived from Dic, a quarter of the globe, and Ambar, apparel, and indicates one who has the world or universe for his covering. The Digambara is a division of the Jains, the members of which either go naked, or wear coloured clothes, in opposition to the Swetambara, or those who wear white. These ascetics have ceased to appear in public since the early part of the 19th century.—*Wilson; Sherring.*

DIGAMBARA, one of the six atheistical systems of philosophy current amongst the eastern Aryan race in India. The other five are the Charvaka, Yogachara, Sidhanta, Wai-bashika, and Madhyamica, all full of indeterminate phrases, and containing a jumble of atheism and ethics. The derivation of Charvaka is from Charu, insinuating, and Vaka, a word.

DIGITALIS PURPUREA, *Linn.*, is the Mauti-hwang of the Chinese and the foxglove of the English.—*Smith.*

DIGITIGRADA, a tribe of mammals belonging to the order Carnivora. See Carnivora.

DIG-VIJAYA. Sansk. From Dic, the quarters of the earth, and Vijaya, conquest. The Dig-Vijaya is a part of the Mahabharata, relating the conquests of the four younger Pandava. It is also the name of a work by Sankaracharya, in support of the Vedanta philosophy.

DIHANG or Dihong, a river in the Lakhimpur district of Assam, one of the three which contribute to make up the Brahmaputra. The Dihang is supposed to be the connecting link between the Sang-pu (Tsang-pu) of Tibet and the Brahmaputra of Assam.—*Imp. Gaz.*

DIHING is the name of two rivers in Lakhimpur district, Assam, which contribute to make up the waters of the Brahmaputra,—(1) the Noa Dihing, rising in the Singpho hills; (2) the Buri Dihing, rising in the Patkoi hills.—*Imp. Gaz.*

DII MAJORES and Dii Minores. See Hindus. Dii Patres of the Romans, the Pitrideva of the Hindus. See Delwar.

DIJLAH, a name of the Tigris. The designation applied to it in the Scriptures is Hiddekel. Dijlah is the name which it bears at the present day among a large portion of the people living

near its banks. The western branch rises at a spot which is about 20 miles westward of Arghani Maden, and near 10 miles southward of the centre of the Ghuiljik lake; its course is north-eastward along the deep valley at the foot of the elevated ground of Kizan (4568 feet above the Black Sea), and, after having continued in the same direction towards the heart of Kurdistan, when a little more than 25 miles from the spring, it makes a sweep so as to take the direction of Arghani Maden, or nearly south.

DIKAMALLEE, HIND., is the fragrant gum-resin of Gardenia lucida, *Roxburgh*. It exudes in amber-coloured transparent drops at the ends of young shoots. It is most useful in preventing vermin breeding in wounds, and in keeping away flies from sores, by its strong aroma, and is an article in the materia of the village farrier. It deserves more attention.—*M. E. J. R.; Spry.*

DIK'HIT, a tribe of Rajputs inhabiting the parganas of Kootea, Futtehpur, Ekdulla, Mootour, and Ghazipur, in the Futtehpur district, also from Oudh to Bundelkhand.—*Elliot, Supp. Gloss.*

DIKO. KOL. A foreigner.

DIKOKAMENNI, a Kirghiz horde, divided into two wings, 'On' and 'Sol,' or right and left, corresponding to the Mongolian 'Borongar' and 'Zungar.' The right wing consists of two divisions, 'Adgené' and 'Tagai.' The left wing is formed of three tribes, who frequent the Talas. Their chiefs are related to the Khan of Kokan, who are on the female side of Kirghiz extraction.—*Valikhanof and M. Vemukof, Russians*, p. 103.

DIK PALAKA, in Hindu mythology, a regent of a quarter of the heavens. They are eight in number,—

Indra, E.	Kuvera, N.	Isani, N.E.	Vayu, N.W.
Varuna, W.	Yama, S.	Niruta, S.W.	Agni, S.E.

DIKSHA. SANSK. In Hinduism, sacrificial worship; initiation into sacred rites. Among Hindus of Malabar, the ceremony of abstaining from shaving for one year after the death of a relative.

Dikshæniga, a sacrificial act, explained in the beginning of the Aitareya Brahmana, meant to represent, by simple and natural emblems, the new birth (Matriculation), through which a man on his first admission to the sacrifice was believed to enter a new life.

Dikshaniya Ishti. SANSK. A curious sacrificial ceremony.

Diksha Visarjane. SANSK. A religious ceremony among Brahmans, who for six months after marriage allow their hair to grow, and then go to their father-in-law's house to have the head shaved.—*Max Müller.*

DILAZAK, a tribe in the Peshawur division, now few in number; were possessors of the Peshawur valley, till they were driven out by the Yusufzai. They are Mahomedans.

DILEM, a powerful tribe of Arabs, with about 1660 tents, in the province of Baghdad, chiefly on the E. bank of the Euphrates, from west of Baghdad to the north as far as the town of Hit. Their territory is rich, with 340 irrigating wells. They are agricultural and pastoral. The district yields sulphur and bitumen, also salt, from thermal springs.—*MacGregor.*

DILIVARIA ILICIFOLIA. *Juss.*

Acanthus ilicifolius, *Linn., Roxb., Rheede.*

Hakorch, . . . BENG.	Paina shuh, . . MALEAL.
Ka-ya, ... BURM.	Koli moli cheddi, . TAM.
Harkut, ... HIND.	Alisa, Eti chilla, . TEL.
Harkuch kanta, . ,,	

Grows in marine lagoons, canals, and deltas in south of India. It resembles the holly; its leaves and root are used medicinally.—*Roxb.; Voigt.*

DILKA, or smearing with oil, is in general use by the natives of the Soudan every evening by those who can afford it, before retiring to rest; to its use they ascribe the entire absence of cutaneous diseases, and also their being able to resist the cold and cutting winds of winter, with no other protection than a slight calico scarf or shirt.—*Egypt, by J. Petherick.*

DILLAET. HIND. A summons-server, a peon.

DILLENIACEÆ. *D. C.* A natural order of handsome trees, shrubs or under shrubs, rarely herbs; above 100 species, belonging to the East Indies and New Caledonia. The Indian forms are ranged under Tetracera, Wormia, Acrocomia, Dillenia. Several Dillenia yield useful and valuable timbers, in Ceylon, in the two Peninsulas, and in the Northern Provinces of India. Some are not yet specifically determined. The young fleshy calyces of D. scabrella and D. speciosa have a pleasant taste, and are used in curries by the inhabitants of Chittagong and Bengal. Dillenia augusta, Zim-byun, BURM., also D. scabra, Byew, BURM., and D. speciosa, Thab yew, BURM., occur in the Pegu forests; all three have a light-brown wood, and afford large and good timber for house buildings. In March and April the forests are dazzling from the bright yellow flowers which are crowded on their leafless branches. A species, always found on the borders of streams of Burma, produces a large green fruit, which is a favourite vegetable with the natives. Gamble mentions nine species.—*Captain R. Benson; Hooker, Him. Jour.* p. 395; *Mason; Royle, Him. Bot.; Voigt; M'Clelland, Cal. Cat. Ex.* 1862.

DILLENIA AUREA. *Sm.* Zim-byun, BURM. Abundant in the plains and hills and in the forests of British Burma, but more scarce to the north of it, and found on the banks of the Godra by General Hardwicke. Wood of a light-brown colour, occasionally used in house-building, but mostly for firewood. Breaking weight, 198 lbs. —*Dr. Brandis, Cal. Cat. Ex. of* 1862.

DILLENIA ORNATA. *Wall.* Zim-byun, BURM. Grows plentiful and of large girth in Pegu and Moulmein, and furnishes a strong, good timber, useful for general purposes in house and ship building. It has large gaudy yellow flowers.—*Dr. Mason; Captain Benson.*

DILLENIA PENTAGYNA. *Roxb.*

D. augusta, *Roxb.*	Colbertia Coromand., *D. C.*
D. pilosa, *Roxb.*	Wormia ,, *Spr.*
Yeenga, Bjooben, BURM.	Rai, Pine, Nai-tek, TAM.
Kanagalee, Machil, CAN.	Kalinga, Chinna, . TEL.

This is a very large tree, abundant throughout South and Northern India and Burma. It flowers towards the end of January, or as late as March or April, when the tree is destitute of leaves. The wood is close-grained, strong, tough, fibrous, and durable even under ground, of a reddish-brown colour. It is not easily worked, and is subject to warp and crack. A cubic foot unseasoned weighs 85 to 90 lbs., and 70 lbs. when seasoned; its specific gravity is 1·120; it is used in house and ship building, and is adapted for

cabinet purposes.—*Drs. Roxb.* ii. p. 652, *Wight, Cleghorn, Gibson, Brandis, Voigt*, p. 18; *Captain Beddome; Cal. Cat. Ex. of* 1862; *Useful Plants.*

DILLENIA PILOSA. *Roxb.* Grows in Assam near Goalpara, on the banks of the Megna, and furnishes a hard, tough wood, much used for canoes. —*Roxb.* ii. p. 652; *Voigt; Mendis.*

DILLENIA RETUSA. *Thunb.*

Wormia retusa, *H. f. et T.* | Goda para, . . SINGH.

A moderate-sized tree, growing in Ceylon to an elevation of 2000 feet, but not abundant; used for roofs of houses.—*Thw.* p. 5.

DILLENIA SCABRELLA. *Roxb.* ii. p. 653.

D. scabra, *Brandis.*

Zen-bywon, . .	BURM.	Kulgul, ...	CAN.
Kyet-sen-bywon, .	,,	Kurmul, . . .	MAHR.

A stately timber tree; grows in Chittagong, also in Canara and Sunda, where it is most common below the ghat. Grows large, long, and straight. Its acid calyx leaflets used in curries. Wood seems to be used for boat planks in Canara, but it is not reckoned a choice wood in the Bombay Presidency. It is plentiful in the Pegu province, but becomes scarce to the north of it, and it is there of large girth; furnishes a large, good timber, and is useful for general purposes, as house and ship building.—*Drs. Roxb.* ii. p. 653, *Gibson, and M'Clelland; Captain Benson.*

DILLENIA SPECIOSA. *Thunb., Roxb., Bedd.*

D. elliptica, *Thunb.*		D. Indica, *Linn.*	
Kaloonoot, . . .	BURM.	Mota kurmal, .	MAHR.
Hondapara, . . .	CEYL.	Uva, ...	TEL.
Chalta, ...	HIND.	Pedda kalinga, .	,,

This is a good-sized tree, one of the handsomest in India, and is much cultivated in particular parts by natives, about temples. It is found in dense forests at no great elevation in Malabar, the Northern Circars, Orissa, the Godavery forests, in various parts of Northern India, Bombay, Ceylon, Burma, and in the Malay Peninsula. The wood is hard and tough, and used to make gun-stocks and in boat-building, and is said to be very durable under water. The timber weighs 44 lbs. the cubic foot when seasoned, and 55 to 60 when unseasoned, and its specific gravity is ·704. Ovai-kai is the Tamil name of the fruit, and is used by the natives in their curries, having an agreeable acid flavour; and also in chatnis.—*Drs. Thwaites, Roxb.* ii. p. 650, *Voigt, Jaffrey, Brandis, M'Clelland, Riddell, and Irvine; Captains Beddome and Mason; Gen. Med. Top.* p. 199.

DILLI, D'ely, or Yemalle mountain, in lat. 12° 2′ N., and long. 75° 14′ E., in Malabar, near the sea-coast, rises 804 feet above the sea. Dilli was the first Indian land seen by Vasco da Gama. In Sonnerat's time the coast as far as Mount Dilli was inhabited by the Molandi, who lived merely by piracy, as the sea-robbers mentioned by Pliny, Arrian, Ptolemy, and other ancient authors. They united themselves to other pirates who resided on the Angedib islands, near Goa, and captured all the small vessels which sailed from Goa to Cochin. The huts in which their wives and children lived were on the eastern side of Mount Dilli.—*Voyage to the East Indies; Grand Tri. Survey.*

DILLI-AL, or Dhili wal, in A.H. 614, the ordinary coin of the country about Dehli. The original currency, it is supposed, corresponded with the billon money of Prithi-raj and others, which was imitatively adopted by the Mahomedans in the early days of their occupation of Hindustan.

DILLON, CAPTAIN, sailed from Port Jackson on the 4th June 1827, and at Mannicola discovered property that had belonged to La Perouse. The King of the French created him a Knight of the Legion of Honour.

DILL SEED, seed of Anethum sowa.

Buzr ul shalat, Shubil, AR.		Seleya, . . .	SANSK.
Sowa, . .	GUJ., HIND.	Satta-copa, . .	SINGH.
Mungsi, ...	JAV.	Saddacuppei, . .	TAM.
Adas-manis, . .	MALAY.	Saddapa, ...	TEL.
Misreya, Sitasiva,	SANSK.		

Flattened elliptical seeds, with brown and slightly convex backs, and pale membranous margin. Both the fruit and the plant are much used in the East Indies as condiments and articles of diet. The carpels have a bitter aromatic taste, making them useful as carminatives, and supposed to be used in the manufacture of gin. The seeds are procurable in all Indian bazars. The Indian species is the Anethum sowa. Dill leaves are used to flavour pickles.—*Faulkner; Jaffrey.*

DILWARA, at Mount Abu, has been famed since a remote antiquity, and pilgrims seem to have been attracted to its temples since A.D. 1034. Hindu temples seem to have existed here in remote ages, dedicated to Siva and Vishnu, but all traces of them have disappeared; and on it now stand famous Jain temples, built by Bimul Sah, a rich Jain merchant, and others. In Jain estimation, Abu is the holiest spot on earth.

DILZAK are the predecessors of the Pathan tribes in the Peshawur valley. They seem to have considerable Pathan blood, and are supposed by some to be earlier Afghans.—*Campbell*, p. 96.

DIMAL, a tribe smaller than the Mechi, but somewhat similar in appearance, with a language that in some degree differs. The Kachari, Naga, Abor, and some other tribes bordering on Assam, are supposed to be of the same race as the Mechi. The Mechi form the chief population of the forests and N.E. Doars at the foot of the Sikkim and Bhutan hills, and a few have recently settled on the extreme eastern portion of the Nepal Terai. They are supposed to be the same as the Bodo, whom Mr. B. Hodgson described. Their features are described as Mongolian or Indo-Chinese; they are fairer than the Hindus around them, and of a yellow tinge; they are taller and larger than the Nepalese cultivators, are addicted to spirits and to smoking opium. They are proof against malaria, and make small temporary clearances in the forest; they are inferior to the Tharu in industrial habits.

DIMITY. Basin, FR.; Dobletto, IT.; Dimite, SP. The name is supposed to be from Damietta. Dimity is a stout cotton cloth, white, ornamented either with raised stripes or figures, and employed for bed and bedroom furniture.—*Toml.; M'Culloch.*

DIMIYA. SINGH. The great red ant of Ceylon; Formica smaragdina; it bites severely.

DIMRAUT. HIND. One of the twelve pal or tribes of the Mewati.

DIN or Deen, with Millat and Mazhab, are three Arabic words used by Mahomedan writers for religion. Din means as it stands in relation to God, Din-Allah, the religion of God; Millat as it stands in relation to a prophet or lawgiver, as Millat-i-Ibrahim, the religion of Abraham; and Mazhab as it stands in relation to the commentators of Islam, as Mazhab-i-Hanafi. Din is, however,

of general application. Mahomedans sometimes call their own religion, Din-i-Islam, the Faith of Salvation. Mazhab relates to the sectarian part of the Din. Thus a Mahomedan is of the Din-i-Islam, but may be of the Shiah or Sunni Mazhab. Din is everywhere used as the Mahomedan war-cry: Din! Din! For the faith! For the faith! The principles of the Koran generally, but in particular the text in chapters 8 and 47 which inculcates war against non-Mahomedans, and death in the contest as the surest passport to heaven, have established amongst Mahomedans an intimate connection between the spiritual aspiration and political convictions. Hami-i-Din, Defender of the Faith. Din-pana, Protector of the Faith.

DIN or Dina, HIND., a day, considered in a great variety of ways and durations, of which the following are the principal:—

1st, a Savana or Bhumi savana dina, a natural day, being the time between two sunrisings.

2d, a Saura dina. Of these there are two kinds; and the similarity of the name tends greatly to confuse the beginners in the study of Hindu astronomy. First, the absolute sense of Saura being sidereal, the Saura dina is the time between the same point of the ecliptic rising twice; or, more precisely, the time between the equinoctial points rising twice. Second, the other Saura dina is the time which the sun takes to describe one degree of the ecliptic. It follows, therefore, that, strictly speaking, neither of these kinds of days are equal throughout the year, yet the former (which is also called Nacshatra dina) are supposed to be so in the first steps of several operations. Such is also the case with the latter, but this only happens when calculating the mean elements of the planets by the Vacyam process.

3d, Diva dina is equal to a sidereal revolution of the sun.

4th, Pitrya dina, to a synodical revolution of the moon.

5th, Brahma dina is equal to a calpa, or 4,320,000,000 years, his nights being equal to his day.

6th, Yuga dina is another word for Ahargana, meaning the number of days expired from the commencement of a yug. Yuga dina also means the anniversary day of that on which a yug began, which is always noticed in the kalendar. —*Warren's Kala Sanhita.*

DINAJPUR, a town which gives its name to a district in the west of the Rajshahi, Kuch-Bahar division of Bengal. In 1872 the population of the town was 13,042, and of the district 1,501,924. The most numerous caste is the Kaibartta (38,051); the fishing castes are also strongly represented, especially the Tier, with 17,364, and the Jahza, with 10,296 members. There are 16,710 Vaishnav mendicants; many of the Pali tribe are said to belong to this sect.—*Imp. Gaz.*

DINA-KARA. SANSK. The day-maker; a name of Surya, the sun.

DINAPUR, a large military cantonment which gives its name to a subdivision of the Patna district. The town is on the right or southern bank of the Ganges, 8 miles west of Patna, in lat. 25° 38′ 19″ N., and long. 85° 5′ 8″ E., with 42,084 inhabitants in 1872. The Dinapur district had 141,337. During the mutiny of 1857, the native soldiers of three regiments here joined the rebels.

DINAR. Denarius, LAT.; Dinara, SANSK. The Roman Denarius was of silver of the unit of 60 grains. The Dinara of the Sanskrit was 32 rati, or 64 grains. Though sometimes applied by Ibn Batuta to an Indian gold coin, Dinar is the only name he uses for the standard Indian silver coin. Sometimes the term used by him is Dinar Diraham, which Defremery in some instances renders 'Dinars of silver,' and in others, 'Dinars in Dirhems.' Sometimes the term used is Dinanir fizzat. The Dinar in Akbar's time was a gold coin weighing 1 miskal, *i.e.* $1\frac{3}{7}$ dirham, 1 miskal = 6 dang, 1 dang = 4 tassuj.—*Müller; Yule, Cathay.*

DIND and Khoosh-hali, though etymologically the antipodes of each other, the first meaning a compulsory contribution, the other a benevolence or voluntary, have a similar interpretation in Rajputana. Dind is coeval with Hindu legislation. The bard Chand describes it; and the chronicler of the life of the great Sidraj of Anhalwara, 'who expelled the seven didda' or 'great evils' whose initial letter was d, enumerates dind as one of them, and places it with the Dholi and Dhakun, or minstrels and witches. Zalim Singh, regent of Kotah in 1817, abolished the dind, and commanded a stone to be raised in the chief town of every district of his country, on which was inscribed the edict of perpetual abolition of dind, with the denunciation of eternal vengeance on whosoever should revoke it. The effigies of the sun, the moon, also of the cow and the hog, animals reverenced or execrated by all classes, were carved in relief to attest the imprecation.—*Tod's Rajasthan*, ii. pp. 208-570.

DINDIGUL, a town in the south of the Peninsula, with 13,000 inhabitants, in a beautiful and fertile valley in Madura, extending along the foot of the ghats. It is in lat. 10° 21′ 39″ N., and long. 78° 0′ 17″ E., 800 feet above the sea. It is 270 miles S.W. from Madras. The principal rivers are the Kodavar, Mangerry, Vagachay, Kul, and Eilur. The Kodavar is a stream of considerable magnitude. A rock on the W. side of the town is fortified, the Dindu-kal, the rock of Dindu, an asura or demon.

DINDUGA TREE. ANGLO-CAN. Bayla-Nava maram, TAM. According to Dr. Roxburgh, a species of Andersonia. A large and valuable tree of the Wynad.—*Ains. Mat. Med.* p. 213.

DINGO, a species of dog in Australia, Canis Australasiæ.

DINNER. To send a dinner to another person is a common compliment among Mahomedans. In Persia, when requesting permission to do this, the party begs leave to send a little Noon-i-jow, barley bread, which humble phrase (nān-i-jao) may include every delicacy of the season. In India the phrase is Dal khooshka, split peas and rice.

DIOCLESIAN ERA, or Martyrs' era, dates from A.D. 284, the year of that emperor's accession.

DIODON, globe fish of the fam. Gymnodontidæ. There are 6 Diodon, 23 Tetrodon, 1 Triodon, in Asiatic Seas. The Diodons have but one large tooth above and below, and are usually protected by large, strong spines. Tetrodons and Diodons have the power of inflating, with wind, a membrane which extends along the under side of the abdomen, which causes them to float on the surface of the water, without the power, it is said, of directing their course; the membrane, when inflated, gives to the fish an almost spherical

form, and is usually defended by spines and prickles.

DIOMEDEA, a genus of birds of the family Procellaridæ, comprising the genera Diomedea, Procellaria, Prion, Pelicanoides, Puffinus, Thalassidroma. The birds are familiar as the albatross to all travellers in the southern seas, the common albatross, the D. exulans, *Linn.*, being very abundant. D. fuliginosa, *Lath.*, and D. chlororhynchus, *Lath.*, also met with. Mariners distinguish them by other names,—for instance, D. exulans is the wandering albatross, D. spadicea is the green-bill or Nelly, D. chlororhynchus their mollymaux or yellow-bill, and D. fuliginosa the sooty albatross; D. cauta, *Gould*, the cautious albatross; D. brachyura, *Gould*, the short-tailed albatross; D. culminata, *Gould*, the culminated albatross; D. melanophrys, *Gould*, is the black-browed albatross, and other species, D. gibbosa, D. nigripes, and D. olivaceo-rhyncha.

D. exulans, *Linn.*, Monton du Cap, FR., is abundant and equally numerous in all parts of the ocean between lat. 30° and 60° S.; but it ranges much farther south, even to within the antarctic circle. They measure 14 feet across.
D. melanophrys, *Temm.*, is the most abundant species in every part between lat. 30° and 60° S.
D. cauta, *Gould*, was procured by Mr. Gould off the south coast of Van Diemen's Land.
D. chlororhynchus, *Lath.*, occurs between lat. 30° and 60° S., in both the Atlantic and Pacific Oceans.
D. culminata, *Gould*, is rather abundant both in the Pacific and Atlantic Oceans, between lat. 30° and 50° S.
D. fuliginosa, *Gmel.*, occurs in all parts of the ocean, between lat. 30° and 60° S.
D. brachyura, *Temm.*, found in the North Pacific.
D. gibbosa, *Gould*, an inhabitant of the North Pacific.
D. olivaceorhyncha, *Gould*, China Seas (?).

—*Gray, Genera of Birds; Eng. Cyc.* p. 553.

DIONÆA MUSCIPULA, Venus' flytrap, is remarkable for the irritability of the lobes of the round and fringed blade of the leaf. These lobes close upon each other the instant any one of the six minute bristles upon their upper surface is touched, and in this way secure insects which alight upon the leaf, enveloped in a fluid of mucilaginous consistence, which seems to act as a solvent, the insects being more or less consumed in it.

DIONYSOPOLIS of Ptolemy, the modern Jalalabad.

DIONYSUS, a name of Bacchus, said to be Rama son of Cush, who invaded India; also supposed to be the same with Deva Nahusha, but also has been traced to Parasurama.

DIOPSIS, a genus of dipterous insects of the family Sepsidæ. The head is small, and appears as if it were furnished with two long horns, each having a knob at its apex. These horn-like processes are prolongations of the sides of the head, the knob at the apex of each being the eye of the insect. D. Sykesii of Gray is one of the largest species of the genus, and possesses the longest eye-stalks; these processes in this insect are of a pitchy red colour, and the body is of the same tint. The head and thorax are black, and the wings are coloured with brown. Colonel Sykes collected great numbers of this species near the hill fort of Hurreechunderghur, in the western Ghats of the Dekhan, at an elevation of 3900 feet above the level of the sea, lat. 19° 23′ N., and long. 70° 40′ E.—*Eng. Cyc.* ii. p. 354.

DIOSCOREA, a genus of plants of the order Dioscoreaceæ, which furnish the tropical esculents called yams. It is the type of the natural order Dioscoreaceæ. The following Eastern species are generally recognised:—

aculeata.	dæmona.	purpurea.
acutangula.	fasciculata.	pulchella.
alata.	glabra.	rubella.
anguina.	globosa.	sativa.
atropurpurea.	heterophylla.	tomentosa.
belophylla.	nummularia.	triphylla.
bulbifera.	oppositifolia.	versicolor.
cirrhosa.	pentaphylla.	verticillata.
crispata.		

The yam plants are cultivated in India, also among all the tribes in the Archipelago, and generally most so where rice is least abundant; but they nowhere form the chief bread of the people, as rice, maize, or sago do. The Malay and Javanese names rubi or uwi extend to the languages of all the Malay and Philippine Islands, to those of the Pacific, and to Madagascar. In the Tonga it is ufi, in the Tahiti eui, in New Zealand uwi, in New Ireland u, and in Madagascar vwi. In Madagascar a wild yam is called uvi-ala, which is, without doubt, the uwi-alas—the wild or forest yam of the Javanese, with the elision of the final consonant, conformably to the genius of Malagasi pronunciation. The word ubi, besides being applied specifically to the yam, is used as a generic for farinaceous roots. Thus the batata, or Convolvulus batatas, is called by the Malays uvi-jawa, or the Javanese yam, to distinguish it from the Dioscorea. While many species are nutritious in this genus, some are highly dangerous. D. dæmonum and D. triphylla, both ternate-leaved species, have very nauseous and dangerous tubers. In Otaheite, the D. bulbifera, which bears small fleshy angular tubers along the stem in the axils of the leaves, is the favourite species. The elephant-foot yam, with a tuber about the size and shape of an elephant's foot, is white, and often as light and agreeable as a potato. It abounds in Karen gardens, but is rarely seen among the Burmese, or in the market. In Bengal, the species most esteemed is D. globosa; after it D. alata, and next D. purpurea.

D. Crispata. *Roxb.* Myouk kya, BURM. A yam of Bengal.

D. Dæmona. *Roxb.* Ubium sylvestre, *Rumph.* Ko-wæ, Burm. Grows in Gorakhpur and the Moluccas. It is remarkable for its large ternate leaves, of which the leaflets are sometimes nearly a foot long and six inches wide.

Dioscorea Japonica. *Thunb.* A hardy yam of Japan and N.E. Australia.

D. Nummularia. *Lam.* The Tivoli yam of continental and insular India and South Sea Islands; roots exceedingly good.

Dioscorea oppositifolia. *Linn.* Of India and China; an edible yam.—*Eng. Cyc.; Crawfurd, Dict.; Mason; V. Mueller.*

DIOSCOREA ACULEATA. *Linn.*

Mu-alu, . BENG., HIND.	Ka-awi of . . PACIFIC.
Chota pindalu, . DUKH.	Kaku-kukulalu, . SINGH.
Goa potato, . . . ENG.	Sirru-vullie-kelangu, TAM.
Prickly-stemmed yam, ,,	Kanta-kalangu, . ,,
Kata-kelenga, . MALEAL.	Kummara baddu, . TEL.
Pudie-kelengu, . ,,	Dampa, ... ,,

This is a very valuable and delicate small yam, somewhat resembling the sweet potato in appearance; tubers of an oval form, and very white,

generally weighing about two pounds. The taste is like that of a fine dry yam.—*Roxb.; Voigt.*

DIOSCOREA ALATA. *Linn., Roxb.*

Kam-alu, BENG., HIND.	Perin-valli-kelanga, MAL.
Khum-alu, . ,, ,,	Rosa kanda, . . SINGH.
Myouk-phoo, . . BURM.	Yams-kelang, . . TAM.
Wing-stalked yam, ENG.	Cachay kalangu, . ,,
Ubi, . . JAV., MALAY.	Niluvu pendalum, TEL.

This very large yam grows wild in both the Konkans, but is cultivated on the coast of Coromandel; and in Bengal it is esteemed next best to D. globosa. It has many varieties. —*Ainslie; Roxb.; Voigt; Mueller.*

DIOSCOREA ATROPURPUREA. *Roxb.*

Myouk nee, . . BURM.	Dark purple yam, . ENG.

This, with a dark purple root, is one of the best yams. It is extensively cultivated both by Karens and Burmese, and at Malacca; tubers are large and irregular, and grow so near the surface of the ground as to appear in dry weather through the cracks that they make in the soil by upraising the earth.—*Mason; Eng. Cyc.*

DIOSCOREA BULBIFERA. *Linn.*

Karu-karinda of BOMBAY.	Panu-kodol, . . . SINGH.
Bulb-bearing yam, ENG.	Malaka kaya pendalam,
Katu-katsjil, . MALEAL.	TEL.

A native of New Holland, and is cultivated on the western coast of India, and both the Konkans. The root is edible, and is applied externally to ulcers. The leaves are used as greens.—*Voigt.*

DIOSCOREA DELTOIDEA. *Wall.*

Dioscorea bulbifera, *L.* ?

Tardi, Tharri, . . BEAS.	Kheli, Tarar, . CHENAB.
Bazar leaves, Tarar pattr.	Krish, ... PANJ.
Kniss, JHELUM, KASHMIR.	Kithi, Dharus, . RAVI.
Kriss, KASHMIR, CHENAB.	Kans, Gungru, . SUTLEJ.
Tar, Kithi, . . . ,,	Kaspat, Parwatti, TR.-IND.

There is doubt as to whether all these vernacular names mean the same plant; but if so, it grows abundantly in many parts of the Panjab Himalaya, from as low as 2000 up to 9200 feet, and is found Trans-Indus. The root is used in Kashmir for washing pashm wool for shawls, and both there and on the Chenab and Sutlej for washing woollen cloth. The root of this, or a variety (?), which grows to several pounds' weight, after steeping in ashes and water to remove acridity, is largely eaten cooked by various classes in parts of the Siwalik and outer hills, but in other places is not used; and Dr. Stewart was once told that the tongue would rot from eating it. Honigberger says that it is used medicinally. —*Dr. J. L. Stewart, Panjab Plants*, p. 229; *Powell*, i. p. 378.

DIOSCOREA FASCICULATA. *Roxb.*

Karen potato, . . . ENG.	Ka dwæoo, . . BURM.

This small yam of Bengal is not much larger than a kidney potato, which it much resembles both in appearance and taste. It is cultivated extensively by the Karen race, and, being more like a potato than a yam, has acquired the names of the Karen potato and the Tavoy potato. It is the best vegetable the Karens have, but unfortunately it can be obtained during a few months only in the year; is largely cultivated in Bengal for food, and to make starch.—*Mason; Voigt; Roxb.* iii. p. 801.

DIOSCOREA GLABRA, *Roxb.*; D. batatas, *D. C.* Chinese yam; introduced into Europe about the year 1849, having been sent from Shang-hai by M. de Montigny, the French consul. It is everywhere cultivated in China, and bears the names of Chou-yu, Tou-tchow, Chan-chou, Chan-yo, and Chan-yu, which signify the 'Arum of the Mountain.' At Nankin it is very large and of excellent flavour; that of the Chou district is still better, but for medicinal purposes the Chinese prefer that of the Hoai-king district, where the Chou-yu root is laxative and sweet. It is particularly worthy of a place in the kitchen garden, as well as in field culture, on account of its perfectly feculent flavour, and the absence of any after-taste of sweetness, acidity, or spiciness, such as is often found in other plants, as also on account of the ease with which it may be cultivated, and the facility of preserving it from decay. —*Agricultural Rep. to Commissioners of Patents to House of Assembly for* 1854.

DIOSCOREA GLOBOSA. *Roxb., W. Ic.*

Chupri alu, BENG., HIND.	Guna pendalam, . TEL.

Is the most esteemed of all the Indian yams. Its flowers are highly fragrant; the tubers are white internally; it has arrow-headed cordate leaves.—*Roxb.* iii. p. 797; *Mason; Voigt.*

DIOSCOREA PENTAPHYLLA. *Linn.*

Kanta-alu, BENG., HIND.	Nureni kelengu, MALEAL.
Oolsie of . . BOMBAY.	Nuran kelangu, . TAM.
Shenorvail-chand, MAHR.	Mullu pendalam, . TEL.
On-do? . . . MALAY.	Pandi mukku dampa, ,,

This yam grows wild over all the East Indies and throughout the Archipelago; the flowers are used as greens, and the tubers as an esculent. In some parts of Southern India is called Kaat vulli kalang, or wild yam. It appears to be the Nooren kalangu of the Hortus Malabaricus, and the On-do of the Malays.—*Ainslie*, p. 249; *Roxb.* iii. p. 806.

DIOSCOREA PURPUREA. *Roxb.*

Rukto-guranya-alu, BENG.	Puthuschary vulle
Sweet potato of Pon-	kelangu, . . . TAM.
dicherry, . . . ENG.	Desavali pendalam, TEL.
Lal-guranya alu, . HIND.	

This holds the third rank amongst the yams, and is cultivated throughout India, being boiled and eaten like a potato. The tubers are permanently stained purple throughout, immediately below the cuticle, and are sometimes three feet long. Its flowers are fragrant.—*Roxb.* iii. p. 799.

DIOSCOREA SATIVA. *W.*

Shu-yu, ... CHIN.	Perin-vullie-kelengu, TEL.
Shan-yoh, ... ,,	Rata-kodol, . . SINGH.
Common yam, . . ENG.	Yams-kolung, . . TAM.

This is eaten all over the E. Indies by Europeans and natives.—*Ainslie*, p. 251.

DIOSCOREA TOMENTOSA. *Spr.* Subbadumpa, TEL. Grows in the Peninsula of India, at Travancore, and at Gingee.—*Voigt.*

DIOSCOREA TRIPHYLLA. *Linn.*

Mar-chaina of BOM., BEN.	Three-leaved yam, ENG.
Shu-yu, ... CHIN.	Tsiagri nuren, . . MAL.

A yam of the Konkans and Moluccas; said to be used to render the cocoanut tree toddy more intoxicating.

DIOSCURI, the Greek analogue of the Aswini.

DIOSPYRACEÆ, a natural order of plants, called by Ventenot and Lindley the Ebenaceæ, or ebony tribe. They consist of trees or shrubs, and include two East Indian genera, Diospyros and Maba. The species of Diospyros form large trees, with alternate thick and often leathery leaves, remarkable for the hardness and the blackness of the wood of some species, and for the edible fruits of others, the woods being the ebonies and iron-woods of commerce. The fruits are noted for

their extreme acerbity before arriving at maturity, but they are sometimes brought from China as a preserve. Diospyros kaki is common to Nepal, China, and Japan; D. melanoxylon and D. chloroxylon, of the mountains of the Peninsula. D. embryopteris, found with them, extends from Sylhet and Bengal near to the Dehra Doon along the foot of the mountains, and D. montana to the borders of the Ruenka lake near Nahn. D. cordifolia seems to be common in every part of India, and D. tomentosa, first described by Dr. Roxburgh, from the northern parts of Bengal, extends to the Kheree jungle, and the foot of the lower hills; the same species appears also to exist in the central range. D. Roylei, *Wall. Cat. N.*, 4134, is a nearly-allied species, growing in abundance near Ajyghur and the Bisrumganj Ghat. Wight, in Icones, gives 15 species, and Mr. Gamble notices 41. Besides those noticed here, authors mention D. bracteata, *Roxb.*, of the Doab, D. cerasifolia, *D. Don*, Nepal, D. frutescens, *Bl.*, and D. macrophylla, *Bl.*, of Java, and D. serrata, *Buch.*, of Nepal. D. Candolleana, *W. Ic.*; Homedereya-gass, SINGH.; in Ceylon, a middle-sized tree, in the Saffragam district and Hinidoon Corle.

D. acuta, *Thw.*, and D. attenuata, *Thw.*, are middle-sized trees of Pasdoon Corle, in Ceylon.

D. affinis, *Thw.*, a middle-sized tree growing at Ooma Oya, on the lower road from Kandy to Badulla, in Ceylon; branches sub-glabrous; timber is suitable for building purposes.

D. calycina, *Bedd.* This good-sized tree, everywhere glabrous, leaves dark shining green, has only been observed in the Tinnevelly district and southern portions of Madura, where, however, it is very abundant in the ghat forests from the foot up to 3000 feet elevation. It yields a valuable light-coloured wood, which is much in use in the Tinnevelly district.—*Thwaites, Zeyl.* p. 181; *Roxb.; Eng. Cyc.; Dr. Mason; Royle, Ill. Him. Bot.* p. 262; *Wight, Icones; Bedd.*

DIOSPYROS CANARICA. *Bedd.* A good-sized tree, glabrous; leaves oblong to obovato-oblong. South Canara plains, near the foot of the ghats, called Kara-mara, allied to D. Arnottiana.—*Miq. in Bedd. Ic. Plant.*

DIOSPYROS CHLOROXYLON. *Roxb.*

Nulla ulemara wood.	Nalla ulimera, . . TEL.
Ullinda, ... TEL.	Illinda, ... ,,
Nallaulemara kurra, ,,	Pedda ulimera, . . ,,
Peddi illinda, . . ,,	

Grows to a large tree on the Circar mountains, and gives a very hard, useful wood; whereas it is generally a shrub about the Godavery forests. The fruit is edible.—*Roxb.* ii. p. 538; *Voigt; Beddome.*

DIOSPYROS CORDIFOLIA. *Roxb.*

Diospyros montana, *Wight??*

Ban-gab, ... BENG.	Nalla ulimera, . . TEL.
Goundhan, . . . MAHR.	Kaka ulimera, . . ,,
Vuckan maram, . TAM.	Nalla urimida, . . ,,

Grows in Ceylon near Jaffna, in the Peninsula of India, in Coimbatore, and in Bengal. It yields a hard, heavy, strong wood, of a dark-brown colour, and difficult to work. Not uncommon in the Bombay side of India, but more in ravines and waste places than in forests; and Dr. Gibson had never seen a tree that would turn out a log 4 inches square. The wood is strong and durable.—*Roxb.* ii. 538; *Wight; Gibson; Thwaites; Voigt.*

DIOSPYROS CRUMENTATA. *Thw.* A very large tree of the central province of Ceylon; branches glabrous; leaves glabrous, oblong, abruptly and obtusely acuminate; growing at an elevation of 2000 to 4000 feet.—*Thw.; Bedd. Ic.*

DIOSPYROS EBENUM. *Linn.* Ebony.

Diospyros ebenaster, *Retz.* | Hebenaster, *Rumph.*

Abnoos, . ARAB., PERS.	Kal oowara gass, SINGH.
Kara mara, . . . CAN.	Kadu beriya? . . ,,
Steinholz, . . . GER.	Kaka-tati; Atcham, TAM.
Ἔβενος, ... GR.	Tumbi maram, . . ,,
Habenim, . . . HEB.	Tuki, ... TEL.
Tendu, Tendua (the white wood), . . HIND.	Toomika chava, . ,,
	Kendhoo, . . URIYA.

The timber of this great tree yields the best kind of ebony wood. In Exodus xxvii. 15, it is mentioned as brought with ivory by the men of Dedan. It seems to have been then brought both from Ethiopia and India, though Virgil appears to have been unaware of this, for he says (Georg. ii. p. 115),—

'Sola India nigrum
Fert ebenum.'

It was highly esteemed by the ancients. In Ceylon it is found not uncommon up to an elevation of 5000 feet, in great abundance in the north of the island, and to some extent in the Kandyan country. The great weight of the timber renders its transport very costly, unless where water conveyance can be obtained, which is seldom the case, but during the rainy months; and though immense forests of this wood still exist in the island, they are to a great extent too far from a port of shipment to be available. The exports of ebony have varied much of late years from 15,000 to 5000 cwts.

This valuable tree is not uncommon in the mountain forests on both sides of the Madras Presidency, and in Ceylon, and is well known in the Kurnool and Cuddapah forests, where it yields the best kind of ebony, generally jet black, but sometimes highly streaked with yellow or brown. It is very heavy, close, and even-grained, and takes a high polish; unseasoned, it weighs 90 to 100 lbs. the cubic foot, 81 lbs. when seasoned, and has a specific gravity of 1·296. It is used for inlaying and ornamental turnery, and sometimes for furniture. The sap-wood is white, hard, close-grained and strong, but not durable, but is used by the natives for various purposes.—*Roxb.; Thwaites; Tredgold; Holtzappfel.*

DIOSPYROS EMBRYOPTERIS. *Pers.*

D. glutinosa, *Kon.*; Embryopteris glutinosa, *W. Ic.*
E. glutinifera, *Roxb.*

Tumika, ... BENG.	Timbiri, . SANSK., SINGH.
Gab, . . BENG., HIND.	Tumbikai, . . . TAM.
Yendaik, ... BURM.	Tubiki, Tinduki, . TEL.
Timburi, ... DEKH.	Tumiki, ... ,,

Grows in the south of Ceylon, in damp forests, also in the Peninsula of India, in the Circars, all along the foot of the Himalaya to Sylhet and Assam. It is a common tree on the western coast of the Peninsula, particularly near marine lagoons, and is also found in many of the forests in Bengal, Mysore, and Bombay. The timber is only of average quality, but is used in Ceylon for the masts and yards of country vessels and for building purposes; and the fruit rusty-coloured, abounding in a viscid glutinous astringent juice, obnoxious to insects, and used by bookbinders, also for paying boats' bottoms, and also in infusion for

soaking fishing nets, as it contains much tannin. Thwaites describes three varieties :—

Var. β. Atrata; foliis membranaceis, gemmis, pedunculis calyceque nigro-pilosis.

Var. γ. Nervoia; foliis brevioribus, coriaceis, utrinque valde prominentim venosis, basi, rotundatis; gemmis, pedunculis calyceque nigropilosis; lobis calycis fructiferi erectis.

Var. α. is very abundant in the hotter parts of the island. Var. β. Less common, but generally distributed. Var. γ. In damp forests towards the south of the island. Wood indifferent, and not much used.—*Roxb.* ii. p. 533; *Rohde's MSS.; Voigt; Thw. En. Pl. Zeyl.* iii. p. 178; *Beddome.*

DIOSPYROS EXSCULPTA. *Ham., D. C.*

Diospyros tomentosa, *Roxb.* | Tumki, ... TEL.
Tumboornee, . . MAHR.

This is a valuable tree, not uncommon in the Cuddapah, Salem, and Kurnool forests, and probably elsewhere in the Madras Presidency, and is found in Bengal and Bombay. It grows to a considerable size, and yields a valuable jet-black ebony, so very similar to that of D. ebenum, that Colonel Beddome doubts if the two woods could be easily differentiated. The tree sheds all its leaves in the cold season, and they appear again with the flowers in the beginning of the hot weather.—*Beddome, Fl. Sylv.* p. 66.

DIOSPYROS GARDENERI. *Thw.* Kadoombaireya-gass, SINGH. A middle-sized tree of Ceylon, in the Saffragam and Kornegalle districts, and, less commonly, near Kandy, up to 2000 feet of elevation; branches terete, glabrous. It yields a valuable timber for building and cabinet purposes.—*Bedd. Ic. Plant.; Thw. Zeyl.* p. 181.

DIOSPYROS HIRSUTA. *Linn fils.*

Calamander wood tree. | Koul-midrie, . . SINGH.
Calu midiriya, . SINGH. | Calamander maram, TAM.

A middle-sized tree in the Saffragam and Galle forests of Ceylon. It furnishes one of the calamander woods of commerce. The figure is between that of a rosewood and zebra-wood; the colour of the ground is usually of a red hazel brown, described also as chocolate brown, with black stripes and marks. Veneer saws cut it without difficulty, and it turns well. A cubic foot weighs 57 lbs. It is a scarce though beautiful wood, close-grained, and the most valuable for ornamental purposes in Ceylon. It is exceedingly hard, and finely veined, with different shades of black and brown.—*Ains.; Tredgold; Holtzappfel; Mr. Faulkner; Thw. En. Pl. Z.* p. 181.

DIOSPYROS INSIGNIS. *Thw.* Gona-gass, SINGH. A very large tree of the damp forests of Ceylon, growing up to an elevation of 2000 feet; also in the dense forests of the Animallays; young branches slightly pilose.—*Thw.* p. 180.

DIOSPYROS KAKI. *Linn.*

D. Chinensis, *Bl.* | Embryopteros kaki, *G. Don.*
Tee-tee, Tay-tee, BURM. | Persimmon of China.
Sz, Tsz, ... CHIN. | Keg fig of Japan.
Chinese date, . . ENG. | Chinese fig.
Date plum of China.

A tree of Nepal, Burma, Cochin-China, and celebrated in China and Japan, where it is common. The fruit in Japan and China attains the size of an orange, and is frequently sent to Europe in a dried state. Preserved in sugar, it is a large, thin-skinned, juicy fruit of an orange-yellow colour, with a sweet taste. The tree is occasionally cultivated by the Burmese, but it bears fruit very sparingly, and is by no means equal to a good apple.—*Roxb.* ii. 527; *Mason; Eng. Cyc; Smith.*

DIOSPYROS KURZII. *Hiern.* A timber tree of the Andamans.

DIOSPYROS LOTUS. *Linn.*

Meh-tsau-rh, . . CHIN. | Date plum, . . . ENG.
Green ebony tree, ENG. | Amlok, Malok, . HIND.

This is the true lotus of the Lotophagi. It is common in Kaghan, in the hills and gardens of Murri and Hazara and N. China. In parts of Hazara the male plant is called Gwalidar, and the female Amlok. Timber good. In Hazara it is valued chiefly for its fruit, which is purple in colour, and about the size of a cherry or a pigeon's egg; it is eaten either fresh or dried. The tree is not uncommon in the western part of the Jhelum basin from 2500 to 6000 feet, and appears to be common in some parts of the northern Trans-Indus hills; and one or two specimens were grown at Peshawur. It is a handsome little tree, growing generally to 3 or 4 feet in girth, the largest seen being one of 6 feet girth and 35 feet high at Jared in Kaghan, and another about the same size on the Kishenganga. There are three trees (probably introduced by fakirs) at Juggatsukh (6000 feet) in Kullu, and there called Bissahripala, the largest of 12 feet girth. Griffith remarks that the fruit is not worthy of any notice; but when fresh or even carefully dried, it is sweet and pleasant enough, and the Afghans, etc., prize it, large quantities being brought to the Peshawur bazar from Swat, etc. Bellew mentions that it is eaten plain or with rice, or is used in sherbets. It has the appearance of a dried cherry, but darker in colour. Irvine states that, in the Panjab, spirits are distilled from the fruit.—*Drs. Irvine, J. L. Stewart, Cleghorn; V. Mueller; Smith.*

DIOSPYROS MABOLA. *Roxb.*

D. discolor, *Willd.* | Cavamillea Philippensis, *Desrouss.*
Embryopteris disc, *G. Don.*

Often called Mangosteen, under which name it is cultivated extensively in gardens at Vizagapatam. It is a small tree, native of the Philippine Islands: wood black, very compact. The fruit, called Mabola, is brown, with a pink-coloured fleshy rind about the size of a quince; its flavour is said to be agreeable.—*G. Don; Madras Ex. Ju. R.*

DIOSPYROS MELANOXYLON. *Roxb.*

Abnus, . . ARAB., PERS. | Tendu, ... HIND.
Kendu, Kiu, . . BENG. | Tumbali maram, . TAM.
Ouk-chin-ya, . . BURM. | Tumma chettu, . TEL.
Balai? . . . . CAN. | Tumida, Tummika, ,,
Wu-mu, Wu-pi, . CHIN.

It is the ebony tree of the Coromandel coast, and is found on the mountains of that coast, as well as on those of Malabar and Ceylon. The fruit is eaten by the poor. The leaves are deciduous in the cold season, the new ones appearing with the flowers in April and May. As in other species, it is only the centre of the large trees that is black and valuable, and this varies in quantity according to the age of the tree. The outside wood, which is white and soft, time and insects soon destroy, leaving the black untouched. The ripe fruit is eaten by the natives, though rather astringent, as is also the bark. It grows in Coimbatore, North Canara, in Malabar, and Orissa, near the Godavery. It is a very large tree in Coimbatore. Its white wood is used for common purposes. It is found sparingly in North Canara, as below the Woolwa Ghat, and near Meerjan island. Accord-

ing to Dr. M'Clelland, it occurs plentifully in the southern forests of Pegu, from 15 to 18 inches in diameter and 50 to 70 feet in length, and might afford spars for naval purposes; but Dr. Brandis does not mention this as a Pegu tree.—*Drs. Ainslie, Roxb.* ii. 530; *Beddome.*

DIOSPYROS MICROPHYLLA. *Bedd.* A lofty tree of the Animallay dense forests up to 3000 feet elevation; very common in South Canara, forests of the ghats and plains (Sooleya), Wynad; trunk very straight, young branches verticellate; it has the habit of Leucoxylon buxifolium.—*Mig.*

DIOSPYROS MOLLIS? Ma-kleu, BURM. One of the black-dye plants. The blossoms of the shoe-flower plant are used by the Chinese to dye leather black, the juice of the cashew tree gives a black to linen, and the fruit of the melastoma affords a black dye. The celebrated vegetable Shan black dye is made from the fruit of this species of ebony, which is said to grow on the mountains that separate the province of Tavoy from the Siamese territories. Isolated plants may be seen in the gardens of Tavoy and Moulmein.—*Mason.*

DIOSPYROS MONTANA. *Roxb.*

Diospyros cordifolia, *Roxb., W. Ic.*

Kendu of Beas and Doab.	Hirek, Pasendu, . PANJ.
Teemroo, . . . MAHR.	Erra gadda, . . . TEL.
Teemboorni, . . „	

A middle-sized, handsome tree of the Circar mountains, in the hills eastward from Panwell, extending northwards to Ruenka lake, near Nahn; very common in the larger Bombay jungles, both near the coast and elsewhere, and it would be one of the most common of their mountain trees if allowed to grow; but it is generally cut off for burning material, or such like worthless purposes. It is not uncommon along the Siwalik tract up to near the Ravi, and occasionally out in the plains westward from Dehli to near Sirsa. Wood dark and strong, fitted for agricultural implements, indoor work, etc.; does not bear exposure, and could not be creosoted. Dr. Roxburgh says it is hard and durable, and is variegated with dark and white coloured veins. Dr. Stewart says it ordinarily grows to about 3 feet girth, but he had seen two trees of 7 feet. The wood is used for native roofs, etc. The fruit is not eaten, and he had heard it called poisonous. In some places it is applied to the hands for the boils to which the Bhisti are subject.—*Drs. Roxb.* ii. p. 538, *Ainslie, Voigt, Gibson, Stewart.*

DIOSPYROS MOONII. *Thw.* A middle-sized Ceylon tree near Cultura and Pasdoon Corle. Branches terete, slightly pilose when young, but soon glabrous.—*Thw. Zeyl.*

DIOSPYROS NIGRICANS. *Dalz.* A tree of the Bombay Ghats, arboreous, glabrous, turning very black in drying; leaves membranaceous, glabrous.—*Bedd. Ic. Plant.*

DIOSPYROS NILAGIRICA. *Bedd.* A middling-sized tree of Sispara Ghat, Neilgherries, allied to D. Candolleana of Wight.—*Bedd. Ic. Plant; Thw. En. Pl. Zeyl.* p. 182.

DIOSPYROS OOCARPA. *Thw.* Kalooka-doombaireya-gass, SINGH. A middle-sized Ceylon tree of the Kornegalle district, and at Haragam, near Kandy, at no great elevation. It furnishes one of the calamander woods.—*Thw. Zeyl.*

DIOSPYROS OPPOSITIFOLIA. *Thw.* Kaloo midereya-gass, SINGH. A middle-sized tree of Ceylon at Hinidoon Corle, up to an elevation of 1000 feet; leaves opposite, slightly pilose when young. The timber much resembles the true calamander wood.—*Thw. Zeyl.; Bedd. Ic. Plant.*

DIOSPYROS OVALIFOLIA. *W. Ic.* t. 1227. A middle-sized Ceylon tree at Jaffna, in the central province, at Hewahette and below Hapootelle, at an elevation of 2000 to 4000 feet.—*Thw. En.*

DIOSPYROS PANICULATA. *Dalz.* A middling-sized tree; branches glabrous; leaves glabrous, lanceolate; grows in Bombay Ghats and in the Carcoor Ghat, Wynad, at 2000 to 3000 feet elevation.—*Bedd. Ic. Plant.*

DIOSPYROS PRURIENS. *Dalz.* A small or middling-sized tree; young branches densely hirsute, with long yellow hairs; very common throughout the Wynad up to 3000 feet elevation; also in the Animallays, the South Canara Ghats and plains, Tinnevelly and Bombay Ghats, also found in Ceylon.—*Bedd. Ic. Plant.*

DIOSPYROS QUÆSITA. *Thw.* Kaloo midereya-gass, SINGH. A great tree of Ceylon, at Singheraja and other forests between Ratnapura and Galle. This species produces the most valuable of the timber known as calamander wood, so much esteemed for ornamental cabinet work. Its branches are glabrous, leaves glabrous, prominently reticulated. D. quæsita is nearly allied to D. crumenata, but its larger leaves and fruit, and its pentamerous flowers, well distinguish it.—*Thw.*

DIOSPYROS SYLVATICA. *Roxb.*

Soondoo kadoombaireya-gass, ... SINGH.	Tella-goda, . . . TEL.

A middling-sized tree, common in the Peninsula in many of the western coast forests up to about 3000 feet, also in the forests of the Northern Division and in Ceylon, in the damp forests in the Hantani district and near Ratnapura, up to an elevation of 4000 feet.—*Roxb.* ii. 537; *Thw. Zeyl.*

DIOSPYROS THWAITESII. *Bedd.* A middling-sized tree; branchlets, young leaves, and inflorescence rufo-tomentose; grows in Ceylon at no great elevation; allied to, but quite distinct from, D. Candolleana of Wight.—*Bedd. Ic. Plant.*

DIOSPYROS TOMENTOSA. *Roxb.*

D. lotus, *Linn.*

Tumal, Kiu, . . BENG.	Mit'ha tendu, . . HIND.
Baulay, ... CAN.	Kendu, ... PANJ.
Mau-tsz, . . . CHIN.	Kaka tanduka, . SANSK.
Tumal, ... HIND.	Chitta tumiki, . TEL.

This tall, elegant tree grows in the northern part of Bengal, in the Panjab, in Kullu and Kangra, and is common in the Siwalik tract, westward near to the Ravi, and extending to the Kherre jungle. It attains full size in 60 years. Length of trunk to first branch, 8 or 10 feet, and girth 4 feet. The wood of young trees is white, but that of old trees is black, and is termed Abnus; sap-wood soft; when the heart-wood becomes black, it is fine, extremely hard, but somewhat brittle, and is used by agriculturists for ploughs, and for the woodwork of their houses. It carves well, and insects are said not to touch it. In and near the Rohilkhand Siwalik tract, handsome workboxes, etc., are made from the wood; combs are made from it in the Ambala district. In Kangra, etc., it is used for ploughs, in house-building, and for small boxes. The fruit, which is said to ripen in June with the mango, is eaten, being sweetish and astringent, and not unpleasant. Raspings of the wood, called Burad-i-abnus, are

officinal, being given as an alterative.—*Roxb.* ii. 532; *Lt.-Col. Lake; Cleghorn; Kullu; Stewart.*

DIOSPYROS TOPOSIA. *Ham.*

D. racemosa, *Roxb.*; Embryopteris racemosa, *G. Don.* Kaha-kaala, . . SINGH. | Tovaray, ... TAM.

A middling-sized tree of Ceylon, of the Tinnevelly Hills, and of Sylhet; glabrous, leaves coriaceous, not uncommon in damp forests up to an elevation of 4000 feet.—*Thw. Zeyl.* iii. p. 179.

DIOSPYROS WIGHTIANA. *Wall., D. C.*

Tendu, ... HIND. | Tumi, Tumbi, TAM., TEL.

This tree is common in most of the dry forests of S. India, and quite answers to the description of D. Wightiana, as given in De Candolle's Prodromus. Its heart-wood yields a jet black ebony like D. ebenum and D. exsculpta, but the trees are always small and stunted in the trunk; and Colonel Beddome says all ebony in log comes from D. ebenum and D. exsculpta. It sheds its leaves in the cold season, and they appear again with the flowers yearly in the hot season.—*Bedd. Fl. Sylv.* part vi. p. 67.

DIPALDINI, a ruined city between the ancient city of D'haranikotah and the more modern town of Amaravati, in the Guntur district of the Madras Presidency. It contains the ruins of one of the most magnificent dahgopas ever constructed. Many of the sculptures obtained from it were sent to Great Britain by the Editor, from the Government Central Museum, Madras, and are lodged in the British Museum.

DIPA MALA, a Sikh festival on the 14th of the dark half of Kartik. It means a garland of lights; a pillar in front of a temple, on which lights are put. The Dipmal pedestal is an essential part of every large Hindu temple. It is often of great height, and furnished with niches or brackets, each of which holds a lamp on festivals, especially on that of the Dewali, the feast of lamps, celebrated in the autumn in honour of the Hindu goddess Bahwani or Kali.

The Dipawali, Dipali, or Diwali, is a Hindu festival in honour of the Hindu god Kartakeya, held on the new moon of the month Kartik, in September or October, when lamps are lighted by every one, after a little oil is put on the head to commemorate the killing of Narakasura by Krishna.—*Wilson.*

DIPDAN or Deepdan. HIND. In E. Oudh and Benares, is land assigned to Brahmans on the banks of rivers, to deprecate river encroachment. The word is derived from Deep, an island, and Dan, a gift.—*Elliot.*

DIP-DAN. HIND. A Hindu ceremony of suspending dipa, a lamp, to a pipal or other tree for ten days, after the death of a relative, in order to light the spirit on its way to Yamapuri, the city of Yama, the judge of the dead. Yamapuri is declared in the Hindu sacred books to be the general rendezvous of the departed from all parts of the world, from which they proceed in a body with a proper guard, composed of the servants of Yama (Pluto) to Dharmapuri. Also, presenting a lamp to the Ganges, setting it afloat on the river lighted, and watching for its extinction, as ominous of future good or ill luck.

Dip-Dan, or lamp-post pillars, are very common in the south of India near Jaina buildings, standing either singly or in pairs, in front of the gopuras. All the Hindu temples are provided with them. They generally consist of a single block of granite, square at base, changing to an octagon, and again to a figure of sixteen sides, with a capital of very elegant shape; some, however, are circular.—*Fergusson; As. Res.* x. p. 145; *Elliot.*

DIPLICUS and Mimulus. Monkey flower.

DIPLOSPORA APIOCARPA. *Dalz.* This large tree grows on the Coimbatore Hills (Matikolam, 4500 feet elevation), on the Sispara Ghat (Neilgherries), and in the Wynad (2800 feet elevation); and Mr. Dalzell found it on the Bombay Ghats. It flowers in the rains, and ripens its fruit in January; timber not known.—*Beddome, Fl. Sylv.* part xix. p. 223.

DIPS or Dibs. EGYPT. Honey of sugar, raisins.

DIPSACUS FULLONUM, teasle or fullers' thistle, according to Royle, is the Dunsakoos of the Indian Materia Medica.—*O'Sh.* p. 404.

DIPSAS. *Laurenti.* Bungarus, *Oppel.* A genus of serpents of the family Dipsadidæ, placed by Cuvier under the great genus Coluber:

Dipsas cynodon, *C. and V.*, Thayetmyo, Tenasserim.
D. trigonata, *Schn.*, Subathoo, Jessore.
D. Forsteni, *D. and B.*, Bengal.
D. nigro-marginata, *Blyth.*
D. bubalina, *Klein.*
D. multimaculata, *Schl.*, Hong-Kong.
D. multifasciata, *Blyth*, Subathoo.
D. hexagonotus, *Blyth*, Andamans.
D. boops, *Gunth.*, Bengal, Borneo.
D. dendrophila, *Reinw.*, Penang.
D. gokool, *Gray*, Bengal, Penang.
D. Ceylonensis, *Gunth.*, Ceylon.

Dipsas cynodon? *Schlegel.* Scutæ, 240; scutellæ, 110; rows of scales, 21. Only found in forests on the west coast.

Dipsas trigonata, Tati kattaday, TEL.; Peri surutay, TAM. Scuta, 235; scutella, 83. Common in the Karnatic.

DIPSAS, a genus of lepidopterous insects, the larvæ of which have several curious modes of working. Those of D. isocrates occupy the interior of a pomegranate, which they enclose in a web, to prevent it falling.

DIPTERA, an order of insects, gnats, flies, etc., sec. Athericera, fam. Muscidæ, comprising,—

Diopsis Westwoodii, *De Haan*, Java.
D. sub-notata, *Westw.*, Philippines.
D. sphryracephala, *Westw.*, Nemuch, India.
D. achias, maculipennis, *Westw.*, Java.
D. colax variegatus, *Westw.*, Java.

Midas ruficornis occurs in Tranquebar. About fifty species occur in Ceylon, the most troublesome of the mosquitoes being Culex laniger, on the coast. The genera Sciara, Cecidomyia, and Similium have each one species there. The Peepsa, a troublesome dipterous insect, very small and black, floats like a speck before the eye. The bite of this leaves a small spot of extravasated blood under the cuticle, very irritating if not opened.—*Journ. As. Soc. Bengal*, No. xxix. p. 426. See Insects.

DIPTERIS HORSFIELDII and Mationia pectinia are two ferns of Mount Ophir in Malacca. They bear large spreading palmate fronds, on slender stems six or eight feet high.—*Wallace*, p. 31.

DIPTERIX ODORATA. Tonkin bean; Coumarouna odorata. A native of the woods of Guiana, used as a perfume for snuff.—*O'Sh.* p. 304.

DIPTEROCARPEÆ, the camphor tree tribe, a natural order of plants, generally large trees, which grow in the East Indies and Java, viz. Dipterocarpus, Doona, Hopea, Shorea, Vatica, and Vateria, with about 35 species. More than two-thirds of the species inhabit mountainous or hilly parts of the two Peninsulas. In Madras they are all natives of the hilly tracts of

the Balaghat. In Sylhet, Chittagong, and Pegu, where they abound, they, however, occupy the plains. In Java, one species, the Dipterocarpus littoralis, is found on the sea-shore. A Hopea and the Vateria Indica also approach the coast in Malabar, but the latter, or perhaps a distinct species, is also plentiful in Mysore. Two or three species are found in Gumsur, forming extensive forests. Almost every species abounds in a balsamic resinous juice. That from the genera Vatica and Vateria hardens on exposure, and is called dammer, but the exudations from the Dipterocarpi retain their fluidity, and are the wood-oils of the bazars. Some of the species produce a fragrant resin, which is used as incense in the temples. Dammer is used in India for most of the purposes to which pitch and resin are applied in Europe. Wood-oil alone, or thickened with dammer, supplies a useful varnish for wood, possessing the valuable property of repelling for a long time the attacks of white ants, as well as of resisting the influence of the climate. The species abound in Sumatra, Java, and Borneo, and are the chief sources of the dammer of commerce. Borneo tallow is said to be obtained from the seeds of a Dipterocarpus tree, and is generally run, whilst melted, into joints of bamboo. It has a pale greenish tint, is very hard, and approximates nearly to a vegetable wax. Several trees of the genus Dipterocarpus produce a nut, that, when compressed, yields a fatty oil, which, having been recently sent to England, has been used extensively under the names of vegetable tallow and vegetable wax. Three species of this genus are common in Sarawak, under the name of Mencabang. One of them, Mencabang pinang, is valued for its close-grained timber; the others do not grow so large in size, but have larger leaves and fruit. The one most valued for producing the oil is a fine tree growing on the banks of the Sarawak river; it attains the height of forty feet. The leaves being large, and the branches drooping towards the water, give it a very beautiful appearance; its fruit is produced in the greatest profusion about December and January, being as large as a walnut, with two long wings to the seed. These nuts are collected by the natives, and yield a very large proportion of oil, which, on being allowed to cool, takes the consistence of sperm, and in appearance very much resembles that substance. The natives value this as a cooking oil. In England it has proved to be the best lubricating substance for steam machinery, far surpassing even olive oil; and it has been used in Manilla in the manufacture of candles, and found to answer admirably. It will doubtless be applied to many other purposes. From the quickness of its growth, and the great profusion with which it bears its fruit, it will, should the demand for it continue, become a profitable object for cultivation, by which the quality and quantity would most likely be improved and increased. It is also found in Java and Sumatra; and a similar substance has been lately sent from China. In Borneo the oil is called by the natives indifferently, Miniak mencabang, or Miniak tankawan. The wood-oils dissolve caoutchouc, and have medicinal properties similar to copaiba. D. lævis, D. turbinatus, and D. alatus are useful for planking when not exposed to wet; extensively used in the Straits for this purpose in house-building. They are magnificent forest trees, growing straight to the height of 250 feet and more.—*Wight; Voigt*, p. 124; *Crawfurd, Dictionary*, p. 118; *Low's Sarawak; London Ex.* 1862; *Royle, Ill. Him. Bot.; M'Clelland.*

DIPTEROCARPUS ALATUS. *Roxb.*

Battee sal, . . . Beng. | Aing? . . . . . Burm.
Ka-nyin, ... Burm. | Wood-oil tree, . . Eng.

A magnificent forest tree of Pegu and the Mascal Islands, rising 250 feet in height. It is found chiefly to grow on laterite in the Tounghoo and Prome districts. Its wood is of a light-brown colour. A cubic foot weighs 38 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 100 feet, and average girth measured at 6 feet from the ground, is 25 feet. It sells at 4 annas per cubic foot. This timber is excellent for every purpose of house-building, especially for posts. It is useful for planking when not exposed to wet, and is extensively used in the Straits for house-building; when exposed to wet, however, it rapidly decays, and canoes made of it do not last over three or four years.—*Drs. Roxb.* ii. p. 6, *M'Clelland, Brandis.*

DIPTEROCARPUS ANGUSTIFOLIUS. *Roxb.*

D. costatus, *Roxb.* | Tilla garjan, . . Rakh.

A large tree of Chittagong, furnishing a wood-oil in the largest quantity.—*Roxb.* ii. p. 613.

DIPTEROCARPUS GLANDULOSUS. *Thw.*

Dorana, Singh. A large Ceylon tree, growing in the Saffragam and Ambagamowa districts, at no great elevation.—*Thw.*

DIPTEROCARPUS GRANDIFLORA. *Wall.*

Eng, En, Ain tha, Burm. | Kunnean phiu, . . Burm.

An immense tree of Burma, Pegu, and Tavoy, which grows on the sandy plains near the sea-shore, and on a similar soil in the interior. This tree, in company with a few other kinds, forms extensive forests, which cover upwards of 2000 square miles in the province of Pegu. The wood is somewhat more durable than that of D. alatus, and is used for canoes, house-posts, planking, etc. A cubic foot weighs 55 pounds. In a full-grown tree on good soil the average length of the trunk to the first branch is 60 feet, and the average girth measured at 6 feet from the ground is 10 feet. It sells at 8 annas per cubic foot.—*Drs. Wallich, Brandis, and Mason; Col. Frith.*

DIPTEROCARPUS HISPIDUS. *Thwaites.*

Boohora-gass, Singh. An immense tree of Ceylon, growing in the Saffragam district at no great elevation.—*Thwaites.*

DIPTEROCARPUS INCANUS, a tree of Chittagong. All the tender parts hairy.—*Roxb.*

DIPTEROCARPUS INDICUS. *Bedd.* Common in all the ghat forests of the Peninsula, from Canara down to Cape Comorin; very abundant in S. Canara, where it is called guga. Its timber is very open in the grain, and not durable, but is occasionally used for various purposes; the tree yields a wood-oil, but it is never extracted. The liquid balsam, like copaiba, sold in Trevandrum, and the produce of a tree from those ghats, is not from this tree, but is extracted from the Hardwickii pinnata.—*Beddome, Fl. Sylv.* p. 94.

DIPTEROCARPUS INSIGNIS. *Thw.* An immense tree of the Saffragam district, in Ceylon.—*Thwaites.*

DIPTEROCARPUS LÆVIS. *Bach.*

D. turbinatus, *Roxb.*

Tilea gurjun, . . Beng. | Ka nyeen phyu, . Burm.
Ka nyeen tha?. . Burm. | Wood-oil tree, . . Eng.
Ka nyeen nee, . . ,, | Horre, . . . Singh.?

This majestic tree grows to a height of 250 feet. It is met with in Assam, Tiperah, Chittagong, Burma, and Pegu, and is very abundant all over the provinces of Amherst, Tavoy, and Mergui, where its wood is used similarly to D. alatus. Dr. Mason says it is a very useful timber, which is sawn into boards at Tavoy and Mergui, and used in house-building. Where not exposed to the wet, they answer as well as teak, and are sold at half the price; they are, however, not impervious to white ants. Captain Dance, who tells us that it is used for rafters and planks, adds that it is an inferior wood, by no means durable, as it rots as soon as it is exposed to water, and shrinks readily. He says that Dr. M'Clelland speaks of this wood more favourably, but thinks he must mean some other wood, as this is decidedly bad, very porous, and when kept the oil oozes out and stands in globules over it. It warps to a great extent, and, though used for cases, does not last for more than about two years. In the cold weather the tree is largely notched near the ground, and the wound charred. After this the oil or balsam begins to ooze out, sometimes forty gallons daily,—a balsam that compares favourably with balsam of copaiba. Maximum girth, 6 cubits; maximum length, 70 feet. When seasoned, floats in water.—*Roxb.* ii. p. 612; *Drs. Mason, Voigt; Captains Dance and Benson; Dr. M'Clelland's Report*, No. 81, p. 135.

DIPTEROCARPUS OBLONGIFOLIUS, *Thw.*, and D. scabridus, *Thw.*, are great trees near Ratnapura, in Ceylon.—*Thwaites.*

DIPTEROCARPUS TUBERCULATUS, *Roxb.*, of Chittagong, D. pilosus of the Mascal Island, are also known.—*Roxb.* ii. 614.

DIPTEROCARPUS TURBINATUS. *Roxb.*

Shweta-garjan, . . Beng. | Hora-gaha, . . . Singh.
Ka-nyin, ... Burm. |

A native of Chittagong, Tiperah, Pegu, etc., to the eastward of Bengal, where it grows to be an immense tree, and is famous all over the eastern parts of India and the Malay Islands, on account of its thin liquid balsam or wood-oil. To procure this balsam, a large notch is cut into the trunk of the tree about 30 inches from the ground, where a fire is kept up until the wood is charred, soon after which the liquid begins to ooze out. A small gutter is cut in the wood to conduct the liquid into a vessel placed to receive it. The average produce of the best trees during the season is said to be sometimes forty gallons. It is found necessary every week to cut off the old charred surfaces and burn it afresh. In large healthy trees, abounding in balsam, they even cut a second notch in some other part of the tree, and clear it as at first. These operations are performed during the months of November to February. Should any of the trees appear sickly the following season, one or more years' respite is given them.

This is the most superb tree to be met with in the Indian forests. It is conspicuous for its gigantic size, and for the straightness and graceful form of its tall unbranched pale-grey trunk, and small symmetrical crown. Many individuals are upwards of 200 feet high, and 15 in girth. Its leaves are broad, glossy, and beautiful; the flowers are not conspicuous; the wood is light-brown, hard, close-grained, and durable, and fit for any purpose for which sal is employed, and is chiefly employed for canoe and boat building.—*Roxburgh*, ii. p. 612; *Rohde's MSS.; Hooker, Him. Jour.* ii. p. 348; *M'Clelland.*

DIPTEROCARPUS UINER. *Blume.* A tree of Java; yields a resin which is substituted for copaiba, like wood-oil.

DIPTEROCARPUS ZEYLANICUS. *Thw.* Hora-gass, Singh. A great tree in Ceylon, abundant up to an elevation of 3000 feet. A cubic foot weighs 45 pounds; and its timber, which is used for the roofs of common buildings, lasts fifteen years.—*Thwaites; Mendis.*

DIRHAM. Pers. Money. A silver coin; 20 or 25 equal one dinar. The dinar is equal to a ducat or sequin, about 9s. Also name of a weight.

Tatariya dirhams are mentioned by Idrisi as current at Mansura and in the Malay Archipelago about A.D. 900. Mr. Thomas supposes them to be coins of the Tahir dynasty then ruling in Khorasan. According to Ibn Khordadbah, who died about A.D. 912, the Tatariya dirhams were current in the country of Hazara; and, according to Ibn Haukal, who wrote about A.D. 977, these dirhams were also current in the kingdom of Gandhara, which at that time included the Panjab. The dirham and the dinar, even in Akbar's time, were considered old coins. The dirham was silver of 6 or 8 dang,—1 dang = 2 qirat; 1 qirat = 2 tassuj; 1 tassuj = 2 habbas.—*Cunningham, Ancient Geo. of India*, p. 313; *Gloss.*

DIRT-BIRD, also Scavenger Bird, Neophron percnopterus, *Linn.*; also called Dung-kite and Pharaoh's chicken.

DIRZI. Hind. A tailor, whether Hindu or Mahomedan. In Hindustan, the Hindu tailors are in clans,—Sri-bastak, Nam-deo, Tanchara, Dhanesh, Panjabi, Gaur, Kantak.

DISC, Aureole, or Gloire, encircling the heads of gods and saints, signifies perfection. It was originally intended, in the Sabæan worship, to represent the solar orb; but in the course of time the symbol was multipliedly added to, and its meanings similarly increased, and in its changes it has represented the sun, the moon, and the whole planetary system. It has been an emblem of monotheism, tritheism, and polytheism, of particular local divinities, as well as of those with universal dominion. It is put round Vishnu's head.

In Egypt, the Delta, Δ, was originally the type of Baal, afterwards of Siva; and when placed with its apex upwards, Δ, was used to denote fire, the element consecrated to the first-named god. When placed with its apex downwards, ∇, it typified Vishnu or water; and there were many other meanings attached to it, some of them very gross.

Discs of steel, from six to nine inches in diameter, and about an inch of breadth of rim, were carried by all Sikh soldiers. The edges are ground very sharp, and, after having gained velocity by being rotated on the forefinger of the right hand, they are projected to a distance of 50 or 80 yards with considerable force, therefore, but with such want of dexterity or impossibility of regulating their flight, that the bystanders are more in danger than the object of the aim. The Chakra, the discus of the god Vishnu, resembling a wheel or quoit, is whirled round the middle finger. The Chakra is mythologically described as a circular mass of fire, darting flames in all directions, which, thrown by the gods, slays the wicked, and then returns to the hand from which

it issued. The Sikh Akali usually had several of them on their conical caps. They are expensive, and are almost useless weapons.

DISCOBOLI, a family of fishes. First group, Cyclopterina; second group, Liparidina.

DISCOGLOSSIDÆ, a family of reptiles, comprising the genera Megalophrys, Xenophrys, Cacopus.

DISCOGNATHUS NASUTUS, hill-trout.

DISEASE. Hindu sages suppose that diseases are either produced by sins committed in a former state of existence, by derangements of the humours, or by the combination of these two causes. The former are removed by sacrifices, prayers, penance, and gifts; the latter by remedies, regimen, medicine, or surgery. There are also accidental diseases. Simple medicines may be arranged according as they cure deranged air, bile, or phlegm.

DISHA, an Arabian astronomer who flourished in India.

DISMAS and Jesmas, according to Mahomedan tradition, the penitent and impenitent thieves of the gospel.

DISTILLERIES. The principal matters distilled from in India are palm wines, dates, sugar, rice, mahwa flowers, barks, cereals, and substances yielding perfumes. Under native rule, the abkari, or government excise system, was an item in the revenue arrangements of the proprietor of every estate, and he made his own arrangements with the distillers resident thereon. There were one or more small distilleries in almost every village, consisting of an oven, chūlha, and reservoir (garha). In the latter were placed earthen vessels (kunda), into which was placed the material to be distilled, and the product was designated rasi, or fourth quality, which sold at 3¼ annas a garha; tharra or third quality, at 6¼ annas; phūl or second quality, at 12 annas; and tapka, or first quality, at 12 annas. A garha was equal to eight bottles. The British Indian Government early suppressed these small stills, and introduced the system of distilleries at the chief stations, which are farmed out to the highest bidder; and the spirits are called once-distilled (ekbara) or double-distilled (do-atasha), according as they have passed once or twice through the still. The mahwa flower of the Bassia latifolia ferments in from five to nine days, and gūr from eight to fifteen days, according to the heat of the weather. A maund or man of mahwa flowers yields four gallons in summer and five gallons in winter of a spirit between 25° or 30°. In the same way, a maund of gur will yield four and three gallons, according to the season.

The Bombay toddy or arrack still consists of a large earthen jar, of the shape of that used by water carriers, but many times more capacious. The receiver is of the same form and material as the still, but somewhat smaller in size,—the former being two and a half, the latter one and a half, feet in diameter. The still mouth is plugged up with a piece of wood luted with clay; a hole is cut in the side of the still near the top, and into this is fastened a wooden spout, which conveys the spirituous vapour to the cooler. This last stands on a tressle or frame of wood, placed over a pit for holding water, and cooling is effected by a man lifting successive fills of water from the well in a cocoanut ladle and pouring it on the top of the cooler. A vessel of water with a small spout or drip is occasionally resorted to.

A cocoanut tree will yield about 4 seers of toddy or sap a day. Seventy-five seers of toddy, or the produce for one day of 18 cocoanut trees, furnish a charge for a still; yield 25 seers of liquor on a first distillation; on the second it affords 8 seers of liquor, considerably under proof. The process of distillation just described is nearly as unskilful as can be; and a third, if not a half, might be added to the returns were a little more care and attention bestowed on the matter. Date and palmyra trees yield toddy as well as cocoanuts.

A strong alcoholic liquor, called mawah, is in popular repute amongst the natives in Western India. The following process is employed in making it at Surat. The berries of the mawah are about the size and form of marbles. They are first steeped or mashed in casks. So soon as they get into a state of active fermentation, the fermented liquor is drawn off and carried to the still, and more water poured over the berries, successive charges being added as long as the worts are strong enough to ferment. A sufficient number of casks, or mash tuns, as they may be called, are employed in the work, so as to permit a charge of the still to be supplied on each drawing off from the fermenting tuns, as it takes a couple of days to complete the process of fermentation; but worts already drawn off would sour were this to be waited for before the first run was run off. The still consists of a wooden tub, with a copper bottom, built over a surface of brickwork; over the mouth of this is placed a huge copper saucer, the centre of the bottom terminating in a nipple. This is placed over the mouth of the tub which contains the liquor, and is fitted tight after the still has been charged; it is then filled with cold water, a fresh supply of which is poured into it from time to time as the original fill gets heated. A bamboo spout passes through the side of the tub just above the level of the liquor inside; it terminates in a flat shovel or ladle-shaped dish under the nipple. Into this the spirit condensed in the under side of the saucer trickles down; it is run off and removed into a suitable receptacle outside. A second or third distillation is resorted to when the liquor is required to be made very strong.

The Portuguese in India, for the purpose of rectification, use a very neat and serviceable variety of still, by them called an alembic. It consists of a common cooking pot as a boiler, with a cylindrical head of the same diameter, and generally about the same depth as the boiler. The bottom of this is a cone closed in at the apex, the mouth of which covers that of the boiler. Around its inner edge is a slight turned-up ledging or flange, from which a pipe or worm leads off the spirit. The cylindrical portion of the top being filled with cold water, the spirituous vapour is condensed by it in the inside of the cone, and, trickling down, is caught by the flange and carried off by the pipe. This is a convenient and serviceable implement, and may be so used to give very excellent results.

In the Panjab, the first spirit that passes over is called phul and ek-atasha, or once-distilled. This is collected in vessels and distilled again in another still; when the spirit passes over, it

is called do-atasha, or double-distilled. This is of two qualities, according to strength. In the Panjab the spices and flavourings, or mesalih, used in distilling, are the following:—Sak, or bark of the kikar, which is often erroneously supposed itself to yield a spirit on distillation, but is only added to promote and accelerate the fermentation of the molasses, etc.; triphalla, the three myrobalans, mixed together as an astringent; rose leaves; lotus flowers (nilofar); gaozaban (Cacalia Kleinii); violets; anise seed (badyan); limes and lemon peel (sangtara); saffron; sandalwood, red and white; mundi buti (sphæranthus); kashnuz (coriander); adrak (ginger); ilachi (cardamoms); musli; darchini (cassia or cinnamon); gajar (carrots dry and fresh); motya (jessamine); seb (apples); naspati (pears); shir (milk); raughan, ghi; meat (?); misri (sugar); tamal patr (aromatic leaves); taj (aromatic flavouring leaves); bed-musk (willow flowers); kasturi (musk); ambar (ambergris); khawi (Anatherium muricatum); khas, root of the latter; chob-chini (Smilax china); salep misri, —are all distilled from.

Distilled waters contain a little of the volatile principles of plants, and may be distilled either off the plants, or by distilling some essential oil with water.—*Powell; O'Shaughnessy; Carnegy.*

DITA, a tree of Mindoro. Its sap, mixed with an infusion of the abyab, or rind of the fruit of the Sago palm (Cabo negro), is used by the wild tribes of Mindoro to poison their arrows.

DIT'HWAN, the Ekadasi, or 11th of the bright half of the moon Kartik, is a day also known to the Hindus of Northern India, by the name of Bodini. On this day a ceremony with music and singing is observed in celebration of Vishnu's return from his slumber of four months, during which he is represented to have been with Raja Bul in Patala, or the infernal regions. The Mudra Rakshasha, a Sanskrit play, says:

'May Vishnu's shrinking glance
Yield peace and joy, as, waking from his trance,
His opening eyes are dazzled by the rays
From lamps divine that blaze:
Those eyes that, with long slumber red,
Ambrosial tear-drops shed,
As, pillowed on his snake-couch 'mid the deep,
He breaks reluctant from his fated sleep.'

It is the close of the rainy season. No marriages, and but few festive ceremonies, have taken place in the meantime, and the Dit'hwan is the signal for their commencement. Houses are cleaned, and smeared afresh with cow-dung. The fruit of the sing'hara, ber, and chunaka-sag, and other dainties of the season, may be lawfully enjoyed (Elliot's Suppl. Gloss.), and the sugar-cane is commenced to be cut, the cultivators bringing home a small quantity of it from a corner of the field, and spreading it out for the reception of the salagram, an ammonite regarded as a type of Vishnu, afterwards cut it at a fortunate hour.

DITI. SANSK. A Kala, or part of the Mula Prakriti.

DITI, the wife of Daksha; also one of the two wives of Kasyapa (Lamech), mother of the Asura or Daitya, who were destroyed by the flood.

DITTANY. Lung-tan-tsau, CHIN. The root of a species of Dictamnus.—*Smith.*

DIU, a small barren island, 6¼ miles long and 1 broad, on the S. coast of Kattyawar. It forms part of the Portuguese possessions in India. A fort was built on it in A.D. 1513. It is separated from the mainland by a shallow strait only navigable by boats at high water. Diu is in lat. 20° 43′ 20″ N., long. 71° 2′ 30″ E., at the entrance of the Gulf of Cambay, near the southern extremity of the peninsula of Gujerat; population, 10,765. The town has been repeatedly besieged by rulers of Gujerat and the Dekhan, but it continues in the power of the Portuguese. The convent of St. Francis is used as a military hospital, that of St. John of God as a place of burial, that of St. Dominic is in ruins.—*Imp. Gaz.; Postans' Western India*, i. p. 112; *Horsburgh; Findlay.*

DIV. SANSK. From Div, the sky, hence the Latin Deus. Divas Pati, lord of heaven, from Div, heaven, Pati, lord.

DIVAKARA. SANSK. From Diva, day, and Kara, from Kree, to do, a name of the sun, under which it was worshipped in Sakadwipa.

DIVE PARRE. SINGH. A wood of the western province of Ceylon, used in common house buildings. A cubic foot weighs 44 lbs., and the timber lasts 20 years.—*Mr. Mendis.*

DIVI-DIVI, Dibi-dibi, or Libi-libi, are the seed-pods of Cæsalpinia coriaria, a plant of South American origin, belonging to the natural order Cæsalpiniæ, naturalized in India, and now grown at several places in the Madras and Bengal Presidencies. The seed-pods have been extensively used for tanning leather, and for this purpose are considered superior to all the Indian astringents. Leather tanned in this way is considered equal to that of the best of European manufacture. The average produce of pods from a full-grown tree has been estimated at 100 lbs. weight, one-fourth of which consists of seeds or refuse, leaving about 75 lbs. of marketable matter. Divi-divi pods are of a dark-brown colour externally when ripe, transversely wrinkled and curled, from 1 to 3 inches long, and ¾ of an inch wide, and contain 2 to 4 seeds. The outer skin of the pods is very thin, and peels off easily if the pods are ripe. Underneath it, and separated from the seeds by a layer of woody fibre, is a considerable thickness of astringent matter of a light yellow colour, almost pure tannin, as met with in commerce. At an interval of 6 feet apart, an acre of ground will contain 1210 trees, yielding an average of 810 cwts. and 30 lbs. of divi-divi, or above 20½ tons of marketable matter, worth, at only £5 per ton, £200. Its tannin differs materially from that of nutgalls. The quantity of mucilage it contains precludes it from the use of dyers, but it is largely used by curriers. One part of divi-divi is sufficient for tanning as much leather as four parts of bark, and the process occupies only one-third of the time. The selling price ranges from £8 to £13 per ton. The imports into the United Kingdom from 1844 to 1850 ranged from 10 tons to 3900 tons.—*Jur. Rep. Mad. Ex.* 1855; *Indian Annals*, vii. p. 120; *Simmonds' Comm. Prod.*

DIVI LADNER, the forbidden fruit of the Ceylonese, is the produce of a species of Tabernæmontana.—*Eng. Cyc.* ii. p. 365.

DIVINATION.

Ahnung, Wahrsagung, GER.	Balli, ... SINGH.
Indovinamento, . . IT.	Divinacion, ... SP.

In all ages there have been seers, prophets, miracle-workers, exorcists, as there are now Shamans amongst the Mongols, Payang amongst

the Malays, who are resorted to on all occasions of importance,—as for instance the fixing on a propitious day to commence a journey or any undertaking. The commonest system is analogous to the Roman 'sortes.' With Mahomedans a Koran is used for this purpose. They have also books filled with sentences and words. The Malay consulting them cuts in with a kris, and the sentence marked by the kris point is interpreted to suit the wants and wishes of all parties. In the *Allu* ordeal of the Hindus of Gujerat, a cloth or a raw hide is dedicated to one of the forms of Durga. The claimant of a disputed boundary puts it over his shoulders and walks over the contested limits. In Sind, the *Son* or *Sugum* is a kind of divination by means of the position of birds and beasts,—their cry, the direction of their flight, and other such particulars. The divination by lots, auguries, and omens by flights of birds, as practised by the Getic nations, and described by Herodotus, and amongst the Germans by Tacitus, are to be found amongst the Rajputs. Their books on the subject could supply the whole of the augurs and aruspices, German or Roman. The Mahomedans in India often cast lots; and in Sind is a practice similar to that of the mountaineers of Scotland, called sleinanachd, or 'reading the speal-bone,' or the blade-bone of a shoulder of mutton. One very common mode of divination in Persia is called the *Ilm-i-shoona*, or 'science of the shoulder-blade,' and practised by cutting out the blade-bone of a sheep newly killed, and examining the lines and marks upon it. This was common in England in old times, and in Scotland till the 18th century. Pennant gives an account of a Highlander in the Isle of Skye foretelling the event of the battle of Culloden by this means. Confucius gave rules for this species of sorcery. The poet Drayton alludes to the practice of this amongst the 'Dutch-made English,' settled about Pembrokeshire, in his Polyalbion, song 5. Camden notices the same superstition in Ireland.

The ordeal of taking a piece of gold out of a pot of hot oil, *Karahi lena*, is common in India. If the accused do so without being scalded, he is deemed innocent. The ordeal amongst the Hindus called *Dibya* or *Divya*, is from a Sanskrit word meaning Divine. In the *Tola*, or weighing ordeal, the accused is weighed; then certain ceremonies are performed, and he is again weighed, and if found lighter, he is guilty. In *Agni*, or fire ordeal, the accused touches fire or heated metal, and if burned, he is guilty. In *Jala*, or water ordeal, the accused is dipped under water, whilst an arrow is shot, and a person runs and brings it. If the accused be still alive, he is innocent. Or the accused is sewed up in a sack, which is let down into water about three feet deep. If the person in the sack can get his head above water, he is a witch. In the poison or *Visha* ordeal, if the accused swallow it with impunity, he is innocent. Others are the *Kosha*, or drinking holy water, the *Tandula*, or chewing grains of rice, the *Tapta-masha* or taking a masha weight of gold out of a jar of hot oil or butter. In the *Dharmarcha* or *Dharmadharma* ordeal, drawings of Dharma and Adharma, virtue and vice, are covered with cow-dung, and put in a covered vessel, from which the accused draws one. In the *Tulasi*, the leaves of the tulsi and water are swallowed after an oath, the tulsi being sacred to Vishnu. In the *Kach'a ghara*, or unbaked pot, such a pot is filled with water and carried to some distance without spilling. *Belbhandna* is swearing by the leaves of the bel, which is sacred to Siva. *Gangajalla*, swearing on the Ganges water. *Devala* or *Devalaya*, swearing in a temple, before an image. *Gao*, a cow, swearing while holding a cow's tail. *Brahman*, swearing while touching the feet of a Brahman. *Sima* or *Simba*, the ceremony, after religious rites, of pointing out a boundary. In Hinduism nine ordeals were recognised. In trivial cases, a few grains of rice that have been weighed with the Salagrama are put into the mouth of the suspected or accused person, who chews them and spits them out on a pipal leaf. If the person be innocent, the grain appears as if stained with blood; if guilty, the rice is dry. In the trial by *Kosha*, or image water, the accused person drinks some of the water with which an idol has been washed, and if the accused survive free from calamity through the next fortnight, he is innocent. The *Tola*, or ordeal of the balance, is applied to women, children, the aged, blind, lame, and sick men, and to Brahmans. After a fast of 24 hours, both of the accused and the priest, the accused bathes in holy water, prayers are offered up, and oblations are presented to fire. The beam of the balance is then adjusted, the cord fixed, and the accuracy of the scales ascertained. The accused then sits in the scale, and, while being weighed, the priests prostrate themselves, repeat certain incantations, and, after an interval of six minutes, the accusation paper with the written accusation is bound around the head of the accused, who invokes the balance thus: 'Thou, O balance, art the mansion of truth; thou wast anciently contrived by the deities: declare the truth, therefore, O giver of success, and clear me from all suspicion. If I am guilty, oh! venerable as my own mother, then sink me down; but if innocent, then raise me aloft.' The accused is then re-weighed; if he then weigh heavier, he is found guilty, but if lighter, he goes free. In the *Agni*, trial by fire, the accused, in India, walks barefoot into a mass of burning pipal leaves (Ficus religiosa); in Siam, over a pit filled with burning charcoal. In the ordeal by boiling oil, the accused has to thrust the hand into the scalding fluid. In the hot iron ordeal, nine circles are drawn, each 16 fingers in diameter, and each the same distance of 16 fingers apart. The hands of the accused are rubbed with unhusked rice (paddy), and all marks on them carefully noted; seven pipal leaves are then bound with seven threads on each hand, and the priest gives him a red-hot ball to carry as he steps from circle to circle, keeping his feet within each, until he reaches the eighth, when he throws the ball on a heap of dried grass inside the circle. If his hands, which are then examined, be not burned, he is pronounced innocent. In Japan, a reputed thief bears on his hand a piece of thin paper having the figures of three deities. On this a piece of red-hot iron is placed, and if his hand escape, he is pronounced free. The Hejaz Arab licks red-hot iron as an ordeal. In other forms, the *Jala* or water ordeal is in vogue in India, in Burma, and in Borneo. In India, the accused stands in water nearly up to his waist, attended by a Brahman, staff in hand. A person near shoots three arrows from a bamboo bow, and a man hurries to pick up the further-

most shaft. As he takes it from the ground, another person runs towards him from the water's edge; at the same moment the accused grasps the Brahman's staff and dives beneath the water. If he remain there till the two arrow-fetchers return, he is innocent; but if any part of his body appear, he is guilty. In Burma, a stake is driven into the water; the accuser and accused take hold and together plunge beneath the water, and he who remains longer submerged is declared to have truth on his side. In Bustar, the *Leaf-ordeal* is followed by sewing up the accused in a sack, and letting him down into water waist-deep; if he manage in his struggles for life to raise his head above water, he is finally adjudged to be guilty. Then comes the punishment of extracting the teeth. This is said in Bustar to be effected with the idea of preventing the witch from muttering charms, but in Kamaon the object of the operation is rather to prevent her from doing mischief under the form of a tigress, which is the Indian equivalent of the loup-garou of Europe. In the *Poison* ordeal, white arsenic and butter in a mixture is administered. In the snake ordeal, a cobra and a ring are placed in an earthen pot, and the accused has to withdraw the ring. In the idol ordeal, two images, one called *Dharma*, or Justice, the other *Adharma*, or Injustice, are placed in a jar, and the accused is allowed to draw. If the dharma image be withdrawn, he is innocent. The Borneo Dyaks place two pieces of *Salt* in the water, to represent the accuser and accused, and the owner of the piece dissolving the first loses the cause. Also, two shells are placed on a plate and lime-juice squeezed over them, and he whose shell moves first is pronounced guilty or innocent, as may have been resolved on. But the more common mode amongst the Dyaks is for the accuser and the accused to plunge their heads beneath the water, and he who remains longer is free. The Binjari people use the branch of a nim tree, the Azadarachta Indica. A husband throws it on the ground, and, turning to his wife, says, 'If thou be a true woman to me, lift that nim branch.' *Arrows* are sometimes used in North-Western India as tests of innocence. The opposite ends of two arrows are held by a rattan laid upon the hands by two persons placed opposite to each other; they are parallel to and just sufficiently apart to allow of the suspected person's hand being held between them. The ends of the arrows merely rest upon the fingers. The arrows are supposed to move towards and close upon the guilty hand.

Amulets (totka, tawiz; hirz; ta'it, jantar, nadli) are worn by almost all Eastern nations. They are especially prized by Mahomedans, both young and old of whom wear them. They are usually put on the young to ward off disease, and to guard from the evil eye, and consist of figures with numbers on pieces of paper, or Arabic words, often extracts from the Koran, engraved on pot-stone or silver or gold, and worn from the neck. They are also put over the door-porch or on the house-wall. Amongst the Malays of Java, Mustika means amulet, which is always some very scarce substance, and which, being worn about the person, they are supposed to act as a talisman, and ward off evil. The mustika kerbo, or buffalo amulet, is quite white, and round like a marble, nearly an inch in diameter, and semi-transparent; it is stated to be found at Panggul. The mustika waringin, a calcareous concretion, is found at Ngadi Rejo. It is quite black, and a little smaller than the mustika kerbo.

Arati, TAM., is a Hindu ceremony for warding off the evil eye.

The Romans had peculiar modes of divination,—their dies fasti, nefasti, their auguries, etc. Tacitus informs us that among the ancient Germans, who were originally Scythians, the prototype of rhabdomancy was engraven on rods. The Chinese had also rods with similar inscriptions. The Arabs, before the birth of Mahomed, divined by bundles of arrows in the Kaba. Mahomed destroyed this practice.

The practice of astrology at the present day in Ceylon, and the preparation of the ephmeres predicting the weather and other particulars of the forthcoming year, appear to have undergone little or no change since this custom of the inhabitants of India was described by Arrian and Strabo. But in later times the Brahmans and the Buddhists have superadded to that occupation the casting of nativities and the composition of horoscopes for individuals, from which the Sophistæ described by Arrian abstained. It is practised alike by the highest and most humble castes of Singhalese and Buddhists, from the Vellala, or agricultural aristocracy, to the beaters of tom-toms, who have thus acquired the title of Nakatiya or astrologers. The attendance on particular ceremonies, however, called Bali, which are connected with divination, belongs exclusively to the latter class. The Mahomedans of British India keep their calendar (Jantri), and the Hindu Joshi calculates the ephmeris. The Hindus also have their calendar or Panjangam, but they all practise divination from books, for which the Chintamini Pastakam is in use in the south of India.—*Wilson's Glossary; Burton's Scinde; Tod's Rajasthan; Tennant's Christianity in Ceylon; Jour. Ind. Archi.* 1853, 1857; *Milner's Seven Churches of Asia*, p. 127; *Rasamala, Hindu Annals*, ii. p. 403; *Ouseley's Travels*, i. p. 227; *Skinner's Overland Journ.* ii. p. 70; *Ward's Hindoos*, ii. p. 71; *Herklots; Burton's Mecca*, iii. p. 255; *Lyell's Studies.*

DIVO DASA, the titular appellation of several kings and illustrious persons, viz. a king named in the Rig Veda; a Brahman, twin brother of Ahalya; also a king of Kasi, who, with all his family, was slain by a king named Vita-hanya. His son Pratardana avenged the slaughter of his relatives.—*Dowson.*

DIVORCE.

Ehescheidung, . . . GER.	Divorzio, ... IT.
Talaq, ... HIND.	Divorcio, ... SP.

The Hindu law does not admit of divorce. The Buddhist Burmese laws allow every facility for divorce. An appeal case heard by the privy council illustrates the Mahomedan law of divorce. A moonshi wished to divorce his wife, without which a second wife would not have him, but he wished at the same time to avoid paying the first wife's dowry, amounting to Rs. 26,000. He had two modes of proceeding, either by his own arbitrary act to repudiate his wife, in which case he must restore the dowry, or to divorce the woman with her own consent (khola), in which case he may keep the dowry, or make any arrangement regarding it. After a divorce, the

woman must remain some months in seclusion, and be maintained by her late husband, till all chance of children has passed away. In a recent case, the husband, by ill-usage of his wife, induced her mother to give up the marriage settlement, and so proceeded by the khola method, keeping the dowry; but the subordinate and appellate courts decreed the restoration of the dowry, on the ground of force being used. Mahomedans in India follow the Koran and Sharra, and marry to four wives, though some take into their households a far greater number of women, under different designations. Mrs. Mir Husain Ali had heard of princes in Hindustan possessing seven or eight hundred, and Tipu Sultan had no less than nine hundred women. In Madras, some of these are known as the Harm, which term is there applied to purchased women associating with their lord, but in Hindustan such are termed Doolee wives. These are not the Kaneez, or slave girls, who are servants. There are three forms of Talaq, repudiation or divorce, amongst Mahomedans in India. 1st. Talaq-i-byn, which consists in the husband only once saying to his wife, 'I have divorced' you; 2d. Talaq-i-rujaee, in repeating the same twice; and 3d. Talaq-i-mootuluqa, in three similar repetitions. Mahomedan lawyers say there are 16 various kinds:—Talaq-i-ahsan, T.-i-rujai, T.-i-sunna, T.-i-bidat, T. kinaat, T. muajjal, T. sarih, Aila, Istisna, Khala, Lan, Mubarat, Yamin, Zihar, Tafwiz-ul-talah. In China, divorces are frequent; the divorced wife is sometimes provided for, or is remarried. Chinese divorces are granted for desertion, unchastity, striking the husband's parents.

DIWALI, thin plates of gold and silver prepared for the gold-beater.

DIWALI.

Dipauli, ... HIND.	Dipali, ... HIND.
Deuli, ... ,,	Dewaligeicha, . . KARN.

The Diwali is a popular Hindu festival on the two last days of the dark half of the month Aswin, and the new moon and four following days of Kartik (September—October). Appropriate ceremonies are performed on each day, but on the last the night is to be spent in merry-making and festivity, and illuminations are to be made in honour of deceased ancestors. The goddess Lakshmi is also to be worshipped in the night of the festival, and games of chance played in her honour. Amongst the Mahrattas, it is the commencement of the commercial year, over which Lakshmi especially presides, and accounts are opened by bankers and merchants for the smallest sums—a few rupees—as omens of success. Bankruptcies are also declared at this season.

DIWAN, in Persian poetry, a complete series of odes or other poems, the rhymes terminating from alif to ye in each letter of the alphabet. The Diwan-i-Hafiz and that of Jami are celebrated.—*Gloss.*

DIWAN. ARAB., HIND., PERS. A royal court, a chief officer of state. The title of Diwan or office of Diwani was conferred upon the East India Company by Shah Alam in 1765, giving the right to collect the whole revenues of Bengal, Behar, and Orissa.

Diwan Khanah, amongst Mahomedans, the common hall or place of reception. It has a line of flat cushions ranged round the room, either placed upon the ground, or on wooden benches, or on a step of masonry, varying in height, according to the fashion of the day. When such foundation is used, it should be about a yard in breadth, and slope very gently from the outer edge towards the wall, for the greater convenience of reclining. Cotton-stuffed pillows, covered with chintz for summer, and silk for winter, are placed against the wall, and can be moved to make a luxurious heap; their covers are generally all of the same colour, except those at the end. The seat of honour is denoted by a small square cotton-stuffed silk coverlet, placed on one of the covers, which the position of the windows determines.

DIXON, COLONEL CHARLES GEORGE, an officer of the Bengal artillery, which he joined on the 14th August 1813. He served throughout the Nepal war in 1814, 1815, and 1816; was present at the siege and bombardment of Hatras in 1817; was Quartermaster to the artillery and pioneers with the right division of the Grand Army during the Pindari campaign of 1817-18. In 1820-21, was present with the force which subjugated Mhairwara. In May 1835 he was appointed to its civil charge, and in January 1836, Commandant of the Mhairwara Battalion. In March 1839, the Mhair corps, in conjunction with the Jodhpur Legion, completely routed a large body of outlaws at Kot in Mhairwara, and killed their chiefs, with one hundred followers. In February 1842, the jurisdiction of Ajmir was added to that of Mhairwara, and he was appointed Commissioner of Ajmir in March 1853. The Mhair are one of the bravest, and were amongst the most predatory, of the non-Aryan races in India. Colonel Dixon built a new town, and encouraged shopkeepers to settle in it. Gradually the whole population became attached to industrial pursuits. Up to A.D. 1838, the district was wholly dependent on supplies brought in (chiefly by plunder) from a distance. But by 1850 the population had much increased, and the sounds of honourable industry were heard on the face of those long-troubled hills in some of its most benignant forms. He wrote a Sketch of Mhairwara, 1850; also Ajmir and Mhairwara Revenue Settlement, 1853.

DIYAR BAKR, on the Tigris, in its prosperity contained 40,000 houses, with numerous cotton looms constantly at work, and it enjoyed an active trade in gall-nuts, not only with Kurdistan, but also with India on one side, through Baghdad, and with Europe, through Aleppo, on the other; but at present there are scarcely 8000 houses, 1500 Armenians and 6300 Turks, and its commerce is almost annihilated. Below Diyar Bakr, the Tigris contains several islands. Its banks are thinly peopled, and the country about them is only partially cultivated; but the pasture grounds are rich, and well suited for the visits of the nomadic tribes which come occasionally to the river from the neighbouring countries. The windings of the Diyar Bakr river thus far have a length of rather more than 150 miles, whilst those of the tributary by Myafarekin are less than 100 miles.

DIZABULUS, a Mongol ruler of the 13th or 14th century, who is described as seated on a couch that was all of gold, and in the middle of the pavilion were drinking vessels and flagons and great jars of the same metal. At the entrance

of the tent there was a bench with cosmos (kumis, or fermented mare's milk), and great goblets of gold and silver set with precious stones. Shah Rukh's description in the 15th century of the constant drinking there corresponds exactly to the account of the habits of the Mongol court in Plano Carpini and Rubruquis (A.D. 1253). The former, on the occasion of Kuyuk Khan's formal enthroning, says that after the homage had been done they began to drink, and, as their way is, continued drinking till hour of vespers (p. 758). Rubruquis's account of his residence at the court of Mangu Khan is quite redolent of drink, from which one sees how Sultan Baber came by his propensity to strong drink.—*Shah Rukh's Embassy; Yule, Cathay*, i. p. 164.

DIZFUL, an important stream in Khuzistan. The bed of an occasional torrent in ancient Susiana, called Ab-i-Bald, which falls into the Dizful, is covered with a peculiar kind of pebble, which, being filled with little fossil shells resembling grains of rice, is called Sang-i-birinj, or rice stone. These stones are also found in the river at Shuster. They are in much request throughout Persia for the head of the nargil pipe, which is almost invariably composed of this material, set in silver. See Khuzistan; Luristan; Sabi; Susa.

DJ, with the nations of continental Europe, are used to obtain the sound of the English j; thus Djamal, a camel, Djabal, a mountain. Similarly, tch is used for the English ch.

DO. HIND., PERS. Two; hence Dohra, double; Do-patta, a sheet of double breadth; Do-shala, a double shawl; Do-suta, double thread; Do-bara or Do-atasha, twice or double distilled, or over-proof spirit. Do-ab, a mesopotamia of two rivers; Do-fasli, land yielding two crops annually; Do-hartha and Do-mala, a double water-wheel; Do-mat, also Do-shahi, two soils.

DOAB. HIND., PERS. From Do, two, and Ab, water, a country lying between two rivers, a mesopotamia. In British India, people speak of the Doabs of the Ganges and Jumna, of the Godavery and Kistna, of the Tumbudra and Kistna, the Raichore Doab, etc. The five Doabs of the Panjab are fertile as far as the river influence extends, but have in the centre a high arid tract called Bar. The names of the Doabs of the Panjab are in all instances, excepting the first or Jalandhar Doab, the result of a rough attempt to join the names of the rivers on each side into one word. Thus the Panjab is traversed by six rivers, which, running in a south-westerly course to their places of junction, partition the country into five Doabs. The Jalandhar Doab is between the Sutlej and the Beas. The other four Doabs are still popularly known by those names which were given them in the days of Moghul ascendency. The Bari lies between the Beas and the Ravi, the Rechna between the Ravi and the Chenab, the Chuj between the Chenab and the Jhelum; the fourth, enclosed by the Jhelum and the Indus, takes its title from the latter, and is styled the Sind Saugur, or Ocean of the Indus. Of these the Bari Doab carries off the palm, as containing the central Manja, or home of the Sikh nation, and the three greatest cities, Lahore, Amritsar, and Multan. It is by far the most populous, as well as the most important, whether in a political, commercial, or an agricultural point of view. It has also the sanatorium of Dalhousie near the Kalatop forest, and the district of Montgomery to the south of Lahore. This Doab has two features, viz. a flat alluvial tract, called Dhaya, several miles broad, running along either river, and producing tamarisk and jhand. Also an elevated dorsal plateau in the Manja or middle part, and called Ganj-i-bar, or bald country. Its soil is intensely arid, often saline, and produces only some salsolaceous plants and a few bushes of jhand. The Bari Doab (sometimes called Manja, whence the Sikhs resident here are called Manja Singh), between the Ravi and Beas, is the narrowest of the Doabs.

The district lying between the Indus and the Jhelum, called the *Sind Saugur* Doab, is 147 miles broad in the widest part, and whilst it is the largest, is the most sterile and least inhabited, abounding with undulating bare eminences and rugged declivities.

The *Rechna* Doab, between the Chenab and the Ravi, is seventy-six miles in its widest part, and consists of an arid plain.

The *Jalandhar* Doab, the smallest, is in a better condition than the other intra-fluvian tracts.

The *Gangetic* Doab, the Anterved of the ancient Hindus, is the Doab or Mesopotamia of the Jumna and Ganges. From the narrow point in which it terminates, the valley broadens as it stretches away towards the west, embracing a greater and greater area between the Ganges and Jumna. The whole of its immense superficies forms a vast, populous, and busy hive, enriched by human industry, and embellished by human taste. On the map no country is so thickly dotted with great townships and cities, and under the sun no country makes up such a highly interesting prospect of green fields, orchards, and gardens, in a continuous succession. In this fair savannah man has had his abode from a remote antiquity, to reap rich harvests, and live amidst plenty. Here were the cities of the pre-Vedic Dasya races. Here rose the first cities of the Arya race. In the plains of the Doab, the rajas of Hastinapur, of Indraprasthra, and of Kanouj exhibited the highest power and splendour of Hindu sovereignty. The rich districts watered by the Ganges and Jumna have always tempted the avarice of the foreign conqueror. Here was the residence of the most famous Hindu sages. From this birthplace of arts and civilisation wisdom travelled to the West. This Doab is the battle-ground of the Pandu against the Kuru, of the Ghiznivide and Ghorian against the Hindu, of the Moghul against the Patan, the Mahratta against the Moghul, and of the British against the Mahratta, where many a spot is hallowed by tradition, and many a ruin is consecrated by history. In this Doab almost every inch of land is under the plough. Here the rural population is more intelligent and spirited than the same class in Bengal. The humblest Doabi lives upon better food, and covers his body with more abundant clothing, than the humblest Bengali. The cattle here are various. Camels, buffaloes, horses, donkeys, and oxen are all made to assist man in his labours. The fondness of the Doabi women for coloured millinery evinces a more refined female taste, and to them may remotely be traced the impetus which is given to the various dye-manufactures of the country. The agricultural women of the Doab use ornaments of brass and bell-metal. The same class in Bengal

is in the habit of wearing shell ornaments, and a pair of Dacca shell-bracelets may sometimes cost the sum of two hundred and fifty rupees. One particular ornament in general use amongst the Doabi women of both the upper and the lower classes, is the tika, which is in the shape of a tiny crescent made of gold, silver, or tinsel, according as the wearer is circumstanced. It is fixed with an adhesive substance on the forehead, just between the eyebrows. These tika are not a little prized and coveted by the Hindustani young men. They train the baya to execute little commissions of gallantry. On a given signal, the bird goes, seizes and carries off the tika from the forehead of a woman, as precious booty, to her pining lover. This Doab, like Bengal, is flat and alluvial. The vast plain is uninterrupted by a single eminence; but the soil and climate differ. The tall and robust figure, the firm step, the stern eye, and the erect bearing of the manly Hindustani are everywhere to be seen. In Bengal the oxen alone form beasts of burden. A Hindustani coolie takes the load over the waist, and not upon the head. The Calcutta Baboos do not know what it is to ride. In Hindustan, rural women perform journeys on horseback, and princesses discuss the merits of horsemanship. The people of the Doab have for the most part well-formed features.

In India, the country between the Ganges and Jumna (Jamuna) is especially known as *the* Doab. It includes the whole wedge of land enclosed between the confluent streams of the Ganges and the Jumna, comprising the districts of Saharanpur, Muzaffarnagar, Meerut, Agra, Mainpuri, Etah, Farrakhabad, Etawa, Cawnpur, Futtehpur, and part of Allahabad. The irregular horn-shaped tongue of country thus enclosed runs in a sweeping south-eastward curve, following the general direction of the Ganges watershed from the Siwaliks to Allahabad. On either side the great rivers flow through low-lying valleys, fertilized by their overflow or percolation, while a high bank leads up to the central upland, which consists of the older deposits. This central plateau, though naturally dry and unproductive, except when irrigated by wells, has been transformed into an almost unbroken sheet of cultivation by three great systems of irrigation works,—the Ganges, the Lower Ganges, and the Eastern Jumna canals. The East Indian, the Sind, Panjab and Dehli, and the Oudh and Rohilkhand Railways also pass through the Doab in several directions, and afford an outlet for its surplus agricultural produce. This Doab was overrun by Shahab-ud-Din Ghori in A.D. 1194, and it continued in the power of the Dehli emperors until overrun by the Mahrattas in 1736, and occupied by the British in 1754–5, after the battle of Buxar and Kora, and in 1801 the whole lower Doab was ceded to the British by the Nawab Wazir.

Doaba, a moist rich tract of land between the Swat and Kābul rivers.—*Tod's Rajasthan; History of the Panjab; Tr. of Hind.*

DO-BE. HIND. A Brahman who has studied, or who teaches, two of the four Vedas, hence the term Do, two, and Veda. The caste of Brahmans so termed are generally ignorant and low persons, and by profession boxers and wrestlers.—*Wilson.*

DO-BHASHA. HIND. Two languages. Do-bash or Do-bhashi, one who speaks two languages; a broker or interpreter.—*Wilson.*

DOBSOON-NOOR, or the Salt Lake, is celebrated over all the west of Mongolia. It furnishes salt, not only to the neighbouring Tartars, but to several provinces of the Chinese empire. The Dobsoon-Noor is less a lake than a vast reservoir of mineral salt, mixed with nitrous efflorescence. The latter is of a faint white, and friable between the fingers; and is easily distinguishable from the salt, which is of a greyish tint, and with a shining and crystalline fracture. The lake is nearly ten miles in circumference, and here and there are yourts inhabited by the Mongols, who are occupied with the salt trade; they have also Chinese partners, for Chinese take part in every kind of trade or industry. The manipulation to which the salt is subjected requires little labour or science. It consists of nothing more than picking up the pieces, laying them in heaps, and covering them with potter's clay, and the salt sufficiently purifies itself.—*Huc's Journey.*

DOCKET. This term, in trade, is often applied to a short certificate, summary, or memorandum. In Government correspondence it means the summary or précis on the back of a letter. In English law it signifies a brief in writing.

DOCKS. Along the greater part of the eastern coast of the Peninsula of India, wherever the rivers can be entered by coasting craft, docks are formed by digging a channel from the river sufficiently large to allow the vessel to be floated into it at high water. A dam is thrown across the channel, and the earth being thrown into the dock thus formed, the vessel is floated up above the water mark. By draining off the water, the vessel is left high and dry embedded in earth. This is removed to allow of access to the bottom of the vessel, which is propped up by stones. It is usual also to place logs under the keel. A dry dock is thus formed about the vessel at a small expense. The repairs having been executed, it becomes necessary to lower the vessel down to that point when, the dam being removed and the water let in, she can be floated out. For this purpose cables are coiled under her, and these coils filled in with earth, the earth under the vessel and logs which were placed under her keel removed, the dock is dug out to its former depth, the vessel is left suspended resting on the coils; by uncoiling the cables gradually the vessel is let down, and is then floated out. Ships of 400 tons are thus docked at Coringa. This mode of docking ships is followed on the Indus. There are great dry docks in Calcutta and in Bombay for shipping repairs, and in Bombay extensive wet docks for receiving ships.—*Rohde.*

DOCTOR FISH, a name given to a species of Chætodon, also to the small-spined Acanthurus subarmatus, Bennetii.

DOCUMENT-BILL, an Indian bill of exchange drawn on London, having as collateral security the bill of lading and policy of insurance on the goods; against a part of the estimated value of these the bill is drawn.—*Simmonds' Dictionary.*

DODABETTA, the highest peak on the Neilgherry mountains in Southern India, in lat. 11° 25′ N., long. 76° 40′ E., its height being 8760 feet. It was made the site of an observatory, under the astronomer at Madras. A record of the meteorological observations was published at

Madras in 1848; the Toda name is Petmartz, the name means big mountain.—*Sykes; Schlagent.*

DODAH. HIND. The unopened cotton pod; any round seed-vessel, as poppy head.

DODAK. HIND. Also Dudal, milky, from Dudh, milk. Hence Eclypta erecta, Sonchus oleraceus, Convolvulus pluricaulis, Andrachne telephioides. Bara dodak, Euphorbia thymifolia. Kulfa dodak, E. helioscopia.

DODA MARRI. See Baluchistan; Kahan; Kalat.

DODDERS, species of Cuscuta; in the Soane valley they cover even tall trees with a golden web.—*Hooker, Him. Jour.* p. 38.

DODITAK, a forehead jewel ornament, worn by Hazara women.

DODO, an extinct bird of the Mauritius. This and the Aphanapteryx of the Mauritius, the Dinornis, Philip Island parrot of New Zealand and Philip Island, and the Erythromachus of Rodriguez, have become extinct. Their large size made them conspicuous objects, and, being occupants of very limited areas, they were easily destroyed.—*G. Bennett, Gatherings*, p. 243.

DODOH. In Java, a posture of humility which inferiors assume when approaching superiors. It is similar to the custom in Burma, where the superior sits on his legs.

DODONEA BURMANNIANA. *D. C.*

D. angustifolia, *Roxb.*

Mendru, ...	BEAS.	Ghuraske, .	TR.-INDUS.
Sanatta, Aliar, . .	HIND.	Veravena, .	,,
Ban men du, . .	RAVI.	Shumshad, .	,,

A handsome small evergreen shrub, well suited for hedges, for which it is often used, and generally called bog myrtle.—*Roxb.; Stewart.*

DODONEA VISCOSA. *Linn.* Common on the Neilgherries and Panjab; wood elastic, and useful for tool handles.—*M'Ivor; Von Mueller.*

DODUGA. TEL.? A wood of the Northern Circars.

DOFLA, a tribe occupying the hills forming the northern boundary of Assam. In one of their districts, that of the Char Dwar, or Four Marches, no less than 180 petty chiefs are said to hold authority in the Dofla villages. The tribes on the northern Assam frontier are found in the following order along the hills, viz. Aka, Abor, Dofla, Miri, and Mishmi; next to them is the Buteah. The Dofla country extends from the hill course of the Sundri river to the Bhoroli river, comprising the hills to the north of Chedwar in the Lakhimpur, and of Naodwar in the Tezpur district.

Bangni, the term in their language to signify a man, is the only designation they give themselves. During the latter days of the declining Ahom suzerainty, several attempts were made to check the Dofla atrocities; and on one occasion, raja Gourinath Singh is said to have marched an army into their hills for the express purpose of chastising them, and several thousand Doflas were taken prisoners and brought down to the plains. The raja obliged them to dig a canal, with the view of draining off the large and unwholesome morasses that still exist in mahal Kollongpur; but the greater portion of them are said to have perished, and the task assigned to them remained unaccomplished. They are in communication with the Tibetans, and possess many articles of Tibetan or Chinese manufacture. They have a Mongolian type of physiognomy; but from their intercourse with the people of the plains, and the number of Assamese slaves which they have acquired, it is much modified and softened, and Colonel Dalton had sometimes seen Dofla girls with pleasing and regular features. Their complexion varies much from olive with a ruddy tinge, to dark brown. Marriages and marital rights are the same with the Dofla as with the hill Miri. Those who can afford it are polygamists; but polyandry is far more common amongst the Dofla than amongst the eastern tribes.—*Dalton, Ethnol. of Bengal; Beng. As. Soc. Jour.*, No. 2051.

DOG.

Kalb, ...	ARAB.	Canis, ...	LAT.
Kan, ...	CHIN.	Sag, ...	PERS.
Chien, ...	FR.	Svan; Spa, . .	SANSK.
Hund, ...	GER.	Perro, ...	SP.
Kuon, Κύων, . . .	GR.	Nai, ...	TAM.
Kutta, ...	HIND.	Kuka, ...	TEL.
Cane, ...	IT.	Kyupek, ...	TURK.

The various kinds of dogs are commonly believed to have been derived from one extinct species. On the monuments of Egypt, of date B.C. 3400 to 2100, several varieties of dogs are represented, and on one Assyrian monument, of date B.C. 640, an enormous mastiff is figured,—evidences of the fact of the long existence of many varieties. A predilection for the society of man seems almost inherent in the dog; and when we trace back its history, as far as the refuse heaps of Denmark and the pile folks of the Swiss lakes, or, what is still more suggestive, the representations on the Egyptian temples and tombs, the great fact is irresistible, that man and the dog have shared each other's company for possibly a longer period than any other creatures; and whether the attachment at first was gradual or not, it has now, at least as far as the brute is concerned, become instinctive. Moreover, when we think of the vast periods embraced by the Egyptian monuments of antiquity, and the time it must have taken to develope even one variety from the feral stock, and note the foxhound or the turnspit of 4500 to 5000 years ago, it may well be conceded that the dog, of all four-footed beasts, has a claim to man's kindness and protection. The dog is mentioned forty times in the Hebrew Scriptures, but always in terms of aversion. In the present day, Bedouins cherish their dogs. Except at Medina, they are met with everywhere in Arabia and Syria, are of the fierce Turkoman breed, the shepherd dog, the bazar dog, and the Macedonian greyhound, and are almost as much cherished as by Europeans; and, whether a wretched mongrel, or belonging to one of the pure breeds, a dog is the fierce companion of the wandering Turkoman, with its long ears and winter coating of long soft hair. The shepherd dog is not inferior to that of Europe in any respect. There is also the town or bazar dog, besides crosses of the dog and wolf and the dog and fox. Dogs are generally the only sentinels of every Bedouin encampment; and the Macedonian greyhound, with the usual addition of a hawk perched near the entrance of the tent, forms part of the suite of a shaikh or other chief throughout most parts of Arabia. This animal is about the height of a full-sized English greyhound, but rather stouter; he is deep-chested, has long smooth hair of a red colour, and a tail nearly as much feathered as that of an Irish setter. His speed does not quite equal that of the highest bred dogs of Great Britain,

but he keeps it up so much longer, that he is tolerably certain of running down the fleetest gazelle.

The wild dog is the Cuon rutilans of naturalists. They are to be found in packs throughout Ceylon, British India, and Malayana, the Himalaya and Tibet, and each of the races has a name for it, mostly meaning wild dog. Wild dogs do not bark,—they only whine, howl, and growl. The Himalayan wild dog, when taken young, is easily tamed; and this rule would seem to hold good with the wild races of other countries; indeed, although not generally acknowledged, the wolf, jackal, and hyæna get much attached to man, if carefully reared and treated with kindness. The semi-domesticated dogs, in common with the wild species, have erect ears, and this would seem to become more pronounced the nearer they assimilate to the latter. This circumstance has been noted in respect to domesticated sheep, goats, etc., when left more or less to shift for themselves, as is apparent on the Himalayas and Alps.

In the Nepal hills, the dhole or wild dog are found in packs, varying from 50 to 200, and the havoc committed by them among the flocks of sheep and hill cattle is incredible. Their destruction of deer also is immense, and their mode of hunting may be worthy of mention. In size the wild dog is little larger than the common jackal of India, but longer in the body, and possessing much greater power, with a very formidable set of jaws. Colour, a rich reddish-brown, with scenting qualities of the highest order. Soon after nightfall the pack assemble at a given cry, when they disperse in threes and fours in search of game. The first party that hit off the trail, open, when the whole pack rush to them, and when all are assembled, fasten to the trail and off they go. The deer soon become alarmed and double, when the pack immediately tell off in parties, each one rushing to the different passes for which deer are known to make; and on the deer attempting to pass either, it is immediately seized by the party, who utter a simultaneous cry, and the whole pack then rush in, and the deer is at once devoured. Fresh game is next sought, and in the same way destroyed; and this species of hunting is continued according to the size of the pack, till all their appetites are appeased, when they retire to their almost inaccessible fastnesses in the rocks, and remain for three or four days, until hunger again drives them forth on another excursion. From their destructive qualities, the wild dogs hardly ever remain longer than a month in the same locality, having in that time effectually scared away all the deer for miles round. Captain Smith never knew them to attack man, and even when severely wounded, they will only snap after the manner of a wounded jackal. When deer are not procurable, they will attack even bears. Wild dogs differ slightly in appearance. They are 'the most determined enemies of the tiger, hunting him whenever they meet with him.' 'I have been assured,' remarks Lieutenant Rice, 'by Bhils, that they have sometimes seen a tiger kept prisoner up a large tree, with a pack of these dogs hanging around him, when on no other occasion would a tiger attempt to save himself by climbing trees. On the approach of the men the wild dogs dispersed, when the tiger jumped down and gladly made his escape. This I firmly believe to be a fact, for the story arose out of a casual remark which one Bhil made to another in my hearing, as we were passing a certain large tree (with a straight stump about five yards high before the branches began, up which a tiger had jumped). Perhaps these dogs hunt the tiger for poaching on their deer; or it may be only the old antipathy between cat and dog on a large scale.'

Mr. Arthur Grote, C.S., sent to the Bengal Asiatic Society from Chaibasa, Central India, the skins and skeletons of a mature female and male half-grown, of the ordinary wild dog, so called, of British India. These animals are specifically identical with a particularly fine living adult male sent down from Upper Assam; and this appears to be the ordinary species alike of the Himalaya and of Central and S. India, Canis Dukhunensis, *Sykes*, and C. primævus, *Hodgson*; and a Malayan specimen in that museum, which was supposed to be C. Sumatrensis, *Hardwicke*, differed only in the considerably deeper tint of its rufous colouring.

The *Vakhan Dog* is a breed from Chitral. It bears a strong resemblance to the Scotch collie. They have long ears, a bushy tail, and a body more calculated for swiftness than strength. The colours are black, reddish-brown, or mottled.

The *Hill Dogs* are covered with black wool, which forms an article of traffic. They are large, and ferocious to strangers, but are useful as sheep-dogs, and are provided with an iron collar to secure the dog from a leopard's teeth.

The *Tibetan Mastiff* is large, strong, with a shaggy coat. It is very fierce, well adapted to defend flocks against robbers or beasts of prey; it is subject to hydrophobia. It has a tan-coloured supra-orbital stripe.

The *Shikari Dog* of Kamaon is very like the pariah dog of the plains.

The *Dogs of Kanawar* are of a large ferocious breed, resembling wild beasts in their nature; they are covered with black wool, and are very averse to strangers, whom they often bite and tear in a most shocking manner; they are generally chained during the day, otherwise it would be dangerous to approach a village. The fleece, especially of the young ones, is almost equal to shawl wool.

The breed of Bisehur, in the Himalaya, is noted for its size and hardihood. The finest dogs of this breed bear a considerable resemblance to a mastiff, but retain a good deal of the cur. Their colour in general is black and white, with a little red occasionally; their hair is long and thick, and the tail long and bushy, curling up behind; their head is somewhat long and pointed, like the common shepherd's dog. They are often very fierce, and sometimes attain a considerable size, but are seldom so large as a full-sized mastiff. These animals are furnished with a down under their long shaggy hair, which is as fine and soft as shawl wool; this comes off easily in warm weather, and is regularly shed with the hair. Every animal is similarly furnished in this cold country. The natives use these as sheep-dogs, in the same way as those of other countries, and also for hunting all sorts of game, even birds, which they tire out in flying; and some were valued at a very high price.

From a genealogical table in the Encyclopædia Britannica, it appears that the common Turkish dog is the parent stock of most others known in Europe.

The *Greyhound of Bamian* is fleet. It has long shaggy hair on the legs and body. The Persian greyhound has a fringe of soft silky hair on the ears.

The dog which is known in Bengal by the name of the *Nepal Dog*, is, properly speaking, a native of the Upper and Lower Tibets, whence it is usually brought to Nepal. It is a fierce and surly creature, about the size of an English Newfoundland, and covered with thick long hair. It is reckoned to be a good watch-dog, and never to sleep at night.

Amongst the Hindus of India and the Indian Mahomedans, the dog is regarded as an unclean animal. With the Cree, Ojibbeway, Swampy, and Sioux, the dog was supposed to be the most acceptable sacrifice to the offended deities, five dogs being the common number for a propitiatory offering. The unclaimed dogs of Bombay, Egypt, Mecca, and Constantinople are a sad nuisance, and even in Bombay, being protected and fed, but not housed, by the Parsee inhabitants, as well as by Hindus. An expiring Parsee requires the presence of a dog, in furtherance of his departing soul, and, after the Sag-did or dog-look, the exposed body is speedily consigned to the Tower of Silence. In Rangoon, pariah dogs infest the town. The greatest number of dogs are found near the Kyoungs.

Dogs are eaten in China, at Zanzibar, in Australia, and the Pacific. In China there are restaurants both for dogs' and cats' flesh.

Dog-skin is thin, but tough, and makes good leather. Of late years horse leather takes its place for thin dress shoes. Most of the dog-skin gloves are really made of lamb-skin.

Dogs in the Pacific Islands are fed on cocoa-nuts.—*MacGregor; Darwin's Variation of Animals and Plants; Jerdon's Mammalia; Smith's Nepal; Jour. As. Soc. of Ben.*, November 1856; *Gerard's Kanawar; Fraser's Himalaya Mts.* p. 354; *Robinson's Travels*, ii. p. 356; *Gray*, ii. pp. 75, 76. See Canis.

DOGAR, also Dogra, a predatory and pastoral race scattered over various tracts of the N.W. of Hindustan. There are a few in Hansi, Sonam, and Firozpur, which latter place, together with a considerable tract along the bank of the Sutlej, they held for a long time during the 18th century in almost undisputed sovereignty. Their occupation was divided between pasture and plunder. They are Mahomedans, and state that they were originally Chauhan Rajputs; but the Kaim Khani and other converted Chauhan of those parts will not acknowledge the fraternity, asserting that Dogar were nothing but Jats and Gujars. Dogars are held in no consideration by their neighbours, but in former times they were much dreaded on account of their predatory habits, which a civilised neighbourhood and a strong government compel them now unwillingly to relinquish. Their personal appearance is in their favour: they are a tall and muscular race, and are generally remarkable for having large aquiline noses. Members of the Dogar race attained distinction first as feudatories of Ranjit Singh, and later as allies of the British. The raja of Jamu and Kashmir is a Dogar. They use as a written character a modification of the Nagari, to which the term Dogri has been given.—*Elliot's Supp. Gloss.; Cust.*

DOGBANES, the Apocynaceæ, or dogbane tribe of plants, are trees and shrubs, of which the oleander is a conspicuous example. Some are herbaceous, as in the case of the vinca or periwinkle, a climbing plant with trailing twigs. The Nerium piscidium of Roxburgh is common in the Khassya or Sylhet mountains, and there called echalat. It is an extensive perennial climber. Its bark contains a large quantity of fibre, which the natives use for the same purposes as hemp. Dr. Roxburgh, in steeping some of the young shoots in a fish-pond, in order to facilitate the removal of the bark, and to clean the fibres, found that many, if not all the fish, were killed. Hence the specific name which he applied. Dr Wight formed the plant into a new genus, Echaltum.—*Fl. Ind.* ii. p. 7.

DOG-FLY, the zimb of Abyssinia.

DOG'S TONGUE FISH is shaped like the sole. It attaches itself to the bottoms of boats, and makes a sonorous noise, which is more musical when several are stuck to the same plank and act in concert.—*Bowring's Siam*, i. p. 11.

DOH, a name in Java for the horsehair-like fibre of the eju or gomuti palm, the Arenga saccharifera, *Labill.*—*Simmonds.*

DOHADA. HIND. A term which usually signifies the desire or longing of a pregnant woman, to which the Hindus attach as much importance as do the nations of Europe.

DOHAGUN. Amongst the Hindus, Sohagun is a woman who becomes sati previous to her lord's death; Dohagun, one who follows him after death.

DO-HARTHA. HIND. A well with two wheels.

DOING NAK, a hill race in Arakan, on the upper waters of the Mayu river. They are Buddhists; their language is a corrupt Bengali, and they call themselves Kheim banago. They are a branch of the Chukma, and appear also to have been endogamous. Captain Lewin mentions that they abandoned the parent stem during the chiefship of Janbakhsh Khan, about 1782. The reason of this split was a disagreement on the subject of marriages. The chief passed an order that the Doing Nak should intermarry with the tribe in general. This was contrary to ancient custom, and caused discontent, and eventually a break in the tribe.—*Lewin's Hill Tracts of Chittagong*, p. 65; *Raffles' History of Java*, i. p. 328; *Lubbock, Orig. of Civil.* p. 103.

DOI-PHORYA. MAHR. The name of a class of importunate Hindu mendicants, who knock their heads against stones to enforce compliance with their demands; hence any importunate petitioner.

DOJA. TIBET. An ingot of silver, stamped, current on the hills for 20 rupees.

DOKA. HIND.? A tree of Chutia Nagpur, with a hard red timber.—*Cal. Cat. Ex.*

DOKAD-DAR, a pattern in a Kashmir shawl.

Dokh, a Central Asian cotton fabric.

DOKH. HIND. A cut-and-thrust sword of Hindustan.

DOKHMA or Dakhma, or Tower of Silence, the place for depositing the dead of the Parsee race. The dokhma has a deep well, surrounded by a platform with channels converging to the well. The body is laid on a partition of the platform, and the fluids resulting from its decomposition flow along the channels into the well; but after a time the remnants of bones are also swept into that excavation. The word is also said to be

the name applied to the fire temples of the ancient fire-worshippers overhanging the Caspian Sea.

DOKHTAR. PERS. A daughter. It is pronounced much the same as that word is in Scotland. It is from the Sanskrit Duhitri, one who milks the cow, a milkmaid.

DOKOA, a pigmy African race described by Dr. Krapf, 4 feet high. They are said to pray with feet in the air and their head on the ground, and eat snakes, ants, mice.

DOK-PA-CHU, the river of the Dokpa. Lieut. Strachey found the Dokpa the chief salt-carriers.

DOKRA, a low caste of Singhbum.

DOL, in Bengal a social section of high-caste Hindus, each presided over by a Dolapati, who can summon the section together on marriage and death festivals.

DOL, in Persian, also Dol-dolab and Dolaba, a revolving wheel of buckets for drawing water, usually called a Persian wheel, and such as is used in dredging machines. In Urdu, Dol is written either with the Persian or Hindi D; and is also a vessel for drawing water; a leathern bucket.—*Elliot.*

DOLA, in Yemen, is a government officer much such another as a pacha in Turkey, only acting upon a narrower stage.—*Niebuhr's Tr.* ii. p. 85.

DOLA. HIND. From Doola, to swing; a swing. Dola-Jatra, the swing festival held on the full moon of Phalgun (March—April) in honour of Krishna, when figures of Krishna and Radha are swung in an ornamented swing.

DOLA. HIND. A Mahomedan woman of inferior rank, married to a man of superior rank. She takes a lower place than a wife of equal station, and is carried to her husband's home without any ceremonial or procession.

DOLA. HIND. Bier. Dola runka, the war bier.

DOLDRUMS, a term given by seamen to the zone or girdle of the equatorial calms, lying between the N.E. and S.W. trade winds. Here long calms alternate with dreadful storms. Besides being a region of calms and baffling winds, it is a region noted for its rains and clouds, which make it one of the most oppressive and disagreeable places at sea. The ships from Europe for India and Australia have to cross it. They are often baffled in it for two or three weeks; then the children and the passengers who are of delicate health suffer most. It is a frightful graveyard on the wayside to those Eastern lands.—*Maury's Phys. Geog.* p. 175.

DOLI. HIND. Grounds and houses established by Hindu religious bodies in towns.

DOLICHOS, a genus of plants belonging to the natural order Fabaceæ, or the bean tribe. About thirty-two species of Dolichos are well known. Cattle eat the straw of D. pilosus, the Takuri-kulay of Bengal. D. pilosus, with downy leaves and pods, abounds in Tenasserim. Several varieties of D. Sinensis are cultivated, and D. uniflorus, the common horse gram plant, is grown in many parts of India.

DOLICHOS CATJANG. *Roxb.*

D. Sinensis, *var.* orthocarpus.

Burbuti, ... BENG.	Bullar, ... HIND.
Tadagunny, . . . CAN.	Masendi, . . MALEAL.
Kurson pyroo, . . ,,	Lasunda, . . . SANSK.
Red gram, . . . ENG.	Lee mæ, ... SINGH.
Small-fruited dolichos, ,,	Karamani, . . . TAM.
Chora, ... GUJ.	Dantu pesalu, . . . TEL.
Lobeh, ... HIND.	Bobra bobarlu, . . ,,

A valuable pulse, prized in India; it is cultivated in Portugal. D. Sinensis has six varieties, distinguished by their white, brown, and black seeds, —leucospermus, phæospermus, and melanospermus. *Ainslie*, p. 237; *Roxb.* iii. 303. See D. Sinensis.

DOLICHOS FALCATUS. *Klein.*

Ita munge tige, . . TEL.	Verri ulva, ... TEL.

Common in hedges, thickets, etc., where the soil is rich and moist. Flowers during the cold season. The tuberous roots are cut by the natives into the form of beads, and strung and worn round the neck to cure purging in children.—*Roxb.* iii. 311.

DOLICHOS GLUTINOSUS. *Roxb.*

Glycine viscosa, *Roth.*	Rhynchosia viscosa, *D.C.*
Shim-batrajee, . . BENG.	Karu kandi, . . . TEL.
Erra chikkudu, . TEL.	Nugu chikkadu, . . ,,
Karu chikkadu, . ,,	

Grows all over India, and has largish yellow flowers; differs but little from D. tomentosa.

DOLICHOS PILOSUS. *Roxb.*

Tau bai, ... BURM.	Takuri kulay, . . HIND.

Grows over all India. Cattle eat the straw.—*Roxb.* iii. 312.

DOLICHOS SINENSIS. *Linn.*

α eccremocarpus.	β orthocarpus.
αα leucospermus.	ββ phæospermus.
ββ phæospermus.	γγ melanospermus.

Burbuti, ... BENG.	Chota harwanh, . PANJ.
Chowlee, ... DUKH.	Rawangan, . . . SIMLA.
Ollæah, ... EGYPT.	Chaunro, ... SIND.
Lobia, . . HIND., PERS.	Wanduru mæ, . . SINGH.
Rawan, . . JALANDHAR.	Karamani; Bobbarlu, TAM.
Raongi, . . . KANGRA.	Ala-chandala; Alsanda, ,,
Paru, ... MALEAL.	

The varieties of this commonly-cultivated species have white, brown, and black seeds. The section eccremocarpus is D. Sinensis, *D.C.*, the D. sesquipedalis of Linn. The orthocarpus is the D. Tranquebariensis of Jacquemont, D. catjang of Roxburgh. This bean is sown at the commencement of the rains; it has a very long and slender pod, and eaten as French beans. The bean itself is small, and those with white seeds are esteemed the best.

Moisture, ...	12·44	Fatty or oily matter,	1·41
Nitrogenous matter,	24·00	Mineral constituents	
Starchy ,,	59·02	(ash), ...	3·13

DOLICHOS TRANQUEBARIENSIS. *Jacq.*

D. Sinensis, *var.* orthocarpus.

Lobeh ke phalli, . DUKH.	Pytun-kai, . . . TAM.
Rajamasha, . . SANSK.	Pesala-kaia, . . . TEL.

This is a long, slender, pleasant-tasted legume, not unlike the French bean both in appearance and natural qualities. There is a larger variety of it, called in Tamil, Perum pytun-kai; in Dukhani, Suffaid lobeh ke phalli; in Telugu, Dantoo pesala-kaia, and in Sanskrit, Sveta rajamasha.—*Ainslie*, p. 244.

DOLICHOS UNIFLORUS. *Lam.*

D. biflorus, *Roxb.*

Roiong; Rawan, . BEAS.	Barat; Botang, . PANJ.
Kultho kulle; Kulti, BEN.	Guar, ... ,,
Hurali, ... CAN.	Kolutha; Culutu, SANSK.
Kalatt; Kulat, . CHEN.	Kult; Kolt, RAVI, SUTLEJ.
Madras gram; Gram, ENG.	Gagli, ... ,,
Horse gram, . . ,,	Kollu, ... TAM.
Kulti, . HIND., MAHR.	Ulavallu; Ulava, . TEL.
Muthera; Maediri, MAL.	

It is used in S. India for cattle, and is the common food for horses in the southern part of the Peninsula. It is a very pleasant-tasted pulse, and is used by the poorer classes as an article of diet in curries. It is grown in fields after the

rains. When given to horses, it must first be boiled; they soon become very fond of it, and keep in as good condition as upon any other grain.

Moisture, ...	11·40	Fatty or oily matter,	0·81
Nitrogenous matter,	23·25	Mineral constituents	
Starchy ,,	61·43	(ash), ...	3·1

It is commonly cultivated for its pulse up to 7000 feet or more in the Himalaya, and is largely grown in the Peninsula of India. It produces about sixty-fold in a good soil and favourable season. One variety has grey seeds; the seeds of another variety, melanospermus, are jet black. Both varieties of seed are used to feed cattle, and as food of man in times of scarcity. Cattle eat the straw.

Its Oil,

Moneela gram oil, .	ENG.	Varoosanigaloo nuna,	TEL.
Varcadalai yennai,	TAM.		

is a pale yellow clear oil. The variety employed for oil has nearly white seeds.—*Roxb.; Voigt; J. L. Stewart; Ainslie*, p. 238.

DOLL, properly Dal. HIND. A name of the pulses, Cajanus Indicus or pigeon pea, and Phaseolus aureus; largely used as food.

DOLLAR, a coin current in the United States of America, parts of South America, the Eastern Archipelago, China, and some of the states of continental Europe. It is usually the largest silver coin of a country. The American dollar is divided into 100 cents, and is valued at about 4s. 2d. There are Sicilian, Austrian, and Spanish dollars, which are estimated according to their weights and fineness.

In the Archipelago, the dollar coins of the highest value are what are called 'Pillar dollars,' from two pillars, supposed to represent the Pillars of Hercules, which are stamped on the reverse of the coins of Carolus III. and IV. The coinage of the independent states of South America, and even those of Ferdinand VII. of Spain, are only current at a considerable discount. Almost the entire exportable produce of Acheen and the Pedier coasts is raised by the Batta and other nations of the interior, who sell it to the Malays of the coast, who again resell it to strangers. The Batta, like many other of the brown-complexioned tribes of the Archipelago, have a singular custom of melting down the precious metals they obtain into circular plates, which are connected with their religions. The Pillar dollars, probably owing to the superior purity of the metal, are more easily melted down than the Mexican dollars, which require a degree of heat that the Batta are unable to produce. The Anglo-American traders who visit the west coast therefore hit upon the system of melting down the Mexican dollars in the United States, and coining them into Pillar dollars, so that an equalization in the value of these coins is likely soon to take place; but as the Batta require the dollars almost solely for the purpose of melting down, it may be doubted whether this new system may not materially affect the production of exportable articles.—*Simmonds' Dict.*

DOLMEN, a table stone used by ancient races as a sepulchral monument. The British apply the word cromlech to widely different structures. Its true meaning is a circle of upright stones, like the 'Hurlers' and 'Nine Maidens' in Cornwall. The cromlech of the British antiquarian is the same as the Welsh and English 'quoit,' such as Arthur's quoit or coetan, near Criccieth, Lanyon quoit and Chun quoit and others in Cornwall, Stanton Drew quoit in Somersetshire, the Kittskoty or quoit near Maidstone, and the Coity-y-enroc in Guernsey, all of them circles of upright stones. Professor Sven Nilsson (On the Stone Age, p. 159) defines the English cromlech as synonymous to the French dolmen, the Scandinavian dös, and the dyss of Denmark, consisting of one large block of stone, supported by some three to five stones arranged in a ring, and intended to contain one corpse only, several of these dorsar being sometimes enclosed in circles of raised stones. Following, however, the nomenclature given by the late Dr. Lukis, we cannot be far wrong in assigning the word cromlech to all elaborate megalithic structures of one or more chambers, in which category the passage graves may be included. The dolmen (Dol, a table, Moen, a stone) is, as its name implies, of different structure. The cromlechs of Jersey and the adjacent islands partake of the character of the French grottes aux fées, the fairy's grotto, as well as the Gangrifter, the gallery tombs of the Swedes, the jettestuer or chambered tumuli of the Danes, and the German Hunenbetten. In China, the chambered tumuli associated with megalithic avenues have attained their greatest development. The great tomb (the Ling or resting-place of Yung Lo of the Ming dynasty), 30 miles from Pekin, consists of an enormous mound or earth barrow covered with trees, and surrounded by a wall a mile in circumference. In the centre of the mound is a stone chamber containing the sarcophagus, in which is the corpse. This chamber or vault is approached by an arched tunnel, the entrance to which is bricked up. This entrance is approached by a paved causeway, passing through numerous arches, galleries, courts, and halls of sacrifice, and through a long avenue of colossal marble figures, sixteen pairs of wolves, kelins, lions, horses, camels, elephants, and twelve pairs of warriors, priests, and civil officers.

There was a fine celled dolmen formerly existing near Nidi-mund, on the Neilgherries, and throughout the Belgaum and Kaladgi collectorates are scattered groups of dolmens, formed of large rough slabs set on edge, with a huge cap-stone laid over them. Many of these are to be seen to the S.W. of Konur, in the Belgaum collectorate. A dolmen was discovered in Gujerat. Barrows occur in Zorapur. Upright monumental stones or menhirs also occur.—*Ind. Ant.*

DOLOMIEA MACROCEPHALA. *D.C.*

		The Root.	
Dhup, Dhupa, .	PANJAB.		
Gugal, . . .	SUTLEJ.	Pokhar-mul, .	PANJAB.

A plant not uncommon from the Sutlej up to the Indus, at from 10,500 to 13,000 feet, often growing on the crests of ridges. The odorous root is locally used as incense offered at shrines and to rajas, and the flowers also are placed in temples on the Sutlej.—*Dr. J. L. Stewart.*

DOLOMITE. Hwah-ju-shih, CHIN. The Chinese make vessels out of their dolomites. It is also used medicinally internally. Dolomite is a magnesian limestone, used for building and for lithographic stones.—*Smith.*

DOLPHIN. This name is applied by southern-going sailors both to the brilliant Coryphæna hippuris, *Linn.*, the Dorado or Dolphin proper, of a brilliant blue or purple, and to the Delphinus or

Porpess. The Coryphæna hippuris are caught in the Gulf of Arabia (Bennett, i. p. 8). When swimming about it is of a brilliant blue or purple, gleaming with a metallic lustre on every change of reflected light, and varying in intensity according to the degree of illumination and shade. On being captured, the changes of its tints are most lovely: the bright purple and golden yellow hues change to a brilliant silvery tint, varying back again into the original colours of purple and gold. This play of colours continues for some time, and then settles to a dull leaden hue. The Delphinus Peronii is very rare, and confined to the confines of the Antarctic Ocean, S. of Cape Horn.—*G. Bennett*, i. pp. 8, 20.

DO-LUNGI of Jalandhar, a fine double lungi or scarf.

DOM or Hali. In the great belt of forest land intervening between the mountains and the plains, are several tribes. One of these, the Dom of the N.W. Provinces, is generally regarded as a remnant of the original stock which the intruding Aryans displaced. The huts of the Dom or Hali are on a low range, and the Dom are hereditary bondsmen to the Rajputs. They are supposed to be the same as the Dom of the Santal hills, and the Dumi, still a well-defined tribe in sub-Himalayan Nepal. Besides the Dom of Garhwal, in the N.W. Provinces, there are wandering and wild tribes, named Bhur, Damak, Kanjar, Kumboh, Nat, Saussi, Gond, the Tharu in the Terai, and the Pasi in Oudh. In Oudh the Dom is a sweeper, carries away the dead, is often a musician, and his wife the Domini, an actress who performs in the private apartments of women. In Kamaon in N.W. India, the Dom is engaged in basket-making and wicker-work. They have dark, almost black skins, and crisp curly hair. The Dom is now dwelling amongst the general population in the north of India, under the Himalaya, and in the Kamaon hills. The Dom were once a considerable tribe, and are still a numerous helot section of the population, being in fact the only inferior class, and ordinary labourer as well as artisans, and, with the Ghasi, in the labour market of Northern India take the place of the Mang, Mhar, Dher, and Pariah of the south of India, and are rope, fan, basket, and mat makers. Tradition fixes the country of the Dom to the north of the Gogra, touching the Bhur on the east, in the vicinity of the Rohini. Several old forts testify to their former importance, and still retain the names of their founders, as for instance Domdiah and Domungurh. Ramgurh and Suhunkote on the Rohini are also Dom forts. Buchanan considers that the Dom are the same as the Dom Kutur (Domtikar); also that the Dom expelled the Tharu, and were afterwards expelled by the Bhur. There are several Dom or Domra tribes scattered over the western districts of Oudh, and in Bundelkhand and Saugor. The Mirasi Dom are Mahomedans descended from Bhat, and are perhaps more generally known by the name of Mirasi and Puk'hawuj. The name of Mirasi is abbreviated into Mir; and thus the Mir of the Kala Nuddi, after whom Mirapur is called, having assumed this distinguished title, are frequently able to conceal the truth of their being really descended from the Mirasi Soorkh. Domang, a low-caste race in Kanawar, the same as the Dom of Kamaon.—*Wilson; Latham; Campbell*, pp. 16–125; *Buchanan, Eastern India; Elliot; Dalton, Eth.*

DO-MALA. HIND. A large well, furnished with a double 'harth' or Persian wheel.

DO-MAT. HIND. Soil, part clay and part sand, hence the name 'two-earths,' Do-mat.

DOMBA, Dombar, or Domar, an athlete, rope-dancer, or gymnast, known in the south of India as the Kollati or Khelati. The young women are models of physical strength; they are not restrained from intercourse for money. They are in small clans in the centre and south of the Peninsula of India.

DOMBA GASS. SINGH. Calophyllum inophyllum, *L.* Domba-keena is C. Moonii, *W.* Domba oil, a fragrant fixed oil obtained from the seeds of the Alexandrian laurel, C. inophyllum. It is used for burning and for medicinal purposes. C. inophyllum has a soft, coarse, open-grained, light wood, bearing a strong resemblance to inferior Honduras mahogany, takes a good polish, and presents a pretty curled pattern; perhaps not a very durable wood, at all events in its native country.—*Ex.* 1851.

DOMBEYA, a genus of plants belonging to the natural order Sterculiaceæ, inhabiting the East Indies, and the Isles of France, Bourbon, and Madagascar. The bark of D. spectabilis is made into ropes in Madagascar. D. angulata, *Cav.*, is the D. tiliæfolia, *Roxb.* It is a shrub, native of Bourbon, with rose-coloured flowers like those of the common oleander, leaves cordate; flowers in corymbs, of a pretty rose colour. D. palmata, *Cav.*, a shrub; leaves palmate, resembling the common castor-oil plant. Flowers, in large terminal corymbs, rose-coloured, appear in September and October. D. tomentosa is a small tree with rose-coloured flowers.—*Eng. Cyc.; Riddell; Roxb.*

DOME, in architecture, is generally in use for tombs of the Indian Mahomedans. The ceilings and domes of Hindu and Jain temples are sometimes of singular excellence of execution. In the western side of India, the cusped arch and the dome characterize the Mahomedan style of architecture, but that of Ahmadabad and that of the Bijapur buildings present points of difference. Perforated stonework occurs in old Hindu buildings, but specimens remarkable for the variety of beautiful design are chiefly to be found in the Mahomedan works of the 15th and following centuries at Ahmadabad and Aurangabad.

DOMETT, a thin kind of flannel, of which the weft is of wool, the warp of cotton.—*Faulkner.*

DON, D., a botanist, author of the Prodromus and Flora Nepalensis.

DON. HIND. A clod-crusher drawn by two bullocks; the driver stands on the implement when working it. The kulu is used after the clod-crusher for levelling the ground, and, with the scarifier removed, it is used for covering the seed after it is drilled in. The kuri is a drill used in rice cultivation.

DONA. HIND. A leaf folded up as a cup.

DONABEW, a town in Pegu, taken by the British 2d April 1825.

DONDRA HEAD, the most southern point in Ceylon, is in lat. 5° 55′ N., long. 80° 33′ 40″ E. It is low and projecting, and covered with cocoa-nut trees. Extensive ruins are still on it of an ancient and once celebrated temple, which was sacked and destroyed by the Portuguese in 1587.

DONDU. HIND. Tubes of the corolla of the Nyctanthes arbor-tristis.

DONG. BHOT. The wild yak of Tibet, the fiercest of all known ruminants. It will rarely allow a man to escape alive if it can come up with him. It is generally hunted on horseback, the great aim being to detach one from the herd. It affects open grassy places, and goes in large herds. Its favourite pasturages being ascertained, in the midst of these the hunters, who are on foot, throw up circular enclosures of stone a few yards apart, the hunter taking up a position in one of them. When a dong is within shot, the hunter, having fired at him, instantly quits his enclosure for another; for as soon as the animal hears the shot, whether he has been hit or not, he, guided by the smoke of the discharge, rushes furiously on the enclosure, and commences knocking it to pieces. When the hunter gets another shot at him, he retires again from his shelter to a fresh enclosure, and so on till he has killed his game. The ordinary size of the dong is four times that of the domestic yak; it is black all over, having occasionally a white streak in the forehead. The horns of a full-grown bull are said to be three feet long, and the circumference must be immense. The common mode of describing it is to throw out the elbow, bring the fingers to the ribs, and point to the circle thus formed as the size of the base. It is used by the grandees of Tibet at marriages and other feasts, when it is filled with strong drink, and handed round to the company. Nothing more commendatory of the host's joviality can be said, than that he regaled his guest out of the dong's horn. The horns so used are finely polished, and mounted with silver or gold and precious stones. It is common in a Tibetan goompa (Lamaserai) to see a stuffed dong standing in front of the image of Maha Kali, at whose shrine the animal is thus figuratively sacrificed; axes and other instruments of sacrifice are ranged around the image. Strange that Buddhists should preserve this feature of Hinduism in their places of worship; not more so, however, than, as Huc describes, that a lama should nearly go into fits on seeing a louse from his tunic impaled for the microscope, while the whole of his countrymen and co-religionists are among the greatest slaughterers and consumers of animal food in the world.

DONGAR. MAHR. A hill, high ground. Dongar-Koli. MAHR. A lawless tribe inhabiting the hilly country. Dongargaon, on the plateau of Ch'hatisgarh, has a great grain market.

DONGI-DONGI of Maccassar, Eucheuma spinosa; Plocaria candida, *Nees;* the agar-agar of commerce.

DONI of the Coromandel coast is a huge vessel of the ark-like form, about seventy feet long, twenty feet broad, and twelve feet deep, with a flat bottom or keel part, which at the broadest place is seven feet; and at the fore and after parts of the vessel it breaks into ten inches, which is the siding of the stem and stern post. The fore and after bodies are similar in form amidships. Their light draught of water is about four feet, and when loaded, about nine feet. These rude unshapely vessels trade from Madras and the coast to the island of Ceylon; and many of them to the Gulf of Manaar, as the water is shoal between Ceylon and the southern part of the continent. They have only one mast, with a long sail, and are navigated from land to land, and coastwise, in the fine season only.

DONJONG-MA, a goddess of the Garo.

DONKEY, the ass, the Gad'ha of the Urdu-speaking races of India. Gadhe-ka-hal, HIND., literally a donkey's plough. Before the British domination in India, it was not uncommon to yoke donkeys in a plough and drive them over the ruins of a captured fort, as a mode of showing supreme contempt for the vanquished enemy. The furrows thus raised were levelled by the lohe-ki-mye, or iron harrow. Horace says (Carm. i. 16):

'Exitio gravi
Stravere, et altis urbibus ultimæ
Stetere causæ, cur perirent
Funditus, imprimeretque muris
Hostile aratrum exercitus insolens;'

indicating this mode of wreaking vengeance. It has been in especial favour with Eastern nations, and was practised by Chengiz Khan and Timur with unrelenting severity. Hence the common expression, 'I shall sow barley where you now stand,' as in the vaunt of the bandit minstrel Kurroglow, at p. 138 of Popular Poetry of Persia. Gadhe-par-charhana, literally to seat upon a jackass, is a punishment more commonly known by the Arabic word Tash'hīr, publication, celebration, which is rendered by Golius, 'Per urbem duci jussit sontem in exemplum; fere asino aut camelo impositum.' In India delinquents are never placed on camels, but often paraded on donkeys.—*Elliot's Supp. Gloss.*

DONKIA, a pass in N. Sikkim, in lat. 27° 56′ N., and long. 88° 48′ E. The crest is 18,466 feet above the sea. Tibet is visible from its summit. Dr. (Sir) J. D. Hooker described the grand but most desolate panorama beheld by him from the summit of this pass.

DONWAR, a clan or tribe of the Bhuinhar, found in considerable numbers in the districts of Mirzapur, Azimgarh, and Jaunpur; a few also reside in Gorakhpur. Some of them are called Rajputs, and others Bhuinhars. The Donwar clan of Rajputs was once in possession of the Doabi pargana, in the Ghazipur district. This tract has passed into the hands of the wealthy and influential raja of Domraon, but they continue to inhabit the soil in large numbers.—*Sherring.*

DOOLEY, a litter with wooden framework and canvas; a coarsely made palanquin, light and airy, generally used for carrying the sick.

DOOM or Doum, the gingerbread palm-tree, exclusively inhabiting Upper Egypt, especially the neighbourhood of Thebes, whence it is named Cucifera Thebaica. Its stem forks two or three times, thus assuming the appearance of a Pandanus. The fruit is about the size of an orange, angular, irregularly formed, of a reddish colour, and has a spongy, tasteless, but nutritious rind. The albumen of the seed is hard and semi-transparent, and is turned into beads and other little ornaments. Gœrtner described it under the name of Hyphæne coriacea. It is known in Egypt as the gingerbread tree, because of the resemblance of its brown mealy rind to that cake.—*Eng. Cyc.*

DOONA. *Thwaites.* A genus of great trees of Ceylon. D. affinis occurs between Ratnapura and Galle, at no great elevation; D. congestiflora, Tinneya-gass, SINGH., at Hinidoon and Pasdoon Corles; D. cordifolia, at no great elevation

at Pasdoon Corle and Ambagamowa; D. Gardneri, in the central province, at an elevation of from 3000 to 5000 feet; D. nervosa at Eknalagodde, near Ratnapura.—*Thwaites, En. Pl. Zeyl.*

DOONA TRAPEZIFOLIA. *Thw.* Tuccahaaloo-gass, SINGH. Grows as a common forest tree in the central and southern parts of Ceylon, up to 1500 feet.—*Thw.* p. 55.

DOONA ZEYLANICA. *Thw.* Doon-gass, SINGH. Grows in the central province of Ceylon, up to 4000 feet. A large quantity of colourless gum-resin exudes from the trunk and branches of this fine tree, which, when dissolved in spirits of wine or turpentine, makes an excellent varnish. The timber is highly prized for building purposes, and for shingles.—*Thw.* p. 34.

DOORS are generally open in India, and the number of servants about, admit of this. But when the doors are shut, before opening them, all the questions in Acts xii. 13 are put: 'And as Peter knocked at the door of the gate, a damsel came to hearken, named Rhoda.' A stranger approaching a house, does not attempt to open its door, but usually claps his hands two or three times together. This is called Thali dena. The English word Door is from the Sanskrit Dwar, and has its equivalent in Dar, Persian, and Duar, a boundary. The British in Calcutta retain a door or gate keeper, Dar-wan, who shuts the gates when visitors are not receivable.

DOPAEE. HIND. A variety of magic squares.

DO-PATTA. HIND. A scarf of silk or muslin; a cloth of two breadths used as a garment. The do-patta scarf, an exquisitely beautiful article of Indian costume for men and women, is worn more frequently by Mahomedan women than Hindu, and by the latter only when they have adopted the Mahomedan lunga or petticoat; but invariably by men in dress costume. By women this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head; by men, across the chest only. Do-pattas, especially those of Benares, are perhaps the most exquisitely beautiful of all the ornamental fabrics of India; and it is quite impossible to describe the effects of gold and silver thread of the most delicate and ductile description imaginable, woven in broad, rich borders, and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns of the ribbon borders or broad stripes. How such articles are woven with their exquisite finish and strength, fine as their quality is, in the rude handlooms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colours,—the creamy white, and shades of pink, yellow, green, mauve, violet, and blue, are clear yet subdued, and always accord with the thread used, and the style of ornamentation, whether in gold or silver, or both combined. Many are of more decided colours,—black, scarlet, and crimson, chocolate, dark green, and madder; but whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to its original beauty, at least to a very wearable condition. The do-pattas of Pytun, and indeed most others except Benares, are of a stronger fabric. Many of them are woven in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Dekhan, not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares. Scarfs are in use by every one,—plain muslins, or muslins with figured fields and borders without colour, plain fields of muslin with narrow edging of coloured silk or cotton (avoiding gold thread), and narrow ends. Such articles, called sehla in India, are in everyday use among millions of Hindus and Mahomedans, men and women. They are always open-textured muslins, and the quality ranges from very ordinary yarn to that of the finest Dacca fibres. No attire is so becoming to the delicate form of a woman as the Hindustani garments anga and do-patta. A woman in European attire gives the idea of a German manikin; an Asiatic in her flowing drapery recalls the statue of antiquity. These scarfs are manufactured at various places, and of different qualities and colours. Those brought from Benares, always with gold and plain lace borders of different sorts, are sold at from 25 to 350 rupees each. Those of Arnee, in the collectorate of Chingleput, with borders of yellow cotton, are priced at from 2 to 7 rupees each, and those of Oopada in Rajamundry are woven with white borders, and are sold at from 1½ to 3 rupees each.—*Dr. Watson; Tr. of Hind.* ii. p. 37.

DOR, a tribe of Rajputs, some of whom, mostly converted to Mahomedanism, are settled in the Alighur district, also about Banda and Saugor. Time has destroyed all knowledge of the history of this branch, but they must have been of importance in the time of the last Hindu sovereign of Dehli, Prithi-raj, as he commemorated a victory over them by a tablet. Before the emigration of the Bir Gujur race, they were the chief proprietors of Alighur, and a remnant of them now exists in Dubhaee, Atrowlee, Coel, Shikarpur, and Burun.—*Elliot; Tod; Wilson.*

DOR. HIND. Land ploughed twice; from Do, two. When ploughed three times, it is called Teoor; when four, Chawur.

DOR, the modern village Athebis, the first place towards Jaffa; it is the Castel Pelegrino of the crusaders, and the Dor of the Hebrews. Its columns and buttresses are a confused mass, stretching into the waves, over which the surf breaks. Dor is the celebrated city of Cæsarea.—*Skinner's Journey*, i. p. 96.

DORA, with the Tamil and Telugu races, is equivalent to the English words, Sir, Master, and to the Arabic Sahib. Both in its singular and plural forms, Doravadu, Doragaru, Dorawanlu, it is a title of the Konda Doralu, the chieftains in the mountains of Gumsur. Dorasani is a lady.

DORADINA, a group of fishes of the family Siluridæ stenobranchiæ.

DORADO, one of the dolphins.

DORAN, woollen cloth of Kulu.

DORDONIA ORIENTALIS, hop wood of Nor-

folk Island, does not attain to more than a foot in diameter, and is principally used for veneering and in turning ornaments.—*Keppell's Ind. Arch.*

DOREMA AMMONIACUM. *Don.*

Ferula orientalis.	Ferula ammonifera, *Fee.*
Feshuk, ... ARAB.	Simugh teratees, . PERS.
Oshak, ... PERS.	Simugh b'us-shirin, ,,

A glaucous green plant belonging to the natural order Umbelliferæ, with a perennial root, and large leaves two feet long. It is a native of Persia, in the plains of Yerdekhast and Kumisha, in the province of Irak, and near the town of Jezud Khast, in very dry plains and gravelly soil, exposed to an ardent sun. It is one of the plants which yield gum ammoniacum, but it is probable that several plants yield this, as well as the other gum-resins, of the order Umbelliferæ. This gum-resin is imported into Bombay from the Persian Gulf, and re-exported to different countries. It is obtained by incisions in the plant, and occurs in two forms,—first, in voluminous masses of yellowish colour, enclosing white almond-like tears, the whole being of plastic consistence, and very impure; secondly, in tears of irregular form, white or yellowish, opaque, rather solid, agglutinated or distinct, compact, brittle, of glassy fracture, and free from impurities. Its odour is faint and peculiar, taste sweetish and then bitter. It is partially soluble in water, ether, alcohol, alkaline solutions, and acetic acid. Its medical effects are similar to, but less powerful than, asafœtida. It is principally employed as an expectorant in the chronic catarrhs and asthmas of old persons. It is also applied externally as a warm and stimulating plaster.—*Lindley, Fl. Med.; Eng. Cyc.* p. 335; *Faulkner; O'Sh.* p. 364; *Powell*, p. 354. See Asafœtida; Ferula Persica.

DOREY or Dori, a village in New Guinea, in which the houses are built on posts in the water, and are reached by long rude bridges. The houses are low, in the form of a boat bottom upwards. In Dori the Papuans are called Myfore. They are about 5 feet 3 inches high; few attain 5 feet 6 inches. They wear their crisped hair its full length, and generally uncared for, which gives them a wild, scared appearance. The men, not the women, wear a comb. The beard is crisp. The forehead is high and narrow; eyes large, dark brown, or black; nose flat and broad; mouth large, lips thick, and teeth good; few have regular features, and most are apathetic. The ordinary men wear a waist-cloth made of the bark of a tree, called Mar, which is wrapped round the waist and passed between the legs. Women wear a short sarong to the knee, generally of blue cloth. Men and women tattoo their bodies, by pricking the skin with a fish bone and rubbing in lamp-black. The Dori people are seafarers, fishers, and traders, and are expert swimmers and divers. Their prahus have outriggers, and are excavated from the trunk of a single tree. Their food consists of millet, obi, maize, a little rice, fish, and hogs' flesh, and fruits; sago is imported in small quantities. Theft is considered a grave offence. The people resemble the Ke and Aru islanders. Their colour is a deep brown, often approaching closely to black. On a pole near the stem of the boat, they place, chiefly for ornament, a thin, finely-carved red-and-white striped plank, sometimes furnished with the image of a Papuan's head, with out-sticking hair, made from gomuti fibres or cassowary feathers. Respect for the aged, love of their children, fidelity to their wives, are traits which reflect honour on their disposition. Chastity is held in high regard, and is a virtue which is seldom transgressed by them. A man can only have one wife, and is bound to her for life. Concubinage is not permitted. Adultery is unknown amongst them. They are generally very fond of strong drink. They do not make any fermented liquor, not even sagoweer or tuak. Kidnapping is general in these countries. The hillmen, or Arfak, of the interior are generally black, but some are brown. Their hair, though always more or less frizzly, is sometimes short and matted. The Arfak mountains are about ten thousand feet high, and inhabited by savage tribes. Birds of paradise are brought to Dori for sale from Amberbaki, about a hundred miles west. —*Wallace*, ii. p. 184; *Earl*, p. 71; *Journal of the Ind. Arch.*, June 1852, pp. 312 to 317.

DORI. HIND. An iron straining ladle to separate the curd for cheese-making.

DORI. HIND. A kind of edging or narrow braid in gold and silk. Dorihar, a pedlar selling laces and thread; also a Saiva mendicant living partly by the sale of thread. Dori means a small twine or thread, or cording edging, used for the edges of clothing, similarly to nakki, gota, kinari, patti, mandil, and zardozi.

DORIA. HIND. A cotton fabric coloured with fine stripes, one of the piece goods of India.

DORIA. HIND. A leash, consisting of a bunch of silk thread fastened at the ends; they are often worn to suspend charms or amulets, etc., round the neck.

DORIAN, the fruit of the Durio zibethenus; it is pleasant-tasted, but of most offensive persistent odour, though the natives of Amherst and Malacca are very fond of it. They cost three rupees each at Moulmein.

DORIDÆ, the sea-lemon family of molluscs. Doris Barnardi, *Kelaart*, has rich colours. D. exanthemata, *Kelaart*, of Formosa, Labuan, and Borneo, is nearly eight inches long, of an olive green colour, and is the largest known nudibranch. Its besses and tubercles render it an unpleasing object.—*Colld.*

DOR-KHAIR. HIND.? A tree of Chutia Nagpur, with hard, yellowish-red timber.—*Cal. Cat.*

DORO. SIND. Unripe fruit of Capparis aphylla, *Roxb.*

DORVILLE and Grueber, two Romish missionaries who travelled in Tibet in the middle of the 17th century. They crossed China from Pekin by Sin-gan-foo to Sining, reached the Koko-nor valley, and thence passed into Tibet round the sources of the Hoang-ho, and, crossing those of the Yang-tze-kiang river, they came on from thence to India, through the valley of Nepal by Khatmandu and Hetounda to Patna on the Ganges, where Dorville died.—*Prinsep, Tibet*, p. 14.

DORYANTHES EXCELSA, a lofty tree Amaryllis, the gigantic lily of the sea-coasts of Australia between Sydney and Botany Bay. It is a magnificent plant, with a lofty flowering spike. The height of the flowering stem is from 10 to 20 feet, bearing a terminal cluster, 12 to 14 inches in diameter, of crimson flowers. In the beautiful Illawarra district it is found in the greatest perfection, and attains its full magnitude and beauty about the mountain ranges. It is supposed that

a useful flax could be made from the fibres of its leaves. It should be introduced into India.—*G. Bennett*, p. 340.

DORYMA BERDMOREI. *Blyth.* A genus of the Geckotidæ found in Mergui.

DOSAD, in Bengal, a low caste employed as executioners, to remove dead bodies, as village watchmen and messengers. In Bengal and Behar, the work of labourers is done by Bhui, Rajwar, and other aboriginal tribes, but Chandal, Dosad, Hari, Bhumali, are names of other low-caste races; the Bhuimal, in Bengal, being the lowest or sweeper class. The Dosad of Behar used to make frequent predatory excursions into Lower Bengal. The Dosad men are of strong build, and as tall as the average Hindu; have coarse features, but with nothing of the Chinese or Negro about them. They have adopted the worship of the demon Rahu, who is supposed to cause eclipses by his periodical attacks on the sun and moon, in revenge for having had his head cut off by Vishnu. The Dosads not only adore him, but claim to be his descendants,—their upper class from Rahu and his wife, and their second class from Rahu and his wife's maid-servant. In their mode of worshipping their founder, the faithful ascend ladders formed of sword-blades, so placed as to bring the sharp edge in contact with the foot as they ascend. The Dosads aspire to higher employment than the Ghasi and Dom. They serve as village watchmen, and sometimes as police and as court runners. They live freely.—*Wilson; Dalton, Ethnol. of Bengal*, p. 326; *Campbell*, p. 129.

DOSALI, a caste who make leaf cups and leaf platters in India.

DO-SHAHI. HIND. A soil part clay and part sand; soil of two kinds mingled, hence its name, Do-mat, or two earths. See Do.

DO-SHALA. HIND., PERS. Double shawl, shawls being always worn double by the natives of India. The ordinary do-shala is a pair of shawls, made with the 'kinara' or border at different sides, so that one may be worn over the other for thickness as well as appearance, for then both sides show as right sides. See Do.

DOSHAM. See Polyandry.

DOSIA POWDER. The Japanese, instead of enclosing corpses in coffins of a length and breadth proportionate to the stature and bulk of the deceased, place the body in a box or tub, 3 feet high, 2½ feet in diameter at the top, and 2 feet at the bottom. They produce this result by means of a powder called dosia, which they introduce into the ears, nostrils, and mouth of the deceased, after which the limbs all at once acquire astonishing flexibility. Mr. Titsingh remarks that in October 1783, when the cold was already pretty severe, a young Dutchman having died in the island of Desima, next morning one of the interpreters put a pinch of powder, resembling the famous dosia powder, into the ears, another into the nostrils, and a third into the mouth, and in less than twenty minutes the body recovered all its flexibility. He was assured that in difficult labours, a cup of hot water, in which a little of the dosia powder, tied in a bit of white rag, has been infused, is administered to the patient. It has the appearance of sand, and when it is fully perfected for use, is as white as snow. It is obtained on the mountain of Kongosen or Kinbensen, in the province of Yamatto, where there are many mines of gold and silver. The process by which it is prepared is the secret of the priests. Their knowledge is doubtless the result of accidental experience, for their acquaintance with chemistry is so slight that we may safely conclude they do not understand the rationale of its preparation.—*Titsingh's Illustrations of Japan*, p. 283; *American Expedition to Japan*, p. 72; *Hodgson's Nagasaki.*

DOSILA, a cotton fabric with broad stripe in blue and orange.

DOSS, from Dasa, SANSK. A slave; a surname of many Hindu races in India, as Jaggadamba Doss. It has the same reference to the Hindu gods as the Abd or Ghulam of the present Arabs, slave to the Almighty, as Abd-ul-Kadar, Abd-Allah, slave of the Almighty, slave of God. This name among Hindus is borne chiefly by men of the Banya caste, by Byragi fakirs, and occasionally by Kayasths and Brahmans. It is usually coupled with the name of some deity, as Eswara Doss, Shib Doss, Narayan Doss, etc., to imply subjection to some special tutelary god.

DOST ALI in 1732 became nawab of the Karnatic, in succession to his uncle, Saadat Allah. He gave one daughter to Chanda Sahib, and one to Murtuza Ali, and he appointed Chanda Sahib to be his diwan. His succession had been disliked by Nizam-ul-Mulk, who in 1730 incited the Mahrattas to invade Arcot, and Dost Ali met them at Ambur on the 20th May 1740, and fell in battle. —*Orme.*

DOST MAHOMED KHAN was one of the younger sons of Sirfaraz Khan, a Barakzai sirdar, slain by order of Shah Zaman at Kandahar in 1799. The mother of Dost Mahomed Khan was of a Juanshir family. He succeeded Shah Shuja as ruler in Afghanistan. After a youth and early manhood passed in strife with his brothers and the Saddozai family, in 1826 he became supreme at Kābul. His youth had been neglected; but he now reformed, made a public acknowledgment of his past errors, taught himself to read and write, studied the Koran, abandoned the use of strong liquors, became scrupulously abstemious, plain in his attire, assiduous in his attention to business, urbane and courteous to all. He was a just ruler, and was supreme at Kābul until political difficulties induced the Indian Government, at the close of 1838, to resolve on displacing him and replacing the deposed king, Shah Shuja-ul-Mulk. This was done on 7th August 1839, after a series of successes and severe reverses, in one of which an entire brigade of British was destroyed by climate and the sword. It was the greatest disaster that ever befell the army of India. He was driven from his throne by the British in 1839, was taken prisoner to Calcutta, but was ultimately restored. He brought Kābul and Kandahar under his rule; when close on eighty years of age, he wrested Herat from Persian influence, and on the 9th June 1863 he died, twelve days after he had taken the city by storm. He left sixteen sons, who continued for many years a civil war of succession.—*Masson's Journey*, iii. p. 17.

DO-SUTI. HIND. A kind of coarse white cotton cloth. The words mean double thread. Do-suti, Tin-suti, Char-suti, literally, two-thread, three-thread, four-thread; kinds of cotton cloths. Kadee and Purum are other kinds.

Do-tahi, a quilt choghah, a wrapper or sheet.

Do-tara, a two-stringed musical instrument.

DOSWANIO. GUJ. A dealer in cloth, a pedlar of the Banya tribe.

DOTI, a province of Nepal bordering on Kamaon. Dūng is one of its subdivisions, and the Dūng people are called Dūnāl.

DOUBLE-HEADED SNAKE of Ceylon, Uropeltis grandis.

DOUBLETS, in jewellery, a thin slice of a pure gem cemented over a paste of same colour; or a paste of facetted crystal cemented over a pure gem.

DOUL. HIND. The ridge or small embankment dividing irrigated fields. Doula or Daula, a boundary. In many English games, as in barley-break, and occasionally in football, the limits are the doules, and the football is said to be douled.

DOUR, surrounded by the Waziri hills, and adjoining the western border of Bunnu, is the small valley of Dour, inhabited by a distinct race, and containing about 8000 inhabitants. This valley originally belonged to the Dourani kingdom. It was, together with other outlying tracts, formally ceded to Ranjit Singh by the tripartite treaty of 1838; but afterwards, in 1847, the British relinquished all claim to it on behalf of the Sikhs. The people of Dour more than once expressed a wish to come under British jurisdiction, but the offer was not accepted. During the treaty negotiations of 1855, the amir's representative urged that the valley once formed an integral portion of the Dourani empire, and that his highness now wished to take it, provided that the British did not claim any title. The Government replied that the British did not desire to assert any claim, nor to interfere with the amir, if he chose to reannex it to his kingdom.

DOUR or Daur, HIND., in military life in India, is a sudden expedition against an enemy.

DOUR. HIND. The slings attached to a bucket for irrigation. The more usual terms are juta and joti.

DOURABA. —? A village watchman.

DOURANI, a name of the Abdali tribe, given to them by Ahmad Shah, Saddozai, on his ascending the throne in A.D. 1747, he designating them Dar-i-Dauran, Pearl of the World. They are also called Sulimani, from a district of which, the Tobeh Maruf, they formerly came. The Dourani are an agricultural, but chiefly a pastoral race, who term their summer and winter ground Ailak and Kishlak, dwelling in their coarse black camlet tents, called Kishdi, the same with the Kara-ulli of the Turks, and Siah-chadar of the Persians. The Dourani country is about 400 miles long, and, except in the north-west, the general breadth is from 120 to 140 miles. It is bounded on the north by the Paropamisan mountains, inhabited by the Aimak and Hazara; on the west it has a sandy desert of various breadth, beyond which, on the south-west, it has Seistan, and a desert which separates it from Baluchistan; its southern boundary is formed by Shorawak and the hills of Khajah Amran, which separate it from the Tarin and Kaka; and on the east it has no natural boundary, but joins to the lands of the Ghilzai, into which the valley of Urghessan, part of the Dourani territory, runs for a considerable extent. The number of Dourani tribes are nine, — Maku, Khugiani, Barakzai, Popalzai, Alikuzai, Achakzai, Nurzai, Alizai, and Ishakzai. The Popalzai are the largest. In person, the Dourani are stout and well-made, many of them being above the standard of the Indo-Germanic races of Europe. Some have round and plump faces. With others the countenance is strongly marked, and with most the cheek-bones are prominent. When a family is by itself, the men and women eat together; few restraints are put upon the female, and her influence is considerable. The Dourani tribes, all but the Achakzai, are religiously given, but not intolerant. They are of the Sunni sect. Their national dance, called Attun, is danced almost every evening, with songs and tales to accompany it. They are fond of tales, and fond of the chase. The Dourani, especially the men of Kandahar, have a powerful love of country; the Dourani is rarely a merchant or adventurer. They are hospitable and brave, and are the most important of the Afghan tribes.

DOW, ALEXANDER, translated and published Ferishta's History of the Mahomedans of Asia.

DOW, a vessel employed in the trade between the Red Sea, the Arabian coast, the Gulf of Persia, and the W. coasts of India, in Cutch, Gujerat, and Malabar. They were also used in the Persian Gulf for the purpose of war and piracy. They are always manned by Arabs. The Arab dow is of about 150 to 250 tons burden by measurement; grab-built, with 10 or 12 ports; about 85 feet long from stem to stern, 20¾ feet broad, and 11½ feet deep. These vessels have a great rise of floor, are calculated for sailing with small cargoes, and are fully prepared, by internal equipment, for defence, with decks, hatchways, ports, poop-deck, etc., like a vessel of war; many of them are sheathed, on 2½ inch plank bottoms, with one-inch board, and a preparation of chunam and oil, which is called galgal, put between the planks and sheathing-board, causing the vessel to be very dry and durable, and preventing the worm from attacking the bottom. The worm is one of the greatest enemies in India to timber in the water, while the white ant is as much so out of it. On the outside of the sheathing-board there is a coat of whitewash, made from the same articles as that between the sheathing and planks; which coat is renewed every season they put to sea. These vessels have generally one mast, and a lateen sail; the yard is the length of the vessel aloft, and the mast raking forward, for the purpose of keeping this ponderous weight clear in raising and lowering. The tack of the sail is brought to the stern-head, and sheets aft in the usual way; the halyards lead to the taffrail, having a pendent and treble purchase-block, which becomes the backstay, to support the mast when the sail is set; this, with three pairs of shrouds, completes the rigging, which is very simple, the whole being of coir rope. Several of these vessels were fitted as brigs after their arrival in Arabia, and armed by the Arabs for cruising in the Red Sea and Arabian Gulf, as piratical vessels; they are also the class of vessels of which Tipu Sultan's fleet at Honore consisted. When armed, they were too powerful for the Bombay marine brigs, when weak and unsupported. The large dows make generally one voyage in the season to the southward of Arabia, taking advantage of the N.E. monsoon, and the S.W. to return with an exchange cargo. They generally bring dates, fruit, preserves, Shiraz wine, and horses, and take back rice, coir, canvas, cocoa-nuts, oil, timber, dammer, etc., various articles of

cloth of the country manufacture; and from Bombay, European articles of every description. The trade of the western coast of India is very great in those vessels; extending from Allipey, the southernmost port on the coast of Malabar, up to Bombay; but all the trade to Bengal is carried on by ships which are called country traders, from the Gulf of Persia and Arabia. The Arabs usually navigate their ships to Bengal in perfect safety, and with great skill.—*Edye; Malcolm.*

DOWLAISHWARAM, a small town in the Rajamundry taluk of the Godavery district, in lat. 16° 56′ 35″ N., long. 81° 48′ 55″ E., and 7252 inhabitants.

DOWLAT. ARAB. Wealth, prosperity. Umr-o-dowlat ziadah, May your days and your prosperity be prolonged. Dowlah, a state, a kingdom. The fifth title amongst Indian Mahomedans, as Suraj-ud-Dowlah, Rashid-ud-Dowlah. In Southern Arabia, a dowlah is a governor of a province, equivalent to the Turkish title of Pasha. Doulat-ul-Aliyah-al-Usmaniyah, the Othoman Government.

DOWLATABAD, in lat. 19° 57′ N., long. 75° 14′ E., in the Dekhan, 9 miles N.W. of Aurangabad. Mean height of the village, 1721 feet. Its fortress, which was first known as Deoghur or Deogiri, consists of a conical greenstone rock, the base of which is scarped to a height of 120 feet from the ground. The upper conical part is reached by means of an opening at the base of the scarp, which gives admission into a low narrow passage, hewn out of the solid stone, and opening into a large chamber or vault that has been excavated in the interior of the hill. From this vault a vamp or gallery, gradually sloping upwards, and also excavated in the solid rock, winds round the interior. It has a height and breadth of 12 feet, and terminates above in a recess on the top of the rock about 20 feet square. At the base of the rock is a ditch, which is crossed only at one place, and by a causeway on which only two men abreast can walk, and defended on the side next the rock by a battlemented building. Outside the ditch is a minaret 100 feet high. Its position is commanding, and it has from the most ancient times been a stronghold of the rulers in that part of India. It was the capital of Ram Deo, a prince of so great power that the Mahomedans looked on him as king of the Dekhan. Ala-ud-Din, nephew and general of the emperor Firoz, in 1294 swept across the Nerbadda with an army of 8000 men, and presented himself before Deoghur, which he captured. He entered into negotiations with the raja, and, besides money and jewels, obtained the cession of Ellichpur and its dependencies, and the raja was further to pay tribute annually. On his return, he was met by his uncle Firoz, whom he assassinated, as he was being patted by him on the cheek. Kamala Devi was the wife of the raja of Gujerat, and was celebrated as the flower of India. On the fall of Nerwalla, the capital of Gujerat, her husband became a fugitive, and Kamala Devi was taken prisoner and carried to Ala-ud-Din's haram, and, attracted by her beauty, wit, and accomplishments, he made her his queen. Her fascinations soothed that savage Pathan in his moodiest hours, and influenced him to a lenity hitherto unknown to him. Her daughter, Dewala Devi, had escaped with her father. Her reputation for beauty equalled that of her mother, and the son of Ram-deo, the raja of Deogiri (Dowlatabad), had long sued for her, but her father, proud of his Rajput origin, would not accept a Mahratta, even though a prince. Kamala Devi, however, having expressed to Ala-ud-Din a wish to be joined by her daughter, Ala-ud-Din sent a strong army, under a general, to bring Dewala Devi to Dehli. In this extremity her father accepted the Mahratta prince, and sent off his daughter to Deogiri under an escort, but the escort was overtaken, the fair maiden seized and carried to Dehli, when Khizr Khan, the son of Ala-ud-Din, married her. Their union was very happy, and the poet Khusru praised them. In five years from the death of Ala-ud-Din, the throne of Dehli was filled by Kafur, a converted Hindu, who filled the capital with Hindu troops, put out Khizr Khan's eyes, put to death all the survivors of Ala-ud-Din's family, and transferred Dewala Devi to his own zenana.—*Wilson; Briggs, The Nizam.*

DOWRY, the mahr, dota, and jahaz of the Mahomedans. According to the law of Moses, Exodus xxii. 16, Deuteronomy xxii. 29, 1 Samuel xviii. 25, Hosea iii. 2, the dowry of Hebrew women was from thirty to fifty shekels. In Arabia and in Egypt, the mahr of the Mahomedan woman is a sum commensurate with the bridegroom and bride's condition in life. In India it is usually an ideal amount, fabulously large, the object being to prevent divorce, which in India is almost unknown. The dowry of the Mahomedans is the gift of the bridegroom to the bride agreed to during the marriage ceremony. It is her own money, and must be paid unless she waive her claim to it. This the Mahomedan wife often does, sometimes at the point of death, in order to prevent her children claiming it from their father.

With Hindus, the practice as to money gifts at marriage varies. With some races the bridegroom pays money or cattle for his bride; others receive a dowry with the bride. Menu (Institutes, iii. 51, and ix. 93) mentions both customs. In the N.W. Provinces, among the agricultural races, the bride's father gives a dowry with his daughter. It is the poverty originating from this which led the Rajputs to murder their infant daughters.—*Elliot.*

DOWSON, JOHN, M.R.A.S., author of a classical dictionary of Hindu mythology; editor of the posthumous papers of Sir Henry M. Elliot, K.C.B., which the latter had begun under the title of The History of India as told by its own Historians. It reached eight volumes, and occupied eleven years—1867 to 1877.

DOWYAT. BURM. A timber tree; maximum girth 3 cubits, maximum length 18 feet. Found abundant, but always inland, all over the country, at Amherst, Tavoy, and Mergui. When seasoned, floats in water. It has a soft, bad wood, useless except for elephant bells.

DO-ZANOO BYTHNA. HIND. To kneel on both knees.

DOZUK. HIND. Hell; the seven hells.

DRACÆNA, a genus of plants belonging to the Liliaceæ, known as the dragon trees. Several species, mostly shrubs, grow in the East Indies, China, Madagascar, the Archipelago, Bourbon, the coast of Africa, and Canary Islands. One mentioned by Sir G. Staunton had a diameter of 12 feet at 10 feet from the ground. The singular

red-leaved Chinese iron-wood, a species of Dracæna, is chiefly noticeable for its long red leaves. D. draco is the indigenous dragon tree of Orotava in Teneriffe. It affords a similar secretion to that of Calamus draco. The tree at Teneriffe measured 17 feet in diameter. It was known to be a very ancient tree in 1406, and was destroyed by a gale in 1867.—*Roxb.*; *Williams' Mid. Kingd.* p. 279; *O'Sh.*

DRACÆNA ATRO-PURPUREA. *Roxb.*

Kwon len net, . . BURM. | Kwon len phyoo, . BURM.

Two or more species of the dragon tree, resembling small areca palms, are seen in Burmese compounds, but the most common is this one, with dark purple leaves.—*Mason.*

DRACÆNA TERMINALIS. *Willde.* A native of China, the Eastern Archipelago, and Pacific, where its root is called Ti; is considered valuable in dysentery and diarrhœa. The plant is a signal of truth and of peace in the Eastern Archipelago. A sweetish juice is expressed from its roots, and afterwards reduced by evaporation to a sugar. M. Gaudichaud mentions that in the Sandwich Islands generally an intoxicating drink is prepared from this root, to which the name Ava is often applied, as well as to that made with the roots of Piper methysticum. The root is employed as food in the Fiji Islands; it weighs from 10 to 40 pounds.

DRACO, a genus of reptiles of the family Agamidæ:—

Draco fimbriatus, *Kuhl*, Penang, Sumatra.
D. tæniopterus, *Gunth*, Tenasserim.
D. volaris, *Linn.*, Singapore.
D. maculatus, *Gray*, Malacca, Tenasserim.
D. Dussumieri, *D. and B.*, Madras.

DRACOCEPHALUM CANARIENSE, the balm of Gilead, has pretty blue flowers. The scent only lies in the leaves, and the plant seldom exceeds 18 inches in height. Other species have large splendid blue flowers. D. Royleanum yields Tukhm-Balungu of Bombay, and is largely cultivated for medicinal purposes.—*Riddell.*

DRACONTIUM POLYPHYLLUM. *L.*

Jangli kandi, . . DUKH. | Kat karne, . . . TAM.
Purple-stalked dragon. | Adavi kandi, . . TEL.

Grows in the Konkans, on the western coast of India, at Bombay, and in Japan. Its root, after having undergone certain preparations to subdue its acrimony, is supposed to possess anti-spasmodic qualities, and is considered valuable in asthmatic affections, given to the quantity of 12 or 15 grains in the course of the day. It is also in native use in hæmorrhoids. In the dry condition in which it occurs in the bazars, it has, though faint, a smell not unlike that of musk.—*Ains. Mat. Med.* p. 73.

DRAGOMAN. TURK. An interpreter; a dialectal change of the Arabic word, Tarjuman, a translator. Since the 7th century B.C., from the time of Psammetichus I., this as a distinct class has existed in Egypt, and is mentioned by Herodotus.

DRAGON. Dragons are supposed by the Chinese to inhabit the four oceans, Tonquin Gulf, China Sea, Eastern Sea, and Yellow Sea; and in A.D. 1725, the emperor Yung Ching, in the second year of his reign, conferred titles and other honours upon the four dragons, Hin Yan, Ching Hung, Shung Tai, and Tchu Ming.

DRAGON BOATS of China are long and narrow, capable of holding forty to eighty men. They are employed by the Chinese in their boat races and rowing matches, in the festival of the fifth day of the fifth month, usually falling in June, and seemingly relating to the summer solstice. During this festival, three-cornered dumplings of glutinous rice are eaten. They are wrapped up in the large, long leaves of the phragmites reeds.

DRAGON CANE, a kind of rattan, strong, springy, and much valued. They occur both light and dark coloured. A variety with a soft bark is called Manilla dragon cane.—*Seeman.*

DRAGON FLY of Ceylon, Euplæa splendens. See Insects.

DRAGON RIVER, or Kew-lung-keang, takes its rise in Yu-nam, on the frontiers of Se-fan, lat. 27° 20′ N. It is at first named Lan-tsan; but towards the south, and before it enters the Laos country, it is called Kew-lung-keang, or Nine Dragon River. In Chinese territory it runs a long distance through a magnificent valley. In lat. 16° N. it bends more to the west, and enters Cambodia, having previously been augmented by a large tributary. It then drains the whole length of that country, and falls by three embouchures into the sea, in about lat. 9° 34′ N. In many places the river is very deep; at others there are rocks, sandbanks, and shallows, which obstruct navigation. The river runs through Yu-nam, and there are cities upon it. In Laos villages adorn its banks, and in Cambodia the principal population is near it. It traverses eighteen degrees of latitude; it forms at its mouths an alluvial deposit second only to the Yang-tze-kiang or Hoang-ho.—*Royal Geog. Soc. Journ.* xxxiii.

DRAGON'S BLOOD.

Dam-ul-akhwain, . ARAB. | Hiraduckhun, GUJ., HIND.
Ki-lin-kieh, . . . CHIN. | Sanguis draconis, . LAT.
Hiueh-kieh, Chu-kieh, ,, | Jarnang, . . . MALAY.
Lung-sin-hiang, . ,, | Khun-u-lavan, . . PERS.
Indarume, . . . DUKH. | Catgamuruga-rakta, SANS.
Sang-dragon, . . FR. | Kandamurga rattam, TAM.
Drachenbluth, . . GER. | Khadga-mrugam netru, TE.

The dragon's blood gum-resins of commerce are obtained from several plants. The fourth Chinese name means dragon's spittle gum-resin. As sold in China, it is the product of two plants, probably the Pterocarpus draco, the other the Calamus draco. Pterocarpus draco wood when first cut presents no marks of redness, but in a little time red drops begin to exude from the wood. In about ten minutes they become hard and clear, and are collected. All the dragon's blood obtained, now, in the market is said to be from several species of Calamus, C. petræus (*Lour.*), C. rudentum (*Lour.*), C. verus (*Lour.*), and C. draco (*Willd.*), natives of Hindustan, Cochin-China, the Moluccas, Borneo, and Sumatra; but Linnæus reckoned the last three mere varieties of the C. rotang (*Linn.*). Its ripe fruits are covered with a reddish-brown dry resinous granular matter, which is obtained by beating or thrashing the fruit in little baskets. Within the Archipelago, the principal place of production is Jambi, on the N.E. side of Sumatra. The plant is not cultivated. The collectors are the wild Kubu, who dispose of it to the Malays at a price not much exceeding a shilling a pound. The best kind imported into Europe in reeds is manipulated by the Chinese. The canes of the male plant used in former times to be exported to Batavia, and very probably formed the 'true Jambees,' com-

memorated in the Spectator as the most fashionable walking-sticks in the reign of Queen Anne. The secretion of the fruit constitutes the best of jur-nang, or dragon's blood. A second and rather inferior kind is produced by heat, and by bruising the fruit, from which the natural secretion has been removed. The third, and most inferior, seems to be the refuse of the last process. It is perhaps doubtful whether it is ever procured from the plant by incisions. Quantities of this drug are annually sent from Banjer Massing in Borneo to Singapore and Batavia, and thence to China, where it is much prized. In Europe it is a constituent of some tooth-powders and tinctures, but is chiefly used for colouring spirit and turpentine varnishes. It is found in the market either in oval drops, or in large and impure masses composed of several tears. That which is good is of a bright crimson when powdered, and if held up to the light in masses, is semi-transparent. It is often adulterated with other gums. It is sent to the Chinese market in reeds, at 15 to 35 dollars per pikul, principally in native vessels. The price in China varies from 80 to 100 dollars a pikul, after purifying and refining.—*Faulkner; Morrison; Marsden's Sumatra*, p. 159; *Crawfurd; Seeman on Palms.*

DRAGON'S BONES, the Lung-kuh of the Chinese, is fossil ivory. Dragon's teeth are the Lung-chi of the Chinese. Dragon's teeth and dragon's bones, in use in Chinese medicine, are the fossil teeth and bones of various extinct mammalia of the tertiary series of rocks, such as those of the Rhinoceros trichorhinus, also those of a mastodon, an elephant, a horse, two species of hippotherium, a species of stag, and the teeth of a large carnivorous animal. The fossil teeth of the Stegodon Sinensis, *Owen*, are likewise so called; as are also the horns of the Chalicotherium Sinense, *Swinhoe*, the teeth of Hyla Sinensis, the molars of mastodons, elephants, sheep, stags, and teeth of two species of hippotherium.

DRAMA. Mahomedan countries have never cultivated the drama, if we except the passion play of Hasan and Husain in Persia and Bombay, which is rather a religious commemoration than a drama proper. The older Semitic literature contains no dramatic pieces at all. With Hindus, and with the Buddhists of Burma and China, the drama has formed a branch of literature, and the performances have been an amusement to the people from the most ancient times. In 1877, 102 dramas were published in India; and there were 196 works of fiction and 697 works of poetry. The dramas of the Hindus intermingle various dialects, as also prose and verse.

The dramatic performances in South India possess many interesting features which would be creditable to the actors of any nation. The histrionic art is extensively practised, but so seldom receives substantial encouragement from the purses of its admirers, it is matter for astonishment that it should have made any progress at all. The graceful modulations of voice, expression of countenance, propriety of gesture,—not to speak of the grotesque dress, and the peculiar music of the performers,—rivet a stranger's attention.

Like every other trade or profession in India, acting is confined to one particular caste, though it sometimes happens that outsiders join a dramatic corps, which has no settled abode, but strolls from place to place in quest of employment. Tanjore has the largest number of these itinerant actors, and their performances are reputed to be the best in South India. Female performers are rarely to be met with in districts farther south; but their places are easily supplied by young men of effeminate appearance, who have been trained from infancy to speak in a high-pitched, melodious tone of voice. The actresses of Tanjore have their headquarters at Ammanpettah, in the same district. They frequently play a heroic part on the stage, by personating kings, rishis, and heralds, especially in a popular historical play called Markandan's Nadagam. Both men and women sometimes assume strange and objectless characters, to the infinite gratification of their patrons. About the year 1870, in Madras and Bombay, dramas were largely acted, and attracted crowds.

In the Tamil drama, anything like the scientific divisions of tragedy and comedy, and the nicer classifications which obtain among more advanced nations, is nowhere to be seen. Nor have the Hindus been more careful in dividing a play into acts and scenes, or in portioning out a piece among different actors.

The best of the ancient Sanskrit dramas have been translated into Tamil and other languages. Portions of these are sometimes acted at weddings. When a nautch is given, a drama is occasionally performed. Generally, however, in the south of India, the drama is humble as to its attendants, owing, perhaps, to the extraordinary fondness of the people for the splendid processions, and night festivals of temples, and their ceremonies. The Toy Cart was written in Sanskrit about the commencement of the Christian era. In it the king is dethroned for tyranny, by a cowherd. In the Uttara Rama Charitya, the great monarch Rama is compelled by the clamours of his people to banish his beloved queen. The Pui of the Burmese is their favourite dramatic display, and no festival is deemed complete without a performance of this kind; the entire race are passionately fond of them. The puppet-shows or marionettes, however, is their legitimate high art drama. The figures are 2 to 3 feet high, and they are cleverly moved on a bamboo platform,—animals, ships, supernatural beings; and the dialogue is in polished language.—*Forbes*, p. 152; *Imp. Gaz.; Ward*, iv.

DRAPER, COLONEL, a British officer, who entered into a literary contest with Junius. He conquered Manilla, and in 1758 joined Colonel Lawrence in the Karnatic, and gave able assistance at the battle of Wandiwash.

DRAPER, MRS. ELIZABETH, the Eliza of Sterne, was born at Anjengo. She was married to Mr. Draper, one of the E. I. Company's Council at Surat. Her monument of marble is in a Bristol church.

DRAS, a district of Ladakh. Kargil, a little fort, is situate near the junction of the Zakut and Kartse, which flow into the Dras a short way to the north of Kargil. In the upper part of its valley, the sides are marked by descending glaciers and beds of snow. The Dras people in general are very ugly; their dress consists of a round pork-pie cap of black material, fitting close to the head, a thick woollen gown reaching midway beyond their knees, with their legs wrapped in bandages of cloth; and boots,

reaching above the ankles, of the same material, with under-surfaces covered with leather. The females muffle up in piles of clothing; and both sexes frequently clothe themselves in sheep and goat skins, with the woolly side inwards.

DRASHTI DOSHAM. SANSK. Evil eye.

DRAUPADI was the daughter of Drupada, king of Panchala. She was put forward by her father as the lady of the swayamvara, or tournament. Famed for her beauty, many rajas and chieftains attended her swayamvara, where she promised to accept the competitor who should on the first attempt shoot an arrow through the revolving chakra, and hit the eye of the golden fish beyond. Karna wished to try, but Draupadi declared she would not wed with a charioteer's son. Sisupala, raja of Chedi, and Jarasandha, raja of Magadha, both tried the bow, and failed; but Arjuna, one of the Pandava princes, bent the bow, and hit the mark, and Draupadi threw the garland around his neck, and accepted the five brothers as her husbands. Yudishtra was a gambler, and staked and lost the throne of Indra to Duryodhana; to recover it, he hazarded the beautiful Draupadi. By the loaded dice of his foe, she became the goli of the Kaurava chief, and underwent great hardships till the destruction of the Kaurava. Duhsasana, one of the Kaurava princes, dragged her by the hair into the public court; Bhima vowed to kill him for the insult, and drink his blood, and he fulfilled his vow.

Draupadi, as the polyandric wife of the Pandava princes, is the heroine of the Mahabharata. Yudishtra and Draupadi have been deified, and their feast is named the procession of fire, because in Hindu legend she is fabled to have passed every year from one of her five husbands to another, after a solemn purification by that element. In the Bhasha language, her name is written Dropti. In the drama of the Enchanted Fruit, when Draupadi and her five husbands entered the garden, Arjuna, with an arrow, brought down the fruits,—

> 'Light-pinioned gales, to charm the sense,
> Their odorif'rous breath dispense:
> From Béla's pearl'd or pointed bloom,
> And Malty rich, they steal perfume.
> There, honey-scented Singarhar,
> And Juhy like a rising star,
> Strong Chempa, darted by Camdew,
> And Mulsery of paler hue,
> Cayora which the Ranies wear
> In tangles of their silken hair,
> Round Babul flow'rs, and Gul-achein,
> Dyed like the shell of Beauty's Queen,
> Sweet Mindy pressed for crimson stains,
> And sacred Tulsy, pride of plains,
> With Sewty, small unblushing rose,
> Their odours mix, their tints disclose,
> And, as a gemmed tiara bright,
> Paint the fresh branches with delight.'
>
> —*Wh. H. of I.; Sir W. Jones*, xiii. p. 217.

DRAVEE. The Bombay group consists of fifteen or twenty islands in all, viz. the island of Bassein, about 30 miles to the northward of that which gives the cluster its name; Dravee and Versova, just off the shore of Salsette; Salsette, by much the largest of them all; Trombay, conspicuous for the mountain called Neat's Tongue, which attains the altitude of 1000 feet; Bombay itself, united on the northward to Trombay and Salsette, as these are united to each other by bridges and embankments, and to the southward, Old Woman's Island; Colaba; and Henery and Kenery; with little rocks and islets of lesser note and name.

DRAVIDA, a class of the Brahmanical tribes called the five Dravir, comprehending all those of the Peninsula, or Dravira, Karnata, Telinga, Gujerata, and Mahratta.

DRAVIDIAN, a term which Dr. Caldwell applied to the peoples and to the vernacular tongues of the great majority of the inhabitants of Southern India. Dravida is used in Sanskrit Brahmanical writings as an ethnological and philological term. Menu mentions the inhabitants, the Dravida, as out-castes and barbarians, *i.e.* not in communion with Brahmans. In the Brihat Sanhita of Varaha Mihira, A.D. 404, Dravida is described as divided into Chola, Pandya, Kerala, Karnataka, Kalinga, and Andhra. Philologists identify the words Arava, Dravida, and Tamil, and identify these with the Peutingerian tables, and the Limyrice of Ptolemy. The eastern and southern parts of the Peninsula of India, from the Vindhya mountains and the river Nerbadda to Cape Comorin, appear to have been peopled from the earliest period by different branches of one and the same race, speaking different dialects of one and the same language; and scattered offshoots from the same stem are to be traced still further to the north and to the west, as far as the Rajmahal hills and the mountain fastnesses of Baluchistan. Their line of route to their present sites, and the time of their advent, are alike unknown. They are generally supposed to have streamed through the passes of the Himalaya, and also from the west side of the Indus.

Fergusson, however (Ind. and E. Arch. p. 12), says if they came into India in historical times, it was not from Central Asia, but from Babylonia, or some such southern region of the Asiatic continent. Mr. Logan is of opinion that a Negroid race once occupied S. India; and Professor Huxley has expressed the opinion (J. Eth. Soc. 1869) that the Dravidian, Tamilar, and the Australian are the same race.

Researches into the families of language to which the spoken dialects belong, and the existing physical peculiarities of the several races, permit the belief that India and the island parts of South-Eastern Asia were peopled long prior to historic times, and that a succession of races, or of branches of the same human family, have entered India, and in some instances become amalgamated with or been dispersed amongst the prior occupants, or have pushed them further on into less peopled or less fertile districts, or amid forest and mountain tracts. In India proper, from the Himalaya to Cape Comorin, even yet, every village and every hamlet have small bodies of predial slaves, who, though possessing certain minor agricultural and civil rights, are not allowed to purchase lands, are compelled to reside outside the village walls, and are prevented quitting the locality, for they furnish the only free labour available for the work of the field. On this point Chevalier Bunsen mentions (Report, Brit. Association, 1847) that throughout Asia, the two great nations, who once centred the one in the Altai and the pasture land towards the Himalaya, the other having its centre in the Ural mountains, appear in Asia as the subdued or primary element, as the subdued substratum

of Iranian civilisation, and that the aboriginal languages of India, which attained their full development in the Dekhan dialects, belong to that stock.

Professor Rask of Copenhagen, and Dr. Caldwell, have given the opinion that the Dravidian languages are to be affiliated to the Scythian, Turanian, or Altaic group of tongues. The Turkish, Finnish, Hungarian, and Japanese languages, though in many particulars distinctly Turanian, have become still more inflexional than the Dravidian.

A general name for all these peoples has not been fixed upon. In India they have been called the Mongoloid, pre-Aryan, non-Aryan, Tamulian, Turanian, and Scythian. Several of them in India are highly civilised, with cultivated languages; others, though without a literature, and even predatory, form large nationalities; while there are many broken tribes, dispersed, homeless wanderers, or dwelling in forests. In Southern India the Mongoloid races are in two great branches, the Dravidian and the Kolarian; and their number has been estimated at 48,670,000, of whom the illiterate Mair, Meena, Kol, Bhil, Santal, and Gond constitute 12,000,000. The Dravidian section speak the Tamil, Telugu, Canarese, Kodaga, Malealam, Tulu, which are cultivated tongues, and the other branches in the south speaking uncultivated Dravidian languages are the Kurumbar, Badaga, Irular, Toda, Kota, Male-Arisar, Ramusi, Gond, Khand, Khond, or Ku; while the branches in the Central Provinces, Chutia Nagpur, and Bengal, are the Oraon, Gadaba, Rajmahali, Bhuiya, Bhuinhar, Binjhia or Binjhwar, Kaur or Kaurava or Kaurai or Raj Kaur, the Koch'h, Rautia, Sabar or Savara, and Yerkala. Of these uncivilised branches, the Kurumbar and Irular speak Tamil, the Badaga, Kota, and Toda have dialects of Canarese, the Male-Arisar use Malealam, and the Ramusi Yerkala have the Telugu.

The people of the coasts of Ceylon are Dravidian of the Tamil stock. Those of Kandy, with their habits of polyandry, would seem to be allied to the people of Coorg, and Ceylon has a few wild races, the Gahaleya, Rhodia, and Veddah, in the forests and unfrequented parts.

In the Peninsula of India, where the Tamil is spoken in the extreme south-east by about ten millions of souls, the Tamil-speaking people are, generally speaking, a dark-coloured and short-statured race, energetic, fiery, quarrelsome, but not vindictive. Most of them have embraced Brahmanism, but largely mixed with a devil and hero worship, and the worship of the local deities called Amman. Where the Telugu is spoken by about 15 millions of people, on the eastern side of the Peninsula, the people are a taller and fairer race than the Tamil, many of the more northern of them being equal in stature to the Aryan Hindus of the north. They are more Brahmanical than the Tamilians, and are as energetic as the latter, though less restless. The people who speak Canarese are about five millions in number, chiefly in the centre of the Peninsula; they are a tall and singularly graceful, dark, almost black race, with whom something akin to polyandry is very prevalent. The Malealam language in the south-west of the Peninsula is spoken by about 2½ millions, and the Tulu, on the seaboard somewhat to the north, by about 150,000. The people of Coorg and Mysore speak a Canarese dialect; and on the Neilgherry Hills are the Kota, the Toda, the Budaga, the Irular, and other small tribes. In the interior of the Peninsula are Gond tribes, and the Khand, Kund, or Ku, also Dravidian, who are estimated at half a million of souls, and the Bhils are of Kandesh and the Nerbadda, and Rajputana.

Dravidian aborigines deal in demonology, fetishism, frantic dances, bloody and even human sacrifices. They are, however, superior to the Aryan Hindus in freedom from disqualifying prejudices, but inferior to them in learning, and all its train of appliances.

Of the broken tribes, the Mhar, Dher, Madera, Holaru, Toty, and Pariah are labourers and village servants; the Mang, Chakili, and Madaga are leather-workers; the homeless Korawa, Yerkala, Bhatu, Domar, are mat-makers, fowlers, and athletes; the hillmen, Kotah, Toda, Irular, Kurumbar, Kadar, Chenchwar, Male-Arisar, Saora, Khand, Gond, Juanga, are in the mountains and forests and hilly country from the western and southern borders of Bengal, Behar, and Benares, to Cape Comorin, and from the Western Ghats inland to the Bay of Bengal.

Of all the Dravidian tongues, no two are so nearly related to each other as to be mutually intelligible to the people who speak them, except in the simplest and most direct manner. In the cultivated Dravidian tongues, Sanskrit words are not at all, or but very rarely, employed. Tamil was the earliest developed of all the Dravidian idioms, is the most copious, and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and colloquial, the ancient and the modern, called respectively the Shen Tamil and the Kodun Tamil, which so widely differ, that they may almost be regarded as different languages. The Tamil race is the least scrupulous or superstitious, and the most enterprising and persevering of Hindus. They swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting to be pushed aside. The majority of the Hindus found in Pegu, Penang, Singapore, and other places in the east, where they are known as Klings, are Tamilar. All throughout Ceylon, the coolies in the coffee plantations are Tamilar; the majority of the money-making classes even in Colombo are Tamilians; and ere long the Tamilians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants and of the camp followers in the Madras Presidency are Tamilians; and the coolies who emigrate to the Mauritius and the West India Islands were largely Tamil. Including the Tamil people who are residing in the military cantonments and distant colonies, and those in Mysore, south Travancore, northern Ceylon, and excluding all Mahomedan, Teling, and Brahman residents of the Tamil country, who amount to at least ten per cent. of the whole population, the people who speak the Tamil language were estimated by Dr. Caldwell at about 10 millions.

Tamil was the language of three ancient dynasties of whom we have record,—the Chola of Tanjore and Combaconum, who were settled

on or near the Cauvery and Colerun rivers, and who, as some suppose, gave their names to the Coromandel or Cholamandel coast; the Pandya, whose capital is now occupied by the inhabitants of Madura; and the Chera, who ruled at Kerala on the Malabar coast.

Tamil is now spoken throughout the vast plain of the Karnatic, or country below the Ghats. From Cape Comorin to Pulicat, 30 miles north of Madras, and inland from the Bay of Bengal to the Eastern Ghats, it skirts Mysore on all its eastern frontier, is also spoken in the Bara Mahal, Salem, and Combaconum, meeting with the Malealam at the great gap of Palghat. It is spoken also on the western side of the Ghats from Cape Comorin to the neighbourhood of Trivandrum; also in the northern and north-western parts of Ceylon, where Tamilar formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese. Mr. Taylor is of opinion that Tamil was cultivated in its purity in the ancient Pandiya kingdom.

Teling is the Andhra of Sanskrit writers, a name mentioned by the Greek geographers as that of a nation dwelling on or near the Ganges. Until lately, Europeans termed the people and their language Gentoo, from a Portuguese word signifying heathens or gentiles. In respect to antiquity of culture and glossarial copiousness, it ranks next to the Tamil in the list of Dravidian idioms, but it surpasses all of them in euphonic sweetness. Telugu extends from Chanda, where it meets the Mahratta, and from Ganjam and Chicacole, where it intermixes with Urya, along the coast to Pulicat on the marine lagoon 30 miles north of Madras, where it meets the Tamil. At Vizagapatam, which is 120 miles south of Ganjam, Telugu is the sole language spoken. On this line of coast two monarchies formerly existed, the Andhra and Kalinga; both, apparently, were enterprising races with a seafaring people, and it is doubtless from the name of the latter dynasty that the Burmese and Malays derive the appellation of Kling, by which they distinguish all people from India; and the Talien of the Delta of the Irawadi are supposed to have been Teling. The Kalinga dynasty appear to have gained great possessions to the westward, as, at the time of the Mahomedan conquest, Warangal, seventy miles N.E. from Hyderabad, was considered by them the capital of Telingana, including then the eastern part of the nawab of Hyderabad's dominions, all the modern districts of Ganjam, Nellore, and Cuddapah, and much of the lands north. The most westerly spot at which Telugu is spoken is the small town of Murkundah, about 30 miles west of Beder, and it reaches this by a wavy line running westerly from north of Madras, as far as the eastern boundary of Mysore, which it follows up to that of the Canarese country, thus including in its extent the Ceded Districts, Kurnool, the greater part of the Hyderabad Dominions, and portions of the Nagpur country and Gondwana. In ancient times it seems to have been spoken as far north as the mouths of the Ganges. This appears both from the geographical limits which the Greeks have assigned to the territory of the Andhra or northern Telugu dynasty, and from many of the names and places mentioned by Ptolemy up to that delta being found to be Telugu. The Telugu people are undoubtedly the most numerous branch of the Dravidian race, although the Tamil surpass them in enterprise and in that self-reliance which supports them in their emigrations. Including the Naik or Naidoo (Nayaka), Reddi, and other Telugu tribes settled in the Tamil country, who are chiefly the descendants of those soldiers of fortune by whom the Pandiya and Chola kingdoms were subverted, and who number not less than a million of souls, and including also the Telugu settlers in Mysore, and the Telugu inhabitants of the Nizam's territory and other Native States, the people who speak the Telugu language may be estimated to amount to at least fourteen millions. Tamil and Telugu roots are in the great majority the same; but peculiarities in inflection and dialectic changes have so modified the modern tongues, that they differ from each other as much as Portuguese from Spanish, Irish from Welsh, Hebrew from Aramaic, and Hindi from Bengali.

Canarese, properly the Kannadi or Karnataka tongue, is bordered by the Tamil and the Telugu on the east. It is spoken throughout the plateau of Mysore, and in the south-western districts of the Hyderabad territory as far north as the village of Murkundah, about 30 miles west of Beder. Also it is much spoken in the ancient Tuluva country on the Malabar coast, now long designated as Canara, a name which it acquired from having been subjected for centuries to the rule of Canarese princes. But, in Canara, the Malealam, the Konkani, and the Tuluva are also spoken, though less extensively than the Canarese. The Canarese writing characters differ slightly from the Telugu, from which it has been borrowed, but the characters used for Tamil, Malealam, and Telugu are quite distinct from each other. The ancient Canarese character, however, entirely differs from that of the modern Telugu, and the Canarese language differs even more widely from the Telugu than it does from the Tamil. There is an ancient dialect of the Canarese language current, as well as modern, the latter differing from the former by the use of different inflexional terminations. The ancient Canarese dialect, however, has no connection with the Sanskrit character to which that name has been given, in which, viz. the Hala Kannada, many very ancient inscriptions in the Mahratta country as well as Mysore are found. The Imperial Gazetteer gives nine millions as the number speaking Canarese, but this number seems to be excessive. In the Hyderabad country, Canarese, Mahrati, and Telugu are spoken. The Urdu or Hindustani language used there is merely known as a *lingua franca* to the Mahomedans, to the Hindus and Kayasths from Northern India, and to the resident population.

The *Coorg* or *Kodaga* language is spoken in the small principality of this name, lying on the Western Ghats, and has hitherto been regarded as Canarese, modified by the Tulu. But Mr. Moëgling states that it is more nearly allied to the Tamil and Malealam than to the Canarese.

Malealam or *Malearma* is spoken along the Malabar coast on the western side of the Ghats or Malealam mountains, from Cape Comorin to the Chandagiri river, or, more strictly, perhaps to Nileshwar (Nileswara), where a Nair raja, conquered by Hyder, formerly ruled; from the vicinity of Mangalore, where it supersedes the Canarese and the Tulu, to Trivandrum, where it begins to be

superseded by the Tamil. The people speaking it in the states of Travancore and Cochin, and in the provinces of Malabar and Canara, were estimated by Dr. Caldwell at two and a half millions. The language, however, on the Malabar coast is rapidly being driven out by the Tamil. The people who speak it are, of all the Dravidian races, the most exclusive and superstitious, and shrink with most sensitiveness from contact with foreigners, though their coast, more than any part of India, has been in all ages visited by the traders of other lands,—by Phœnicians, Greeks, Jews, Syrian Christians, and Arabs, and the three last even formed permanent settlements amongst them. They shrink even from their own people, retreating from the great roads, cities, and bazars as eagerly as the Tamil flocks to them; and the Malealam-speaking race are to be found isolated with their families in their high-walled parambu, even in parts where the lines and centres of communication are entirely occupied by the more enterprising Tamil people, whose language, too, seems gradually pushing the Maleala aside. Their retired character has led to the less scrupulous and more adroit Tamilar occupying all the lines of communication, and monopolizing the greater part of the public business and commerce of the Malabar states. In a short time, perhaps, the Malealam will only be known in the hilly tracts or jungle fastnesses. Malealam was separated from the Tamil before the latter was cultivated and refined, and from Brahmanical influence has since had an infusion of Sanskrit words more than in any other Dravidian language, the fewest of such being in the Tamil.

Tulu or *Tuluva* is the last of the cultivated Dravidian tongues. It is an idiom which holds a position midway between the Canarese and the Malealam, but more nearly resembling the Canarese. Though once generally prevalent in the district of Canara, it is now spoken only in a small tract of country in the vicinity of Mangalore, by not more than 100,000 or 150,000 souls. It has been encroached upon by many languages, and is likely soon to disappear. The Tuluva has a strong resemblance to Maleala, though the Tuluva-speaking races are unable to understand their Malealam neighbours.

The *Toda*, properly the *Tuda* or *Tudava*, language is that spoken by the Tudavar, a primitive tribe on the Neilgherry Hills, believed to be the aboriginal inhabitants. They do not at present number more than from 300 to 500 souls. It is supposed that they never could have exceeded a few thousands; but they have diminished through opium-eating and polyandry, and at a former period the prevalence among them of female infanticide. The Toda is the oldest indigenous speech on the hills.

The *Kota* is the language of the Kotar, a small tribe of helot craftsmen inhabiting the Neilgherry Hills, and numbering about 1000 souls. It is a very old and rude dialect of Canarese, and their ancestors on the hills are supposed by Dr. Caldwell to have been at some ancient time a low-caste tribe who had fled thither to escape persecution. They are exceedingly filthy in their habits, are addicted beyond all other low-caste tribes to the eating of carrion, and have been generally shunned by Europeans.

Badaga or *Budagar* speak an ancient but organized dialect of the Canarese. They are immigrants from the north, and are the most numerous class of the inhabitants of the Neilgherry Hills.

The *Irular*, people of 'ignorance or darkness,' speak a rude Tamil.

The *Curb*, or *Curubar*, or *Kurumbar*, are nomade shepherds, who occupy the denser, deeper jungle, where they are occasionally stumbled upon by adventurous sportsmen, and the smoke of whose fires may occasionally be seen rising from the lower gorges of the hills.

The *Gond* is the language of the indigenous inhabitants of the northern parts of the extensive hilly country of Gondwana, of the northern portion of Berar, and which includes the greater part of the Central Provinces. Mr. Driberg compiled a very complete grammar and vocabulary of the Mahadeo dialect of the Gond language; and the dialect of the Saonee Gonds was noticed in a paper by Mr. Manger. The Uraon and the Male or Rajmahali dialects are close to the Gond and South Dravidian.

Khand is the language of a primitive race, who are supposed to be allied to the Gond. They inhabit the upper parts of Gondwana, Gumsur, and the hilly ranges of Orissa, and their horrid rites of offering young people in sacrifice (see Meriah) is generally known. The two people by whom the Gond and Ku languages are spoken are supposed to amount to 500,000 souls. 30,000,000 of Dravidians are British subjects, and the remainder are under the Native States of Mysore, Hyderabad, Travancore, and Cochin, and in this enumeration there has not been included the idioms of the Ramusi, the Yerkala, the Korawar, the Binjara, the Beder, the Male-Arisar, and other wandering, predatory, or forest tribes. The Binjara speak a dialect of the Hindi; the Ramusi, and the majority of the Korawa, a patois of the Telugu. The tribes inhabiting the hills and forests speak corrupted dialects of the languages of the contiguous plains. The Male-Arisar, 'hill kings,' the hill tribes inhabiting the Southern Ghats, speak corrupt Malealam in the northern part of the range, where the Malealam is the prevailing language, and corrupt Tamil in the southern, in the vicinity of Tamil-speaking districts.

Kol and Saora dwell towards the north of the Gond and Khand, in Central India; their languages contain Dravidian words, but they belong to a totally different family of languages.

Uraon, the language of the Urya people, is an uncultivated idiom, and contains many roots and forms belonging to the Kol dialects, but so many Dravidian roots of primary importance, that it is considered by Dr. Caldwell as having originally been a member of the Dravidian family of languages.

The *Mal*, *Paharia*, or *Rajmahali*, contains so many Dravidian roots of primary importance, though it also contains a large admixture of roots and forms belonging to the Kol dialects, that Dr. Caldwell considers it also had originally belonged to the Dravidian family of languages. It is spoken by the Malei, or inhabitants of the hills. A brief vocabulary of the words of the tribe inhabiting the Rajmahal Hills, in Central India, as contained in vol. v. of the Asiatic Researches, and Mr. Hodgson's more complete collections, prove the idiom of this tribe to be in the main Dravidian.

The *Brahui* language, spoken by the mountaineers in the khanship of Kelat in Baluchistan, contains some Dravidian words, and a considerable infusion of unquestionable Dravidian forms and idioms. Considered as a whole, this language is supposed to be derived from the same source as the Panjabi and Sindi; but it unquestionably contains a Dravidian element, derived from a remnant of the ancient Dravidian race having been incorporated with the Brahui. The discovery of this element beyond the Indus has been thought to prove that some of the Dravidians, like the Aryans, the Græco-Scythians, and the Turco-Mongolians, entered India by the north-west route. The Brahui language extends from Shawl in the north to Jhalawan in the south, and from Kohak in the west to Harrand in the east.—*Professor Huxley in Jo. Ethn. So.; Bunsen in Rep. Brit. Assoc.; The Rev. Dr. Caldwell's Comparative Grammar; Sir Erskine Perry's Bird's-eye View.*

DREAMS.

Songe, Réve, . . . Fr.	Sogno, ... It.
Traum, ... Ger.	Sueno, ... Sp.
Khab, Nazr, Manām, Pers.	Roga, Dush, . . Turk.

Dreams are to a great extent still trusted to in Eastern countries. Their earliest remarkable dreams related, were those to Abraham, of the captivity, and at Bethel, of the ladder (Genesis xxviii. 12). Subsequently were Joseph's dreams and those of Pharaoh (Genesis xl. 5, xli. 1), Gideon, and Saul (1 Samuel xxviii. 6). Belief in dreams is intimately associated with the lower forms of religion. To the savage they have a reality and an importance which we can scarcely appreciate. During sleep the spirit seems to desert the body; and as in dreams we visit other localities and even other worlds, living as it were a separate and different life, the two phenomena are not unnaturally regarded as the complements of one another. In Madagascar the people pay a religious regard to dreams, and imagine that their good demons or inferior deities tell them in their dreams what ought to be done, or warn them of what ought to be avoided.

Throughout the Christian world and in Great Britain, as elsewhere, it was customary for young women on St. Agnes' eve to endeavour to divine who should be their husbands. This was called fasting St. Agnes' fast. They took a row of pins, pulling one out after another, saying a paternoster, and sticking one pin in the sleeve. Then, going to rest without food, their dreams were supposed to present the image of their future husbands. In Keat's poem, entitled the Eve of St. Agnes, the custom is thus alluded to :—

'They told her how, upon St. Agnes' eve,
Young virgins might have visions of delight,
And soft adorings from their loves receive,
Upon the honeyed middle of the night,
If ceremonies due they did aright,—
As, supperless to bed they must retire,
And couch supine their beauties lily-white,
Nor look behind, nor sideways, but require
Of Heaven with upward eyes for all that they desire.'

DREDGING. In this process, note the numbers of species, the kinds usually found associating together, the number of living specimens of each, the number of dead, the average age of the specimens, whether young or adult. The general state of the animals, and particularly as to the maturity of the eggs, or if they have been recently shed. The kind of ground. The depth; the distance from land. The zone, whether the littoral zone, the space between high and low water marks; the laminarian zone, or that in which the large tangles or sea-weeds flourish, and extends from low-water mark to a depth of about 15 fathoms; the coralline zone extends from the depth of 15 to 50 fathoms; sea-weeds are scarce, but corallines abound in this region; the coral zone is that in which deep-sea corals are found, and where the depth is beyond 50 fathoms. Any particular currents. What are the mollusca found between tide-marks on the neighbouring coast? Is mud present, and if present, of what kind? Are any dead shells common, of which no living examples occur? What sea-weeds are found? Do the different specimens of the same species vary much in size, form, or colour?—*Edin. N. Phil. Journ.* pp. 206, 207, July 1856.

DREN. Hind. An inflated buffalo skin, used by swimmers in torrents.

DREPANA. Several caterpillars, the Aloa lactinea, the Orgyia Ceylanica, Euproctis virguncula, the Trichia exigua, the Narosa conspersa, the Limacodes graciosa, and a species of Drepana, are found on the coffee trees, but they do not cause much injury. Another caterpillar, however, though fortunately not abundant, the Zeuzera coffeæ, destroys many trees, both young and old, by eating out the heart. It resembles the caterpillar of the goat-moth of England, and is as thick as a goose quill. It generally enters the tree 6 or 12 inches from the ground, eating upwards. The sickly drooping of the tree marks its presence.

DREPANOGNATHUS SALTATOR. *Jerdon.* An ant which moves by jumps of several inches.

DRES. Anglo-Hind. Corrupted from English. Dress-piece; figured muslin of all kinds.

DRESHUK. In front of the Gurchani and Lishari hills, and between Harrand and Mithunkote, are plains inhabited by the Dreshuk.

DRILL. In Bundelkhand the drill-sowing is called bob, jaiya in Dehli, and wuer in Rohilkhand and the Doab. In some parts of N. India the drill is attached to the plough, in other districts it is a detached instrument. Bansa or orna, Hind., is the channel down which the seed descends. The mouth into which the seed is cast is called daura or mala, also weira in N. India. The drill of Cuddapah is of bamboo. It is a small wooden hopper, perforated with holes, which communicate with bamboo tubes below, into which the seed is fed by the hand. The seed, passing down through the bamboo tubes which radiate from the hopper, is deposited in the soil by a number of similar perpendicular tubes which are fixed in a beam of wood which receives the lower ends of the bamboos, which communicate with the hopper. The whole is very effective.

DRIMYCARPUS RACEMOSUS. *Hook. fils.* A timber tree of Chittagong.

DROGUE AMERE. Fr. A compound of mastic, frankincense, myrrh, aloes, and kreat.

DROK or Brog are Bhot occupants of the central part of Northern Tibet. Mr. Hodgson supposes them a mixed race, joined together for predatory purposes.

DROMAIUS, a genus of birds belonging to the order Cursores or runners, fam. Casuaridæ, Casuarius galeatus, and C. Bennettii, Dromaius Novæ Hollandiæ, and fam. Struthionidæ, Struthio camelus.

Casuarius Bennettii, *Gould*, is the cassowary of the island of New Britain, near to New Guinea, where it was called Mooruk. The height of the bird is 3 feet to the top of the back, and 5 feet when standing erect. Its colour is rufous mixed with black on the back and hinder portions of the body, and raven black about the neck and breast. The loose wavy skin of the neck is beautifully coloured with iridescent tints of bluish purple, pink, and an occasional shady green, quite different from the red and purple caruncles of the Casuarius galeatus. The feet and legs, which are very large and strong, are of a pale ash colour. This bird also differs from the C. galeatus in having a horny plate instead of a helmet-like protuberance on the top of the head; which callous plate has the character of and resembles mother-of-pearl darkened with black-lead. The form of the bill differs considerably from that of the emu, Dromaius Novæ Hollandiæ, being narrower, larger, and more curved, and in having a black or leathery case at the base. Behind the plate of the head is a small tuft of black hair-like feathers, which are continued in greater or lesser abundance over most parts of the neck. The egg is about the same size as that of the emu, and is of a dirty pale yellowish-green colour. It utters a peculiar chirping, whistling sound, but also a loud one resembling that of the word Moork. Casuarius galeatus, the helmeted cassowary of Ceram only, is so called from the horny helmet which surmounts the head. Its rudimentary wings consist of five long bristles like blunt porcupine quills. It runs swiftly with a bounding motion. It feeds on fruits, birds' eggs, insects, crustacea, and tender herbage. It is a stout and strong bird, standing 5 or 6 feet high, and covered with long, coarse black hair-like feathers. The head has a large horny casque or helmet, with bright blue and red colours on the bare skin of the neck. These birds wander about in the vast mountain forests that cover the island of Ceram. The female lays three to five large and beautifully shagreened green eggs, on a bed of leaves. The male and female sit alternately on the eggs for about a month.

The Dromaius Novæ Hollandiæ rises to a height of 7 feet. It lives on fruits, eggs, and small animals.—*Crawfurd's Dictionary*, p. 84; *London Athenæum*, No. 1512, 12th Dec. 1857, p. 1551; *Wallace*, ii.; *Dr. Bennett in a Letter*, dated Sydney, 10th Sept. 1857.

DROMEDARY, Camelus dromedarius, *Linn.*

DRONA, son of the rishi Bharadwaja. He was a Brahman, but he had been taught military science by Parasurama. His offers of service were unceremoniously rejected by raja Drupada, on which he visited Hastinapura, where he was appointed teacher of the five Pandu and the hundred Kuru princes. He instructed them to rein the steed, to guide the elephant, to drive the chariot, launch the javelin, hurl the dart, wield the battle-axe, and whirl the mace. He took an active share in the battle of Kuru Kshetra; on the death of Bhishma, took the command of the Kuru forces; on the fourth day he killed Virata and king Drupada, but was subsequently unfairly slain by Dhrishta-dyumna, who had sworn to revenge his father's death. The son of Drona is a celebrated hero in the Mahabharata, named Aswatthama.—*Garrett.*

DROSERA, a genus of the natural family Droseraceæ, or sun-dew tribe of plants. D. Burmanni, *Vahl*, Mo-dwen-thæ of the Burmese, grows in Ceylon, the Peninsula, Bengal, Sylhet, and Burma. There are two different species at Tavoy. D. peltata (Drosera lunata, *Ham.*) grows in the Neilgherry and Baba Booden Hills. The leaves stain paper red. They are applied as a blister to the skin. They close upon flies which light upon them.—*Mason; Voigt; Roxb.* ii. 113.

DROUGHTS are frequent in tropical Asia. They are alluded to in Genesis xxxi. 40, 'In the day the drought consumed me, and the frost by night, and my sleep departed from my eyes.' The following droughts are generally known:—

B.C. 138, The whole world.
A.D. 767, Asia.
,, 1291, Great drought in India.
,, 1412-3, ,, the Ganges, Jumna, Doab.
,, 1661, ,, Panjab.
,, 1682-3, ,, Sind.
,, 1683-4, ,, N.W. Provinces.
,, 1690, ,, Baroda.
,, 1803-4, Failure of rain in Allahabad.
,, 1824, Drought in Dehli.
,, 1832-3, ,, N.W. Provinces.
,, 1837-8, ,, N.W. Provinces.
,, 1860-1, ,, N.W. Provinces and Peninsula.
,, 1866, Severe in Orissa and parts of Madras.
,, 1873, ,, Behar and parts of N. Bengal.
,, 1877, ,, Madras, Mysore, and parts of Bombay.

DRUG is a hill fort, or any hill, and is a vernacular change from the Sanskrit word Durga. Chittle-drug in Mysore, Raman-drug in the Bellary district, Chimdergooty-drug in lat. 14° 27′ N.

DRUGS. Dawa of the Arabs, and Marndu of the Dravidian races. Amongst the physicians of the east and south of Asia, as in Europe until recent times, almost every substance possessing any peculiarity of colour, shape, smell, or taste, is believed to have some medicinal virtue. Much reliance is placed by them on the doctrine of the signatures, *i.e.* the belief that a substance which has some of the physical characters of an organ, or of the symptoms of a disease, will have power over what it resembles. Some substances (chiefly animal, however) are considered to have medicinal virtues merely from their oddity,—for example, pikhal mūs, rat's drug, the gall-bladder of the brown bear, the hairs of a tiger's whisker, etc. Difficulty of acquisition would also appear to add virtue. Thus it frequently happens that of two kinds of a drug, the one which is more rare is considered much the more powerful,—in some cases, indeed, when neither would appear to have any special virtue. The hakim of India has curious beliefs as to the plants which produce some of the foreign vegetable drugs, and still more curious theories are held as to the source of some of those of mineral origin. Thus Zahr-mohra, which comprise several mineral substances given medicinally, is believed by them to be formed by the spittle of the Mar-khor (Capra megaceros) falling on stones in the Kohistan, west of the Indus. The great number of substances to which, by natives and in their books on medicine, aphrodisiac virtues are attributed, is remarkable, some in connection with the doctrine of signatures, but most of them probably quite destitute of the qualities assigned to them. Drugs of Cachar and Tibet hold a high reputation in Northern India.—*Powell's Handbook.*

DRUHYU, in Hindu legend, one of the sons of Yagati, one of the old fathers of mankind. Anu

was the founder of one of the five great Turanian tribes, the Yadu, Turvasa, Druhyu, and Anu.

DRUIDICAL REMAINS. The cromlech or trilithic altar in the centre of all Druidic monuments, is supposed by Tod to be a torun or triumphal arch, sacred to the sun-god Belenus. There are numerous Indo-Scythic remains in the Nizam's territory and near Bustar. See Cairn; Cromlech; Dolmen; Menhir.

DRUM.

Tambour, Caisse, . FR.	Tamburo, ... IT.
Trommel, Pauke, . GER.	Tambor, ... SP.
Dhol, Tabl. Tambur, HIND.	Tranpeta, Dawul, TURK.

The drum is used by Asiatic nations as a musical instrument in war, and in lieu of a bell. The institution of the drum was adopted by a late king of Siam, according to Pallegoix, but the pages who had to answer it succeeded in extinguishing the practice. A curious Chinese drawing engraved in Chine ancienne (l'Univers Pittoresque), pl. 3, represents this institution of the drum. A drum was suspended at the gate of the emperor of China, which supplicants sounded. The custom is a genuine Chinese one, and the summons seems to have been by a drum rather than by a bell. Thus in the romance of The Fortunate Union, the hero Teichun-gyu exclaims, 'My lord, you are mistaken. The emperor himself suspends the drum at his palace gate, and admits all to state their hardships without reserve.'—*Yule, Cathay,* i. c. vi.; *Davis' Chinese Miscellanies,* p. 109.

DRUM-FISH, a sea-fish near the Pearl River at Macao. Every evening they assemble around a ship, and continue their musical humming till about midnight. The noise rises and falls, or suddenly ceases at times, as they quit the ship in search of food. The drumming of fish or molluscs is said to be heard also in the seas near Bombay, also in the Carolina seas.—*Adams,* p. 63.

DRUMMOND, LIEUT.-COL., an officer of the Bengal army who wrote on the mines and mineral resources of Northern Afghanistan, on the copper mines of Kamaon, on the natural resources of Almorah, in Extracts from Public Papers, N.W. Provinces, Bombay Telegraph and Courier, Oct. 24 and Nov. 19, 1849, and Mofussilite, Nov. 10, 1849.—*Dr. Buist's Catalogue.*

DRUN, also Pua. TIB. The Tibetan name of the red marmot of the western mid-Himalayas; Arctomys hemachalanus, *Hodgson.* It is confined to certain situations at high altitudes, and prefers fertile and secluded valleys, where vegetation returns rapidly and is luxuriant. There it spends the summer months, until again forced to its burrow by the cold and snow of winter. Their excavations are formed on gentle slopes or under stones and rocks, where they delight to sit erect and scream. Often the burrows are scattered over the valley, where loud wailing cries may be heard for miles along the mountain-sides. It is seldom they wander for any distance from their habitations, and usually take up a position close to the entrances, darting thereinto on the approach of danger. They frequently leap during progression, at times using their tails to assist them. The hibernation lasts from four to five months, or even longer when the snow lies for any lengthened period.—*Adams.*

DRUNKENNESS.

Ivrognerie, . . . FR.	Trunkenheit, . . GER.
Ivresse, ... ,,	Nasha, Sukr, . . HIND.

In India the inebriating substances used are opium, preparations of hemp, distilled spirits, and the fermented juices of the palm trees. In moderation these substances are beneficial, and all nations use them, though the mode of their action on the human frame is not understood; but most of them must be regarded as valuable in wearying mental or bodily exertions,—they evidently supply some want in the system. In some individuals drunkenness is a hereditary disease equivalent to a mania, and these cases are generally given up by the medical faculty in despair.

Although Hindus and Mahomedans and Buddhists are by their religions or by social usage prohibited the use of alcoholic fluids, they do use them largely, either stealthily or openly, the fermented palm wines, or the distilled arracks or spirits, being in great demand. In ancient times the conquering Aryans seem to have largely used some alcoholic fluid, because the excitement described from drinking their soma juice could not have resulted from other cause. Out of 500,000 persons who took the pledge in America, 350,000 broke it, proving that a moderate use of alcohol is proper for man; the experience of the hydropathic establishments shows an enormous increase in the use of food. If we only drink water, our consumption of farinaceous and animal food must be very largely extended. The effect of alcohol is to arrest the destruction of the tissues, and to utilize the constituents of life; and therefore, under the present conditions of modern life, where the nervous system is liable to so much waste, alcoholic substances, as the most portable form of accessory diet, are more than ever necessary. If, as is the case in infancy, the only purpose of life were to live, the complementary diets of animal, farinaceous, and leguminous food would be sufficient to sustain life; but so soon as man begins to work and think, alcohol, as preventing and arresting the destruction of tissue, is the cheapest food. If a man have a shilling to spend on food, he will do a better day's work on nine pennyworth of bread and meat and three pennyworth of beer, than on six pennyworth of bread, six pennyworth of meat, and sufficiency of water. Another important fact is, that total abstinence from stimulating drink actually predisposes to certain diseases.

DRUPADA, king of the Panchala, was son of Prishata and father of Draupadi. Defeated by Drona, his kingdom was restricted to the boundary of the Chambal and the Ganges. He took part with the Pandava in the battle of Kuru Kshetra, but was killed by Drona on the fourth day of the engagement. He was schoolfellow of Drona, and father of Dhrishta-dyumna and of Draupadi. —*Garrett.*

DRURY, HEBER, an officer of the Madras army, author of Useful Plants of India, London 1873, a work of much value; also of Handbook of the Indian Flora.

DRUSE, a race occupying the range of hills which extend parallel to the coast from the neighbourhood of Beyrout to the heights above Sidon. They are brave, honest, and hospitable. They number 70,000. Min kadim (*ab origine*) is the general answer given to all inquiries as to their settling there; they are likewise spread over the Hauran to the S.E. of Damascus. Zahle, seven hours from Balbec, belongs to their territory. Half an hour from Zahle, on the south side of the

village of Kerak, is shown the tomb of Noah. They trace their cult to Al Hakim, a khalif of Egypt. They believe in the transmigration of souls, and that the prophets recorded in the Old Testament were only a succession of identical spirits. The names of David, Abraham, Ishmael, and Pythagoras occur in their sacred code, but without any adherence to ascertained chronology. Hamsa, their God and sovereign, they consider to have been the true Christ; and Jesus, son of Joseph, a travelling impostor, and therefore deservedly crucified. They seem equally opposed to Mahomedans and Christians, but use the Koran to deceive their Turkish masters. They consider the four evangelists to have been so many powers or parts of religion, and Hamsa to have appeared about 400 years after Mahomed, when he flourished eight years upon earth, and afterwards appeared seven times in all from the time of Adam, finally and formidably to reappear when the Christians shall be more powerful than the Turks; he will then spread the religion of the Druses by divine authority. Their creed requires implicit obedience, and rejects fasting, prayers, tithes, and killing of animals. In mode of life, form of government, language, and customs, they resemble the Maronites. Druse women wear the tantour, a conical tube, about 18 inches long, of silver or plated copper, and ornamented with a variety of patterns. It is fixed upon a cushion fastened to the top of the forehead, and inclines slightly forward, like a horn. Over this a piece of white muslin is thrown, which falls down to the hips, and serves to envelope their faces at pleasure when they go abroad. In some parts of the mountain it is worn on the side of the head. Their religion seems a remnant of some Mahomedan heresy. They arrange themselves as the Akal or intelligent, and that of the Jahil or ignorant. The Akal, in number about ten thousand, form the sacred order, and are distinguishable by their white turbans. The Akal are not permitted to smoke tobacco; they never swear, and are very reserved in their manners and conversation, but are allowed to marry. The chief of the order resides in a village called El-Mutna. The Jahil, or uninitiated, perform no religious rite whatever, unless, to assume the appearance of Mahomedans, they enter the mosques and recite their prayers with Turks. Schools are pretty frequent among the Druses. The Akal are generally the masters, and are paid by their pupils. They teach reading and writing. — *Robinson's Travels*, ii. pp. 9 to 322; *Catafago*.

DRYADS. See Fountains; Rivers; Springs.

DRYANDRA CORDIFOLIA, *Thun.*, the Woothoong-shoo or Tung-eu of the Chinese, is a plant valuable on account of its oil-seeds, much in use in China. It is one of the favourite trees of the Chinese, prized for its beauty and the hard wood it furnishes.— *Williams' Middle Kingdom*, p. 281; *Fortune's Tea Districts*, p. 119.

DRYIOPHIDÆ, the white snake family of reptiles, containing—

Tropidococcyx perroteti, *D. and B.*, North Canara.
Tragops prasinus, *Reinw.*, Eastern India.
T. dispar, *Gthr.*, Animallay mountains.
T. frontimetus, *Gthr.*
Passerita mycterizans, *L.*, Ceylon, Peninsula of India.
P. purpurascens, *Gthr.*, Ceylon.

DRYOBALANOPS CAMPHORA, *Cole.*, the Shorea camphorifera, *Roxb.*, is a very large tree, a native of Borneo and Sumatra, where it sometimes attains 6 to 8 feet in diameter, and 120 feet high. In the cavities of the trunk there occur collections of solid camphor, and of a light fluid called camphor oil. The solid camphor is highly prized by the Chinese and Japanese, and rarely finds its way to Europe. The tree is said to be common in Sumatra, in the country of the Battas, but not to be found to the south of the line. In Borneo it was found at first towards the north, was particularly abundant in the country of the Kyans in the interior, on the Bintulu and Rejang rivers, and has since been discovered in Sarawak. In Labuan it is common, and is one of the noblest of the trees in that fine jungle. Not one in ten trees is found to produce camphor, and the camphor collectors cut notches in the trees, in order, before felling, to ascertain whether they are likely to find camphor. The younger and smaller trees are often quite as prolific as the older and larger trees. The camphor is found in a concrete state in the crevices of the wood, so that it can only be extracted by felling the tree, which is afterwards cut into blocks and split into wedges, and the camphor, which is white and transparent, is then taken out. The essential oil, found in hollows in the wood, the natives crystallize artificially, but the camphor thus obtained is not so much esteemed as that found naturally crystallized. The high price of the concrete camphor depends wholly on its scarcity, and the fancy of the Chinese and Japanese, who ascribe high medicinal virtues to it, which it probably possesses in no higher degree than the cheap article which they themselves obtain by the distillation of the wood of the Camphora officinalis, and which may be had in the same markets for about one-hundredth part of the price. After a stay in the woods, frequently of three months, during which they may fell a hundred trees, a party of 30 persons rarely bring away more than 15 or 20 pounds of solid camphor, worth from 200 to 250 dollars. The camphor of D. camphora is in white crystalline fragments; sp. gr. 1·009. Its odour is not of so diffusable a nature, otherwise it closely resembles the camphor from the Camphora officinarum. The wood of this camphor tree is good timber, suited for house and ship building. The liquid camphor of the same tree appears of the nature of camphogen. Dr. A. T. Thompson, by passing a current of oxygen gas through it, converted it into camphor.—*As. Researches*, xii. p. 535; *Low's Sarawak*, p. 44; *Marsden's Sumatra*, p. 150; *Royle's Mat. Med.* p. 536; *Crawfurd's Dictionary*, p. 81; *Simmonds' Commercial Products; O'Sh. Bengal Disp.; Mason's Tenasserim; Tomlinson*, p. 287; *Indian Agriculturist*.

DRY ROT is a disease affecting timber, produced by the attacks of fungi. The first sign of it consists in the appearance of small white points, from which a filamentous substance radiates parallel with the surface of the timber. This is the first stage of growth of the spores of the fungus, and the filamentous matter is their thallus or spawn. As the thallus gathers strength, it insinuates its filaments into any crevice of the wood, and they, being of excessive fineness, readily pass down and between the tubes from which the wood is organized, forcing them asunder, and completely destroying the cohesion

of the tissue. When the thalli of many fungi interlace, the radiating appearance can no longer be remarked; but a thick, tough, leathery white stratum is formed wherever there is room for its development, and from this a fresh supply of the destructive filamentous thallus is emitted with such constantly increasing rapidity and force, that the total ruin of timber speedily ensues where circumstances are favourable for the growth of the fungi. Dry rot consists of the thallus of Merulius lacrymans, or Polyporus destructor, two highly-organized fungi; but any of the fungi that are commonly found upon decaying trees in woods are capable of producing dry rot, and the most rapidly-spreading and dangerous kinds is caused by the ravages of different species of Sporotrichum. The latter throw up from their thallus whole forests of microscopic branches loaded with reproductive spores, of such excessive smallness that they may insinuate themselves into the most minute crevices or flaws even in the sides of the tubes of which timber consists, and they are infinitely more dangerous than merulii or polypori, which seldom fructify. The circumstances that are most favourable to the development of the dry rot fungi are damp, unventilated situations, and a subacid state of the wood. The latter condition, especially in oak, is easily produced by a slight fermentation of the sap which remains in the timber, especially if the latter has not been well seasoned before being employed. It has been proved experimentally that fluids which, in their ordinary state, will not produce fungi, generate them abundantly if ever so slightly acidulated. Dutrochet found that distilled water, holding in solution a small quantity of the white of egg, will not generate fungi in a twelvemonth; but upon the addition of the minutest quantity of nitric, sulphuric, muriatic, phosphoric, oxalic, or acetic acid, it generated them in eight days' time in abundance. Alkalescent infusions possess the same property. The only poisons which will prevent the appearance of fungi are the oxides or salts of mercury. A solution of fish-glue yields fungi rapidly and in great abundance; but a small quantity of red precipitate or corrosive sublimate destroys this power entirely. It is, moreover, an important fact that no other mineral preparation has any such properties. Dutrochet ascertained that other metallic oxides acted differently. Oxides of lead and tin hastened the development of fungi; those of iron, antimony, and zinc were inert; and oxides of copper, nickel, and cobalt, although they retarded the appearance of fungi, yet did not prevent their growth in the end. These facts are confirmed by the experience of the use of Kyan's process for preparing timber, which consists in submitting the wood to the action of corrosive sublimate. Immersing the wood in chloride of zinc likewise prevents the attacks of fungi, and also submitting it to the action of the vapour of creosote. Dry rot also occurs in animals. Specimens of hymenopterous insects resembling wasps have been brought from the West Indies, with a fungus allied to Sphœria militaris growing from between their anterior coxæ, and it is positively asserted by travellers that the insects fly about while burdened with the plant. Upon opening the bodies of the wasps, they are found filled with the thallus of the fungus up to the orbits of the eyes and the points of the tarsi, the whole of the intestines being obliterated. In such cases it is to be supposed that the thallus of the sphœria first kills the wasp by compressing and drying up the body, and then, continuing to grow, occupies the whole of the cavity of the shell of the insect. A more common instance of animal dry rot is the disease in silk-worms called La Muscadine. Silk-worms of all ages are occasionally liable to become sickly and to die, soon after death becoming stiff, and acquiring such a degree of firmness as to be readily broken. They then throw out from their surface a sort of white efflorescence, which is the fructification of the fungus called Botrytis bassiana, their inside being filled by the thallus of the same plant. If some healthy caterpillars are placed beneath a bell-glass, along with a small portion of worm killed by the botrytis, they soon catch the disease, exhibit the same symptoms as those already mentioned, and eventually perish, having no doubt been infected either by rubbing themselves against the dead worm, or, which is more probable, having received upon their skins the infinitely minute seeds dispersed by the botrytis. If healthy crysalids are inoculated by the introduction below their shell of a little of the botrytis matter upon the point of a needle, they also sicken and die. In these cases effects are produced upon insects similar to those upon timber; that is to say, vitality in the one case, and cohesion in the other, is destroyed by the growth of the thallus of certain fungi, which spread with great and irresistible rapidity, and fructify where occasion offers. Boletus destructor is also one of the dry rot fungi.—*Eng. Cyc.; Toml.*

DSO and Dso-mo. TIBETAN. The bull and cow, produce of the male yak and common cow.

DUA. ARAB. Supplication, prayer. Dua-i-Masura, supplication for the remission of sins. Dua-i-Qunut, a prayer of praise.

DUABANGA GRANDIFLORA. *Wall.* Myouk-gnau. BURM. A tree of British Burma; wood used in house-building. A cubic foot weighs 30 pounds. In a full-grown tree on good soil the average length of the trunk to the first branch is 80 feet, and average girth measured at 6 feet from the ground is 12 feet. It sells at 8 annas per cubic foot. D. sonneratioides, *Buch.*, is a timber tree of Darjiling Terai, Chittagong, Goalpara, Pegu.—*Cal. Cat. Ex.* 1862.

DUB. ARAB. Bear. Dub-i-Akbar, the Great Bear constellation.

DUBARA. BENG. A caste of fishermen in Bengal.

DUBBER, Dupper. HIND. Sidda, Sidde, TAM., TEL. Dubbers are bottles formed of skins, and used for holding and conveying spirits, oil, ghi, etc. They are made of all sizes, from a quart to 10 or 20 gallons, some to hold not a wine-glassful; one has been seen in Bijapur that was estimated at 200 gallons capacity; they are formed of untanned goat-skins by stretching them when wet over unburned hollow clay forms, the edges being well rubbed down on the lower skin to cause adhesion. The clay core is readily removed after the bottle is dried in the sun. They are manufactured in most parts of India. They are of nearly a globular form, roundish at the bottom, so as not to stand well. The aperture end is round like that of the bottom, but large in proportion to their size; the neck is short.—*Hindu Infanticide*, p. 177; *Rohde, MSS.; Faulkner.*

DUBBOYE, in Gujerat. Its chief is of the Bagela race. See Komarpal.

DUBDUBEA, a Nepal tree abounding in the Terai. Wood is a powerful astringent, and an article of trade.—*Smith's Five Years.*

DUBH. HIND. The grass Cynodon dactylon. Its dry, creeping stems spread out, and take root at the joints. It is commonly called khabal in the Panjab. This is the durba grass of Sanskrit authors, and in the Atharva Veda it is thus apostrophized: 'May Durba which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth for a hundred years.' The flower of this grass is a most beautiful object under the microscope. There are, however, three sorts of dubh recognised in the north of India. The best, called Paunda, is especially the same as Fiorin; the second, called Khutia, is smaller, and grows on hard ground; the third is of two white sorts, called Ghor-dubh, for horse fodder, and Ban-dubh, a coarser kind.—*Powell.*

DUBLO. MAHR. Dubaro, GUJ. A clan of the Bhil in the inland tracts of Surat and Broach. They are usually the vartania or village watchmen.

DUBOIS, ABBE J. A., a French missionary in Mysore and in the south of India. He wrote an account of Hindu Ordeals in Mad. Lit. Trans., 1827; On the State of Christianity in India, Lond. 1823; also a Description of the Character, Manners, and Customs of the People of India, and their Institutions, Religious and Civil, Lond. 1817.

DUBTHA. HIND. A bundle of peeled sugar-canes ready for the press.

DUCK.

Canard, ... FR.	Anitra, ... IT.
Ente, Schätzchen, GER.	Anade, ... SP.
Battah, ... HIND.	Urdek, ... TURK.

The domesticated duck is a descendant from the common wild duck, the Anas boschas. Its domestication has been accomplished in comparatively recent times, for it was unknown to the Egyptians, to the Jews of the Old Testament, or to the Greeks of the Homeric period. About eighteen centuries ago, Columella and Varro speak of the necessity of keeping ducks in netted enclosures, like other wild fowl, so, even then, there was danger of them flying away. The A. boschas is met with in all the northern parts of Asia, Europe, and America. The domestic duck is polygamous. Young ducks are injured by being allowed to swim in water. The domestic breeds are the Common duck, the Flat-billed, Call and Penguin duck, Arlesbury, Tufted, Hook-bill, and Labrador duck; but though breeding in remote southern latitudes, where the mallard is unknown, the domestic breed always shows parts of the wild. Certain ducks breed on cliffs or trees, and they must carry their young to the water, though this has not been observed. A large red duck is the emblem of fidelity with the Rajputs.

Tadorna vulpanser, the Common Shieldrake of Europe, Asia, N. Africa; is common in the Panjab, not rare in Lower Bengal.
T. tadornoides, Australian Shieldrake, S. Australia.
T. variegata, Paradise Shieldrake, New Zealand.
Aix galericulata, Mandarin Duck, China.
Casarca rutila, Ruddy Shieldrake, N. Africa and S. Asia.
Dendrocygna arcuata, Whistling Duck, Java.
Spatula clypeata, or Anas clypeata, the Shoveller, northern regions, N. Africa; tolerably common in India.
Anas strepera, the Gadwall, the northern regions and Barbary; tolerably common in India.
A. acuta, the Pintail Duck, northern regions and Barbary, and is very common in India.
A. boschas, the Mallard, the northern regions and Barbary; in India, is confined to Sind, Panjab, and the Himalaya and its vicinity, replaced southward by A. pœcilorhyncha.
A. crecca, Querguedula crecca, Teal of Europe, Asia, Barbary; common in India.
A. penelope, Mareca penelope, Widgeon of Europe, Asia, N. Africa; common in India.
A. pœcilorhyncha, the Spotted-billed Duck.
Aythya ferina, the Pochard of the northern regions and Barbary; common in India.
A. nyroca, White-eyed Duck of Europe, Asia, N. Africa; common in India.
Fuligula marila, Scaup Pochard of the northern regions; occurs in Panjab, Sind, Nepal.
F. cristata, Tufted Duck of Europe, Asia, Barbary; common in India.

Ducks are sacred to the worshippers in China of a canonized being, Hong-yuen-shuee. The ducks on the river at Canton are so trained, that, when feeding in the fields, on being summoned to return by the whistle of their owner, they all waddle hastily back. They are similarly trained on all China rivers. Flocks of ducks are herded there. The herdsmen live in small boats, and drive the ducks from place to place during the day, sending them home in the evening.—*Montgomery*, ii. p. 262; *Frere; Antipodes*, p. 248; *Darwin; Blyth; Jerdon.*

DUCK-WEED, Lemna gibba and other species of Lemnaceæ.

DUDAIEN, of Genesis xxx. 14, is the Mandragora officinalis.

DUDH. HIND. Milk. Hence Dudh ka Mahaena, the tenth month, literally the milk month. Dudh-Payra, sweetmeats.

DUDHI TUPPAS, forming the S.E. portion of the Mirzapore district, are in a hilly tract of considerable size, which, owing to a variety of circumstances, escaped assessment when the rest of the Benares province was regularly settled. The great bulk of the cultivators and village managers belong to the aboriginal tribes, and are a simple, ignorant people, easily overreached by astute and grasping money-lenders. The people in general are truthful, willing to labour, possess great physical courage, and exhibit much enterprise. The Sueri, however, are addicted to theft; they coin false money, and live principally by jugglery. They procure wives for their young men by kidnapping girls. Their women wear a tartan dress, often have a horn projecting from the forehead as an ornament, and are fond of intoxicating drinks. The Bhuiya are daring mountaineers. Their courtships are managed by the father of a marriageable lad searching round the neighbouring villages for a daughter-in-law, not related within the prohibited degrees of consanguinity. Having at last chosen one, he returns home, and in a few days again visits the bride's house with his son, and not less than five other kinsmen. Five rupees are then paid to the girl's father, baskets of flowers and fruit are presented to the bride herself and her mother, and the proceedings are closed by the marriage ceremony, which is performed by the family priest or a barber. The inhabitants, as a body, shun society. Mr. Conybeare says their language will become extinct.

DUDRENEE. Chevalier Dudrenee, a native of

Brest, son of a commodore of the French navy. About 1791 he left the command of the Begum Sumroo's Brigade and joined Tukaji Holkar, and with his battalions he contributed to the victory of the 12th March 1795 at Khardla. He left Jeswunt Rao's service in 1801 for that of Sindia. He surrendered to the British, 30th Oct. 1803, but it was his battalions which fought the subsequent battle of Laswari.

DUFF, CAPTAIN JAMES GRANT, author of History of the Mahrattas.

DUFF and Surode, musical instruments. The Duff or Duffra, or Tambour de Basque; tympanum; according to Gentius (Sadi Rosar. Polit. p. 303), a sort of bass tambourine played upon with a stick.

DUFFADAR. HIND. An officer of irregular cavalry; the head of a party of labourers.

DUGDHA, a tribe of inferior Brahmans on the borders of Futtehpur and Allahabad. They date their origin from the time of Jye-chand, who figures in many fabulous legends of those parts. The Pande, who were Dugdha Brahmans (*i.e.* of mixed blood), received 48 villages, of the greater part of which they are in possession to this day.—*Elliot's Supp. Gloss.*

DUGGY, in Madras, round timber from 20 to 40 feet long, 1 to 2½ feet square.

DUGLA or Dauri. HIND. A bamboo basket swung on double ropes, and worked by two men in irrigating land.

DUGONG. MALAY. The sea siren, merman, mermaid. Professor Owen denominated the dugong of the Archipelago, Halicore Indicus, in distinction from that of the northern coast of Australia, at a time when the former had not been ascertained to frequent (as a dugong of some kind is now known to do) the Malabar coast and Gulf of Calpentyn in Ceylon.

Halicore Dugong.

Trichechus dugong, *Gmel.*	Dugungus Indicus, *Ham.*
Indian dugong, . ENG.	Mermaid, . . . ENG.
Sea siren, Merman, ,,	Le dugong des Indes, FR.

This inhabits the shallows of the Indian Ocean and about Ceylon, where the water is not more than two or three fathoms deep. It does not appear to frequent the land or the fresh water. Its flesh is delicate. The dugong was noticed as occurring in Ceylon by the early Arab sailors, by Megasthenes (Fragm. lix.) and Ælian, and subsequently by the Portuguese. It is this creature which has given rise to the tales about mermaids which have till the present day occupied the world, and doubtless had their origin in the tales of the Arab sailors. They are phytophagous or plant-eaters. Numbers are attracted to the inlets from the Bay of Calpentyn to Adam's Bridge, by the still water, and the abundance of marine algæ in these parts of the gulf. One which was killed at Manaar in 1874 measured upwards of 7 feet in length, but specimens considerably larger have been taken at Calpentyn; and their flesh is represented as closely resembling veal.

Halicore Australis, manate of Dampier, white-tailed manate of Pennant, is a native of the west coast of Australia, and is called also the sea-cow. About the month of January the dugong shows itself in Port Mouat Bay, coming to feed upon a species of seaweed, which is also relished by the

Halicore Indicus, *F. Cuvier.*

Trichechus dugong, *Erxl.*	H. tabernaculum, *Rup.*
Halicore cetacea, *Illey.*	Dugungus marinus, *Tiede.*
H. dugong, *Cuv.*	
Dugong, . . . MALAY.	Parampuan Laut, MALAY.

Under these synonyms Dr. Theodore Cantor unites all the above, which he says inhabits the Red Sea, the seas of the Malay Peninsula, Singapore, Sumatra, the Philippine islands, Moluccas, Sunda islands, and New Holland. It is supposed that the dugong can be easily domesticated. Doubtless the ancient Arab stories gave rise to the mermaid tales which have since then occupied the world, for it is this creature that has given rise to all the fables about the mermaid and the merman. Tennyson writes of

> 'A mermaid fair
> Singing alone,
> Combing her hair,
> Under the sea,
> In a golden curl,
> With a comb of pearl,
> On a throne.
> At night I would wander away, away;
> I would fling on each side my low-flowing locks,
> And lightly vault from the throne, and play
> With the mermen in and out of the rocks;
> We would run to and fro, and hide and seek,
> On the broad sea wolds in the crimson shells
> Whose silvery spikes are nearest the sea.'

—*Eng. Cyc.; Blyth in Beng. As. Soc. Jour.; Tennant's Ceylon; Dr. Theodore Cantor in Beng. As. Soc. Jour.*, No. clxxii. Decr. 1846.

DUH. SANSK. To milk. Hence Duhitar and Duhitri, a milker, a daughter.

DUHAI. HIND. Justice! An exclamation still made in Hindustan from an individual who considers himself injured. 'Duhai, Maharaj! Duhai, Company Bahadur!'—Justice, justice, my lord! Justice, Company Bahadur!—*Yule, Cathay*, ii. 436.

DU HALDE, J. B., author of Description of the Empire of China, Chinese Tartary, Corea, and Tibet.

DUHARU. BENG. A caste of fishermen and divers.

DUHET. ARAB. A cove or bay. Duhet Dilam, Hafah, Kabir, Kubal, Kathemeh, Selwah, Shahrah, Shisheh, are in the Persian Gulf, and Gwettur in Baluchistan.

DUHSASANA and Duryodhana, sons of Dhritarashtra. Duhsasana behaved brutally to Draupadi, and he was afterwards killed by Bhima when fighting in the battle at Kuru-kshetra.—*Dowson.*

DUJA. ARAB. Blood money, paid by a criminal to the relatives of a murdered person.

DUK or Dok. JAV. The hair-fibre of the Arenga saccharifera, Gomuti, MALAY.

DUKAR. MAHR. Hog; Sus scrofa. Dukkar-ki-charbi, HIND., hog's lard.

DUKSHIN-ACHARI. SANSK. From Dukshina, the right hand, and Acharin, acting.

DUKU, the Malay and Javanese name of a tree and fruit of the Lansium domesticum, and natural order Meliaceæ of botanists. To the same genus belong the langseh, langsat, or langsab, for in all these forms the word is written, and also the ayar-ayar, L. aqueum. The duku is the most esteemed of them, and to the European palate is the best of the native fruits of the Archipelago, after the mangostin. The natives class it after the durian and mangostin. It is of the size of a pigeon's egg, of globular form, and covered with a coriaceous

skin of the colour of parchment. The species seems to be indigenous in the western portion of the Archipelago, but to have been introduced into the Philippines, where one variety of it, the langseh, is cultivated.—*Crawfurd's Dict.* p. 125.

DULCAMARA or Solanum dulcamara is the Shuh-yang-ts'iuen of the Chinese. Dulcamara contains an active narcotic alkali, solanine, narcotic and diuretic. Solanum nigrum, Arrub-us-saleb, may possess similar virtues.—*Beng. Disp.*

DULHA. ARAB. A bridegroom. Dulhan, a bride. For the Dulha-Deo of India the Greeks had Adonis, Ganymede, Hylas, and Thammuz.

DULLA. HIND. Carbonate of soda. A soda salt or natron from the waters of the lake of Lunar; it is used in dyeing, in medicine, and the arts.

DUM, in Afghanistan, a class of servants attached to families of rank, whose wives serve in the women's apartments, and are go-betweens in marriage negotiations.

DUMA, HIND., also written Duma, is the name of the leather case in which tea is imported from Tibet into Garhwal and Kamaon. It contains about three seers, and bears a price of six or seven rupees.

DUMAGUDEM, on the Upper Godavery, 120 miles from Sironcha, and same from Ellore. Coal occurs about 15 miles N. of Dumagudem, near the junction of the Tal river near Lingala.

DUMAI MURALEE, in Cachar, the first crop of rice, sown in April.

DUMBA. HIND. A flat-tailed sheep of Peshawur, Kābul, the Salt Range, and the Cape. Dumki marchi, the tailed pepper, cubebs. Dumki satārā, a comet.

DUMB-BELLS. See Magdar.

DUMDUM, a subdivision of the 24 Parganas, in which, near Calcutta, there is a military station of same name, in lat. 22° 38′ N., and long. 88° 30′ E., and 4½ miles from Calcutta.

DUM-I-GURG, or the wolf's tail, is the Persian name for the first brushes of grey light which appear as forerunners of dawn. Dūm is a tail.

DUMKI, a brave and martial tribe of Baluchistan who inhabit Eastern Kachi; part of them were removed to Sind by Sir Charles Napier in 1845.—*MacGregor, N. W. F.* p. 502.

DUMOH, a district in the Jubbulpur division, lying between lat. 22° 10′ and 23° 30′ N., and long. 79° 5′ and 80° E. It is situated on the table-land of the Vindhyan range of hills, and is 90 miles long from N. to S., and 50 broad, with an area of 2799 square miles, and 269,642 inhabitants, largely Gond, Kurku, Lodhi, and Kurmi. See Damoh.

DUMUR. TEL. A name for the Bhatu athletes. Dumbram, TAM., Dumbar war, TEL., and called also Khollati. See Bhatu.

DUN. HIND. A valley; a term locally applied in the Siwalik Hills, under the Himalaya, as Patlee Dun, Dehra Dun. It seems to be the same word in the Celtic and Indo-European languages, as well as in the Arabic. In English, the adverb Down implies descent, and Down, the noun, a sloping hill, an elevated plain, or hillock of sand on the sea-shore. See Dunes.

DUN. BURM. In Arakan, a land measure 30,720 square yards, therefore equal to a little more than 6¼ English acres.

DUNAH or Dooah, in Rajputana, is a portion of the dish of which the prince partakes, sent by his own hand to whomsoever he honours at the banquet. At the russora, or refectory, the chiefs who are admitted to dine in the presence of their sovereign, are seated according to their rank. The repast is one of those occasions when an easy familiarity is permitted, which, though unrestrained, never exceeds the bounds of etiquette, or the habitual reverence due to their father and prince. When he sends, by the steward of the kitchen, a portion of the dish before him, or a little from his own khansa or plate, all eyes are guided to the favoured mortal, whose good fortune is the subject of subsequent conversation. Though, with the diminished lustre of the Rajput house, the dunah may have lost its former estimation, it is yet received with reverence.—*Tod's Rajasthan*, i. p. 317.

DUND or Dhand. SINDI. Pools, ponds, or lakes on the line of the river Narra, from Sukkur to Omerkot, or about 100 miles. The Narra is only filled with water during the inundation of the Indus river, and even this not often; it never reaches the sea, but is lost in the sand near Omerkot. Betwixt this and Sukkur there are at least 360 dund, most of which contain water throughout the year. They are from 300 to 400 yards across, but often many miles in length. They all become brackish during the hot weather. They abound in fish.—*Captain Del Hoste in Bom. Geo. Trans.* ii.

DUND, or Dun, or Dungar, is in several dialects derived from the Sanskrit, a hill or mountain, as it was also in some of the old languages of Europe. —*As. Res.* ix. p. 98.

DUNDA. The best-known boats on the Indus are the Zoruk of the Upper Indus, the Dunda, which plies from Mithankote to the sea, and the Dugga, which is specially suited, from its strong build, to the navigation of the rapids between Attok and Kalabagh. The better kinds of wood used in their construction (sissoo and large babul) are procured with difficulty, and various species of timber are generally seen in one boat, such as sissoo, babul, deodar, chir, bahn, and karil. Malabar teak is much prized in the Lower Indus, and fetches a large price. The ordinary ferry boats are constructed by the sides and bottom being prepared separately, and brought together to be secured by knees or crooked pieces nailed to the bottom and sides. The bottom is made of sissoo, the knees of mulberry or olive, and the side planks of deodar. The wedges and trenails are usually made of tut and kahu. Ropes for rafts and boats are prepared either from hemp (Cannabis Indica), sirki (Saccharum spontaneum), Typha latifolia, dib, or other grasses, common on the river bank. Munj (Saccharum munja) is also largely employed by the native boatmen. The great boat-building localities of the Panjab are Pind Dadun Khan, Wazirabad, and Jhelum, but there is a marked increase on the Indus, not only at Attok, but at Nowshera, Hashtnagar, Mokhud, and Kalabagh.

DUNDGIRI. HIND. A very populous village, adjoining the esplanade of Bombay fort.

DUNDOO-MALE, gum-resin of the Doona Zeylanica tree.

DUNES occur in India near the sea, and to leeward of the beds of rivers, also on the Indian desert, and in the desert of Gobi, where the sand

waves are overwhelming cities. In the Indian desert are to be seen multitudes of the Teeba rising 400 or 500 feet high. Newbold describes dunes of the Hogri and Pennar rivers, and mentions the overwhelming of Bodurti, a village of Konigul, also of an old village near Jummulmadagu, and the encroachments on the village of Honoor, 20½ miles S. from Bellary. In the Landes of Gascony, many dunes exceed 225 feet; some attain 391 feet elevation; and on the W. of Africa, near Cape Verde, they are no less than 600 feet high. See Down; Dun.

DUNG. BHOTI. An encampment of shepherds and herdsmen in the N.W. Himalaya.

DUNG. TIB. The wild yak of Darjiling.

DUNG of birds and bats is applied medicinally externally, and given internally by the Chinese. That of the avadavat, Fringilla amandava; of the common house sparrow, Passer montanus (Kung-ma-tsioh-fen, CHIN.); of the magpie (Han-hau-chung, CHIN., and Wu-ling-chi, CHIN.), is applied externally in leprosy; and the dung of the white pigeon, Tso-pwan-lung, CHIN., left-coiling dragon, is an external veterinary medicine.—*Smith.*

DUNGA, a punt or broad boat of Kashmir.

DUNGANI, the great Ouigoor horde in Eastern Turkestan. They are Turk, and became Mahomedans in A.D. 966. The Chinese call them Hoeike, Oihor, and Hoai-Hoai. Towards the close of the 8th century, the emperors of the Tang dynasty deported about a million of Ouigoor people from the neighbourhood of Kashgar, and settled them at Kan-su and Chen-si. About A.D. 966, these families embraced Mahomedanism, and under their chief Satook they conquered Transoxiana, and carried away captive an immense number of Turks of the Turghai tribe. In 972, the majority of these captives were allowed to return to their homes, but many remained, and they were styled Turghani or Tunghani, signifying remnant, and corrupted into Dungen. They are all Mahomedans, but dress like Chinese. They are abstemious, religious, quarrelsome, using the knife; honest, and fond of trade. The Dungan or Turgen race, following Mahomedanism, in the N.W. of China, rose in rebellion against the Chinese in 1867. The Burmese call them Tharet; their own name for themselves is Muslim. In 1881, the delegates of the inhabitants of Kuldja chose the following districts for the colonization of the Dungan and the remaining Tarantchi, for whom there is no room on the Tchilik steppes,—for the Dungans, the district Toknak, between the rivers Soukulouk, Aksu, and Tchou; for the Tarantchi, a part of the same district, situate between the rivers Alarteha and Soukulouk.

DUNGAREE. HIND. Datta, TAM. A coarse cotton fabric manufactured in various parts of India, and used by the poorer classes of natives. The stouter kinds are much employed in the making of sails for native sailing vessels and tents. Dungaree is woven with two or more threads together in the web and woof. It is generally used for sails of country ships, and would no doubt be advantageously employed for the occasional light sails for larger ships, being more easily handled than European canvas. Superior descriptions are made with the web and woof, or web only, twisted either wet or dry, but this becomes as expensive as the best English canvas. The prevailing price of the ordinary dungarees, 30 cubits,—that is, 15 yards long, and 2 feet wide,—is 1 rupee 12 annas; the piece at Masulipatam being brought from Raylungy, a village and taluk to the northward, where a finer description, well adapted for tents, is made at 7 rupees the piece of 36 yards, 1 yard wide. About Vizagapatam, the ordinary dungaree is usually sold by weight. The best Bengal tents appear to be made of an open-textured dungaree, the threads of which are finer than is usual in dungarees. Like all other cotton goods, dungaree should not be exposed to the weather in sails, tents, etc., till the weavers' dressing and filth has been thoroughly removed by washing and partial bleaching.—*Faulkner; Rohde, MSS.* See Cloths.

DUNGARPUR, a native state in Rajputana, ruled over by a Maharawul in a town of that name, in lat. 23° 52′ N., and long. 73° 49′ E. The population of the state in 1878 was 175,000. Three-fourths of the inhabitants are Hindus, one-eighth Jains, and one-eighth Musalmans. The Bhils aggregate about 10,000 souls. The family is an offshoot of the house of Udaipur. On the fall of the Moghul empire, Dungarpur, like other Rajput states, became tributary to the Mahrattas. The tribute of Rs.35,000 levied from it was transferred to the British Government by the treaty of 1818, with Jeswunt Singh, in return for its protection. —*Imp. Gaz.*

DUNG BIRD, Neophron percnopterus.

DUNGING OF CLOTHS is a process resorted to by dyers, both in the East Indies and Europe, the object being to impregnate cotton cloths with animal matter, for which many dyes have a strong affinity.—*Rohde, MSS.*

DUNGTEN, a bone or relic receptacle of the Buddhist religionists. The chaitya is any sacred object worshipped by the Buddhist, as a tree, an altar, a temple, as well as any monument raised on the site of a funeral pile, as a mound or pillar, and is probably applicable both to the Buddhist chodten, or offering to the deity, and the dungten, a bone or relic receptacle. The stupa or chaitya of Indian Buddhism is supposed to have been erected subsequent to the cave temples and viharas or monasteries. The ancient stupa were originally meant as receptacles of either the Buddhas or the Bodhisatwas and the kings who encouraged the propagation of the Buddhist faith. The chodten or chorten of Tibet are similar to the stupa. They consist of a cylindrical vase, and have a cupola over them. The dungten, on the other hand, correspond to the dhagoba of the Sanskrit, is a bone or relic receptacle, built in honour of the mortal Buddhas, and ought to contain some portion of their relics, real or supposed. —*Cunningham.* See Buddha; Stupa; Topes.

DUNIADAR or Danyadar, a mode of address among fakirs.

DUNORHUNG, a Penang wood of a brown colour, sp. gr. 1·235. Used by the Chinese for carving images.

DUPADA NUNA, TEL., is Dupada oil, or Piney tallow. Dupada resin exudes from the Vateria Indica, and constitutes the piney varnish. The resin is used as a fragrant incense in temples; the quantity procurable is very considerable.—*M. E. J. R.*

DUPERRON. Anquetil Duperron, without means, and in the face of great hardship, learned the Zend from some Parsee priests at Surat, and

returned to France in 1762 with over a hundred manuscripts.—*Sayce.*

DUPLEIX, JOSEPH FRANCIS, an eminent French commander, who served in the Peninsula of India in the middle of the 18th century, and made great efforts to sustain French interests there, against the British. He oppossed Anwar-ud-Din and his son Muhammad Ali, in opposition to Major Stringer Lawrence, who was contending against Chanda Sahib. Dupleix failed in an attack on Fort St. David, on the 19th December 1747. His efforts were directed to expel the British from the Peninsula, his chief British opponents being Lawrence and Clive. In that time, Madras, Fort St. David, Cuddalore, Arcot, St. Thomé, repeatedly changed hands. He was appointed chief of Chandernuggur, and succeeded M. Dumas as governor of Pondicherry. He was of a bold, self-reliant, but haughty character, and was much thwarted by M. de la Bourdonnais. It was in his time that Madras was taken and held by the French, and again restored to the British. He twice failed to take Cuddalore. He negotiated largely and formed alliances with native chiefs,—with Chanda Sahib, Muzaffar Jung, and Nasir Jung. In 1752 he was appointed by Salabut Jung, Subahdar of the Dekhan, Nawab of the Karnatic. For his services he was created a marquis; but misfortunes overtook him, and he was superseded by M. Godeheu, and returned to France in September 1754. On his return, the French Government refused to pass the bills for the sums which he had ordered to be disbursed on his own responsibility, and he was reduced to extreme poverty. He was shamefully ill-treated, and three days before his death, in 1754, he wrote in his memoir, 'I have sacrificed my youth, my fortune, my life, to enrich my nation in Asia.' His great name shed a lustre on the struggles of his countrymen for empire in the East.—*Orme; Malleson.*

DURA. Daniel iii. 1 tells us that Nebuchadnezzar the king made an image of gold, whose height was threescore cubits, and the breadth thereof six cubits. He set it up in the plain of Dura, in the province of Babylon. This is the modern Imam Dour, on the left bank of the river. —*Rich's Kurdistan*, ii. p. 148.

DURA, HIND., a whitish blanket of Basahir.

DURAND, SIR HENRY MARION, K.C.S.I. and C.B., entered the Bengal Engineers in June 1828, and promoted to Major-General in 1867. He served in the Afghanistan campaign; headed the explosion party, and fired the train at Ghazni; served also at Gwalior and in the Panjab campaign at Chillianwalla and Gujerat; was afterwards Agent to the Governor-General in Central India. He was for a brief time Commissioner of the Tenasserim Provinces. He was also Military Secretary to the Government of India. Invested with the Order of the Star of India in June 1867. He was a sagacious political officer. In 1857 he stood to his ground, and stemmed the flood of mutiny from bursting into Hyderabad and pouring down the Dekhan. In January 1871 he was killed on an elephant, entering a gateway on the Tank frontier. Wrote on Dadapur Fossils in Bl. As. Trans. v. 291; On the Barometer, ibid. 301; On Fossil Rhinoceros, ibid. 486; Carnivora, 579; Shells, 661; Quadrumana, 730.—*Howell Thurlow; Dr. Buist's Catalogue.*

DURANTA ELLISIA, one of the Verbenaceæ, a beautiful large shrub, with light blue pendulous scentless flowers. D. Plumieri is also a large shrub, with handsome drooping blue flowers having the scent of almonds; the clusters of seed-berries, which are numerous, when ripe, have a very pretty appearance from their dark orange colour; they do not appear to germinate readily.—*Riddell.*

DURBA CHAPALOO. TEL. A kind of mat made in Ganjam from the fibres of the Sanseviera Zeylanica.

DURDU, an old secluded pastoral race in Gilghit and Chulas, on the Indus river, on the north. The Afghans on the one side, and the Turkomans on the other, are pressing on them. See Dard.

DURGA, a form of Parvati, and wife of Siva. She corresponds with Juno of the Greeks and Romans, and the Isis of the Egyptians, as also with Ceres and Proserpine. Durga is also known as Bhawani, Kali, Devi, and Singhwani. As Durga, she is represented with ten arms. In one hand she holds a spear, with which she is piercing the giant Mahesha; in another, a sword; in a third, the hair of the giant, and the tail of a serpent is twined round him; and in others, the trident, the discus, the axe, the club, the arrow, and the shield. One of her knees presses on the body of the giant, and her right foot rests on the back of a lion, which is lacerating his arm. On her head she has a crown richly gemmed, and her dress is magnificently decorated with jewels. The giant is issuing from the body of the buffalo, into which he had transformed himself during his combat with the goddess. From this victory she took the names Durga and Singhwani, or Lion Rider.

Like the Ephesian Diana, Durga wears the crescent on the head. She is also 'the turreted Cybele,' the guardian goddess of all places of strength (durga), and like her she is drawn or carried by the lion. As Mata Janavi, the 'Mother of Births,' she is Juno Lucina; as Padma, 'whose throne is the lotus,' she is the fair Isis of the Nile; as Tripura, 'governing the three worlds,' and Atma-devi, 'the goddess of souls,' she is the Hecate Triformis of the Greeks. In short, her power is manifested under every form, from the birth through all the intermediate stages until death, whether Janavi, Gouri, or the terrific Kali, the Proserpine or Calligenia of the West.

As Parvati, Bhavani, Durga, or Devi, she is the sakti or personified energy of Siva. And the yoni, the symbol of female energy, is the emblem of this goddess, as the lingam is that of her husband.

In the different terrific forms of Siva and Durga, a necklace of skulls forms an invariable decoration, as does the crescent moon on her forehead; and the moon is considered to be the peculiar reservoir of Amrita, or the beverage of immortality. In Hind. Theatre, ii. p. 59, Aghora Ghanta, invoking Chamunda, says of Durga:

> 'The elephant hide that robes thee, to thy steps
> Swings to and fro; the whirling talons rend
> The crescent on thy brow; from the torn orb
> The trickling nectar falls; and every skull
> That gems thy necklace laughs with horrid life.'

She combines the characteristics of Minerva, Pallas, and Juno, and in her amiable character is often called Bhawani. Durga is worshipped in the form of a water-pot. It is called Ghata puja, also Ghatashthapana. A water-pot is placed, and, after certain ceremonies, Durga is supposed to enter it, and she is then worshipped.—*Tod's Rajasthan*, i. p. 576.

DURGA. SANSK. Durg or Doorg, hence Droog. A hill fort, a fort. Durga means difficult of access, from Door, prep., and Gam, to go.

DURGA PUJA is the festival of Durga, held in Bengal in the month of Aswin, about October, and on this occasion the images of her sons, Kartikeya and Ganesha, are usually placed on each side of her. In Calcutta this is the most splendid and expensive, as well as the most popular, of any of the Hindu festivals, and takes place in the month Aswina, the end of September or beginning of October. The preliminary ceremonies occupy several days previous to the three days of worship. During the whole of this period all business is suspended, and pleasure and festivity prevail. This festival is known among the Mahrattas as the Dasserah. In the Durga puja, a sacred jar is an essential article in the celebration of the mysteries, and is marked with the combined triangles denoting the union of the two deities, Siva and Durga. The Sakta sect, worshippers of the sakti, or female principle, mark the jar with another triangle. The Vaishnava in their worship use also a mystical jar, which is also marked. These marks, Mr. Paterson says, are called tantra, and are hieroglyphic characters, of which there are a vast variety. He hence deduces the identity of the Durga puja with some Egyptian rites of a corresponding nature. In some parts of the country there are figures paraded of a coarsely licentious character, but these are being forbidden. The festival, with its boisterous and obscene merriment, its vigils of three successive nights, its monetary extravagance, its ludicrous sights, its licentious exhibitions, deteriorates the moral health of the community. On the fourth and last day no sacrifices are offered. After religious adorations, the officiating priest dismisses the goddess, and implores her to return the next year. The dismissing ceremony over, the females of the house lament the departure of so beneficent a deity. The goddess is presented with gifts, and the dust of her feet is rubbed on the foreheads of the votaries. The idol is paraded through the streets with great pomp. The streets resound with music and singing, and the acclamations of the worshippers. As it passes along the streets, the spectators join their hands in form of adoration. The parade over, the idol, with all its trappings and its tinsel ornaments, is cast into the waters, where the people vie with one another in rifling the goddess of her decorations.—*Sir John Malcolm in Tr. Bombay Lit. Soc.; Cole. Myth. Hind.* p. 91; *Paterson, Essay on the Origin of the Hindu Religion; Asiatic Researches*, viii. p. 401.

DURGARASPATNAM, a seaport village on the Nellore coast of the Bay of Bengal, in lat. 13° 59′ N., and 55 miles N. of Madras. It was known to the British as Armegon, from the circumstance that when they settled there, and it was their first site on the Coromandel coast, the name of the Kurnam or village accountant was Armagam Mudliar.

DURGAVATI, pronounced Durgouti, was the daughter of the Chandail king of Mahoba, the ancient capital of Bundelkhand. With her father's consent, the Gond king of Gurhah Mundla carried her off with an army of 50,000 men. After her husband's death, Asof Khan, a general of Akbar, in 1564 advanced to annex Gurhah Mundla, but, as her son was a minor, Durgavati assembled 1500 elephants, 8000 horse, and some foot, and, clothed in armour, met the Moghul forces and drove them back. Asof again advanced, and was again defeated, with a loss of 600 men. A third effort was successful, her son was wounded, and her troops fled; she herself was wounded, and she ended her life with a dagger. Her tomb is still to be seen in a narrow defile between two hills, and passers-by place crystals on her grave. Her name still rests in Gond story (As. Res. xv. p. 437). She was interred at the place where she fell (Ben. As. Soc. Journal, vi. 628), and to this day the passing stranger places as a votive offering one of the fairest he can find of those beautiful specimens of white crystal in which the hills in this quarter abound. Two rocks lie by her side, which are supposed by the people to be her drums converted into stone; and strange stories are told of their being still occasionally heard to sound in the stillness of the night by the people of the nearest villages.

DURG BÂNSI. HIND. A tribe of Rajputs in Jonpur and Azimgurh.

DURGI MURGI WALE of Kolhapur, are Hindu wanderers, who exhibit idols and beg. Their favourite objects of worship are Lakshmi and Hanuman.

DURIA MADDEE, also Kora maddee and Koraman. TEL. Briedelia spinosa. A tree of the Godavery; wood very strong and good. Cattle eat the leaves most voraciously.—*Beddome.*

DURIO. The name of this genus of plants has been derived from Durian, a well-known fruit of the Malay Archipelago. The specific name of Zibethinus has been applied to the tree from its fruit smelling like the fetid zibet (Viverra rasse, *Hors.*). The genus belongs to the order Sterculiaceæ.

DURION, a tree of Sumatra; its trunk is hollowed out as a coffin of the Batta rajas.

DURIO ZIBETHINUS. *Linn.*

Du yeen, . . .	BURM.	Dorian, ...	ENG.
Du yeen yaing, .	,,	Turrien, ...	SIAM.

The durian is a large and lofty tree of the Malay Peninsula, the Eastern Archipelago, and the Moluccas. The flowers are arranged in clusters on the trunk and older branches, where is also borne the fruit, as in the jack tree. It is of the size of a melon, covered with sharp points; when ripe, the outer skin opens spontaneously, and the interior consists of five lobes of a creamy consistence and a whitish colour, in which are nuts more or less numerous. During May and June it is in season; but there is usually also a second crop in November. It is as remarkable for the delicacy, combined with richness, of its flavour, as for the intolerable offensiveness of its strong and persistent smell, which repels most Europeans, possessing an odour so powerful and diffusive as to taint the air of a whole town when it is in season, and steamers carrying the fruit stow them in the tops. It is sometimes compared to a rolled-up hedgehog; hence it has been called Echinus arboreus, in consequence of its hard and thick rind, which is yellow-coloured when ripe, being covered with firm and angular projections. The seed, with its edible enveloping pulp, is about the size of a hen's egg. The pulp is as white as milk, and as delicate in taste as the finest cream; but it should be eaten fresh, as it soon becomes discoloured, and undergoes decomposition. When

the fruit is ripe it falls of itself, and getting them as they fall, the smell is less overpowering. When the fruits begin to ripen, they fall daily, and almost hourly, and accidents not unfrequently happen to persons walking or working under the trees. The seeds are likewise eaten when roasted, and have something of the flavour of chestnuts. The wood of the tree is valued for many economical purposes, especially when protected from moisture. The rind, probably from containing potash, is used in the preparation of some dyes. The natives of the countries yielding the durian prize it beyond all other fruits. In countries with a suitable climate, it flourishes without care or culture. It is most abundant in the western portion of the Archipelago, and extends east as far as the island of Mindano, the only one of the Philippine group in which it is known. It is abundant in Siam, and is found on the coast of Tenasserim about lat. 14°, which is the furthest distance from the equator to which it has been successfully propagated. All attempts to cultivate it in any part of Hindustan have failed; nor has it, like some other Asiatic fruits, been transferred to tropical America. A hot, moist, and equable climate would seem to be indispensable to the durian; but soil seems to be indifferent to it, for it thrives in the granitic, in the sandstone, and in the calcareous soil of the Malay Peninsula and Sumatra, in the volcanic soil of Java, and in the rich alluvium of the valley of the Menam in Siam. The name is from Duri, MALAY., a thorn or prickle, in reference to the sharp tubercles with which the rind is covered. In the interior of the Malay Peninsula, in several places in the forest are found durian trees, always in a body together, to the number of about ten or twelve trees. Such places are for the Jakuns an object of great attention, and matter of work. They cut with the great axe all the other trees which surround the durians, that these, by receiving more air, may grow up more easily, and give finer and a greater quantity of fruit. They build there a small house, and then return to their ordinary habitations, which are sometimes distant from such places one or two days' journey. Durian is seen to grow spontaneously in one of the small islands of the eastern coast of the Malay Peninsula, and which is nearly one entire forest down to the margin of the sea. On Pulo Tingi, the Orang Laut, or sea-gipsies, assemble, attracted from the coasts of the Peninsula, as well as from the islands of the Johore Archipelago. On one occasion, six boats from Moro, an island of that group, were found on their way to Pulo Tingi; they had travelled by sea a distance of 180 miles, to partake of the fascinating fruit.—*Roxburgh*, iii. p. 398; *Marsden's Hist. of Sumatra; Mason's Tenasserim; M'Clelland, Eng. Cyc.; Crawfurd, Dict.* p. 126.

DURK'HEE, HIND., also written Durk'hi, an insect whose ravages are very destructive to indigo, when the plant is young.

DURKOTEE. This petty chieftainship pays allegiance to the British Government, and is exempted from all pecuniary liability. Revenue, 500 rupees; population, 612.—*Aitcheson, Treaties.*

DURRA, a corruption of Dwar, a barrier, pass, outlet, or portal. Mokund is one of the epithets of Krishna. Mokundurra and Dwaricanat'h are synonymous, the pass and portal of the deity.—*Rajasthan*, ii. pp. 702, 703. See Dooar.

DURRAH, a Pindara brigade.

DURREE. HIND. A woollen cloth of Ambala and Bahawulpur.

DURUNG. MALAY. In Bawean, a hall of audience or of reception, before the houses.

DURVA. HIND. Poa cynosurioides. Vishnu, as Rama, in his seventh incarnation, assumed the colour of this grass, which is therefore held sacred to that god, and used by the Vaishnava in all religious ceremonies.

DURVASAS, in Hindu legend, a rishi of a choleric temper, whose curse was of dreadful effect. He is described as the son of Atri and Anasuya. He cursed Sakuntala for keeping him waiting at the door; he foretold that Krishna would be killed, because Krishna did not wipe particles of food off his foot; but he blessed Kunti, so that she became a mother by the sun. He cursed Indra to lose his sovereignty over the three worlds, and Indra had recourse to Vishnu to be restored to health.

D'URVILLE. Admiral Dumont d'Urville, an eminent French navigator, who left France in 1837 with the l'Astrolabe and La Zélée corvettes, on a voyage of discovery in the Antarctic Ocean. He perished on the 8th May 1842, in the fire that destroyed the cars on the Paris and Versailles Railroad.—*Am. Exped.* p. 278.

DURYODHANA was the eldest son of king Dhrita-rashtra, and, being of the elder branch, retained his title as head of the Kuru, while the junior, Yudishtra, on the separation of authority, adopted his father's name, Pandu, as the patronymic of his new dynasty. He educated along with his own 100 children, the five sons of his brother Pandu; but he took a dislike to Bhima, and the Pandava princes went into exile, where his enmity followed them, and he failed in an attempt to burn them in their home. On their return from exile, he gambled with Yudishtra, eldest of the five Pandu princes, and won their entire possessions, even to the freedom of themselves, and even of their wife Draupadi, whom he ordered to sweep the room, and on her refusing, his brother Duhsasana behaved rudely towards her. Yudishtra having lost his kingdom, his wife, and even his personal liberty and that of his brothers, for twelve years, became an exile from the plains of the Yamuna. The Kaurava and Pandava fought for dominion. The site of the great conflict, known as the Mahabharat, between these rival clans, is called Kuru Khetu, or Field of the Kuru. On the 18th day of the battle, Bhima fought with and wounded Duryodhana, so that he died of the injuries he received.—*Dowson; Garrett.*

DUSSUMIERIA ACUTA. *C. and V.* Tamban bulat. Head above, back, and upper third of the sides, deep glossy blue, bordered by a longitudinal band of pale copper-red; the rest of the head and body shining silvery. Single individuals occur at Penang at all seasons, but numbers from June to September. It is highly valued for its delicate flavour, and passes commonly as a sardine. The latter denomination it shares, however, with Clupeonia perforata, with which it is also confounded by the Malays under the common name of Ikan tamban. Both have been prepared as sardines à huile. See Clupeidæ.

DUST and Dust-storms.

Poussière, Poudra, .	FR.	Gird, ...	HIND.
Staub, Ohrfeige, . .	GER.	Polvere, ...	IT.
Khak, Peshash, .	HIND.	Toz, ...	TURK.

Dust is carried along with winds to great distances. Sirocco or African dust has been found by the microscope to consist of infusoria and organisms whose habitat is, not Africa but S. America, and carried in the track of the S.E. trade wind of S. America. In the dust of the Cape Verdes, Malta, Genoa, Lyons, and the Tyrol, Ehrenberg discovered separate forms. Dust is blown from Arabia and Africa far to seaward, causing a great haze. During four months of the year, a large quantity of dust is blown from the N.W. shores of Africa, and falls on the Atlantic over a space of 1600 miles in latitude, and for a distance of from 300 to 600 miles from the coast. But dust has been seen to fall at a distance of 1030 miles from the shores of Africa. Darwin mentions that in some of the dust 330 and 380 miles from Africa, falling in the sea near the Cape de Verde Islands, particles of stone occur 1000th of an inch square. Dust-storms are very frequent in India, and usually have a north to south course. One commenced at Allahabad about seven A.M., and continued till one P.M., retaining the same fury as when it began. On the evening of the 17th, Secunderabad had been visited with an unusually severe dust-storm. It came from the N.W. and was accompanied by lightning and thunder. The air to a considerable height was rendered almost opaque by dense clouds of red dust. The wind raged with great fury for upwards of half an hour, and on its abating was followed by a heavy shower of rain. A dust-storm passed over Madras on Sunday the 19th, beginning at one P.M. It had passed over Kristnapatam, seventeen miles S.E. of Nellore, at half-past ten o'clock in the forenoon of that day, accompanied by a slight fall of rain. In the north of the district between Ongole and Ramapatam, there was a heavy fall of rain in the forenoon of Sunday, averaging from two to four inches. At Chingleput, thirty-six miles south of Madras, the storm was experienced in full force at that station at two P.M. the same day. It came from the N.W., and the wind was laden with vast quantities of reddish dust; no refreshing shower succeeded the storm.

A dust-storm occurred over 3800 square miles, from Ningpo to Shang-hai, on the 15th March 1846. It consisted of a congeries of light downy fibres or hairs, with silex adhering to them, and an admixture of an alkaline salt. In China, according to Richthofen, beds appearing like fine sediment, several hundred feet in thickness, and extending over an enormous area, owe their origin to dust blown from the high lands of Central Asia.

Whirling dust-storms are caused by spiral columns of the electric fluid passing from the atmosphere to the earth; they have an onward motion, a revolving motion, like revolving storms at sea, and a peculiar spiral motion from above downwards, like a corkscrew. It seems probable that in an extensive dust-storm there are many of these columns moving on together in the same direction, and during the continuance of the storm many sudden gusts take place at intervals, during which time the electric tension is at its maximum. These storms, in the Panjab, mostly commence from N.W. or W., and in the course of an hour, more or less, they have nearly completed the circle, and have passed onwards. Precisely the same phenomena, in kind, are observable in all cases of dust-storms; from the one of a few inches in diameter, to those that extend for fifty miles and upwards, the phenomena are identical. It is a curious fact that some of the smaller dust-storms occasionally seen in extensive and arid plains, both in the Panjab and in Afghanistan above the Bolan pass, called in familiar language devils, are either stationary for a long time, that is, upwards of an hour, or nearly so, and during the whole of this time the dust and minute bodies on the ground are kept whirling above into the air; in other cases, these small dust-storms are seen slowly advancing, and when numerous, usually proceed in the same direction. Birds, kites, and vultures are usually seen soaring high up just above these spots, apparently following the direction of the column. They may be looking for prey, or involved in and unable to fly out of, the invisible part of the electrified aërial column, of which the lower part only is visible to us by the dust raised. The phenomena connected with dust-storms seem to be identical with those present in waterspouts and white squalls at sea, and revolving storms and tornadoes of all kinds; and they apparently originate from the same cause, viz. moving columns of electricity. In 1847, at Lahore, an observer, being desirous of ascertaining the nature of dust-storms, projected into the air an insulated copper wire on a bamboo on the top of his house, and brought the wire into his room, and connected it with a gold-leaf electrometer and a detached wire communicating with the earth. A day or two after, during the passage of a small dust-storm, he had the pleasure of observing the electric fluid passing in vivid sparks from one wire to another, and of course strongly affecting the electrometer. Afterwards, by the same means, he observed at least sixty dust-storms of various sizes, all presenting the same phenomena in kind. Commonly, towards the close of a storm of this kind, a fall of rain suddenly takes place, and instantly the stream of electricity ceases, or is much diminished; and when it continues, it seems only on occasions when the storm is severe and continues for some time after. The barometer steadily rises throughout. In the Panjab plains, the fluctuation of the barometric column is very slight, seldom more than two or three tenths of an inch at a time. The average height at Lahore is 1180, corrected for temperature, indicating, it is supposed, above 1150 feet above the level of the sea, taking 30 inches as the standard. A large dust-storm is usually preceded by certain peculiarities in the dew-point, and the manner in which the particles of dew are deposited on the bulb of a thermometer. The mode of taking the dew-point is to plunge a common thermometer in a little ice, and let it run down 20° or 30°. The manner in which the electricity acts upon the dust and light bodies it meets with in its passage, is simple enough. The particles are similarly electrified and mutually repulsive, and then, together with the whirling motion communicated to them, are whisked into the air. The same takes place when the electricity moves over water. The surface of the water becomes exposed to the electric agency, and its particles, rendered mutually repulsive, are in the same way whirled into the air. At sea the waterspout is thus formed. First of all is seen the cloud descending, and beneath

may be observed the water in a cone.—*Bengal Asiatic Soc. Journal*, No. v. of 1850, p. 790; *Darwin*, p. 239.

DUTCH. This name, in the English language, is given to the people of Holland, who call their own country Niederland or Netherland. They have occupied parts of the East Indies since the middle of the 16th century. Ceylon was occupied by the Portuguese in 1596, but was taken possession of by the Dutch in 1658, and by the British in 1797. They had small possessions on the continent of India, chiefly near Cochin. They had taken Malacca, Nanning, and neighbouring sites, but some of these were retaken by arms by the British, and others were obtained from them by negotiation under the treaty of 17th March 1824. At present they occupy or hold under feudatories a great part of the Eastern Archipelago, and their territories there are styled the Dutch East Indies, also the Dutch Indies, also the Netherlands Possessions in India, and Netherlands India. This nation first came to the Eastern Archipelago as the servants of the Portuguese. Their first expedition on their own account (consisting of four ships) sailed from Holland in 1595, with Cornelis Houtman as supercargo. They reached Bantam in 1596, where Houtman was imprisoned for some time. On this voyage they touched at Madera (Hitoe Lama or Amboyna was not visited by Houtman). Pieter Both, the first governor-general, was appointed in 1610. The seat of his government was established in Fort Jacatra. During the administration of Jan Pieters Koen, the fourth governor-general, this was changed to Batavia. In 1749, the Susunan of Mataram (after the fall of Majaphit, the most powerful native prince in Java) transferred to the Dutch the civil and military jurisdiction of his kingdom. He was at that time at war with his brother Mangkoe Boemi. The war lasted till 1755, and the Mataram territory was then apportioned to the brothers,—Surakarta to the Susunan, and Jokyokarta, with the title of sultan, to Mangkoe Boemi. These two principalities continue independent of each other to the present, although diminished in extent.

The Dutch possessions in Netherlands India comprise subject and feudatory states. The former is Netherlands India proper, and consists of Java and Madera, arranged into 23 civil districts. In the tributary states the old reigning families remain, but in every state a resident is appointed, and under his superintendence the native administration is carried on, much in the same way as is done under similar circumstances in India. Some states, which have not been subdued, are under treaty engagements.

The area of the principal islands of Netherlands India, according to Baron Melville Van Carnbee, 445,411 square English geographical miles. Population, 23 millions.

	Sq. ms.		Sq. ms.		Sq. ms.
Java&Madura,	38,251	Celebes,	57,248	Tenimber Is.,	2,400
Sumatra,	128,560	Buton,	1,379	Aru Islands,	1,040
Pulo Nias,	1,200	Bali,	16,848	Is. of Banda,	17
Babi,	480	Lombok,	16,560	Ceram,	4,944
Pagi,	560	Sumbawa,	4,448	Buru,	2,624
Banca,	3,568	Floris,	4,032	Gilolo,	5,016
Billiton,	1,904	Timur,	9,803	Bachian,	800
Riouw,	...	Sandal-wood Islands,	3,784	Ternate,	11
Borneo,	203,888			Amboyna,	2,128

In the year 1880 the population of the two divisions of Netherlands India was as under:—

Netherlands India Proper, 38,251 square miles. Population of each district of Java and Madera in the year 1880.

	Euro.	Natives.	Chin.	Arab.	Others.	Total.
Bantam,	428	592,051	1,623	22	..	594,124
Batavia,	7,211	859,782	73,224	1,003	127	941,347
Krawang,	218	300,333	3,877	40	..	304,968
Preanger,	993	1,577,077	2,274	189	5	1,580,538
Cheribon,	948	1,277,573	15,630	1,231	94	1,295,476
Tegal,	599	937,957	6,119	257	13	944,945
Pekalongan,	526	510,922	4,889	712	41	517,090
Semarang,	5,159	1,255,441	15,921	717	1006	1,278,244
Japara,	623	826,942	10,170	90	567	838,394
Rembang,	654	1,035,013	16,341	271	69	1,052,348
Sourabaya,	5,941	1,701,062	13,185	1,955	483	1,722,626
Paserian,	1,474	724,574	5,066	835	56	732,005
Probolinggo,	842	491,917	2,341	380	..	495,480
Beseki,	578	441,688	1,022	627	..	443,915
Banjiwangi,	165	64,606	241	347	..	65,359
Banjemas,	584	1,011,928	3,770	11	74	1,016,367
Bagelan,	550	1,252,204	3,017	2	139	1,255,912
Kedoe,	616	703,477	5,465	86	6	709,650
Diokia Karta,	1,510	459,891	1,846	169	17	463,433
Sera Karta,	2,026	958,631	6,486	59	232	967,437
Madien,	546	992,184	3,444	9	..	996,183
Kediri,	1,008	763,064	7,031	..	..	771,103
Madera,	509	804,015	3,932	1,516	163	810,135
Total,	33,708	19,542,835	206,914	10,528	3092	19,797,077

Settlements and Residences.

	Eur.	Natives.	Chin.	Ar.	Others.	Total.
Sumatra, West Coast.						
Padang,	1001	289,987	3,530	54	511	294,083
Tapaneli,	371	171,112	769	29	137	172,418
Bencoolen,	159	142,501	569	17	2	143,248
Lampong,	77	125,401	246	18	14	125,756
Palembang,	280	621,900	4,245	1941	124	627,690
Sumatra, East Coast,	435	110,071	29,857	..	24	140,387
Atchin,	228	474,300	3,509	222	839	479,098
Riouw,	181	64,502	22,925	8	159	87,775
Banka,	181	48,922	20,063	136	10	69,312
Billiton,	73	23,655	7,592	..	13	31,333
Borneo, Western,	238	329,554	27,894	1654	856	360,196
Borneo, S. Eastern,	562	652,781	2,824	439	47	656,653
Celebes & Depend.,	1355	373,677	4,573	190	..	379,795
Menado, Minahassa,	700	131,411	2,218	33	..	134,362
Menado, Gorontalo,	76	99,946	138	19	..	100,179
Amboyna,	1451	277,730	499	288	14	279,982
Ternate,	154	100,285	480	107	..	101,026
Timor & Depend.,	216	..	1,026	85	..	1,327
Bali and Lombok,	31	65,306	395	138	1662	67,532
Bali and Buleleng,	..	..	..	..	..	...
Bali and Jembrana,	8	12,881	8	69	..	12,966
Total,	7972	4,763,542	133,827	5470	4108	4,914,919

In 1877 the revenues were as under:—

A.	Licences (opium licence, for slaughter of cattle, for pho and topho games, for sale of Javanese and Chinese tobacco, birds' nests, caves, etc.),	f. 19,056,625
	The income from the opium duty amounted to	16,389,960
	Import and export duties and excise,	9,162,825
	Property tax (rate levied on real property which is not subject to the land tax) and tax on the spice grounds in the Banda Islands,	1,563,178
B.	Public sales,	680,152
	Small stamps,	872,088
	Duty on transfer of real property,	465,895
	Duty on carriages,	469,973
	Succession duty,	93,251
	Tax on markets,	3,638
	On private lands (the tax on the other markets was abolished in 1852),	...
	Licences for Chinese gaming tables,	32,700
	Tax on the slaughter of cattle, etc., in the Preanger,	52,447
	Tax on professions,	1,738,699
	Special taxes in the possessions outside Java and Madura,	1,334,987
	Contributions of inland princes,	238,386
	Incomes from land (ground rent, tax on fish ponds, and a tenth of the rice crop, saltpans, and sugar-cane in the government of Celebes),	16,349,662
	Transfer of freehold, ground lease, and building lease,	538,640

Birds' nests (so far as not leased),	f. 44,288
Woods and forests (leases, sale of timber, etc.),	831,094
National printing establishment,	109,388
Salt monopoly,	6,705,796
Letter post,	688,654
Horse post,	65,914
Telegraphs,	504,933
Railways,	50,053
Port anchorage and pilot dues,	248,912
Sale of coffee,	60,441,761
Sale of tin,	3,904,247
Sale of quinine,	87,880
Excise on sugar-cane plantations, of manufactories working on contracts with the Government,	4,095,282

The figures giving the value of the imports and exports for private account were for 1877.

Imports, f. 126,067,000	Merchandise,	112,705,000
	Specie,	13,362,000
Exports, 163,392,000	Merchandise,	161,863,000
	Specie,	1,529,000

The army of 30,000 men which Holland maintains in these dependencies is entirely distinct from that in Europe. It is under the Minister for the Colonies, and is commanded by a Lieut.-General, whose position is next to that of the Governor-General. The islands have military commands :—

Three divisions in Java, with their headquarters at Batavia, Samarang, and Sourabaya.

One division for West Sumatra and its dependencies, headquarters at Padang. The districts of Lampong, Palembang, Banka, Kiow, and dependencies.

The W. division of Borneo, headquarters Pontinak.

The E. and S. division of Borneo, headquarters Bandjermasin.

Celebes, headquarters Macassar.

The Moluccas, headquarters Amboyna.

The regulars comprise in definite proportions, Europeans and natives. Enlistment is voluntary. The officers of all arms are furnished from the Military Academy at Breda, from non-commissioned officers of the army in Europe, who pass certain special examinations, and from the non-commissioned officers of the colonial army, who pass successfully through the schools. There are also a certain number of officers detached from their corps in Holland for five years, who are replaced during their absence by officers of the colonial army. Of the European rank and file, one half are Dutch, and the remainder French, Swiss, and Germans. In the island of Java are concentrated nearly all the military establishments, and the greater part of the troops.

The native soldiers comprise men from the coast of Guinea, from Celebes, Amboyna, Madura, and Java, and of these the best are said to be the Amboyna and Guinea men. The Schutterij are a sort of national guard, composed of Europeans and natives from sixteen to forty-five years of age; they can be mobilized for service, but not out of the islands to which they belong. The Pradjoerits are small bodies of native soldiery, which serve as guards to the residents and Dutch authorities. They comprise about 2000 men, and cannot be sent on service beyond their own districts. Finally, there are the Dyayangsecars, a sort of native *gendarmerie*, commanded by European officers.

The troops kept up by native princes can also be mobilized for service on the Governor-General's orders. These are called Barrisans, and are reported to be brave men. They comprise infantry, cavalry, and artillery, and are paid by the Malay princes.

In 1854, Amboyna, Ternate, Banda, and Kayeli were made free ports.—*Bikmore*, p. 147; *Count de Hogendrop, Coup d'œil sur l'isle de Java*, Brussels, 1830, No. iv., Oct. 1857; *Jour. Ind. Arch.; Temminck's General View of the Dutch Possessions in the Indian Archipelago; Straits Times; Civil and Military Gazette; Regering's Almanac*, 1882.

DUTT, from Datta, a gift, a frequently occurring name amongst the Hindus of Calcutta, as Deo-dutt, Theodotus, God's gift. See Datta.

DWAIJA. SANSK. A twice-born man; a man of any of the three first classes or castes of the Hindus, the Brahman, Kshatriya, and Vaisya, after being initiated into their respective tribes by investiture with the sacred thread, which is called a second birth. Various ceremonies are attendant upon these caste Hindu boys between infancy and the age of eight years. After that age, and before a Brahman boy is fifteen, it is imperative upon him to receive the poita, zonar, janavi, or jhandiam, the sacred thread, which the Brahmans, in their secret ceremonies, call Yadnupavita. The investiture of a Brahman boy, after a variety of preliminary ceremonies, is thus performed. The priest first offers a burnt sacrifice, and worships the salagrama, repeating a number of prayers. The boy's white garments are then taken off, and he is dressed in yellow or red, and a cloth is brought over his head, that no Sudra may see his face; after which he takes in his right hand a branch of the vilva tree, Ægle marmelos, and a piece of cloth in the form of a pocket, and places the branch on his shoulder. A poita of three threads, made of the fibres of the suru, to which a piece of deer's skin is fastened, is suspended from the boy's left shoulder, falling under his right arm, during the reading of the invocations. The father of the boy then repeats certain formulas, and in a low voice pronounces three times, the gaitri O'm! Bhurbhuvă ssuvâhā, O'm! Tatsa vit'hru varennyâm, B'hargo devâsyâ dhimahi dhiyo yonaha pracho dayath. O'm! earth, air, and heaven, O'm! 'Let us meditate on the adorable light of the divine Sun (ruler), Savitri; may it guide our intellects.' After this the suru poita is taken off, and the real poita, or sacred thread, put on. During this ceremony the father repeats certain formulas; the suru poita is fastened to the vilva staff, shoes are put on the boy's feet, and an umbrella in his hand, as if prepared for a long journey. The receiving of the poita is considered as the second birth of a Hindu, who is from that time denominated 'dwaija,' or twice-born. A Brahman boy cannot be married until he has received the poita. The sacred thread must be made by a religious Brahman. It consists of three strings, each ninety-six hat'h or cubits (forty-eight yards), which are twisted together; it is then folded into three, and again twisted; these a second time folded into the same number, and tied at each end in knots. It is worn over the left shoulder (next the skin), extending halfway down the right thigh, by the Brahman, Kshatriya, and Vaisya castes, and in Southern India by the artisans. The first are usually invested with it at eight years of age, the second at eleven, and the Vaisya at twelve. The period may

from especial causes, be deferred; but it is indispensable that it should be received, or the parties resisting it become out-castes. They do not consider an individual as fully a member of his class until he have assumed this emblem. It is, in its import, the counterpart of the confirmation of the Anglican Church. Of these zonars, a Brahman wears four, the other privileged tribes but three. Some writers call this the brahmanical, or priestly or sacerdotal, thread; but it is not being confined even to the priestly tribe, but worn by three out of the four tribes of Hindus, and by all the five sections of the artisan class, the kansala of the Hindus, viz. the goldsmith, brazier, blacksmith, stonecutter, and carpenter. The number of three threads, each measuring ninety-six hands, for the sacrificial string, may have some mystical allusion to the ninety-six fixed annual sacrifices. The number three is mystical with almost all nations, and with the Hindus may refer to the same source as the three sacred fires, the three legs of Agni, the triad of divine powers, etc. Ninety-six does not, however, arise from any ordinary process of three, and seven, and two, the distinguishing numbers of Agni's legs, arms, and faces. —*Moor*, p. 379; *Cole. Myth. Hind.* pp. 155, 245.

DWAITYA, Adwaitya, and Vasistadwaitya are three great schools of Brahmanical philosophy. Dwaitya is the doctrine of duality, distinguishing two principles in creation, spirit and matter. It is opposed to the Adwaitya or Monad doctrine, which acknowledges the reality of spiritual existence only. The followers of Madhavacharya, who are Vaishnava sectarians, adopt the Dwaitya or dual philosophy, and maintain that the soul of man is distinct from that of the deity.

DWAJASTAMBHA. SANSK. A flagstaff; a pillar bearing an ensign.

DWAPARA. SANSK. From Dwa, the second, and Para, after. The Dwapara-yuga, in Hinduism, the third age of the world, the brazen age, extending to 864,000 years:

'The Dwaper yug! ah then,—
Preposterous that one biped vain
Should drag ten housewives in his train,
And stuff them in a gaudy cage,
Slaves to weak lust or potent rage,—
One buxom dame might wed five men.
True history in solemn terms
This philosophic lore confirms;
For India once, as now cold Tibet,
A group unusual might exhibit,
Of several husbands, free from strife,
Linked fairly to a single wife!
But, lest my word should nought avail,
Ye fair, to no unholy tale
Attend:—Five thousand years ago,
As annals in Benares show,
When Pandu chiefs with Curus fought,
And each the throne imperial sought,
Five brothers of the regal line
Blazed high with qualities divine:
The first a prince without his peer,
Just, pious, liberal Yudhishteir;
Then Arjun, to the base a rod,
An hero favoured by a god;
Bhima, like mountain-leopard strong,
Unrivalled in the embattled throng;
Bold Nacul, fired by noble shame
To emulate fraternal fame;
And Sehdeo, flushed with manly grace,
Bright virtue dawning in his face;—
To these a dame devoid of care,
Blithe Draupady, the debonair,
Renowned for beauty and for wit,
In wedlock's pleasing chain was knit.'

DWAR. HIND. A gate or entrance. A term applied to the mountain passes leading from the plain at the foot of the Himalaya into Bhutan, also to the rich and fertile level tract itself. The Dwar are occupied by an Indian race. They are 18 in number. Their breadth varies from 10 to 20 miles, and their extreme length 220. They are in a narrow tract extending along the foot of the lower range of the Himalaya, and very unhealthy, and are inhabited by the Mech or Kachari and the Koch'h or Rajbansi, in all about 37,047. The Eastern Dwars is a flat strip of country lying beneath the Bhutan mountains, intersected by numerous streams, and overgrown with wild vegetation. The West Dwars include the tract of country at the base of the Bhutan hills from the Tista river to the Sunkos river on the east. It is about 25 miles broad, and terminates on the northern limits of Rungpore, Koch'h Behar. The Bhutan government had been guilty of raids and of grossly insulting a British ambassador, and in 1863 to 1865 the Dwars were seized and annexed. The Mech are cognate to the Koch'h, Kachari, Garo, and Rabha. They are widely scattered over all N.E. Bengal, being able to support life in the malarious Terai that continuously fringes the first slopes of the Himalayas. The social condition of the Mech is very low. They are migratory, and their marriages are by abduction, but they are honest and trustworthy. Rajbansi is a name assumed by those Koch'h who have adopted Hinduism.—*Imp. Gaz.; Ann. Ind. Adm.* xii. p. 87.

DWARA, a portal, a door, the Celtic Dorras. Amongst all nations of antiquity, the portal had its peculiar veneration. To pass it was a privilege regarded as a mark of honour. The Jew Haman, in the true oriental style, took post at the king's gate as an inexpugnable position. Natives of India visiting prominent men, or attending court, alight at a distance from the portal. The most pompous court in Europe takes its title from its porte, the bab or door, where, as at Udaipur, all alight. The tripolia or triple portal, the entry to the magnificent terrace in front of the Udaipur rana's palace, consists, like the Roman arcs of triumph, of three arches, still preserving the numeral sacred to the god of battle, one of whose titles is Tripuri, which may be rendered Tripoli, or lord of the three places of abode, or cities, but applied in its extensive sense to the three worlds, heaven, earth, and hell. From the Sanskrit Pola, we have the Greek Polis, gate or pass; and in the guardian or Polioh, or Dwara palaka, the doorkeeper or porter; and the English language is indebted, not only for its portes and porters, but its doors (dwara). Pylos signified also a pass; so in Sanskrit these natural barriers are called Pala, and hence the poetical epithet applied to the aboriginal mountain tribes of Rajasthan, namely, Palipati and Pala-Indra, lords of the pass. Nat'hdwara is the most celebrated of the fanes of Krishna, the Hindu Apollo. Its etymology is 'the portal' (dwara) 'of the god' (nat'h), of the same import as his more ancient shrine of Dwarica or Dwarka. Nat'hdwara is 22 miles N.N.E. of Udaipur, on the right bank of the Bunas. Although the principal resort of the followers of Vishnu, it has nothing very remarkable in its structure or situation. It owes its celebrity entirely to the image of Krishna, said to be the same that had been worshipped at

Mathura ever since his deification, between eleven and twelve hundred years before Christ. As containing the representative of the mildest of the gods of Hind, Nat'hdwara is one of the most frequented places of pilgrimage, though it must want that attraction to the classical Hindu which the caves of Gaya afford.—*Tod's Rajasthan*, i. pp. 323–589.

DWARA SAMUDRAM, the modern Halibidu, a town in Mysore. It was at one time held by the Bellala, a Yadava race.

DWARKA or Dwaraka or Dwaravati, the City of Gates, also called Abdhi-nagara, is at the W. extremity of the Gujerat peninsula, in lat. 22° 14′ 20″ N., and long. 69° 5′ E. The great temple, the most famous shrine of Krishna, is at the point of the Saurashtra peninsula called Juggut Koont. In the time of Krishna it seems to have been a hotbed of drunkenness. The people suddenly fell on each other after a great drinking bout, and many were killed. A storm-wave overwhelmed the city, and destroyed more of them; but Krishna, his brother Arjuna, and a few others escaped. It is one of the seven sacred cities of the Hindus; population 4712. At Dwaraka the god of thieves is called Budha Trivicrama, or of triple energy,—the Hermes Triplex, or three-headed Mercury of the Egyptians. Dwarka, in Okamandel, was taken 25th November 1820.—*Tod's Rajasthan*, i. p. 75; *Wheeler's Hist. of India.*

DWARKANATH TAGORE, an enlightened Hindu and religious reformer of Bengal, who travelled through Italy and France on his way to England. He returned once to his native country, but again revisited England and died. He took with him several medical pupils to be educated there. He adopted theistical views, and his example originated the Hindu sects known as the Brahmo-Samaj'h and Vedo-Samaj'h.

DWIPA. SANSK. An island, from Dwi, two, and Ap, water; also an extensive region or continent. The cosmography of the Agni Purana divides the world then known to the Hindus into seven dwipa or continents,—(1) Jambu-dwipa, (2) Alaksha, (3) Salmali, (4) Kusa, (5) Krauncha, (6) Saka, (7) Pushkara. Jambu-dwipa, according to the Hindus, the division of the world in which India lies, was so named because the jambu tree grows in it. Saka-dwipa, whose inhabitants descended from Bup'ha, are termed Saceswara, *i.e.* Sacæ lords. Bup'ha's offspring or descendants were Julud, Sookmar, Manichuk, Koorum, Ooturés, Darbeeka, Drooma, each of whom gave his name to a Khand or division (qu. Sookmar Khand). The chief ranges of mountains were Juldus, Raivat, Siamah, Indue, Amki, Rim, and Kesari. There were seven grand rivers, viz. Mug, Mugud, Arverna, etc. The inhabitants worship the sun. We must believe that this Saka-dwipa or Sacatai is the Scythia of the ancients; and the Saceswara (the Saca of Menu), the Sacæ so well known in western history, the progenitors of the Parthians, whose first (ad) king was Arsaca. The sun-worship indicates the adorer of Mithras, the Mitra or Surya of the Hindu; the Arverna recalls the Araxes applied to the Jaxartes; while Julud, the proper name of the son of the first king of Saka-dwipa, appears to be the Juldus of the Tatar historian Abulgazi, who uses the same term as does the Hindu, to designate a range of mountains. Whence this identity between Puranic and Tatar cosmography? The grand international conflicts amongst the fifty-six Yadu tribes at Kuru Khetra, and subsequently at Dwaraka, are sufficiently known to the reader of Hindu history. A chief of the twice-born tribe (*i.e.* Brahmans) was brought by Vishnu's eagle from Saka-dwipa, and thus have Saka-dwipa Brahmans become known in Jambu-dwipa. And Menu says that it was only on their ceasing to sanction Brahmans residing amongst them, that the inhabitants of these remote western regions became M'hlecha or barbarians, testimonies which must be held conclusive of perfect intercourse and reciprocity of sentiment between the nations of Central Asia and India at periods the most remote.—*Tod's Rajasthan*, ii. pp. 218, 219; *Transactions of the Royal Asiatic Society*, vol. iii., *vide paper entitled Comparison of the Hindoo and Theban Hercules; Mr. Colebrooke on Indian Classes; As. Res.* v. p. 53.

DYA DWIVEDA, author of the Niti Manjari, a Sanskrit work on ethics.—*Dowson.*

DYAUS. SANSK. The sky, heaven. Dyaus pitar, Heavenly Father, the Zeus, Deus, Jovis, or Ju-piter of the Greeks and Romans. He is a male deity, father of Ushas, the dawn; the Low German Du-us, probably the English slang word Deuce, the French god-demon, Dusius.

DYAVA-PRITHIVI, heaven and earth, in the Vedas are represented as the universal parents, both of gods and men.—*Dowson.*

DYES and Dyeing.

Teinture, ... FR.	Tinta, ... IT.
Färben, ... GER.	Tinte, ... SP.
Rang, . HIND., PERS.	Boza, ... TURK.

Dyeing is the art of imparting to wool, hair, silk, cotton, linen, leather, etc., colours which resist the operation of washing, and the wear to which they are subject, when made up into articles of furniture or clothing. The art was known at a very early period. Jacob made for Joseph a coat of many colours (Genesis xxxvii. 3); and in Exodus frequent mention is made of the ornaments for the tabernacle, as being composed of blue, purple, scarlet, and fine linen. About B.C. 1400, the Mahabharata describes the colours of garments worn by men and women, which could only have been produced by dyes. Later on, at the first synod or congregation of Buddhist monks, held in the year B.C. 543, they arranged themselves according to their rank, each in its appropriate place, and the hall glittered with the yellow robes of the monks. Both the male and female asceties wore the same yellow-coloured robes, though it is also stated that the three garments they wore were of a dark red colour. These two colours, the turmeric yellow and the Indian red, are still the outward distinctions of the ascetic and the religious orders of the Hindus and Buddhists of the present day. The simple turmeric yellow, occasionally reddened with alkali, is chiefly used by Hindu females on religious occasions, as emblematic of chastity and purity, as was evidently the custom in ancient times. There are evidences in the rock-cut temples of Ajunta and of Bagh, which are as old as the 6th century, that the art of dyeing had advanced considerably at that period. The paintings there represent several figures in various-coloured clothes, and in others striped with red, blue, and white, a pattern which may be seen in India to this day. In the Bagh caves in Central India, which are nearly as old as those of Ajunta, Dr. Bhau

Daji detected in the garments on the figures of two dancing men, the circular-patterned checkers, very much after the style now used in Jeypore and in parts of Gujerat. The fresco paintings at Ajunta are believed to exhibit the dresses worn in that part of India, from B.C. 200 to A.D. 800 or 1000; and besides garments of many colours, they show coloured borders and ends to white cloths. Pliny mentions the flags of various colours displayed by the Indians; and the Egyptians may have learned the art from the Hindus, from whom they doubtless obtained the alum celebrated by the name of Egyptian alum, the manufacture of which is still carried on in Cutch.

We read also in 2 Chronicles ii. 14 of Solomon having sent to Tyre for coloured linens, and the king of that country sent him a man skilful to work 'in purple, in blue, and in fine linen, and in crimson.' Still nearer the Christian era, Ezekiel (593 B.C.), in his prophecy against Tyre (xxvii. 7), speaks of 'blue and purple from the isles of Elishah.' The Tyrian dye is supposed to have been obtained from two molluscs, described by Pliny under the names purpura and buccinum. Their colour was durable, but very costly. Pliny states that a pound weight of the double-dipped Tyrian purple was sold in Rome in the time of Augustus for 100 crowns (equal to about £30 of our money). Citizens of Rome wore purple attire until the time of the emperors, when the use of purple was restricted to them; and the manufacture languished until the 11th century, and then became extinct. In the 17th century the art of dyeing purple was revived by Mr. Cole of Bristol, and in the 18th century by M. Reaumur of France; but by this time finer colours had been discovered, and cheaper processes invented. We learn from Pliny that the competitors in the circus were clothed in dresses of green, orange, grey, and white; but the art of dyeing was lost at Rome after the invasion of the northern barbarians in the 5th century. About the end of the 12th century, Florence became celebrated in the art, and in the early part of the 14th century numbered not less than 200 dyeing establishments. The discovery of America supplied Europe with a variety of new colouring matters, such as indigo, logwood, quercitron, Brazil-wood, cochineal, arnotto, etc. Before the introduction of indigo, woad was used in Europe for dyeing blue; and the cultivators of this plant endeavoured to prevent the use of indigo, which, by a decree of the German Diet in 1577, was declared to be 'a pernicious, deceitful, eating, and corrosive dye.' The introduction of logwood was opposed from similarly interested motives. Its use was prohibited by a statute of Elizabeth, under heavy penalties, and all of it found in the country was ordered to be destroyed. It was not until the reign of Charles II. that its use was permitted. The method of dyeing Turkey-red—one of the most durable of colours—early discovered in India, was afterwards practised in other parts of Asia and in Greece. About the middle of the 18th century, some Greek dyers established dyeworks for this colour in France, and in 1765 an account of the method of producing it was published, by order of the French Government. About the end of the 18th century, a Turkey-red dyehouse was established in Manchester by a Frenchman, who obtained a grant from the British Government for the disclosure of his process, which, however, was not very successful. A better process was introduced into Glasgow by a Frenchman named Papilon; but before this, Mr. Wilson of Ainsworth, near Manchester, had obtained a process from the Greeks of Smyrna, which he made public. Still more recently, in the middle of the 19th century, a discovery by Faraday, and, after him, by other chemists, of a series known as the aniline dyes, has lessened the value of the madders, cochineal, turmeric, and safflower.

India and China furnish all the raw materials for a great variety of colours; and as indigo undergoes a considerable degree of chemical change during its formation, as well as while applied to the dyeing of its blue colour, the people must have early known how to manufacture the several salts which have long been employed as mordants. Mr. Rohde does not think that any durable colours are communicated by natives of India to cotton cloth, except reds and blacks, and modifications of the one or the other; their deep blues, yellows, and other colours seemed to him very fugitive.

The success which the art attained in India is owing chiefly to the abundant supply of materials, whilst the simplest possible form of working these materials has been adopted. The forest products in many places are collected by the dyers or their families. The myrobalan is often left to rot on the ground. The dyers conduct their operations on some river bank, or close to a well with a plentiful supply of water. A fireplace of bricks, and mud utensils of simple make, a large cistern for the principal dye-beck, a hollowed stone for a mortar, and such-like, are enough for the dyer in India, and are what his fathers have used for ages. Yet with these simple means, the Indian dyer, without any great knowledge of chemistry, works with results which were once the admiration of the world, and are even still sufficiently creditable to him. In the west of India, for a time, the Khatri engrossed the art to themselves. But the trade was also taken up by Mahomedans, who are in India designated Rangrez. In the early days of European intercourse with India, the dyed cloths of Gujerat were received with great favour in the Portuguese market of Goa; and colonies of dyers were invited to settle under European protection at Diu and Daman, where dyeing was for a time largely carried on. But the dyers of Western India have fallen behind their brethren in Hindustan, especially those in the Panjab, Kashmir, and Sind, the last country having always been famous for its pre-eminence in this respect.

The *dyeing industry* in the N.W. Provinces is conducted in two distinct branches, each of which is followed by a separate class of Mahomedans. These are the Rangrez, who dye in plain colours, and the Chipi, who are calico printers. The former generally dye cloths which customers send them; the Chipi purchase plain fabrics, which they print and sell. The Chipi sometimes also dye plain colours, such as the kharua (coarse red) cloth of Mau Ranipur, and the salu, which is a finer cloth, dyed red. The Rangrez also produce varieties of colours by combinations of different dyes.

In the *calico printing* of India, the apparatus consists of some patterned wooden blocks, and an earthen pot, on which a light convex bamboo

framework is fitted. Over this is placed a thick cloth, generally of wool. The cloth to be printed is stretched on a padded board, and the colour is hand-printed on the cloth with the dye, or a mordant only is printed, the colour being subsequently applied by boiling.

The *carpet-weavers* of Bangalore, in the most simple manner, obtain their various soft shades, from a light greyish-white through brown and dark greys to black, by sorting the natural fleece, and by their combination are produced the harmonious effects observed in the Bangalore carpets. The bags of wool, coming in just as they are clipped, are picked over by women and boys, and the different shades of wool separated, to be spun into different-coloured yarns. These dull colours forming the groundwork of the carpets, are relieved to a certain extent by indigo blues and turmeric yellows, and by a dull green when the two are combined. But the bright purples, reds, oranges, and greens, observable on all but the plainest carpets, are now aniline, and the juxtaposition of these fugitive colours with the absolutely fast shades of the natural fleece is very curious. The aniline colours are fleeting. In the bright light of India they go in a few months, or even days, if exposed to direct sunlight; but a little bright colour with no increase of prices tempts many purchasers.

Most of the colours used in dyeing are vegetable, a few are from the animal and mineral kingdom. The most vivid and brilliant vegetable colours, such as those of flowers and other parts of plants exposed to the light, are small in quantity, very fugitive, and difficult to separate. The colouring matters of plants capable of being isolated, are mostly yellow, brown, and red. Blue dyes furnished by plants are indigo and litmus. No black vegetable dye has been isolated. Most vegetable colours are soluble in water, and those which are not so can be dissolved in alcohol, ether, or the fixed oils. Vegetable colours are permanent in dry air, but they gradually fade in moist air, especially under the influence of light. The blue of most flowers is converted into red by an acid, and into green by an alkali. But the methods of dyeing vary with the nature of the dyestuff, and also with that of the material to be dyed, different methods being adopted for cotton, silk, and wool.

In India, the secrets of the mixtures of colours, of the methods of extracting the dyes, of the use of mordants, and of producing every variety of tint that may be necessary, descend from father to son. The Indian dyers have no chemical processes, as known in Europe, but safflower, madder, turmeric, indigo, are used to produce the brightest and most delicate tints of scarlet, pink, rose colour, crimson, purple, yellow, orange, and green. The colours are for the most part very pure and beautiful, and the combinations of colours and tints are most ingenious. The people do not admire brilliant or gaudy colours for garments. The tints in these have almost a neutral effect. Sober greys, dull but rich madder and cochineal reds and crimsons, neutral greys, browns, greens, and purples, with dull but rich yellows, are arranged by the weavers so as to produce richness and sobriety of effect, with the utmost harmony of combination. Bright or gaudy colour is used only sparingly, and then only to produce the contrast which may be necessary. Whatever may be the colour or tint or pattern used, whether in monotone, striped, or checked, perfect harmony exists, and the effect is never glaring or in bad taste. The dyes are either permanent or temporary. In the former are the yarns for weaving both silk and cotton cloths; in the latter are white cloths, such as muslin; turbands, scarfs, and the like are dyed in the piece, to suit the tastes of their customers. The latter are purposely kept unfixed, as a scarf or turband can be more easily and perfectly washed and re-dyed than a permanently dyed cloth be cleansed from impurities. Goats' dung is largely employed. Women's garments are usually woven with yarns with fixed dyes, as they have to undergo almost daily washing and exposure to the sun in drying, yet the colour almost never fades, but seems to grow brighter and clearer from constant exposure. The strong satins, striped and plain, called mushroo and hemroo, used for women's trousers and petticoats, as well as by men for trousers and other garments, must needs be of permanent colour, for repeated washing. In most parts of India, Mahomedan ladies wear nothing but this material for their nether garments, which are sent to the wash with as much confidence as if they were cotton, and with as little injury.

The natural patterns of the Panjab, Baluchistan, and Sind, are large and bold, but the colours are harmonious. The favourite artistic Cocanada rugs is one of the most pleasing of the Indian carpets. The short, even-piled carpets of Turkomania and Kerman have a glorious elaboration in colour and design.

The mode of *printing in colours* is by block printing and knot-dyeing. For the former process, the designs are usually cut out from teak-wood (Tectona grandis), the pattern standing out in high relief, and the hollows being cut very deep. Besides the numerous patterned blocks called bibun, the implements required by the calico printer are, the gadi, which is a wooden tray, in which three or four layers of country woollen cloth (dhabadi) are laid, and which are kept soaked with the intended colours. Besides, there is a table over which are stretched three or four layers of thick cotton cloth, and on the top a woollen cloth, over which lies the cloth intended for printing. The printer usually squats with the table in front of him, on which he works from morning to night. The engraved surface is dipped in a preparation of the dye, to which a mixture of gum-arabic has given a consistency. When the cloth has to be printed in metallic leaf, the block is dipped in gum and impressed on it, and tin, silver, or gold leaf is then stuck on to the adhesive design. Another way of printing, called 'khad,' is to charge the blocks with putty, and cover the impression with talc.

The calico printed goods of Sind rank the highest, and next to them those of Diu and Daman, whence issue bedcovers, sarees, dhotis, and children's cloths of divers kinds. There is often a wonderful combination of colours in the patterns of these goods.

Knot-tying is either done on a plain or coloured ground, according to the kind of pattern required. The lines are printed with an aqueous solution of Indian earth (red ochre), so as to be easily discharged during the dyeing process. The tyer

keeps the following nails long, viz. of the forefinger and the thumb of the right, and of the thumb, the forefinger, and the middle finger of the left hand. To tie the cloth, he takes either a thin or thick cotton yarn, according as the design is in fine or large patterned spots. At the place where the spot is to be, the cloth is raised up into a fold by means of the pointed long nail of the middle finger, and the fold is now caught between the long nails of the forefinger and of the thumb of the left, and a knot tied by means of the yarn held between the long nails of the right hand, by passing the yarn quickly four or five times round and round, and finishing the motion with a knot, by which the yarn is secured to its place. This process is repeated on one spot after another with the same thread so quickly, that a practised hand goes over an area of cloth extending 3 feet square in the course of 12 hours. A close pattern is workable during the same time only to the extent of about 1 foot square. The daily earning of the tyer is estimated at ¼ rupee a day. After the knot-tying is finished, the silk cloth is taken to the dyer. To produce a black ground, it is dyed red in cochineal. The steeping in the dye-beck is repeated twice, so that the red colour penetrates the thread and fixes itself into the white spots (kanda) covered by the thread. Once steeping fails to allow the penetration. For large spots (kanda) it is necessary to dye red three times. The cloth is now submitted to the indigo vat, then washed and dried. This process appears to have been first devised to overcome the difficulty met with in the production of white spots on a dark-dyed ground. It is largely practised in Gujerat, Cutch, Sind, and Bombay, and is scarcely met with in other parts of India. From this it appears that it had its origin in Gujerat, Cutch, and Sind. Knot-dyed goods, which are generally handkerchiefs, sarees (women's scarfs), bodices, petticoats, trousers, borders, turbands, etc., and executed chiefly for consumption among the Gujerati and Parsees. They are manufactured either in cotton or silk, the latter kind being common among the Parsees. The patterns produced are either in dotted lines, or in single or grouped spots, the spots varying in size from that of a mustard seed to that of an almond. They are either round or square, according to the way of tying the knot.

Besides these, there is the *putty printing*, a laborious process, peculiarly Indian in its conception, consisting of designs in putty executed over a dark ground, without the use of the stamper. Then we come to printing in metallic leaf, by which process cloths are printed with gold, silver, copper, or tin leaf. The better patterns are in Upper India. The process is simple.

Dyeing of silk is carried on in Bombay principally by Hindus, who are natives of Sind. The raw silk comes from China, Bengal, and Persia, the first being the most pure in colour, and is strong and lustrous. In the Panjab and Kashmir, woollen fabrics of beautiful colours are extensively manufactured. Dyeing in ivory is a branch of the art which is practised to only a small extent, in Bombay by Parsees, but in Surat and other places by Hindus chiefly. The process is not so complicated as in the other branches of cotton, silk, or wool, and the colours produced are few, only red, deep green, parrot green, yellow, and black being the colours obtained, but fancy colours may be produced by the application of wax as a resist, on the same principle as is done in calico printing.

Europe can no doubt work by cheaper processes. For instance, in the early part of the 19th century, the bandana (bāndhna, to tie) handkerchiefs of India were in great demand, and were there dyed by the knot process. The demand stimulated competition and improved processes in Europe, and presses adapted for them, which could generate a pressure several times greater than 300 tons, so as even to bend the iron sides, which were 6 inches thick. A press cost £4000. They completely superseded the Indian plan of knotting to prevent the colouring matter having access to the cloth.

The following mineral and vegetable dyes are in general use in India and Southern and Eastern Asia:—

Acacia arabica.
A. catechu.
A. rugata.
Acer, *sp.*
Adenanthera pavonina.
Adhatoda vasica.
Adiantum lunulatum.
Alnus, *sp.*
Albizzia odoratissima.
Aleurites.
Ægle marmelos.
Alkanna.
Althæa rosea.
Alum.
Alpinia galanga.
Anacardium occidentale.
Anchusa tinctoria.
Anotto.
Anthemis.
Areca catechu.
Arsenic.
Artocarpus integrifolia.
Avicennia tomentosa.
Baccaurea sapida.
Bunchong bulu wood?
Berberis aristata.
B. Asiatica.
B. lycium.
Betula, *sp.*
Bigonia chica.
Bixa orellana.
Bole Armenian.
Bombax Malabaricum.
Borax.
Borrera ushna.
Bunkita Barring of Borneo.
Butea frondosa, superba.
Cactus Indica.
Cæsalpinia sappan.
Calotropis gigantea.
C. procera.
Calysaccion longifolium.
Carpesium, *sp.*
Carthamus tinctorius, oxyacantha.
Cassia auriculata.
C. tora.
Casuarina equisetifolia.
C. muricata.
Catechu.
Cathartocarpus fistula.
Cedrela toona.
Ceriops Roxburghianus.
Chavica betle.
Chirongia sapida.
Chromate of lead.
Chulchuliera, mixed lichens.
Cicca disticha.
Cinnabar.
Citrus medica.
Coccolaba uvifera.
Cocos nucifera rind.
Conocarpus latifolia.
Coriara pulicata.
Coscinium fenestratum.
Copper, sulphate of.
Cratæva religosa.
Crocus sativa.
C. Cashmiriensis.
Crizophora.
Cupressus, *sp.*, semper-virens.
Curcuma olnga.
C. aromatica.
C. zerumbet.
Cuscuta reflexa.
Cydonia vulgaris.
Cyperus longus.
C. perennis.
Datisca cannabinus.
Delphinium ajacis.
D. saviculæfolium.
D. speciosum.
Dicalyx tinctoria.
Dolichos pilosus.
Diospyros mollis.
D. glutinosa.
Dracæna draco.
Earth, black.
Elsholtzia polystachya.
Emblica officinalis.
Eugenia jambolana.
Euphorbia tirucalli.
Exccecaria.
Fagopyrum.
Ficus venosa.
Gall-nuts.
Gamboge trees, bark.
Gamboge.
Garcinia elliptica.
G. gambogia and others.
G. mangostana.
G. Roxburghii.
G. xanthochymus.
Gardenia florida.
Geranium nodosum.
Glycirrhiza glabra.
Gmelina arborea.
Gossypium Indicum.
Green earth.
Grislea tomentosa.
Gutteea of Chittagong.
Gymnema tingens.
G. lacciferum.
H. pictorium.
Hedyotis umbellata.
Hedichium spicatum.
Helianthus annuus.
Hibiscus rosa Sinensis.
Hirmiji earth.
Holigarna longifolia.
Hypericum bacciferum.
H. Cayanense.
Impatiens, *sp.*
Indigofera anil.

I. argentea.
I. cinerea.
I. cærulea.
I. disperma.
I. glabra.
I. glauca.
I. hirsuta.
I. pseudo-tinctoria.
I. tinctoria.
Iron, sulphate of.
I. sesqui-oxide.
I. filings.
I. red oxide.
Isatis tinctoria.
I. indigotica.
Jatropha glandulifera.
Juglans.
Justicia.
Ka-bi-ni of Akyab.
Kayu-kudrang of Singapore.
K. luxa of Singapore.
Lac-dye.
Lajward, ultramarine.
Lapis-lazuli.
Laurus cinnamomum.
Lawsonia inermis.
Lead, chromate of.
L. red oxide of, sandur.
L. white, ceruse.
L. yellow oxide, litharge.
Lichens, viz.—
Cetraria glauca.
Cladonia rungiferina.
Gyrophora deusta.
Isidium corallinum.
Lecanora parella.
L. tartarea.
Parmelia borreri.
P. Kamtschadalis.
P. Nepalensis.
P. perlata.
P. sordida.
Pertusaria communis.
Physica leucomela.
Ramalina calicaris.
R. farinacia.
R. vulpina.
R. chlorophorus.
R. dumetorum.
R. utilis.
Ratinara lichen.
Rocella fusiformis.
R. montagnei.
R. phycopsis.
Sticta orygonossa.
Usnea florida.
Lime.
Lithospermum.
Lopisip bark.
Macrotomia euchroma.
Maklura berry of Bankok.
Mallotus Philippinensis.
Mangifera Indica.
Mangkudu of Celebes and Java.
Marsdenia tinctoria.
Melanorrhœa glabra.
M. usitatissima.
Melastoma fruit.
Memecylon tinctorium.
Menispermum fenestratum.
Mergui red-wood.
Mespilus Bengalensis.
Morinda citrifolia.
M. bracteata.
M. tinctoria.
M. umbellata.
M. angustifolia.
M. exserta.
M. tomentosa.
Multani mitti, fuller's earth.
Musa paradisiaca.
Myrica sapida.
Natron.
Nelumbium speciosum.
Nerium tinctorium.
Nipa fruticans.
Nyctanthes arbor-tristis.
Ochre, red, yellow.
Onosma, *sp.*, the havapiva.
Opuntia.
Orpiment, Hartal.
Peganum harmala.
Pentaptera tomentosa.
Photinia dubia.
Phyllanthus emblica?
P. officinalis?
Phyllocladus, *sp.*
Pistacia cabulica.
P. terebinthus.
P. vera.
Polygonum aviculare.
P. barbatum.
P. Chinense.
P. tortuosum.
P. tinctorium.
Potash, impure carbonate.
P. bichromate.
Potentilla Nepalensis.
Prussian blue.
Psychotria root.
Pterocarpus santalinus.
Punica granatum.
Quercus incana.
Q. infectoria.
Rairo of Akyab.
Red-woods of Mergui and Penang.
Reseda.
Rhamnus infectorius, catharticus, virgatus.
Rheum emodi.
R. Moorcroftianum.
Rhizophora.
Rhus.
Ricinus, *sp.*
Rin-nay, Burma.
Rubia cordifolia.
R. tinctoria.
Ruellia indigotica.
Saga bark of Singapore.
Sajji.
Sal-ammoniac.
Saltpetre.
Salvadora oleoides.
Sambucus.
Sapindus emarginatus.
Saponaria, *sp.*
Semecarpus anacardium.
Soda, carbonate of.
Soda, sulphate, reh.
Solanum.
Sophora angustifolia.
Soymida febrifuga.
Symplocos cratægioides.
S. grandiflora.
S. racemosa.
S. paniculata.
S. tinctoria.
Tagetes erecta.
T. patula.
Tamarindus Indica.
Tamarix articulata.
T. dioica.
T. furas.
T. Gallica.
T. Indica.
T. orientalis.
Tanarius major.
Taxus baccata.
Tephrosia apollinea.
T. toxicaria.
T. tinctoria.
Terminalia angustifolia.
T. arjuna.
T. bellerica.
T. catappa.
T. chebula.
T. citrina.
T. paniculata.
T. tomentosa.
The-na bark of Tenasserim.
Thespesia populnea.
Thit-na-myeng of Akyab.
Toddalia aculeata.
Urostigma religiosum,
Vachellia farnesiana.
Vateria Roxburghiana.
Verdigris.
Ventilago maderaspatana.
V. acalyculata.
Wrightia tinctoria.
Xanthorrhiza.

Acacia Arabica, the babul tree; its bark is used for tanning, barking sails, nets, and fishing lines. With sulphate of iron it yields a black colour, and with alum a brown colour, both on cotton and wool.

Of Burmese green dye-plants, the turmeric and the leaves of the soap-acacia, Acacia rugata, afford a beautiful green dye.

Acids obtained from the leaves, flowers, and fruits of the tamarind, mango, the lime and citron, are much employed to assist in fixing the dye on the cloths; safflower is almost always used with an acid of some sort.

Adenanthera pavonina wood dyes red.

Adhatoda vasica leaves in decoction dye yellow. 10 lbs. are bruised, soaked, and boiled in 16 lbs. of water, till half of it evaporate. Alum, lime, and citron juice are the mordants, and the cloth is three times dipped into it. It yields a dark blue with indigo.

Ægle marmelos, the bel, is a cultivated tree; the rind of its fruit is used with myrobalans by calico printers. The rind and the leaves produce bright yellow dyes.

Albizzia odoratissima bark is boiled, in Assam, with the leaves of the dagal tree (Tarcochlamys pulcherrima), and gives a brownish dye.

Alpinia galanga, the Kulinjan. A decoction of its wood is used along with myrobalan.

Alum is largely used as a mordant with the colours yielded by turmeric and madder. Aluminous earth, called chaulu in Mysore, is largely used in dyeing cotton cloth in permanent colours. It is a clay impregnated with alum or soda, or both. Alumina, in combination with a vegetable dye, constitutes the lake class of fast dyes, rendering the original colours more vivid and durable.

Anchusa tinctoria root is the alkanet or dyer's bugloss. In the Panjab, a root is in use as a dye to which the name of alkanet is given. It is probably the root of Onosma emodi, *Wall.*, as other species of Onosma, also Echium rubrum and Lithospermum tinctorium are in Europe and elsewhere substituted for alkanet.

Aniline dyes. Faraday's discovery of benzol in 1825 led to the knowledge of the aniline dyes. By the action of nitric acid, benzol is converted into a dense yellow oil, called nitro-benzol; and by the action of nascent hydrogen, this new compound is transformed into aniline. The names of Unverdorben (1826), Runge (1835), W. H. Perkins (1858), Græbe and Liebermann (1868), and Baeyer (1878), are all honourably connected with the subsequent discoveries of multitudinous colours, with a great increase in the beauty and tinctorial effect of the dyes obtained, and with a diminished cost of their manufacture. At the present time (1883), every colour, and all tints and shades of colours, are produced from aniline. The processes employed and the combinations formed are very numerous, and the commercial names given to the new dyestuffs may be said to be endless. The aniline dyes are cheaper than those obtained from cochineal, madder, safflower, and

turmeric, and are more easily worked. The aniline dye is even finer than that of the safflower, and gives a greater variety of shades. The aniline is, in Europe, displacing the turmeric, as it furnishes a great variety of the shades of yellow. In Europe, the dye from the madder and manjith roots has been largely displaced. In the year 1877, 39,166 cwt. of these two were imported into Great Britain, but in 1881 only 18,129 cwt. Even cochineal is being displaced, as aniline scarlet is much cheaper and quite as fine. The imports of aniline into India for the years ending 31st March were—

1879.	1880.	1881.	1882.
1,145,208 oz.	2,507,794 oz.	3,555,310 oz.	3,095,481 oz.

Arsenic is principally employed in the arts to produce a peculiarly vivid and showy shade of green, which has superseded the less decided tints of nature. The form in which it is generally employed in Europe is that of a green powder, which is commonly known as emerald green, known to chemists and writers on science as Scheele's green, after its discoverer. Another kind is also called Swienfurth green, from a town in Franconia, where it was extensively manufactured on its early introduction. The chemical composition of Scheele's green is—arsenious acid, six parts; oxide of copper, two; acetic acid, one. Yellow orpiment, or hartal, a sulphuret of arsenic, is used in dyeing a yellow colour.

Artocarpus integrifolia is the jack tree; its wood is used for dyeing yellow. The yellow orange colour of the clothes of the phoungye ascetic priests of Burma is obtained from it.

Baccauria sapida, the leteku of Assam, is a small tree. Its bark is used as a mordant with the roots of Morinda angustifolia.

Berberis aristata, B. Asiatica, and B. lycium, all yield the rusot yellow dye.

Bixa orellana yields the arnotto; is used to impart a bright orange colour to silk goods, and to afford a deeper shade to simple yellows.

Bombax Malabaricum is supposed to yield one of the substances known as mochras, small pieces of a dark-brown resinous-looking substance, generally mixed with some fragments of bark. The other mochras is in largish opaque yellow pieces, curiously convoluted, and is supposed to be an exudation from the areca catechu palm.

Borax is occasionally used with turmeric in calico printing.

Butea frondosa and B. superba yield the tisso flowers, which are used to dye yellow.

Cæsalpinia sappan wood, adding lac, and with alum as a mordant, dyes woollen and cotton stuffs of a dark red and shades of red. The chips are soaked for two days in water with lac and alum, and then boiled, and the liquid used as a dye.

Calysaccion longifolium is the suringa of the Bombay Presidency. Its bark and powdered roots are used for dyeing. In Kaira and Surat it is largely used, Surat utilizing 1303 maunds yearly. Its flowers are employed for dyeing silk.

Carthamus tinctorius has small leaves and an orange flower. C. oxyacantha, with larger leaves and a yellow flower, is a native of the Caucasus. They furnish the safflower of commerce. C. tinctorius is cultivated in China, India, Egypt, America, Spain, and the whole of the Indian Archipelago. The flowers contain two pigment principles, one known as safflower yellow, which is extracted by pounding and washing the dried flowers; the other is safflower red, or carthamine, which is the dye of commerce. When a weak soda solution of carthamine is left in contact with oxygen, it first becomes yellow and then red, and on saturating this red liquor with citric acid, red carthamine is thrown down. The affinity of carthamine for cotton and silk is such, that when it is recently precipitated, those substances immediately combine with it, and become at first rose-coloured, and afterwards of a fine red, so that they may be thus dyed without the intervention of the mordant; the stuffs so dyed are rendered yellow by the alkalies, and the colour is to a certain extent restored by the acids. Carthamine is never used in dyeing wool. When it is precipitated from concentrated solutions, it furnishes a liquid paint, which, evaporated upon saucers, leaves a residue of somewhat metallic lustre, used as a pink dyestuff, and which, mixed with finely-powdered talc and dried, constitutes common rouge. Safflower yellow is soluble in water. When the infusion is evaporated, it leaves an extract very soluble in water, precipitated by acids and soluble in alkalies. It is not reddened by oxidizing agents.

Carthamine yields six or seven distinct shades of red, such as pink, rose, crimson, scarlet, etc. In combination with the flowers of Nyctanthes arbor-tristis (harsinghar), it yields a golden orange, a deep orange, and a salmon colour; with turmeric it gives a splendid scarlet and other tints; and when it is combined with indigo, Prussian blue, etc., a series of beautiful purples, a delicate mauve colour, and a deep purple are produced.

The crimson dye is said to attach without the aid of a mordant; but otherwise, of all the more or less beautiful tints produced, scarcely one will stand washing without being fixed with mordants.

From February to May the flowers are picked off each day as they appear, leaving the flower-heads on the stalk. All that is detached is the fragile-looking corolla, which issues from the summit of the prickly teasle-like flower-head. If they be intended for sale to the India dyers, they are simply dried; but if for export to Europe in the form of the safflower of commerce, the florets are damped with water and pressed into lumps. A mat as a strainer is stretched on a wooden frame; on this the lumps of florets are laid, and water is slowly poured over them, while a man treads them with his feet, supporting himself on two sticks as crutches. In this way the yellow colouring is eliminated from the flowers, the presence of which would detract from the beauty of the crimson tint for which they are chiefly prized. When the water comes clear through the strainer, the process is complete. The flowers are then made up by hand into round flat cakes, the water squeezed off, and they are dried in the sun. In this form they are known as the safflower of commerce. Exports from India have been:—

	Cwt.	Rs.		Cwt.	Rs.
1874–75,	14,222	6,50,827	1878–79,	4,977	1,86,711
1875–76,	4,080	1,63,528	1879–80,	...	...
1876–77,	7,662	3,04,672	1880–81,	6,675	3,51,157
1877–78,	3,698	1,48,806	1881–82,	2,293	94,754

Cassia auriculata, the avarai shrub, is common in all the south of India. Its bark is largely used as a tan. It takes the place of oak bark. The flowers yield a yellow colour, and the bark is used with myrobalans as a dye for giving a buff colour to leather.

Cassia tora seeds are used as a yellow dye. They are said also to form an ingredient in dyeing blue with indigo. About seven immersions are required to fix the colour.

Casuarina equisetifolia and C. muricata have been used about 1854 by M. Jules Lépine of Pondicherry, who made an extract from the bark which was fixed by bichromate of potash. With alum as a mordant, it gave a reddish nankeen, and with iron, a black colour. By simple exposure to the air, a nankeen red was produced, which stood the washing well.

Catechu is an extract from the wood of the Acacia catechu. In commerce it is also known as terra japonica, and gambier also is often so named; have been used in India to give a brown dye to cotton; and have been extensively employed in the calico-printing works of England. The salts of copper with sal-ammoniac cause catechu to yield a bronze colour, which is very permanent. The proto-muriate of tin produces with it a yellowish brown. A fine deep bronze hue is also produced from catechu by the perchloride of tin, with an addition of nitrate of copper. Acetate of alumina gives a brown, and nitrate of iron a dark-brown. For a golden coffee-brown, catechu entirely superseded madder, one pound of it being equivalent to six pounds of that root. It is prepared for dyeing purposes by being steeped in water with a little lime; the solution is then strained off, and is ready for use. The dyeing principle is catechene, which is insoluble when oxidized, to effect which, in Great Britain, a salt of copper along with sal-ammoniac is used. From 1877 to 1881, Great Britain imported annually about 30,000 tons of cutch and gambier.

Cedrela toona has white fragrant flowers, which yield a sulphur-yellow and orange. The yellow dye is extracted by boiling in water till three-fourths of the water is evaporated.

Chavica betle is the pan or betle-leaf plant. The leaf is said to be used in Kanouj for colouring the border of chintz made there, called fard-pakhta.

Cinnabar, a sulphide of mercury, the shingarf or vermilion of the bazars, ground and mixed with water, imparts a fresh pink tint to cotton cloth dipped into it.

Cochineal is a foreign dye from the Coccus cacti. The importation into British India of cochineal in 1880-81 was 4182 cwt., and in 1881-82, 2886 cwt. From 1877 to 1881, Great Britain imported about 30,000 cwt. annually. The aniline dyes have not seemingly affected it.

Cocoanut rind produces a dirty brown (khaki) colour. Lime, soda, and alum are used as mordants. The rind is powdered, and soaked for a few days in water, and afterwards boiled. The stuff is washed in this water, and a subsequent wash in lime-water gives the cloth a red tint. For brown tints, lime-water is not used. Dipping in an infusion of myrobalans renders these colours darker and faster.

Copper, sulphate of, is used with lime to produce a shade of light blue, principally in leather-dyeing. Verdigris, a subacetate of copper, the zangar of the bazars, is occasionally used in calico printing.

Coscinium fenestratum, a climber of the western forests of India, grows wild. Its roots and stems contain a quantity of yellow colouring matter similar in property to that of turmeric, and yields its colour to water; sells at 3 to 5 annas the pound in the bazars of S. India. It is used also medicinally.

Crocus Cashmerianus of Kashmir yields the saffron. The saffron of C. sativus, as a cosmetic, is largely imported into India from Europe.

Curcuma zerumbet root, powdered and mixed with the powder of sappan wood, forms one of the abir red powders which Hindus throw about during the holi festival, as with the Confetti at Rome.

Cyperus longus and C. pertennis furnish the nagar-motha roots used by dyers to perfume cloth.

Datisca cannabina roots give a yellow dye.

Delphinium ajacis furnishes the asbarg dye; a decoction of the flowers and stalks give a sulphur yellow dye to silk, known as gandhaki; also used in calico printing. D. speciosa flowers are similarly used.

Diospyros mollis. The celebrated shan black vegetable dye is made from its fruit. It grows on the mountains that separate the province of Tavoy from the Siamese territories. Isolated plants may be seen in the gardens of Tavoy and Moulmein.

Earth. A soft, drab-coloured kind of fuller's earth, called Multani mitti, is used in the Panjab for dyeing cotton cloth various shades of buff and brown. It is also used in lieu of soap for washing the hair and body.

Black mud from the bottom of tanks and old rice swamps, with the gum of Acacia Arabica and myrobalans, is used as a dye to produce a shade of blue-black. It is used alike for coarser cottons, blankets, and carpets, and for the finer silks. The fabric is dipped in the mud and a decoction or infusion of myrobalan.

Emblica officinalis produces the Aonla fruit, which yields a blackish dye. It is pounded and boiled with water, and the cloth is dipped into the decoction to obtain the colour called abunsi, a shade of blue-black. When mixed with myrobalan and sulphate of iron, a black colour is obtained. The leaves are used for tanning leather, and sell at Rs. 4 the cwt.

Eugenia jambolana bark is used as a mordant for blue or black dyes.

Euphorbia tirucalli is the milk-hedge plant of Southern India. Its ashes are used as an alkali in dyeing, and form an ingredient of the red dye with chay-root. It is also said to enter into various other dyeing receipts.

Ficus religiosa. The pipal tree roots are boiled in water, and with alum impart to cotton cloth a very pale pink colour.

Garcinia gambogia. The Toung-tha-lai or Pay-yai-shin of the Burmese, yields a gum-resin which can be dissolved in spirits of turpentine, and affords a beautiful permanent yellow varnish for metallic surfaces.

Garcinia mangostana, the mangosteen. The rind of its fruit is used for dyeing black.

Gardenia florida. In Japan, materials for dyeing are taken from a species of Betula, and from the Gardenia florida.

Glycyrrhiza glabra is the liquorice plant. Its wood is used in calico printing in the Panjab.

Gossypium Indicum, the cotton plant; its flowers are used in the Manipuri district as a yellow dye.

Grislea tomentosa, a shrub of all India, yields the red godari or dhauri flowers, and these and the leaves are used in dyeing,—the leaves in dyeing sheep-skins and leatherred, and the flowers (dhauri) in Northern India, along with morinda bark, also as a red dye. In Kandesh the flowers form a considerable article of commerce inland as a dye.

Hedichium spicatum, the Ka-pur Kachri, grows in China and the sub-Himalayan forests. It is made into a decoction along with Charila, Parmelia Kamtschadalis, and Nagor-matha (Cyperus longus), and used in dyeing and calico printing to impart a fragrance to the cloth. It is also used, like camphor, to preserve fabrics from insects.

Hedyotis umbellata of Lamarck is the Oldenlandia umbellata of Linnæus. It furnishes the chay-roots, extensively used by dyers in the south of India. It has been tried in Great Britain, but has not been successful, owing, as it is supposed, to deterioration of the chay-root during the voyage.

Hibiscus rosa-sinensis, the shoe flower. Its rich scarlet flowers yield a purple juice, employed for dyeing a lilac colour, and for blackening leather. It has been found useful as a litmus.

Holigarna longifolia, the Thit-kha-ya of the Burmese, is one of the black varnish trees.

The Indigo of commerce is obtained in different countries from species of Indigofera. Since 1878, an indigo has been chemically produced, but not in commercial quantities. I. tinctoria of India, Mauritius, Madagascar, and St. Domingo, furnishes the largest quantity of indigo. The plants called in India I. anil and I. pseudo-tinctoria are supposed to be varieties of I. tinctoria. It is used principally as a blue dye. From 1850-51 to 1860-61, its export from India ranged in value from £1,734,338 to £2,424,332. In the 7 years 1875-76 to 1881-82, the value of the indigo exported from India has run up to 4½ millions sterling:—

1875-1876,	110,392 cwt.	Rs.	2,87,50,625
1876-1877,	100,384 ,,	,,	2,96,27,855
1877-1878,	120,605 ,,	,,	3,49,43,340
1878-1879,	105,051 ,,	,,	2,96,04,625
1879-1880,	100,923 ,,	,,	2,94,72,265
1880-1881,	116,870 ,,	,,	3,57,15,814
1881-1882,	150,363 ,,	,,	4,50,96,802

In the five years 1877 to 1881, the imports into Great Britain ranged from 58,283 to 81,088 cwt. Manilla indigo is a liquid extract. Formosan indigo is an excellent blue dye, but as imported into China it was much adulterated with earth and refuse sugar. In Peh-chih-li, a very good indigo is sold under the name of king-tien.

Isatis tinctoria, the woad of Europe, yields a blue dye; another species, I. indigotica, is named as a plant of Shang-hai and Chusan; and I. tinctoria, under the name of tien-tsing, is also said to be cultivated in China.

Iron oxide, with myrobalans, as with tannic and gallic acids, produces black. Sulphate of iron gives a black dye, and is very extensively used in combination with sugar (goor), and sometimes with myrobalans. It is also used with other substances for various colours. With myrobalans it produces a greyish, purplish black dye.

Iron, impure sesquioxide, in the form of geru or red ochre, is abundant in many parts, and is extensively used by Hindu devotees for dyeing their cloths of a dull orange colour; and is used largely by dyers for several other colours. The earth is simply powdered and mixed with water, into which the cotton cloth is fixed. Red ochre of a lighter colour than geru, is known as hirmji; and yellow ochre (hydrated sesquioxide of iron) is occasionally used as a dye, under the name of ramraj, also called zard or pili mitti.

Jatropha curcas, the physic nut. Its juice or oil boiled with oxide of iron dyes black.

Jatropha glandulifera grows wild throughout India, and its leaves are said to yield a green dye of great beauty for cotton cloths.

Justicia, *sp.* According to Mr. Fortune, near Ningpo, a bastard species of Justicia furnishes much indigo. The plants being thrown into pits in the open field, and filled with water, after the rotting of its herbage, lime is added, and the liquid thoroughly mixed up and beaten; the water is then drawn off, leaving the thick indigo paste at the bottom to dry, preparatory to being packed in bamboo baskets. The froth rising upon these pits of liquid is collected and made into an extract, called tien-hwa or ts'ing-tai, in imitation of a powder formerly brought from Persia, and in great repute as a paint, and a specific medicine.

Ka-bi-ni of Akyab is used to tinge fishing nets a brown colour.

Khandelia Rheedii of Tavoy; its bark is used to dye cotton thread of a dirty red colour.

Lac. Coccus lacca, the lac insect of India, is found on many trees, but the best of its produce is on the Butea frondosa, Ficus religiosa, and the Schleichera trijuga, and Vatica laccifera. When the female is about to lay her eggs, she secretes a pellucid and glutinous substance from the margins of her body, which in the end covers the whole insect as with a cell. When hardened by exposure to the air, this substance becomes of a more or less deep red or orange colour, hard and translucent. This is lac in a crude state, and it often entirely covers a branch. The lac or resinous incrustation is separated from the wood, converted into shell-lac, and cakes of lac-dye formed. It has always had competitors with cochineal and other dyestuffs, but the aniline dyes have now almost driven the lac-dye out of the market. The quantities and values of the exports from India of lac and its products were as under:—

	Cwt.	Rs.		Cwt.	Rs.
1875-76,	103,583	75,57,474	1878-79,	91,423	29,87,157
1876-77,	128,712	53,69,764	1879-80,	71,048	37,14,959
1877-78,	104,645	36,20,481	1880-81,	...	57,83,202

In the five years 1877 to 1881, Great Britain imported from 51,159 to 104,273 cwt. of shell-lac, seed-lac, and lac-dye.

Laurus cinnamomum, tejpat; its leaves are used with myrobalan.

Lawsonia inermis. Mahomedan women in Asia use the leaves and shoots for dyeing their nails red, also the palms of the hand and the soles of the feet. The leaves are beaten into a pulp with rice-water, and in that form applied, and the following morning washed off. The manes and tails of the horses are stained red in the same manner; some men dye their beards.

Lichens of the mountains of Ceylon, the Neilgherries, the Koondah hills, and the Himalayas furnish dyestuffs.

Parmelia perlata, P. Nepalense, a yellow dye, and P. borreri, a deep brown dye. Sticta orygonosse and several other species give a beautiful pink dye. Ramalina farinacea is used for food; Ramalina vulpina yields a fine deep yellow dye.

Lichens of the Kondahs are the Cetraria glauca and another species, Lecanora Tartarea, Gyrophora deusta, Cladonia rungiferina.

At the Exhibition of 1851, the Parmelia perlata sent from the Neilgherries and Ceylon was valued at from £195 to £225 per ton; and the Rocella fusiformis sent from Ceylon at £380 the ton.

The Chulchuliera of the Panjab is a mixture of dye lichens, the Parmelia Kamtschadalis, P. perlata, and its variety P. sorediata; Usnea florida, Ramalina calicaris, and Physica leucomela.

Lime is used in calico-printing in combination with gum as a resist paste. It is also employed with sugar to excite fermentation in indigo, and convert it into indigo white, in the presence of hydrogen.

Madder dyestuff of Europe and Western Asia is the roots of the Rubia tinctorium, and yields the well-known Turkish red. The madder used in India is from the Rubia cordifolia, locally known as the manjith. Turkey madder roots at one time realized about 20s. or 30s. the cwt., and manjith somewhat less. During the 11 years 1850-51 to 1860-61, the value of the manjith exported from India ranged from £10,694 to £34,379. The sale of both these plants has been very greatly affected by the discovery of the aniline dyes. Great Britain has diminished its imports of them as under, in cwts.:—

1877.	1878.	1879.	1880.	1881.
39,166	33,061	21,463	22,375	18,129

Mallotus Philippinensis furnishes the kapli or kamela, extensively used in India as an orange dye, principally for silk and wool. It is in the form of a red mealy powder on the capsules, which are gathered in March, and rubbed together, trodden on, or shaken in bags till the farina separates. Four parts of the powder, one of powdered alum, and two of carbonate of soda, are rubbed well together with oil of sesamum, and then boiled in water, into which the silk is dipped. It is, however, sufficient to mix it with water alone, or with water containing half its weight of carbonate of soda. It does not require a mordant. It also produces in the N.W. Provinces a rich flame colour of great beauty and permanence. Colonel Beddome says that some of the powder, carefully collected by the Forest Department, brought a high price in England. The bark is used for tanning.

Marsdenia tinctoria, a native of Sylhet and Burma, is cultivated in Northern India. Its leaves yield more and superior indigo to the Indigofera tinctoria.

Mica, in a roughly powdered form, is used by dyers and washermen to sprinkle on cloth to give it a sparkling appearance.

Morinda citrifolia, M. bracteata, M. tinctoria, and M. umbellata are dye plants common in India and eastwards to China. The dyestuff is obtained both from the roots and the bark. M. bracteata contains in its bark two colours, yellow and red, changing to crimson by the application of alkalies. In many places the roots of the M. umbellata are employed instead of chay-root in dyeing cotton yarn red. The colour is neither so bright nor so durable. Dr. Heyne thus describes the process. Take 3½ pounds of white cotton yarn and soak it in 1½ pound of gingelly oil; a strong lye made of the ashes of the milk-hedge, and the yarn steeped in it for four nights, being dried in the sun during the day; it is then washed in brackish water, and dried in the sun. Or 5 seers (kutcha, 13¼ pounds?) of togara root, M. citrifolia, finely powdered, are put into a pot of water together with the yarn, and kept all night over a fire of cow-dung. In the morning it is taken out and dried in the sun. The same process is repeated for two successive days and nights, which completes the process.

The red dye obtained from the roots of the M. citrifolia is in general use for dyeing the yarn of the native cloths, both silk and cotton, and better single colours of the kind are rarely seen. The use of a mineral mordant in the native process is unknown, and, with the exception of weak lye made from the ashes of some jungle plants, no other application is made beyond the simple solution of the extract from the wood itself. Most of the Madras red turbands are dyed with the bark and root of M. citrifolia; it yields three permanent shades, a bright red, a pink red, and a faint red. The plants are cultivated and come to maturity in three years; the roots are then dug up and sorted into three kinds, according to the fineness of the fibres. The fibres are then cut and beaten down well, and afterwards ground to powder, which latter is used for the dye.

Morinda umbellata grows wild throughout South-Eastern Asia. The bark of the roots of plants three years old gives the best dye. It is one of the commonest of the red dyes of India; though the colour is dull, it is considered faster than the brighter tints obtained from other substances.

Melanorrhœa usitatissima is the black varnish thit-tsay tree of Burma, used to lacquer boxes. M. glabra is similarly useful.

Melastoma Malabathricum and M. macrocarpum are shrubs of South-Eastern Asia; their berries are used to dye black.

Memecylon tinctorium; a cold infusion of its leaves gives a yellow colour. It is used for dyeing cotton cloths and grass mats. It also forms an ingredient of the dyes obtained from sappan wood and myrobalans, and it is likewise used with the chay-root, Hedyotis umbellata, as a red dye.

Mergui red-wood is valuable for both black and red, but more especially for orange. The colours imparted to silk, with different mordants, were as follows:—

1. Muriate of tin, 3 shades of orange, varying with the temperature of the bark and the time of immersion.
2. Acetate of alumina, 2 shades of flame colour.
3. Acetate of iron, 2 shades of drab.
4. Acetate of iron with a decoction of galls, a fine black of two shades.
5. Mixed with manjith, a variety with red and pink are obtained, but not equal to manjith alone.

Nyctanthes arbor-tristis flowers are dried in the sun and kept for use. They are then boiled in water, 1 pound to 10 gallons, evaporating 9 gallons. The fabric is dipped into it, and is dyed of a fine orange yellow; but it is a fleeting colour.

Parmelia Kamtschadalis, the Charela lichen of the Himalayas, is used as a perfume in calico printing, price Rs. 5½ the cwt. P. caperata, P. perlata, and P. physodes are known.

Pentaptera tomentosa, a tree of the Cuddapah and Kurnool forests. The bark is used with iron for dyeing black.

Phyllanthus emblica bark is used as a tanning

substance for barking sails, nets, and lines. Its fruit is used in dyeing black.

Pistacia vera flowers, called buznak, are used in the Panjab and N.W. Provinces in silk-dyeing, as also are the galls formed on this plant.

Polygonum Chinense, P. barbatum, and P. aviculare all produce a beautiful blue colour, much like that from indigo. The leaves are first dried, then pounded, and made into small cakes, which are sold in the shops. Three cuttings of P. tinctoria are obtained in China annually. It has been introduced into Belgium. It has red flowers.

Potash is used in extracting the crimson dye from safflower, and also occasionally in calico printing. It is usually obtained from the stalks of the Penicillaria spicata or bajra.

Punica granatum or pomegranate. An infusion of the root bark yields a deep blue precipitate with salts of iron; a yellowish-white one with a solution of isinglass; a greyish-yellow one with corrosive sublimate, and potash or ammonia colours it yellow. A light red dye is produced from the flowers. The rind of the fruit is ground and boiled, and the concentrated decoction is used alone in dyeing cloth a greenish brown or khak-rezi colour. The cloth is simply dipped in the decoction. But it is more generally used along with some other dye as a colour concentrator, in which case the rind is boiled along with the other dye. It is used for fixing the colour of turmeric in yellow and orange shades, and turmeric with indigo for the various shades of green.

Psychotria. The wood of the jack, the root of the psychotria, the bark of the gamboge trees, the flowers of the butea, the rind of the Bengal quince, the leaves of the memecylon and the touk-yat, all produce bright yellow dyes.

Pterocarpus santalinus. Red sanders wood is hard and of a bright garnet red colour, and is employed to dye a lasting reddish-brown on wool. It only yields its colour to ether or alcohol. The exports of this wood from Madras in one year amounted to nearly 2000 tons. Price, £6 to £9 the ton.

Quercus infectoria and other species yield the gall or dyers' nut-oak. Q. infectoria is called the gall oak, because the gall or nut-gall is produced on it. It is a native of the countries from the Levant to Kurdistan, and is supposed to yield the product known as Mecca galls, E. I. galls, and Bussora galls.

Randia dumetorum fruit, the main-phal, is used in calico printing as a colour intensifier.

Rhamnus catharticus is the buckthorn of Europe and Asia. Its foliage and bark can be employed for the preparation of a green dye. R. chlophorus, *Lindley*, and the R. utilis of China, furnish a superior green pigment for silk.

In 1848, M. de Montigny, consul at Shang-hai, forwarded to the Minister of Commerce green cottons named Liou-sai (that is, cloth dyed with the dye produced by the tree liou). Father Helot stated that these cottons are commercially known by the name of Se-lo-pou (green-coloured cloth) when dyed with the bark; Ngheou-lose (water lily green colour) and Ngheou-lo-pou (water lily green cloth), that is to say, dyed of the colour of the leaves of nymphæa, when they have been dyed with the Lo-kao. The cost of dyeing in green a square metre (39 inches and a fraction) of cotton stuff, either with the bark or the Lo-kao, is about 50 centimes (about 6 annas and 5 pies). M. de Montigny sent at the same time 10 catties (about 13 pounds) of Pih-chow-elle (green colour), cost 4950 sapecs (about 10 rupees 6 annas), 50 catties (about 65 pounds) of Tong-loh, a green paint said to be prepared from the seed of No-me, cost 20,800 sapecs (about 42 rupees 4 annas).

Rheum Moorcroftianum, the rhubarb root, is used to obtain a yellow on woollen and silk.

Rhizophora mangle, the mangrove bark, in Arakan yields a dye of a chocolate colour. A decoction of a mangrove bark of Penang is said to produce a deep black in material previously dyed blue. Mangrove bark is extensively exported to China as a tanning substance.

Rin-nay, of the Burmese, is used for dyeing phoungye (priests) clothes with yellow orange colour.

Rubia cordifolia supplies the Indian manjith of commerce, and R. tinctoria the madder, both of them yielding a red dye. See Madder.

Ruellia comosa, of Assam, the mai-gyee of Burma and Tenasserim, furnishes the blue room dye, which is prepared after the manner of indigo. It grows wild. R. indigotica is the Tien-ching of China, where it is grown for its blue dye. R. indigofera is cultivated in Burma for local use as a blue dye. Its yield is about 8 cwt. per acre.

Saltpetre in solution is used in wool-dyeing.

Saffron, from the Crocus sativus of Europe, is largely imported into India as a cosmetic. Saffron from Kashmir, from its price, is prohibitive as a dye; it is used as a drug and cosmetic.

Semecarpus anacardium is the marking-nut tree; the juice of the nut is used for marking cloth.

Soda salts, in the form of impure carbonate or sulphate of soda, are used as detergents, for washing cloth as a preliminary in calico printing. These salts, effloresceing on the surface of the ground, have rendered tracts of land in Hindustan uncultivable. A carbonate of soda, called rassi, is prepared from the reh efflorescence, by dissolving it in water and allowing foreign substances to settle.

Sajji is a mixture of the carbonates of soda and potash. It is made by dissolving wood-ashes and reh in water, and exposing the solution to the sun for several days. It is used in extracting the crimson dye from safflower; also in bleaching.

Soymida febrifuga is used to produce one of the khaki or dirty browns of which cotton stuffs are ofted dyed; it is used also along with more valuable arnotto and kapila.

Strobilanthus flaccidus, the rampat of India, is a small shrub. Its leaves and twigs are boiled in water with the yarn to be dyed red, which, however, is not a permanent colour.

Symplocos racemosa, S. grandiflora, S. paniculata, bark and leaves, yield yellow dyes. The bark is used in calico printing and leather-dyeing, and as an auxiliary to other dyes; they are used with madder.

Tagetes erecta and T. patula, the marigolds; their flowers soaked in water yield a yellow dye, when squeezed out by the hand. Common people use it for their house clothing. The shades of yellow are called gendia and champai.

Tamarisk galls, from Tamarix articulata, T. orientalis, and other species, are known to the Indian dyers and calico printers as the main.

Tephrosia apollinea, of Nubia, and T. toxicaria, of the Nile.

Terminalia. Several species of this genus produce the commercial myrobalan fruits or nuts, which yield with alum a good durable yellow, and with salts of iron a black colour. Those of T. bellerica are used for dyeing cloth, also in tanning.

The bark and leaves of T. catappa are astringent, and with salts of iron yield a black pigment.

A decoction of the bark of T. chebula is employed in tanning leather, and is used as a mordant in dyeing. Its nuts, when mixed with alum, yield a dye which chintz printers and carpet-weavers consider their best and most durable yellow. Along with ferruginous mud, it gives a good and durable black dye; and the outer coat of the rind with sulphate of iron yields a black dye, which is used by dyers and harness-makers. It forms an ingredient in dyeing red, along with sappan wood. All the madder-dyed cloths are first steeped in it. The dyers pound the outer rind of the fruit, and mix it with water; the cloth is simply dipped into this mixture. The colours obtained are black with sulphate of iron, green with turmeric, dark blue with indigo, and brown along with catechu. It is used more as a concentrator of colour than as contributing much colour of its own.

The nut of T. chebula is the most valuable. The fruit consists of a white pentangular nut, of which the shell or covering is used both by dyers and tanners.

Terminalia arjuna. The inner bark is broken into chips, and the dye extracted by boiling. It is one of the barks employed in producing the khaki brownish colour on cotton cloths. If the cotton yarn or cloth has been previously dipped in a mordant solution of alum and myrobalans, a darker fast colour is produced.

In 1880–81, India exported 315,628 cwt., value Rs.12,37,087, and in 1881–82, 391,566 cwt., value Rs.14,44,925.

Thit-na-myeng of Akyab dyes yellow, and with oil and lac, a red colour is obtained.

Toddalia aculeata is a common shrub of the Peninsula. Its root has a yellow wood and yellowish corky bark, which yield their colour to water. It is supposed to be the lopez root formerly famed in Europe. The root-bark sells at 3 to 5 annas the pound.

Turmeric dyes a dirty yellow with an alkaline earth.

Vateria Roxburghiana yields the piney varnish.

Ventilago acalyculata is said to be a native of Central and Northern India, and V. maderaspatana is found in Ceylon and the Indian Peninsula and Burma, and is employed by the native dyers to produce an orange-red dye. These two plants were for long confounded one with the other, and it is not yet known whether V. acalyculata is as rich in dyestuff as that of V. maderaspatana, which furnishes the puplay chukkay of the Tamil and the rakta pita of Bengal. V. maderaspatana is a climber. Its root-bark, combined with Hedyotis umbellata, yields a beautiful chocolate colour or brownish-purple, and with galls a black dye. It sells at 3 to 5 annas the pound. Its colouring matter occurs in the roots and wood of the plant. It is used in Bangalore by the carpet-weavers. The dye is extracted by boiling the chips of the wood in water. Simple dipping in the solution imparts the dye, but the colour is fleeting. If the cotton yarn or cloth have been previously dipped in a mordant solution of alum and myrobalans, a darker colour, which is fast, is produced. —*Roxb.; Ainslie; Crawfurd; Mason; Tomlinson; M'Culloch; Simmonds; Fortune; Exhibitions*, 1851, 1862; *Birdwood, Veg. Prod.; Maritime Commerce; Stat. Abst.; Poole's Stat. of Comm.; Ure's Dictionary; Annual Statement of Trade.*

DYNASTIDÆ. *Macl.* This insect family of dung-beetles is represented by the genera Oryctes, *Illig.;* Xylotrupes, *Hope;* Phileurus, *Latr.;* Orphnus, *Macl.*, in India.

DYSOXYLON. One species, of Java, yields a fruit used as garlic. D. Championii is a great tree of the central province of Ceylon, found up to an elevation of 4000 feet.—*Thw.* D. procerum, a timber tree of Assam. D. multijugum, *Arn.*, Guarea paniculata, *Roxb.*, a tree of Chittagong and Tiperah.—*Roxb.* ii. p. 240.

DYSOXYLON MACROCARPUM. *Bl.*
Guarea binectarifera, *Roxb.* | Amoora ficiformis, *W. Ill.*

A great tree of Ceylon, found in the central province, up to an elevation of 3000 feet, and at Batticaloa.—*Thw.* p. 60.

DYTISCIDÆ. *Macl.* This insect family of aquatic coleoptera in India is represented by the genera Cybister, *Curt.;* Dytiscus, *Linn.;* Eunectes, *Erich;* Hydaticus, *Leach;* Colymbetes, *Clairv.;* Hydroporus, *Clairv.*

DYUPETIR, a name of Indra, seemingly the origin of the name Jupiter, perhaps from Jiva, life, and Pitra, father. Dyupetir may, however, be from the words Deo, god, and Pitra, father, or from Div, the sky, and Pitra, father. See Dyaus.

DYUTA. SANSK. Gambling with dice, chess, etc., or betting on cocks, rams, etc. Dyuta-pratipad, also Dyuta-purnima, in Hinduism, is the night of the last day of the light half and eve of the first day of the dark half of the month Kartik, which is to be spent in gambling in honour of Lakshmi, the goddess of fortune.—*Wilson.*

DZAT. BURM. An open shed near a Burmese pagoda.

DZU NAWAZ, A.D. 490–525, a Himyarite king of Yemen, who visited Medina (Yathrib), of which half the population were Jews, and he became a convert. He invaded Nejran, and destroyed 20,000 Christians, throwing them into a blazing trench. —*Koran Sura*, 85; *Muir*, i. 162.

DZUTU. TEL. The scalp-lock of Hindu men.

E

E. This letter in the English language has three distinct sounds, as in the words here, her, and there. In Sanskrit, the e is always long; and the sound of the Arabic e can be better indicated by the English letter y; but to imitate the sounds of some of the e letters of the languages of South-Eastern Asia, the English e has to be duplicated, thus, ee. To obtain, by means of the English e, its sound as in there, the e is usually accented, as in Véda. In the languages of Southern India, and in Malealam and Tamil especially, the initials e or a are very commonly pronounced as if preceded by an initial y, B-A as B-yea.

E character in the Chinese tongue means a barbarian, and is applied by them to all foreigners, as the Hindus apply M'hlecha, the Greeks and

Latins, Barbaros and Barbarus, as Jews used Gentile, and as Arabs use Ajam. In the 50th article of the British treaty with the Chinese, it was stipulated that E should not be used to designate the people of Britain. Yuen is another Chinese term for foreigner, the exact meaning of which has not been mentioned; and the term Hung-mou-yin, red-bristled man, was also applied to the British.

EA of the Chaldees is Schalmann, the saviour. Ea is, moreover, the Oannes, lawgiver, of the fragments of Berosus in the sculptures of Assyrian palaces and on cylinders, the Euahannès of Hygin, and the Oes of Helladios.

EAGLE.

Nesr, ... Arab.	Nisr, ... Heb.
Neshr, ... Chal.	Sherza, ... Hind.
Aigle, ... Fr.	Aquila, . . . It., Sp.
Adler, ... Ger.	

The eagles, the Aquilinæ, are arranged by naturalists as a sub-family of the Falconidæ, of the order Raptores, or birds of prey, the Accipitres of Linnæus, and the Rapaces and Raptatores of other authors. Dr. Jerdon arranges the Aquilinæ into five groups, viz. True Eagles, Kite Eagles, Hawk Eagles, Serpent Eagles, and Fishing Eagles. They are birds powerful in flight, and are often named in Scripture. Job xxxix. 27 says:

> 'Is it at thy voice that the eagle soars,
> And therefore maketh his nest on high?
> The rock is the place of his habitation.
> He abides on the crag, the place of strength.
> Thence he pounces upon his prey.
> His eyes discern afar off.'

1. True Eagles.

(a) *Aquila chrysaetos*, Linn., Golden Eagle.

Falco niger, *Gmel.*	Aquila daphænia, *Hodgson.*
F. melanonotus, *Lath.*	A. nobilis, *Pallas.*

The golden eagle is found over the greater part of northern and central Europe, Asia, and America; it is, however, rare in India, and only in the Himalaya, for in Oudh and the N.W. Himalaya it is the lammergeyer to which Europeans give the name of golden eagle. It is named Berkut and Bjurkut by the Mongols, and is the Bearcoote which Atkinson notices in his travels. It is 3 to 3½ feet long; and the Kirghis and other Mongol tribes train it to kill antelopes, foxes, and even wolves. It is carried on a perch betwixt two men, or on a horse.

(b) *Aquila imperialis*, Bechst., Imperial Eagle.

Aquila mogilnik, *Gmel.*	A. Nipalensis, *Hodg.*
A. heliaca, *Sav.*	A. chrysætos, *Jerdon.*
A. bifasciata, *Gray, Hard.*	
Frus, ... Beng.	Jumiz, Jumbiz, . . Hind.

The imperial eagle is found throughout the Himalaya, is not uncommon in Central India and on the table-land, but is rare in the south of India. It commences to seek its prey about an hour after sunrise, hunting slowly at no great elevation over bushy valleys and ravines, and occasionally over cultivated ground, pouncing on hares, florikin, rats, lizards, etc., but will eat carrion.

(c) *Aquila nævia*, Gmel., Spotted Eagle.

Aquila melanætus, *Sav.*	A. vittata, *Hodg.*
A. clanga, *Pall.*	
Bukayari Jiyadha, Beng.	Nalla-gedha, . . . Tel.
Kal-janga, . . . Hind.	

The spotted eagle is found throughout India, N. Africa, Western Asia, and the S. of Europe, and is tolerably common in the Karnatic and in Malabar. It prefers the vicinity of cultivated places; it lives on small animals,—rats, squirrels, lizards, and frogs.

(d) *Aquila fulvescens*, Gray, Tawny Eagle.

A. punctata, *Gray, Hard.*	A. vindiana, *Frank., Jerd.*
A. fusca, ,, ,,	A. nævioides, *Blyth.*
Wokhab, ... Hind.	Dholwa of the . Wagri.
Ali, ... Tam.	Bursawul of the Yerkala.
Alawa, Salwa, . . Tel.	

This resembles the imperial eagle in miniature. It is found in a great part of India, is very abundant in the Dekhan, but is unknown in Malabar, Bengal, and to the E. of India. It prefers dry open plains. It quests slowly over fields, and feeds on hares, partridges, rats, lizards, and occasionally enters villages and towns and carries off chickens and ducklings. It pursues and robs kites, falcons, and other birds of prey. Its feathers are used for feathering arrow-shafts.

(e) *Aquila hastata*, Less., the Long-legged Eagle; Spizætus punctatus, *Jerd.*

Jiyada, Gutimar, Hind.	Phari Tisa, . . . Hind.

This eagle is not common. It robs birds' nests.

(f) *Aquila pennata*, Gmel., Dwarf Eagle.

Spizaetus milvoides, *Jerd.* Aquila minuta, *Brehm.*	Butaquila strophiata, *Hod.*
Baghati Jumiz, . Hind.	Punja Prandu, . . Tam.
Gilhri mar, . . . ,,	Oodatal gedda, . Tel.

This eagle is found in W. Asia, N. Africa, and S. Europe, and throughout India, frequenting groves of trees, gardens, and cultivated land, and pouncing on squirrels, rats, doves, pigeons, chickens. Hens with chickens readily recognise it, and call their young to them. Crows often pursue it out of their bounds.

2. Kite Eagles.

(g) *Neopus Malaiensis*, Reinwardt, Black Eagle.

Aquila perniger, *Hodgs.*	Nisaetus ovivorus, *Jerd.*
Heugong, . . . Bhot.	Adavi nalla Gedda, Tel.
Lahmong Bong, . Lepch.	

This eagle is found in most of the hilly and jungly districts of India, of Burma and Malayana. It is generally seen circling or questing for prey at no great height. Its chief food is obtained by robbing birds' nests of the eggs and the young.

3. Hawk Eagles.

(h) *Nisaetus Bonelli*, Temm.

Nisaetus niveus, *Jerd.*	Aquila intermedia, *Bon.*
Mohr-angah, . . Hind.	Rajale, ... Tam.
Mohr-angi, . . . ,,	Kundeli salawa, . Tel.

This eagle is about 27 inches long, and is found throughout India in the hilly and jungly districts. It preys on game birds, and peafowl, ducks, herons, and waterfowl, also on tame pigeons. Dr. Jerdon thinks it could be trained to hunt hares, antelopes, fawns, and bustard.

(i) *Limnaetus niveus*, Temm.

Falco limnaetus, *Vigors.*	Nisaetus pallidus, *Hodgs.*

This small eagle occurs in Bengal (Sadal), and north to the Himalaya, and easterly into Burma, Malayana, and the Archipelago.

(j) *Limnaetus cristatellus*, Temm.

Falco Lathami, *Tick.*	F. cirrhatus, *Gmel.*
Shah Baz, . . . Hind.	Jutu Bhairi, . . . Tel.

The crested hawk eagle is found throughout Central India, the Peninsula, and Ceylon, and is said to inhabit the Himalaya, Kamaon, and Bhutan.

It sits on a high tree, and pounces on hares, partridges, young peafowl, jungle-fowl, etc.

(k) *Limnaetus Nipalensis*, Hodgs., Spotted Hawk Eagle.

Nisaetus Nipalensis, *Hodg.*	Falco orientalis, *Temm.*
N. pulcher, ,,	
Reijore, ... BHOT.	Kanzha Cheel, . . LEP.

This has been found in the Himalaya, Khassya Hills, and Ceylon. It kills pheasants, partridges, and other small birds.

(l) *Limnaetus Kienierii*, De Sparre, Rufous-bellied Hawk Eagle, Spizaetus albogularis, *Tickell.* This is rare in the Himalaya and Central India.

(m) *Limnaetus caligatus*, Horsf., is a dark-coloured bird of Malacca.

4. SERPENT EAGLES.

(n) *Circaetus Gallicus*, Gmel., Serpent Eagle, C. brachydactylus, *Meyer.*

Sap mail, . . . BENG.	Pamula-gedda, . . TEL.
Mal-patar, ... CAN.	Rawul of the . WAGRI.
Samp-mar, . . . HIND.	Kendatele of the YERKALA.
Pambu prandu, . TAM.	

This serpent eagle is found in the south of Europe, N. Africa, all over India and Asia, and prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food, hovering in the air, and pouncing suddenly like a stone down. It seizes with its talons the snake by the back of the head, and the snake often twines its body around the bird, and encumbers it.

(o) *Spilornis cheela*, Daud.

Falco albidus, *Cuv.*	Circaetus Nipalensis, *Hod.*
F. undulatus, *Vigors.*	Buteo bacha, *Franklin.*
Circaetus undulatus, *Jerd.*	B. melanotus, *Jerd.*
Tilai baj, Sab cheer, BENG.	Botta genda, . . GOND.
Furj baj,. . . . ,,	Murayala, . . . MAHR.
Goom, ... CAN.	Nalla pamula gedda, TEL.

The crested serpent eagle is found all over India, in Assam, and Burma. It lives on snakes, lizards, rats, frogs, and insects.

(p) *Spilornis bacha*, Daud., from Java and Sumatra; is the Falco bido of Horsfield.

(q) *Spilornis spilogaster*, Blainv., from Ceylon and S. India.

(r) *Spilornis holospilus*, Vigors, is from the Philippines.

5. SEA EAGLES or FISHING EAGLES.

(s) *Pandion haliætus*, L., Osprey; Fish Hawk.

Pandion Indicus, *Hodgs.*	Pandion fluvialis.
Mach moral, Bala, . BENG.	Pantiang, . . . LEPCH.
Mach manga, . . ,,	Verali adi pong, . TAM.
Machariya, . . . ,,	Koramin gedda, . TEL.
Macha-rang, . . . HIND.	Hegguli of . YERKALA.

The fish hawk of Europe, Africa, and Asia, is spread all over India; abundant near the coast, and along marine lagoons. It plunges from a great height into the sea, and carries off a goodly-sized fish, but is frequently robbed by the Haliætus leucogaster. P. leucocephalus, *Gould*, occurs in Australia.

(t) *Polioætus ichthyœtus*, Horsf., White-tailed Sea Eagle.

Pandion lineatus, *Jerd.*	Ichthyœtus lucarius, *Hodg.*
Ichthyœtus bicolor, *Gray.*	Haliætus plumbeus, *Hodg.*
I. Horsfieldii, *Hodgs.*	
Mach morol, . . BENG.	Madhuya, . . . HIND.

This eagle is rare south of the Nerbadda, but common in Hindustan, Burma, and Malayana. It lives chiefly on fish, but will carry off a teal or wounded duck.

(u) *Polioætus humilis*, Temm., a miniature of the last; is found in Malacca and the islands. It is the I. nanus of Blyth.

(v) *Haliætus fulviventer*, Viell., Ring-tailed Sea Eagle.

Falco Macei, *Temm.*	Haliætus unicolor, *Gray.*
Haliætus Macei, *Blyth.*	H. lanceolatus, *Hodgs.*
H. albipes, *Hodgs.*	
Macha rang, . . . BENG.	Koral, ... BENG.
Mach manga, . . ,,	Bala, ... ,,
Mach korol, . . . ,,	Kokna, Ugus, of the KOL.

The ring-tailed sea eagle is found throughout the N. of India, along the Ganges and Indus up to Kashmir. It lives on fish, turtle, and snakes.

(w) *Haliætus leucogaster*, Gmel., Grey-backed Sea Eagle.

Blagrus leucogaster, *Blyth.*	F. dimidiatus, *Raffles.*
Ichthyætus cultrungis, *Bl.*	F. maritimus, *Gmel.*
Falco blagrus, *Daud.*	

This sea eagle is found throughout India, in Burma, Malayana, and Australia, chiefly on the coast and near the mouths of rivers. It lives on sea-snakes, crabs, rats, and on fish which it picks up on the beach.

(x) *Haliætus leucocephalus* is of N. America and N.E. Asia.

Aquila nævioides, the tawny eagle, is a native of Asia and Africa, extending into southern Europe. It is nearly allied to the imperial eagle. The white-headed sea eagle is the adopted emblem of the United States of America. The wedge-tailed eagle of Australia, Aquila audax, preys indiscriminately on all animals,—lambs, the kangaroo, bustard. Haliætus leucogaster is the Australian sea eagle. Bateleur eagle, Helotarsus caudatus, is of Africa.

The eagle takes a part in the mythology of the Hindus. The allegory of Krishna's eagle pursuing the serpent Buddha, and recovering the books of science and religion with which he fled, is an historical fact disguised, namely, that of Krishna incorporating the doctrines of Buddha with his own after the expulsion of the sect from India. The Gulf of Cutch, the point where the serpent or Takshac race attempted to escape, has been from time immemorial to the present day the entrepôt for the commerce of Sofala, the Red Sea, Egypt, and Arabia. There, Buddha Trivicrama or Mercury has been, and is yet, invoked by the Indian mariners, especially the pirates of Dwarica; and whether Buddha or Mercury came from or escaped to the Nile, whether Buddha Trivicrama be the Hermes of Egypt, to whom the four books of science, like the four Vedas of the Hindus, were sacred,—the statues of Nemi, the representative of Buddha exactly resemble in feature the bust of young Memnon, and the Buddhists appeared in the Gujerat Peninsula, and the adjacent Indian continent was the cradle of Buddhism, and in Saurashtra are three of the five sacred mounts of the Buddhist faith, *i.e.* Girnar, Satrunja, and Abu.—*Jerdon, Birds of India; Tod's Rajasthan.*

EAGLE STONES. The Greeks believed that the eagle stone or ætiles were only found in the nests of eagles. The eagle stone bore some analogy to the toad-stone. Pliny stated that a round perforated stone, if found in an eagle's nest, will

prove to be a specific against disease, and a charm against shipwreck and other disasters. Eagle stones are the Hajar-ul-akab of the Arabs, who describe them as resembling tamarind stones, but hollow, and found in eagles' nests, and believe that the eagles bring them from India.—*King.*

EAGLE-WOOD.

Agalugen, . . . ARAB.	Ud-i-Bukhoor, HD., PERS.
Ugoor, ... BENG.	Ud-i-Kimari, ,, ,,
Chin-hiang,. . . CHIN.	Ud-i-Samudri, ,, ,,
Ag'r, ... DUKH.	Kalambak, ... JAV.
Agel-hout, . . . DUT.	Al-camericum, . . LAT.
Lign-aloes, . . . ENG.	Lignum aloes, . . . ,,
Aloes wood, . . . ,,	Xylo-aloe, ... ,,
Eagle-wood, Incense wood,	Agallochum of Dioscorides.
Agallocha, ... ,,	Tarum of Pliny.
Black agallocha, . . ,,	Agila gahru, . MALAY.
Bois d'aigle, . . FR.	Kayu gahru, . . ,,
Agallochee, . . GR. ?	Pao d'agila, . . . PORT.
Ahel; Ahelim, . HEB.	Pao d'aguila, d'aquila, ,,
Ahiloth, ... ,,	Agara; Agarhu, . SANSK.
Ud-i-Chini, HIND., PERS.	Kisna, ... SIAM.
Ud-i-Hindi, ,, ,,	Krishna agaru, TAM., TEL.

A highly-fragrant wood, much esteemed by Asiatics for burning as incense. It is made into the pastilles called Ud batti in Hindi. There are several kinds in commerce, and supposed to be obtained from the Aloexylon agallochum, *Lour.*, Aquilaria agallocha, *Roxb.*, the Aq. Malaccensis, *Lam.*, and the Aquilaria secundaria. The eagle-wood incense seems to be a resinous deposit in the interior of the tree. It is mentioned in Num. xxiv. 6, Prov. vii. 17, Cant. iv. 14. In Siam, only one kind of tree is known to produce this; it is only found in one tree out of twenty, and labourers often cut up several before finding any of it. It chiefly occurs in the trees on the islands in the Gulf of Cambodia. They have a knowledge of the outward indications, and, felling the tree, preserve the dark diseased portion, which is sold at ten shillings the pound.—*Bowring, Siam; Royle, Ill.; O'Sh.; Roxb.*

EAKA and Rai are races often included under the name of Limbu, along with the Kirata, or Kirants, and in appearance they are all very much alike.

EAPAY, according to the Karen, the Creator.

EARL GEORGE WINDSOR devoted years of his life to the investigation of the countries and races of the Eastern Archipelago. The principal part of his writings appeared in the Journal of the Indian Archipelago. He also wrote The Eastern Seas, or Voyages and Adventures in the Indian Archipelago in 1832-34, with Observations on the Commercial Resources of the Archipelago, 1837; also Native Races of the East Indian Archipelago Papuans, London, 1853.

EARNEST MONEY, Tirmantha, TAM., is paid down in almost every transaction of India.

EAR-RING. Ενοτια, GR.; Inaures, LAT. Mentioned in Genesis xxxv. 4, Judges viii. 24, Hosea ii. 13; are worn in the ears by men and women in Eastern countries, and other ornaments are worn round the neck like the golden bulla and leather torum of the Roman youth. Phylacteries are mentioned in Deuteronomy vi. 8, xi. 18. The Malay women of Menangkabau, in Sumatra, place a saucer-shaped gold ornament in the ear. The Dyak women of Borneo also do this. Ear-plugs are worn by all the Burmese, male and female, in a perforation made in the lobe of the ear, which is gradually enlarged, until it will admit an ornament of the proper diameter. These are made of gold, silver, pinchbeck, horn, wood, rock-crystal, glass, etc., according to the means of the wearer; amber is the favourite and most fashionable material, being worn by the ladies of the court of Ava. An amber pair of ear-plugs cost 100 rupees. Mahomedan and Hindu women in India wear gold ear-rings. The humbler Tamil women insert rolls of palm leaves. The lobe of the ear is sometimes torn by over-stretching. — *Local Committee, Rangoon.*

EAR-SHELLS belong to the genus Haliotis and family Haliotidæ of the mollusca.

EARTH, Globe, World.

Arad, ... ARAB.	Zamin, ... PERS.
Myay, ... BURM.	Bhu, ... SANSK.
Terre, ... FR.	Tierra, ... SP.
Erde, ... GER.	Bhum, ... TAM.
Danya, Jahan, Zamin, HD.	Toprak, . . . TURK.
Terra, ... IT., LAT.	

The surface of the globe has 31,625,625$\frac{1}{12}$ square miles, of which the waters are 23,814,121. The surface covered with water is therefore to dry land as 3·8 to 1·2. The islands form scarcely $\frac{1}{2}\frac{1}{2}$ of the continental masses. In astronomy the symbol of the earth (♁) is the inverted emblem of life, and probably bears some reference to terrestrial corruption and decay.

Earth-Bath is a form of medical treatment occasionally adapted on the littoral tract of the Persian Gulf, and eastwards to the Indus. It had a great run in London about the middle of the 18th century.

Earth Goddess, Mrittika. Human sacrifices were made to this deity in the Tributary Mahals.

Earth Nut, Arachis hypogea, ground-nut. In the year 1879–80, the quantity exported from India was 48,435 cwt., value 2,85,519 rupees.

Earth-Oil is found in great abundance in Burma, where deep pits are sunk to obtain it. It is found more or less in almost every residency of Java, oozing into wells dug in certain spots in the ground for it to drain into.

Earths of kinds are largely used in India. A white earth from the hill state of Dhenkanal, in Cuttack, locally called Teelak earth, is used for making the marks on the forehead, nose, arms, and breast, particularly by Hindu devotees, but also by high class natives in the Madras Presidency. That obtained from the banks of the Dhumseerie Nuddee is used for making a white paste to plaster over their idols. An earth obtained near Seel-Chitta, in the Jummoonah Nuddee, in Nowgong Zillah, is used in painting.

The *Chamarfo* earth of Spiti is of a bright, deep red colour, and used in dyeing.

The *Chasarfo* is an orange-coloured dye-earth of Spiti.

Mitti-gachni, called also Multani Mitti, or Gil-i-Multan, is a soft saponaceous earth, used for washing the hair, also medicinally. Its white variety, termed Khujru, is eaten. Its yellow variety, termed *Khakri*, is used for dyeing cloths. A light-green variety, *sabzi matti*, is used for washing the hair.

The *Gehru* and *Hirmji*, or red ochres, are impure sesquioxides of iron, used by Hindu ascetics for dyeing their cloths of a dull orange colour. Yellow ochre, or hydrated sesquioxide of iron, is the dyestuff called ramraj. The black earth of tanks is used for dyeing a blue-black. *Reh*, an

impure carbonate or sulphate of soda, is used in dyeing, as a detergent for washing the cloth.—*Panj. Exh.; Proctor's Saturn*, p. 197; *Maury*.

EARTHENWARE.

Aardegoed, . . . DUT.	Terraglia, ... IT.
Crockery, . . . ENG.	Gliniauæ naczynia, POL.
Vaisselle de terre, . . FR.	Gorschetschnue possodu,
Poterie, ... ,,	RUS.
Irdene Waaren, . GER.	Loza de barro, . . SP.
Chenikam, GUJ., HIND.	Pani, ... TAM.
Stoviglie, ... IT.	Kunda, ... TEL.

Porcelain, stoneware, flint-ware, delft, ironstone, china-ware, etc. Earthenware and porcelain imported into India in the six years 1874–75 to 1879–80 ranged in value about 10 and 12 lakhs of rupees. Sir George Birdwood says, truest to nature, in the directness and simplicity of its forms, and their adaptation to use, and purest in art, of all its homely and sumptuary handicrafts, is the pottery of India,—the unglazed rude earthenware, red, brown, yellow, or grey, made in every village, and the historical glazed earthenware of Madura, Sind, and the Panjab. Unglazed pottery is made everywhere in India, and has been from before the time of Menu; and the forms of it shown on ancient Buddhist and Hindu sculptures, and the ancient Buddhist paintings of Ajunta, are identical with those still everywhere thrown from the village hand-wheels. In the sculptures of Bhuvaneswar, the form of the kalasa or water jug is treated with great taste as an architectural decoration, especially in its use as an elegant finial to the temple towers. In the same sculptures is seen the form of another water vessel, identical with the amriti, or 'nectar' bottle, sold in the bazars of Bengal. . . . The principal varieties of Indian fancy pottery, made purposely for exportation, are the red earthenware pottery of Travancore and Hyderabad in the Dekhan, the red glazed pottery of Dinapur, the black and silvery pottery of Azimghur in the North-Western Provinces, and Surajgura in Bengal (Bhagulpur), and imitation bidri of Patna and Surat in Gujerat, the painted pottery of Kota in Rajputana, the gilt pottery of Amroha, also in Rajputana, the glazed and unglazed pierced pottery of Madura, and the glazed pottery of Sind and the Panjab. In all these varieties of Indian pottery is an artistic effect, unconsciously sought to be produced. . . . The potter's art is of the highest antiquity in India; and the unglazed water vessels, made in every Hindu village, are still thrown from the wheel in the same antique forms represented on the ancient Buddhistic sculptures and paintings. Some of this primitive pottery is identical in character with the painted vases found in the tombs of Etruria, dating from about B.C. 1000. It is interesting to find that pottery is still made all over India, for daily use, which is in reality older than the oldest remains we possess of the ceramic art of ancient Greece and Italy. None of the fancy pottery made in India is equal in beauty of form to this primitive village pottery, and most of it is utterly insignificant and worthless. The only exception is the glazed pottery of Madura, and of Sind and the Panjab, which alone of the fancy varieties can be classed as art pottery, and as such is of the highest excellence. The Madura pottery is in the form generally of water bottles, with a globular bowl and long upright neck; the bowl being generally pierced so as to circulate the air round an inner porous bowl. The outer bowl and neck are rudely fretted all over by notches in the clay, and are glazed either dark-green or a rich golden brown.—*Faulkner; M'C.*

EARTHQUAKES.

Myay-gyee, . . . BURM.	Zalzalah, HIND., PERS.
Tremblement de terre, FR.	Terremuolo, . . . IT.
Erdheben, . . . GER.	Terremoto, ... SP.

Earthquakes are of repeated occurrence in the south and east of Asia. Captain Baird Smith, in a memoir on Indian earthquakes, enumerated 162 of them between the years 1800 and 1842, and many of these were felt in the delta of the Ganges. Dr. Tholozan (Comptes Rendus), physician to the Shah of Persia, examined the records of earthquakes in the works of the principal Arabian and Persian historians, from the 7th to the 17th centuries, and found 111 intense and considerable earthquakes, in which houses were destroyed, sometimes entire towns, with loss of life. Some lasted over many days, notably that of Khorasan in 644. The Musalman historians often give the accompanying meteorological phenomena with remarkable precision. High winds were frequent, and whirlwinds. Persia experienced earthquakes 52 times during those ten centuries,—31 times alone, and 21 times along with Syria, Mesopotamia, Egypt, Turkestan, etc.; Irak, 10 times; Khorasan, 9 times. Mesopotamia was 23 times agitated,—7 times alone, and 16 times along with neighbouring countries. Egypt was attacked 18 times alone, and 9 times with other countries. Syria 9 times alone, and 17 times with other countries. The results of his inquiry corrected two assertions that have been made. One is that of Van Hoff, that from the commencement of the 13th to the latter half of the 17th century, there was an almost complete cessation of earthquakes in Syria and Judæa; the other, that of the celebrated orientalist Quatremère, that the north-east portion of Africa, comprising Egypt, has been nearly always exempt from earthquakes. In Egypt, 27 earthquakes are recorded in seven centuries (796-1482). The most extended record of earthquakes is that by Mr. Walford in the Statistical Society's Journal for 1878. In 1881, Herr Fuchs recorded 244 in Der Naturforscher,—86 in winter, 61 in autumn, and 56 in summer.

Earthquakes are repeatedly felt at Kābul. Vigne tells us (Pers. Narrat. p. 212) that there are usually a dozen in the course of a year. While the British were besieged in Jalalabad in 1841, its walls were thrown down by an earthquake.

The surface of the Sunderbuns has more than once sunk below the level of the ocean; and evidence of subsidence are on the whole coast from Cape Negrais to Akyab on the eastern side of the Bay of Bengal; but Reguain, or Flat Island, as well as all the other islets and rocks on that part of the coast of Arakan, are undergoing the process of upheaval. This fact was brought to notice in 1840, by means of the nautical surveys of the brig Childers. The coast from Akyab to Cape Negrais is indented by deep and narrow gulfs similar to the fiords of Scandinavia, and lies within the prolongation of the great volcanic band of the Sunda Islands, which extends from Java to Sumatra, Barren Island, and Norcondam; and indeed all the islands on the coast of Arakan bear evident marks of subterranean fire. In the island of Cheduba, 300 miles south-east from the Sand-heads, in lat. 18° 51′ N., and long. 93° 28′ E., there are two mud volcanoes which rise to a

height of from 100 to 200 feet. This line of upheaval is in the direction of N.W. by N., to S.E. by S. It is 100 geographical miles in length, and varies in breadth from 20 miles, to a very narrow strip of islets and rocks. The upheaval has been greatest in the middle of the line. At the Terribles it was 13 feet, at different parts of the N.W. reefs of Cheduba 22 feet, at the north point of the island 16 feet, in the middle or the west coast 13 feet, at the south end 12 feet, and the islands south of Cheduba to Foul Island 9 to 12 feet. The first symptoms of upheaval were observed about the year 1750 or 1760, on the occurrence of a great earthquake, by which the sea was driven over the land, and the effects of which were felt as far as the city of Ava. An earthquake is said to have occurred 100 years earlier, and the inhabitants believe that a similar phenomenon occurs every century. In the island of Kyouk Phyoo, 35 geographical miles north, or nearer the Sunderbuns, a volcanic eruption took place suddenly, east of the station, at 6 P.M. in June 1852. Again, on Christmas eve 1855, the island was illuminated for miles around by a huge column of fire thrown up by the volcano; and in April 1857, about 10 A.M., the volcano was again in commotion. We learn from the Philosophical Transactions (vol. liii.), and from the Journal of the Asiatic Society (vol. x. pp. 351-433), that the town of Chittagong, in Bengal, was violently shaken by an earthquake on the 2d April 1762, the earth opening in many places, and throwing up water and mud of a sulphurous smell. At Bardavan a large river was dried up; and at Bar Charra, near the sea, a tract of ground sunk down, and 200 people with all their cattle were lost. It is said that 60 square miles of the Chittagong coast suddenly and permanently subsided during this earthquake; that Ces-lung-Toom, one of the Mug mountains, entirely disappeared, and another sunk so low that its summit only remained visible. Foul Hills are also described as having been variously rent asunder, leaving open chasms from 30 to 60 feet in width. Towns, which subsided several cubits, were overflowed with water; among others, Deep Gong, which was submerged to the depth of 7 cubits. Two volcanoes are said to have opened in the Seeta Canha Hills. The shock was also felt at Calcutta. While the Chittagong coast was sinking, a corresponding rise of the ground took place at the island of Ramree, Reguain, and at Cheduba (Johnston's Physical Atlas).

The entire Eastern Archipelago rests on a volcanic base nearly circular in form, commencing from the west coast of Burma, and passing through the great islands of Sumatra, Java, Celebes, and Luzon. In the last island, one of the Philippines, are some violently active volcanoes. The volcanic chain goes round the outer circle of the Eastern Archipelago, and the volcanic action consequently affects the whole group, working along the western end of the Indo-Chinese peninsula, *i.e.* on the Arakan and Chittagong coast, up to the Himalaya, 1000 miles away. In the Kangra, Kullu, and Lahoul districts, the Jwala Mukhi fires of Kangra, the Mani Karn boiling springs of Kullu, are but so many indications of the pent fires which lie beneath.

In 1640, from an eruption at Buhayan, 180 miles from Zamboanga, in Mindanao, large masses of stone were flung to a distance of 6 miles. The ashes fell in the Moluccas, and in Borneo. Dense darkness covered Zamboanga. Ships at sea lighted their lamps at 8 A.M., but the lights could not be seen through the clouds of sand. The noise of the eruption was heard at Manilla. The mountain whence the eruption originated disappeared, and a lake was formed and still remains in the locality.

The island of Simo, one of the Batu group, on the west coast of Sumatra, had an earthquake and sea-wave on the 9th March 18—? Before the occurrence the island had 120 houses, and a population of 1045. On that day 96 houses were destroyed, and 675 of the inhabitants, besides 103 temporary residents, lost their lives. An earthquake was felt at the fall of the evening, shortly before the inundation. All the inhabitants then assembled on the open space in the middle of the campong, but a moment afterwards they tried to make their escape from thence, as they dreaded the fall of the houses, which were already tottering. They were driven back, however, by a rush of water which approached from the back of the campong. Running back from this, they were overwhelmed by another terrific wave, which, out of 282 persons, swept off 206. Two waves met each other at this point, and large masses of rock were carried from the sea for 100 to 200 paces inland, and the water retired with force, sweeping much into the sea. Soon after the earthquake, heavy reports like distant cannon shots were heard, on which was observed approaching at a great distance from the sea, a wave of the height of a full-grown cocoanut tree, and which dashed with furious force on the island. Some saved themselves by flight, the rest were overtaken by the water and swept away. Three such waves succeeded each other.

In the Philippines, the most fatal earthquakes occurred in 1601; again, on the 30th November 1610, 30th November 1645, 20th August 1658, in 1675, 1699, 1796, 1824, 1852, in 1863, and 1869, and from the 13th to the 24th July 1872? On the 20th July a violent shock was felt at 4 o'clock in the afternoon, which lasted 40 seconds, and completed the work of destruction begun by the previous ones. All the volcanoes in the island were in eruption, and in many places the earth opened, throwing up boiling water and sand. At 11 o'clock the same night a fourth shock occurred, lasting 55 seconds, and scarcely a building was left standing in Manilla.

In 1645, for two months there was a succession of fearful earthquakes. In Cagayan, a mountain was overturned, and a whole town engulfed at its foot. Torrents of water and mud burst forth in many places. All the public buildings in the capital were destroyed, 600 persons were buried in Manilla beneath the ruins of their houses, and 3000 altogether are said to have lost their lives.

An earthquake of 1796, in the Philippines, was sadly calamitous.

On the 3d June 1863, at half-past 7 in the evening, a flame was seen to rise from the earth and gird the city of Manilla, and at the same time a terrific quaking of the earth took place. It lasted scarcely a minute, but in that short space nearly the whole of Manilla was reduced to a heap of ruins, upwards of 1000 persons killed, and many thousands injured. The priests, their

choristers and sacristans, and the Christians who were hearing the vespers of Corpus Christi, were nearly all buried under the ruins of the cathedral and other churches. The flame that surrounded the city was seen from the bay to ascend towards the sky; and another, a triple-snaked one, came from the land over the water to the shipping. On shore the earth everywhere sunk at least 2 feet.

Earthquakes are frequent in the Moluccas, and indeed in all the islands between Sumatra and 125° of E. longitude.

On the 21st December 1846, three shocks of an earthquake were felt in Ternate. The first two were very heavy, and accompanied by a thundering noise, and columns of ashes were ejected, and a lava stream flowed to the north of the mountain without causing any damage. Other two earthquake shocks were subsequently experienced at Ternate, and on the 8th of April 1847, about half-past 3 o'clock, a severe earthquake took place, which was felt in a direction from north to south.

In the month of March 1847, a sinking of the mountain Nimbenok (which is three days' distance from Kupang) took place, in consequence of which many houses with their contents were destroyed by great stones that rolled down.

A severe earthquake was experienced in Batavia, and over an extensive region in Java, in 1847. A shower of ashes fell at Buitenzorg on the night of the 17th October 1847, which came from the Guntur mountain, in the district of Limbangan, residency of Preangar. On Sunday the 17th October, at 11 o'clock P.M., earthquake shocks, following each other in quick succession, were felt at Tijundjur. A shower of ashes began to fall the same night, and by the following morning had clothed the earth, grass, trees, and buildings with a brown covering. The earthquakes had not wholly stopped at Tijundjur on the 29th October. The shower of ashes reached as far as the frontiers of the residency of Bantam, a distance of more than 80 miles to the westward of the place of the eruption.

The island of Gunong Api, or Fire Mountain, is wholly a volcano, and has caused repeated desolation around it.

In 1586 Japan was shaken by dreadful earthquakes. From the province Sacaja, as far as Miaco, the earth trembled for forty days successively. In the town of Sacaja 60 houses were thrown down. At Nagasama, a small town of about 1000 houses in the kingdom Oomi, the earth gaped and swallowed up one half of that place; the other half was destroyed by a fire. Another place in the province, Facata, much frequented by merchants, and likewise called Nagasama by the natives, after it had been violently shaken for some days, was at last swallowed up by the sea; the water overflowed the coasts, washed away the houses and inhabitants, and left no footstep of that once rich and populous town. A strong castle in the kingdom of Mino, built at the top of a high hill, after several violent shocks, sunk down and disappeared of a sudden in the gaping earth, a lake quickly filling the place where the castle had been. Another accident of this kind happened in the province Ikeja. Many more gaps and openings were observed up and down the empire.

At Yeddo, at 8 o'clock on the morning of the 27th July 1783, a great wind arose, accompanied by subterranean mutterings, which increased till the 1st August. On that day earthquakes shook the houses, the shocks increasing in intensity; the summit of the mountain was rent open, fire and flame burst forth, showers of sand and stones were thrown high in the air, great chasms rent the earth, into which thousands fell in their flight. The shocks continued until the twelfth day, and were felt over a space of thirty leagues. Twenty-seven towns and villages were destroyed; the rivers overflowing, inundated the whole country, and completed the work of destruction.

On the 23d of December 1854, at 9.45 A.M., shocks of an earthquake were felt on board the Russian frigate *Diana* as she lay at anchor in the harbour of Simoda, not far from Jeddo in Japan. In fifteen minutes afterwards (10 o'clock), a large wave was observed rolling into the harbour, and the water rapidly rose on the beach. The town, as seen from the frigate, appeared to be sinking. This wave was followed by another; and when the two receded, which was at 10h. 15m., there was not a house, save an unfinished temple, left standing in the village. These waves continued to come and go until 2.30 P.M., during which time the frigate was thrown on her beam-ends five times. A piece of her keel 81 feet long was torn off; holes were knocked in her by striking on the bottom, and she was reduced to a wreck. In the course of five minutes the waters in the harbour fell, it is said, from 23 to 3 feet, and the anchors of the ship were laid bare. There was a great loss of life; many houses were washed into the sea, and many junks carried up—one two miles inland—and dashed to pieces on the shore. The day was beautifully fine, and no warning was given of the approaching convulsion; the barometer standing at 29·87 in., thermometer 58°; the sea perfectly smooth when its surface was broken by the first wave. It was calm in the morning, and the wind continued light all day.

In a few hours afterwards, at San Francisco and San Diego, the tide-gauges showed that several well-marked and extraordinary waves had arrived off the coast of California. The origin of these waves, and those which destroyed the town of Simoda and wrecked the *Diana*, was doubtless the same. But their birthplace is not known to be near the coast of Japan.

B.C. ? 505, Earthquake in China.
A.D. 285, In the island of Niphon, a lake 72½ miles long by 12½ wide formed in one night.
,, 893, In India, 180,000 souls destroyed by an earthquake.
,, 1040, Tabreez overthrown, and 50,000 people killed.
,, 1139, Gausana, in Persia, destroyed, and 10,000 of its inhabitants killed.
,, 1505, Kābul almost destroyed by an earthquake.
,, 1596, Several cities of Japan destroyed.
,, 1703, Jeddo, in Japan, overthrown, 200,000 persons perished.
,, 1720, 20th June, a fearful earthquake in old Dehli, and shocks recurred for a month and two days.
,, 1727, Tabreez overthrown, 77,000 persons perished.
,, 1731, Pekin destroyed by earthquake, 30th November, 100,000 people destroyed.

A great storm and earthquake devastated Calcutta in 1737, described in the Gentleman's Magazine printed in 1738-39. The account runs thus:—'In the night between the 11th and 12th October 1737, there happened a furious hurricane

at the mouth of the Ganges, which reached 60 leagues up the river. There was at the same time a violent earthquake, which threw down a great many houses along the river-side. In Golgotta (Calcutta) alone, a port belonging to the English, 200 houses were thrown down, and the high and magnificent steeple of the English church sank into the ground without breaking. It is computed that 20,000 ships, barks, sloops, boats, canoes, etc., have been cast away. Of nine English ships then in the Ganges, eight were lost, and most of the crews drowned. Barks of 60 tons were blown two leagues up into land over the tops of high trees. Of four Dutch ships in the river, three were lost with their men and cargoes. 300,000 souls are said to have perished. The water rose 40 feet higher than usual in the Ganges.'

1780, Tabreez was destroyed by an earthquake, 15,000 houses thrown down, and multitudes perished.
1782, A furious cyclone occurred at Surat.
1793, 1st April, an earthquake at Japan, 53,000 persons destroyed.
1804, Hail-storm at Allahabad.

Heyne mentions an earthquake in Mysore in the year 1800, whilst a great hurricane raged between Ongole and Madras.

On the 16th June 1819 an earthquake was felt over a great extent of country, but its centre was in Cutch. It is the most violent recorded in India. The first and greatest shock occurred a few minutes before 7 in the evening of the 16th June 1819. The alarmed inhabitants of Bhooj fled in all directions to escape from their falling habitations. A heavy noise, the violent undulatory motion of the ground, the crash of the buildings, caused dismay and terror. The shock lasted for two or three minutes, and during that brief time Bhooj was almost levelled with the ground, and nearly 2000 persons perished in Bhooj alone. The walls of Bhooj fell about 6.48 P.M. Before 11 P.M. three shocks occurred. On the 17th the earth was frequently in motion, attended with gusts of wind. Until the 1st July there were two or three shocks daily; one daily throughout July, one every three days in August and September, about six in October, and three in November, —about 100 in all. The great shock was felt at Calcutta at 7.6, Cutch time, 18 minutes later than at Cutch; at Chunar, 7.15.6; at Pondicherry, 8 P.M.; at Ahmadabad, 7.19. At Khatmandu it was felt sensibly in the evening; also in Sind. It embraced a space of 18 degrees of latitude and 20 of longitude.

1827, Fort Kolitaran, near Lahore, destroyed by earthquake.
1842, Jalalabad walls thrown down.

On the 11th November 1842 occurred a severe earthquake, of which Calcutta appeared to be the centre of emanation. The shocks extended 300 miles north to Darjiling in the Himalaya mountains, to Chittagong, or 250 miles on the east, and to Monghir, or 210 miles on the west; and it was also felt on board the *Agincourt* 70 miles south of the Floating Light.

Earthquake shocks were experienced in Travancore in February 1823, 19th September 1841, 20th November 1845.

1852, Manilla injured by earthquakes.
1853, Shiraz destroyed by earthquakes, and 10,000 people killed.

About the middle of the 19th century, several earthquakes are recorded to have occurred in British India, but the precise dates have not yet been found.

In July 18—? smart shocks of an earthquake were felt at Lahore, Rawal Pindi, Attock, and Wazirabad. The shock of an earthquake was felt at Peshawur on the 16th September 18—? about 7 A.M. The vibrations were barely sensible, but the concomitant rumbling noise was well defined. On the afternoon of the same day, the valley was visited by a dust-storm, followed by drizzling rain, which continued throughout the night.

In January 18—? there occurred an extended earthquake at Chittagong on the eastern coast of Bengal, and also at the Kangra valley to the north of the Panjab, amid the N.W. Himalaya; the same earthquake was felt in the south at Sholapur, at Bombay, at Mahabaleshwar and other places on the Western Ghats, and in the Madras Presidency at Ramandrug near Bellary. An earthquake about the middle of the 19th century was felt all over Bengal, at Dacca and Silchar in Cachar; as also in Assam on the 14th December, a day previous to the shocks at Chittagong. Dewangiri also was agitated.

On the 19th August 18—? the same day that an earthquake was felt at Singapore, severe shocks were experienced on the west coast of Sumatra. The Sumatra Courant of the 20th thus described them:—Since noon yesterday, repeated shocks of earthquake have been felt here. At 6 o'clock several movements were observed. Sometimes there were horizontal and sometimes vertical shocks, felt at 8.45, 10.25, and 11.30 P.M., with a duration on each occasion of from 2 to 3 minutes; at 2.25 the shocks were the heaviest, and lasted fully four minutes. To-day, at about 4.30, 8.30, 11, and 11.45 A.M., these movements were repeated with diminishing severity. Further shocks were felt at Pading on the 25th and 26th August. Indrapura, Batang Kapas, Painam, Rau, and Natal announce heavy earthquake shocks at those places. At Natal the fort was rent to its foundations in several places.

An earthquake was felt on the 26th July 1854 all over Lower Bengal.

1854, Anasaca and Simoda, in Niphon, were destroyed by earthquake, and Jeddo much injured.
1855, 11th November, Jeddo nearly destroyed by earthquake, 30,000 inhabitants overwhelmed.

Earthquakes occurred in Travancore on the 17th March 1856, on the morning of the 11th August 1856, again at 4.25 P.M. of the 22d August, again on the 1st September.

An earthquake occurred at Bombay on the 8th December 1857.

Mount Abu is subject to frequent shocks of earthquakes.

An earthquake of the 24th August 1858 was felt in Calcutta and Madras. Prome in Burma, barely 50 miles east of the active volcanoes at Ramree and Cheduba, suffered considerably; many pagodas were shaken down and houses destroyed. At Kyouk Phyoo they had rain all the 23d. Between 4 and 5 P.M. a slight shaking of the floor was first perceptible, suddenly followed by a rumbling noise and a vibratory motion of the ground, till the earthquake became violent. This vibratory action of the earth from E. to W. lasted

for about 2½ minutes, and then suddenly ceased. The earth opened in various places, and a peculiar bluish soft sandy matter exuded from them, and the scene closed by an eruption from the volcano. The *Proserpine* ship was lying in 11 fathoms of water at the time of the shock, and the sensation felt by those on board was like that experienced when running on a reef; the vessel trembled in every part of her.

On the 10th January 1869, a severe earthquake occurred in Assam, Cachar, and Munipur. At Silchar the ground rose about 20 feet in a long wave, and the river rushed backward for an hour. The earth opened in many places, and volumes of blue sand and water were thrown up, and a similar splitting of the earth occurred at Munipur. It extended a long distance into Upper Burma. It was very severe in the hills to the N.E. of Munipur. Even in the hills the ground opened extensively, and water rushed out, with mud; people fell into the fissures and were injured.

In Chittagong and Eastern Bengal, earthquakes have been felt every few years, some shocks being pretty severe. Sita Khoond is perhaps the centre of volcanic action in the Chittagong district.

In North Arcot, in 1859, there occurred some shocks in Tripati and Chandragiri. One shock was felt at 5 P.M., on the 2d February 1859, taking its course from east to west. The noise resembled that occasioned by a railway train going at full speed, and was audible for the space of one minute, during which time the ground trembled. The shock took its course from the foot of the Tirumallay Konda, a hill seven miles north of the Chandragiri Kasbah, and travelling southward, terminated at Thorno Kumbala village, seven miles south of Chandragiri. The shock was felt west as far as Pakala, some 16 miles off, and on the north-west as far as Bimavaram, 10 miles distant.

A shock of an earthquake was felt at Trichinopoly on Friday morning of 18— about a quarter before four. The shock lasted nine or ten seconds, passed on from west to east; not a cloud was visible in the heavens, which were beautifully clear.

1867, The town of Djocja in Java destroyed by an earthquake.

1872, 14th and 15th Dec., Lehree, Eastern Cutchee, destroyed by earthquake, and about 500 persons killed.

Earthquakes occurred at Kulla-jo-Kuhar in Kohistan in 1873. On the 1st July there occurred a very severe shock about noon, and four or five shocks were felt between that and the next morning; most of them were preceded by a noise like that produced by firing a heavy gun.

On the 5th of August there was another earthquake at Kulla-jo-Kuhar. Two landslips took place near Kulla-jo-Kuhar, and slips in the Karo and Kamhu hills also.

On the 14th, at Kulla-jo-Kuhar there was another earthquake between five and six in the evening; and on the 15th there was another shock about the same hour, with similar noise, at Jakro, about two miles from Kulla-jo-Kuhar.

In 1876, in the Philippine Islands, earthquakes were altogether 41 in number, viz. 11 in North Luzon, 8 in South Luzon, 15 in Central Luzon, 1 in Mindoro, 2 in Masbate, 1 in Leyte, and 4 in Mindanao.

Captain W. J. Gill, R.E., travelled in 1877–8 on the western frontier of China, on the borders of Tibet, on which he entered at Ta-chien-lu, and advancing to Li-thang and Ba-than, he found that the latter place had been rebuilt, having a few years before been wholly destroyed by a frightful series of earthquakes, which devastated the whole neighbourhood.

On the 2d March 1878, Simla had a long continued earthquake. It was the third in six months. About the same date a severe earthquake was felt at Peshawur, Rawal Pindi, Lahore, and Murree. A large portion of the inner wall of the fort at Peshawur fell down from the shock.—*Capt. M'Murdo in Tr. Bo. L. So.; Jameson's Edinburgh Journal*, 1820.

EAST.

Mashrik, . . . ARAB.	Dakshina, . . . SANSK.
Est, Orient, . . . FR.	Oriente, ... SP.
Osten, Morgenland, GER.	Ghyun-doghurussu, TURK.
Il-Levante, . . . IT.	

By the Hindu, who worships the sun, the cardinal points are named with reference to the east: Aspara, the front, or the east, to which he turns in his daily morning worship; Apara, behind, or the west; Vama, the left hand, or the north; and Dakshina, the right hand, or the south. By the Mahomedan, who turns his face to the west, towards Mecca, these terms are exactly reversed, and Dachin, which still means the right hand in Kashmiri, is now used to denote the north.

The east, the Morgenland of the Germans, has been the theme of innumerable writers, on its people and on their customs. Burder in his Oriental Customs, Ward in his Hindoos, Hardy in his Eastern Monachism, Roberts in his Oriental Illustrations of the Scriptures, Bunsen's Egypt, his God in History, Max Müller's Sacred Books of the East, and the Hebrew Scriptures, have given to the western nations a vast amount of information. The races occupying the south and east of Asia are of Turanian and Mongol origin, Semitic, Aryan, and African, all various in personal appearance, habits, and customs.

The *Shemite*, says Layard, whether Hebrew, Arab, or Syrian, has a brilliant imagination, ready conception, a repugnance to any restraint that may affect the liberty of his person or of his intellect. He conceives naturally beautiful forms, whether they be embodied in his words or in his works; his poetry is distinguished by them, and they are shown even in the shape of his domestic utensils. This race possesses in the highest degree what we call imagination. The Shemite, says Layard, shows a ready eloquence; his words are glowing and apposite; his descriptions true, yet brilliant; his similes just, yet most fanciful. These high qualities seem to be innate in him. The best character of the Bedouin, says Burton (Pilgrimage, p. 44), is a gentleness and generosity. The three great monotheistic systems which have divided the civilised world, came forth from nations of Shemite origin; among them arose the priests or prophets of all those nations who hold to the unity of God. In the south and east of Asia are representatives of those three great religions, Jews, Christians, and Mahomedans. The Aryans of Southern Asia are in two distinct branches, viz. the East Aryans, a designation given to the brahmanic Indians who moved into India, to distinguish them from the West Aryans or Persians, who migrated into the northern country of the Zend.

The *Parsee* follow the fire-worship which seems to have been a corruption of doctrines taught by Zoroaster. The East Aryan races in India pursue a worship of nature, of spirits, and of demons; have adopted physiological doctrines as revelations, are worshipping deified mortals and heroes, and are believing in many incarnations of two deities called Siva and of Vishnu. They are spread all over India, and have imparted to its prior occupants a considerable acquaintance with their religious books. These prior peoples constitute the bulk of the inhabitants of British India, and have merely added on to their own nature, and spirit, and devil-worships some of the legends and philosophical views of the East Aryan Hindu; and amongst them and the professors of Hinduism are a multitude of sects worshipping Siva, or Vishnu, or Brahma, or all of these, or their incarnations, or deified heroes, or a mere vikrahamu or idol of stone, or wood, or brass, with or without a form.

Another body of religionists, the *Sikh*, considerable from their activity and their late political power, converts from the Jit or Gete races in the Panjab, have adopted doctrines partly obtained from the monotheistic Mahomedans, and partly from the Aryan Hindu; but though their faith is only about 200 years in existence, they too have broken up into several sects.

The *Mongolian*, whether Scythian, Turk, or Tartar, is without imagination or strong reasoning powers, but is intrepid in danger, steady in purpose, overcoming all opposition, despising his fellows, a great conqueror. Such has been his character as long as history has recorded his name; he appears to have been made to command and to oppress. We find him in the infancy of the human race, as well as at later periods, descending from his far-distant mountains, emerging from the great deserts in Central Asia, and overrunning the most wealthy, the most mighty, and the most civilised of nations. He exercises power as his peculiar privilege and right.—*Layard, Nineveh*, ii. pp. 239 to 244; *Burton's Mecca*, iii. p. 44.

EASTERN GHATS run along the Coromandel coast for about 1000 miles from Balasore, running S.W. to Ganjam, thence to Naggery, near Madras, where they join the range which crosses the country in a north-easterly direction, from the W. Ghats, north of the gap of Palghat. The average elevation of the E. Ghats is about 1500 feet,—Cauvery Hills 4000 feet, Condapilly 1700 feet, west of Madras estimated 3000 feet; hills seen from the Moghalbundi, between Point Palmyras and Chilka lake, appearing in irregular scattered groups, 300 to 1200 feet. See Ghats.

EASTERN PENINSULA, a term frequently employed to designate the Malay Peninsula, to distinguish it from the Western or Indian Peninsula.

EASTERN TURKESTAN, Chinese Turkestan, or Little Bokhara, may be described as the country to the east of the Pamir steppe. It is bounded on the north by the Tien Shan range, on the south by the Himalaya and Kouen Lun, and on the east by the great Gobi desert, which stretches away to the confines of China proper. This province was held by the Chinese, but in 1862 an insurrection broke out, and by 1864, Yakub Beg, the commander of the rebel forces, succeeded in completely ousting the Chinese, and seating himself on the throne. He evinced no small powers of governing, was brave, energetic, and prudent, and by his liberal treatment of merchants, and his merciless severity to robbers, did all he could to encourage trade. He was known under the name of 'the Kushbegi,' or commander-in-chief, but he assumed the title of Atalagh Ghazi. He received with honour and distinction Mr. Shaw, who with Lieutenant Hayward penetrated into Yarkand, and he expressed a desire to send an envoy to the Viceroy of India. His brief career ended in his murder. The chief towns in Eastern Turkestan nearest to British frontier are Yarkand and Khotan. Williams in his Middle Kingdom gives the population of Yarkand, 200,000; Kashgar, 80,000; Siaram, 31,000; Aksu, 20,000.

The entire territory of Little Bokhara, assuming it to extend as far as the meridian of 90°, thus including the great lake of Lob, is sterile in the extreme, but relieved by large and fertile oases,—a feature common to the continuation of the desert eastward, where it becomes the great desert of Gobi or Shamo. The most important and best known oases are those of Kashgar, Yarkand, and Khotan. Of these, the first named lies at the foot of the southern spurs of the Tien Shan range, and consists of a well-watered tract, on the principal river of which, called by the same name, is the city of Kashgar. This was for many centuries the seat of an independent prince, but, after a rebellion in 1826, was reduced by the Chinese authorities to a secondary position in the district of Ili, of which Yarkand is the capital, and to which Khotan has also been attached. Kashgar city is in lat. 39° 25′ N., and long. 74° E. (approximatively); and the river on which it is situated, after a course of 300 miles, unites with that of Yarkand to form the Tarym, which, after a further course of 250 miles, falls into the great lake of Lob-nor. Both these streams are famous for the jasper and jade-stone which are found in their beds. Yarkand is situate in lat. 38° 10′ N., and long. 76° 30′ E., on a river of the same name. It is walled, but with extensive suburbs, and has a population variously estimated at from 40,000 to 200,000. It has belonged to China since 1757, and is governed by Mahomedan and Chinese officials alternately. The environs are highly cultivated, producing wheat, barley, rice, fruits, and silk, and there is extensive pasturage. Yarkand is known to the Chinese by the name of Ya-lo-kiang. Khotan lies to the eastward of Yarkand, and is situated in an oasis said by the Chinese to be about 1000 li or 350 miles in circumference, immediately to the north of the Kara-korum pass. It is watered by a great number of streams, almost all of which flow into the Lob-nor. It contains the six towns of Khotan, Yurun-Khash, Kara-Khash, Djira, Keria, and Takhubin. Khotan city is situate in 37° N., and 80° 35′ E., a position which very nearly corresponds with the site assigned to it as immediately to the N.E. of the Kara-korum pass. It is the Ili-tchi or Ho-taen of the Chinese, and is supposed to contain about 50,000 inhabitants. It was originally a Hindu colony, and is supposed to have been founded about the 2d century, but the magnificent Buddhist temples and monasteries were all destroyed by the Mahomedan conquerors. The northern portion of Little Bokhara, under the

shadow, as it were, of the Ala-tagh, is the district of Aksu, one of the most fertile of the provinces into which the Chinese subdivided their acquisitions here after the revolt of 1826. The products consist chiefly of lentils, wheat, barley, millet, apricots, grapes, and melons, and cotton is also said to grow here of fair quality. The capital of the same name is situate in lat. 41° 9′ N., and long. 78° 40′ E. The natives of the district are renowned for their skill in dressing hides and manufacturing cotton goods, and it is stated that there are mines of copper and one of rubies in the immediate neighbourhood. The chief exports from Eastern Turkestan to Hindustan consist of silks, shawl-wool, charas, felts, and ponies; and the imports are mainly in opium, red goat-skin, piece-goods, chintzes, spices, sugar in a raw state, and drugs. The shawl-wool, termed in Eastern Turkestan Toorfanee or Kucharee, has only of late been brought into use in the manufacture of shawls. This Toorfanee wool is quite as good, if indeed it is not better, than the pashm exported to Kashmir from Chanthan. The region produces jade, gold, alum, saltpetre, sulphur, salt, sal-ammoniac, jasper.—*Vemukof*, p. 133; *Jour. Soc. of Arts*, March 1827.

EAST INDIA COMPANY. Several of these have been known in the south and east of Asia.

The *Portuguese*, who were the first to visit India by way of the Cape of Good Hope, doubled by Da Gama 22d November 1497, never put their eastern trade into the hands of an incorporated company, excepting only in the year 1731, when the king gave permission to *one* ship to make one voyage to Surat and the Coromandel coast, to the exclusion of all other ships. That instance excepted, the monopoly vested in the Crown, until it was abolished in 1752.

The first *French East India Company* was formed in 1604; a second in 1611; a third in 1615; a fourth (Richelieu's), 1642-43; the fifth (Colbert's), 1664. The sixth was formed by the French East and West India, Senegal and China Companies uniting under the name of the Companies of the Indies, 1719. The exclusive privileges of this company were, by the King's decree, suspended in 1769; and it was finally abolished by the National Assembly in 1790.

The Dutch East India Company was formally instituted in 1602, by the union of the funds of various rival companies, which had sprung up in Holland in consequence of the success of Houtman's voyage in 1596-97.

The first *Danish East India Company* was formed in 1612, and the second in 1670. When the charter of the East India Company was suspended, Mr. Henry Koning of Stockholm obtained a charter for a Swedish Company, dated 13th June 1731.

The *Spanish Royal Company* of the Philippine Islands was incorporated in 1733.

The *Ostend East India Company* was incorporated by the Emperor of Austria in 1723, but the opposition of the maritime powers forced the court of Vienna to suspend the company's charter for seven years. After a trying existence, it became bankrupt in 1784, and was finally extinguished by the regulations which were prescribed on the renewal of the British East India Company's charter in 1793.

The *English East India Company* obtained their first charter from Queen Elizabeth in 1599. Their second charter in 1661, from Charles II., was extended in 1665. In 1702, Lord Godolphin united the old company with a new one that had been established in 1698, and renewed their charter in 1773, with a grant of a monopoly to China. When renewed in 1813, it was with permission for other merchants to trade; but a fresh charter in 1833 disconnected them wholly from commerce, made them entirely a political body, and permitted British subjects to settle in India. In the beginning of 1857, on a sudden moving of the martial races, the native army of Bengal revolted, and the predatory races in great portions of Northern India rose in a rebellion, which was only suppressed with much loss of life and at great expenditure of money; and it was then deemed advisable for Her British Majesty in 1858 to assume the direct government of the country, and to rule through a Viceroy, the first of whom was Lord Canning. On the 1st November 1858, it was proclaimed throughout India that its government had been transferred from the East India Company to the British sovereign..

The English East India Company, formed in 1599 by royal charter, had a capital of £30,133. Their first adventure of goods was to the value of £37,000, in five vessels under Captain Lancaster, and in the first fifteen years their profits were to the extent of two hundred per cent. In 1613 they were allowed by Jahangir to settle in Surat. In 1634 Shah Jahan gave a firman for two English factories to be formed in Bengal; and subsequently, in gratitude for the benefits derived by one of the ladies of the zanana of prince Shuja, from the medical skill of Mr. Boughton, Shah Jahan granted the privilege to the English of free trade in Bengal. The first factory of the company was at Masulipatam, but in 1625 it was removed to Armegon, and subsequently (1639) Mr. Day removed it to a village in the territory of the raja of Chandragiri. Here he erected a factory, which was first called Fort St. George, but afterwards known as Madras. In 1662, Charles II. ceded Bombay to the company. In the time of James II., the company, in 1690, obtained the King's permission to send Admiral Nicholson with 12 ships of war, 200 pieces of cannon, and 600 men, to seize and fortify Chittagong, and establish a kingdom; but this proved a failure, and fresh troops were sent out under Captain Heath, who burned down Balasore, and proceeded to Chittagong. But, finding this too strong, he sailed to Madras, which, with Bombay, were the sole possessions remaining to the English. But at this time Aurangzeb had accepted the terms of peace which the English offered, and allowed them to return to trade. Accordingly, Mr. Job Charnock, on the 24th August 1690, landed on the left bank of the Hoogly, and laid the foundation of Calcutta. In 1698, the three villages of Calcutta, Chuttanutti, and Govindpore were purchased for Rs. 16,000, and shortly after, during the reign of William III. of England, the fortress of Fort William was erected. About this time, 1693, a rival English company had been started, from which much injury resulted to the English interest; but on the 22d July 1702 these two companies were amalgamated, under the title of the United Company of Merchants trading to the East. In 1715

an embassy was sent to the emperor Farokhsir at Dehli, with surgeon William Hamilton.

The principal events have been as under:—

1506. Portuguese reached Ceylon. See Portuguese.

1591. A squadron sailed for India under Captain Haymond, but was destroyed by sickness and a storm, and only Captain James Lancaster, with a few seamen, returned.

1599. John Middenhall, merchant, sent as ambassador to the Great Moghul.

1599. Merchant adventurers of London formed an association, and petitioned Queen Elizabeth for a charter. The first authentic deed of the company is entitled 'The names of such persons as have written with their owne handes to venter in the splendid voiage to the Easte Indies (the whiche it maie please the Lorde to prosper), and the somes that they will adventure, the xxij September 1599.' The sum subscribed was £30,133, 6s. 8d., divided into 101 shares, ranging from £100 to £3000.

1600. A corporation formed in London, entitled 'Governors and Company of Merchants of London trading to the East Indies.' Their original petition stated that 'no gentleman was to be employed in any place of charge.' This corporation is the origin of the English East India Company, and of the British Empire in India. Their capital was £72,000. There were 215 sharers, and the Earl of Cumberland at their head, forming the company. The first Court of Committee of 17 directors was held on the 23d September 1600. The number was increased to 24, and then their first regular meeting was held on the 21st October 1600.

1600, 31st December. Governor and Company of Merchants of London, incorporated by royal charter from Queen Elizabeth.

1601, 13th February. First expedition to India cost £69,091, and consisted of 5 ships. The first ship purchased was the *Susan*, of 240 tons, for £1600, and after her three others and a pinnace. Their freight was cloth, glass, cutlery, lead, and tin, and £28,742 in bullion. Captain James Lancaster commanded, with Captain Davies as pilot-major. The wages of the latter was to be £100, with £200 in credit; and if the voyage gave cent. per cent., £500 at the end; if 200 per cent., £1000; if 400 per cent., £2000. The fleet sailed on the 2d May, reached Acheen 5th June 1602, and returned to the Downs 11th September 1603.

1601. French merchants this year sent a fleet for India from St. Maloes, but they failed to reach their destination.

1602. Dutch E. I. C. formed. 1605, Amboyna, Tidore, Ceylon, taken from the Portuguese. 1603, Moluccas taken. 1759, their treaty with Mir Jafar. 23d November, 1759, defeated by Colonel Forde and Commodore Wilson.

1602. Captain Lancaster reached Acheen, and formed a treaty with its king, obtaining permission to build a factory there. These were the first treaty and the first establishment.

1603. Captain Lancaster with fleet returned in September, after a successful voyage. After leaving Acheen, they captured in Malacca a Portuguese ship of 900 tons, then put into Bantam, where they formed a factory or 'house of trade,' and thence to England.

1604. King James I. granted a licence to Sir Edward Michelborne and others to trade to the East. This was the first violation of the exclusive privileges of the company, who designated the parties interlopers or private traders. A French company obtained a charter this year. French career ended 1811.

1606. Cloves purchased by the company at Amboyna for £2948, 13s., sold in London for £36,287.

1608. Captain Hawkins visited Agra as envoy.

1609, 31st May. A new charter granted by King James I. to the company, making their privileges perpetual. The company purchased a ship of 900 tons.

1612. Captain Best obtained a firman from the emperor of Dehli, permitting a trading factory at Surat.

1614. Sir Thomas Roe sent by James I. ambassador to the Great Moghul.

1621. Mr. Muir, in a tract published in 1621, estimates the quantity of Indian commodities imported into Europe, and their cost when bought in Aleppo and in India, as follows:—

	Cost in the East Indies.				Cost when brought into Europe *via* Aleppo or Alexandria.			
lbs.	£	s.	d.	per lb.	£	s.	d.	per lb.
6,000,000 pepper,	62,500	0	0	at 2½d.	600,000	0	0	at 2s.
450,000 cloves,	16,875	0	0	,, 9d.	106,875	10	0	,, 4s. 9d.
150,000 mace,	5,000	0	0	,, 8d.	35,626	0	0	,, 4s. 9d.
400,000 nutmegs,	6,666	13	4	,, 4d.	46,666	2	4	,, 2s. 4d.
350,000 indigo,	20,416	12	4	,, 1s. 2d.	75,833	6	8	,, 4s. 4d.
1,000,000 raw silk,	400,000	0	0	,, 8s.	600,000	0	0	,, 12s.
	£511,458	5	8		£1,465,000	19	0	

1622-23, 27th February. English massacred by the Dutch at Amboyna. 1654, Dutch paid £3615 to the king.

1635. Charles I. granted charter to Sir William Courten and others.

1638. Armagaon was abandoned as unsuited for commerce. Fort St. George, the nucleus of Madras, founded by Francis Day in 1639, was E. I. Co.'s earliest territorial possession, properly so called, in India. The land on which it stood, with an area round of about 5 miles in length, by 1 mile in breadth, was purchased from the Raja of Chandragiri, and the factors at Armagaon were removed to it. The factory at Hoogly was established in 1640, and at Balasor in 1642.

1645. In consequence of professional services rendered by Mr. Gabriel Boughton, surgeon of the *Hopewell*, to the Emperor Shah Jahan, additional privileges were granted to the company.

1646. The Governor of Bengal, who had also been professionally attended by Boughton, made concessions which placed the factories at Balasor and Hoogly on a more favourable footing.

1649. Original company and Sir W. Courten's association formed a junction.

1653. Madras raised to a presidency.

1655-56. Lend Cromwell £50,000, and obtain acknowledgment of their rights.

1656. First factory in Bengal of E. I. Co.

1657-58. Unite with merchant adventurers, and form a new joint stock.

1657. Charter of company renewed by Cromwell, and in 1661 confirmed by Charles II.

1658. The company established a factory at Kasimbazar (spelt Castle Bazaar in the records).

1661, 3d April. Charter by Charles II. (Extended 1665.)

1661. Bombay was ceded to the British crown as part of the dower of Catharine of Braganza, but was not delivered up until 1665. King Charles II. transferred it to the East India Company, for an annual payment of £10, in 1668. The seat of the Western Presidency was removed to it from Surat in 1684-87.

1662-1680. Sivaji founded the Mahratta rule.

1664. French E. I. Co. formed, and their capital built in 1674 at Pondicherry.

1664. In a work, Treasure by Foreign Trade, p. 50, Mr. Thomas Mun, a director of the E. I. Co., was the first to regard gold as an article of commerce.

1667-8, 24th January. The first notice of tea in the company's records. In a despatch to their agent at Bantam of that date, he is ordered to send home 100 lbs. of tea, the best he can get.

1667. Charter renewed afresh, and authority to establish a mint at Bombay.

1674-75. Prohibit seamen from settling at Bombay.

1680, 28th October. St. Mary's Church, foundation-stone laid by Mr. Master at Madras.

1681. Sir Josiah Child published a treatise, in which it appears that the company then had 556 partners, 36 ships of from 100 to 775 tons; that the customs duties on the trade amounted to £60,000 or £70,000 a year.

1682. Bencoolen, settlement in, by E. I. Co. (Ceded to the Dutch, 1825.)

1684. Attempt to check interlopers.

1685-86. Resolved to prosecute interlopers in England; order hostilities against Moghul and Nawab of Dacca.

1686–87. Resolve to establish a mint at Madras.
1686. An attempt, projected by Sir J. Child, to acquire territorial empire in India failed.
1687–88. Obtain a charter to make Madras a corporation.
Charnock, Job, settled at Calcutta 1690; died 10th January 1692.
1691. Fort St. David purchased by E. I. Co. 1758, surrendered to the French.
1692. Company's agency transferred from Hoogly to Calcutta.
1693, 7th October. Obtain a new charter, and undertake to export £150,000 of British manufactures. 11th November, obtain an additional charter, for augmenting their stock.
1694–95. Obtain an additional charter.
1698–99. An English East India Co. started as rivals, and copy the constitution of the London E. I. Co.
1699 to 1702. Ignoble rivalry between the two companies; but in 1702–1703, by Lord Godolphin, the London and the English Company come to terms, and coalesced in 1707–1708, under the title of the United Company of Merchants of England trading to the East Indies.
1698. Company acquired a grant from Azim, grandson of Aurangzeb, of Calcutta and two adjoining villages, with leave to exercise judiciary powers over the inhabitants, and erect fortifications. These were given the name of Fort William.
1707. Murshid Kuli Khan, Governor of Bengal, also called Jafar Khan.
1707. Aurangzeb died.
1715. An embassy went to Farokhsir, and in 1717 they got the island of Diu, 37 townships in Bengal, which gave them the command of the river for 10 miles S. of Calcutta, and had the villages restored to them, near Madras, which had been formerly given by the Arcot ruler and resumed. See Hamilton.
1724. Average of 10 years ending with 1724, the total value of British products annually exported was £92,410, 12s. 6d., and of bullion £518,102, 11s.; total, £617,513, 3s. 10d.
1741. Average of the 8 years ending in 1741, the annual value of British goods exported was £157,944, 4s. 7d.
1748. Seven years ending with 1748, the exports value amounted to £188,176, 16s. 4d.
1732 to 1818. Warren Hastings born 1732.
1749. A writer in India.
1763. Revisited England.
1769. 2d seat in Madras Council.
1772. President of Bengal Council.
1773. Governor-General of India.
1786-87. After return to England, impeached on four heads; trial lasted from 13th February 1788 till 23d April 1795, on which date he was acquitted.
1796. The E. I. Co. granted him £4000 annually.
1818, 22d August. Died.
1739. Nadir Shah's invasion.
1740. Ali Vardi Khan usurped the kingdom of Bengal; died 1756, and was succeeded by his grandson, Suraj-ud-Dowla, aged 18.
1746. Madras captured; restored, 1749.
1743. E. I. Co. lend one million to Government at 3 per cent., to have their charter renewed to 1780.
Clive, Robert, born 29th September . . . 1725
Arrived at Madras, ... 1744
Ensign's commission, ... 1747
Captured Arcot, 30th August . . . 1751
Took Conjeveram, ... 1751
Defeated French at Cauverypak, . . . 1751
Captured Covelong and Chingleput, . . 1752
Revisited England, ... 1752
Returned to India, and Governor of Fort St. David, ... 1755
Retook Calcutta, ... 1757
Overthrew Suraj-ud-Dowla at Plassey, 23d June 1757
He had 700 Europeans, 570 sailors, 1400 sepoys, and 8 pieces of artillery. The Bengal Viceroy's army was 3500 foot, 15,000 horse, and 50 cannon.
Defeated the Dutch at Chinsurah, . . . 1759
Left India, February 1760
Returned to India as Viscount and Governor-General, ... 1764

EAST INDIA COMPANY.

Obtained from Shah Alam the Dewani of Bengal, Behar, and Orissa, April . . 1765
Suppressed officers' conspiracy, . . . 1766
Abolished private trade, January . . . 1767
Quitted India, January 1767
A committee of Parliament formed to examine charges against him, ... 1773
Destroyed himself, 2d November . . . 1774
1751. Tatta, factories at.
Circars. The five northern were granted to the French, 1753. In 1759 Clive seized them, and they were secured by treaty in 1765.
1755. Commodore James and Mahratta army took Severndrug and Bancoote from Conaji Angria. 11th February 1756, Clive and Admiral Watson took Gheriah.
1756. Dacca ceded to E. I. Co. by Shah Alam.
1756. Ali Vardi Khan, Nawab of Bengal, died.
1756, June 20. Suraj-ud-Dowla attacked and took Calcutta. 146 British thrust into a small guard-room; only 23 came out alive next morning. Retaken by Clive and Watson, 2d January 1757. First territorial possessions in Bengal.
1756. Angria taken, and forts destroyed.
1757 to 1783. Sir Eyre Coote's victories.
1761. Major Hector Munro took Mahé. 1763, restored.
1761, 7th January. Panipat, battle of.
1763, April. Nawab Mir Kasim Ali took up arms against E. I. Co.; was defeated at Bhagulpur, and fled. Mir Jafar restored.
1765, January. Mir Jafar died, and his son Najm-ud-Dowla installed. Pensioned, June 1765.
1765, 3d May. Shuja-ud-Dowla, Vizir of Oudh, defeated at Corah, near Allahabad.
1765. Emperor of Dehli grants the Circars to E. I. Co.
1765, 12th August. Emperor grants E. I. Co. the Dewani of Bengal, Behar, and Orissa, and confirms the jaghir to Clive.
1767. Hyder Ali assumes rule of Mysore.
1767. Hyder Ali's first war with E. I. Co.; his troops approached Madras, and 4th April 1769 peace declared, *in statu quo*.
1780, 21st July. Hyder invaded the Karnatic, and plundered Porto Novo and Conjeveram; and 10th September destroyed Colonel Baillie's detachment at Perambakam.
1781, 18th February. Hyder destroys Colonel Braithwaite's force on the banks of the Colerun, 40 miles from Tanjore.
1781, July 1st. Hyder Ali defeated at Porto Novo by Sir Eyre Coote.
1782, 7th December. Hyder, aged 80 years, died at Chitore.
1764. Mutiny on account of money claims.
1766, 1st January. Double batta abolished, and officers mutinied.
1771. May. Dehli emperor places himself under Mahratta protection; in Mahratta hands he became a nominal sovereign.
1773, 30th August. Narain Rao Peshwa murdered, and Ragonath Rao succeeded.
1773. Act of Parliament made Madras and Bombay subordinate to Bengal; appointing a Court of Directors for four years, with a Governor-General in Bengal, upon an annual salary of 2½ lakhs of rupees, with a Council of four members on one lakh each, a Supreme Court in Calcutta on the model of the Westminister Courts of Law, with a Chief Justice and three Puisne Judges. A monopoly of the trade with China granted.
1801, 3d Septr. Madras Supreme Court of Judicature instituted.
1827, 9th July. Natives of India authorized to sit as jurors.
1773. Value of British goods exported was £489,803.
1780. „ „ „ £401,166.
1772. Net revenues, Bengal, Behar, Orissa, £2,126,766.
1785. „ „ „ £2,072,963.
1797. „ of India £8,059,000.
1805. „ „ £15,403,000.
1774. Philip Francis, a member of Council, Bengal. 1780, wounded in a duel with Warren Hastings.
1781. Warren Hastings founded Madrassa at Calcutta.
1774, 23d April. 40,000 Rohillas under Hafiz Rahmat defeated by army under Colonel Champion.

EAST INDIA COMPANY.

1775, 1st January. Salsette taken.
1775. Alexander Wynch, governor of Madras, recalled.
1776, 1st March. Treaty of Purundhar.
1778. Bhopal Nawab aided General Goddard. 1818, a protecting treaty formed.
1778. First printing in Bengali.
1780. Salt monopoly resumed.
1780, 4th August. Captain Popham detailed Captain Bruce, who took Gwalior. Again taken, 1804. Granted to Sindia.
1780. Press printing in Calcutta. (Censorship abolished, 19th August 1818; Law restricting, 1823; Freedom, by Sir Charles Metcalfe, 15th September 1835; again restricted, 13th June 1857; again free, 13th June 1858.)
1780, 11th December. Bassein surrendered to General Goddard.
1781. Nawab Muhammad Ali assigned the Karnatic revenues to E. I. Co. 1801, title became nominal. 1855, last Nawab died.
1781-1819. Three Mahratta wars.
1st, ,, ,, Jan. 1799 to 13th Oct. 1781.
2d, ,, ,, 1803-4.
3d, ,, ,, 1817-1819.
1781, March. Cholera destroyed about 3000 of Colonel Pearse's army, marching southwards; cholera recurred Nov. 1781 at Negapatam; again in 1786, and again in 1817.
1782-1833. Malcolm, Sir John, G.C.B. and K.S.I.
Born, ... 1769
Cadet to Madras, ... 1782
Envoy to Persia, ... 1799-1801
Private secretary to Governor-General, . . 1801
Resident at Mysore, ... 1803
Envoy to Persia, ... 1808
Second in command at Mehidpur, 21st Dec. . 1817
Governor of Bombay, 1st November 1827 to 31st March 1831
1782. Tipu succeeds his father.
1788, 8th May. Tipu descended the Ghats. 1790, first campaign under General Abercrombie. 1791, second campaign under Lord Cornwallis; Pettah of Bangalore assaulted, 7th March 1791; Bangalore taken, 21st March 1792. 1792, third campaign. 6th February, lines of Seringapatam attacked and won, and peace declared 24th February 1792, Tipu ceding half his territories, paying 3 kror and 30 lakhs, and Tipu surrendered two sons as hostages; they were restored 1794; again surrendered 5th May 1799, on the fall of Seringapatam.
1799, 5th March. General Harris, in command of army, entered Mysore.
1799, 4th May. Seringapatam stormed.
Lieut. Lawrence led forlorn hope of left column of H.M. 74th at storm of Seringapatam; father of Sir Henry M., of Lord, of General A. W., and of G. St. P. Lawrence; Tipu fell.
1783, 26th January. General Mathews occupies Bednore, and obtained about £801,000, but surrendered to Tipu 30th April, and sent to prison in Mysore. In 1763, Hyder took it, and obtained £12,000,000.
1783, 20th January. Negapatam bought from Holland.
1783, 25th June. Bernadotte wounded in a sally of the Cuddalore garrison.
1783. E. I. Co. Directors placed under Board of Control; a secret Committee of Directors formed; Tanjore conquest disapproved.
1784. Bengal Asiatic Society established.
Founded by Sir William Jones.
Cornwallis, Marquis of, born 31st December 1738.
Governor-General, 12th Sept. 1786 to 28th Oct. 1793
Governor-General, 30th July to 5th October 1805
Captured Bangalore, 20th March 1791
Took Hooliordrug, 18th June 1791
Besieged Seringapatam, 5th February, and signed a treaty with Tipu, ... 1792
Made decennial settlement perpetual in Bengal, 22d March 1793
Quitted India, 28th October 1793
Returned, and died at Ghazipur, 5th October 1805
1788. Guntur surrendered to the E. I. Co., according to the firman of the king of Dehli in 1765.
1793, 22d March. Proclamation declaring the permanent settlement of Bengal, Behar, and Orissa, enacted in Regulation 1 of 1st May 1793.
1793, 1st May. Hindu and Mahomedan law officers appointed.
1793. Sir John Shore (Lord Teignmouth), Governor-General.
1793. Charter renewed till 1st March 1814. Advise Lord Cornwallis to inquire into the zamindars' rights.
1798, 17th May. Lord Mornington (afterwards Marquis Wellesley) reached Calcutta as Governor-General.
1799. Major-General Baird commanded the assault on Seringapatam, 4th May.
1799. Tanjore administration undertaken by the E. I. Co., 20th October.
1799. Canara under E. I. Co.
1800, 13th March. Nana Farnavis died.
1801. Expedition to Egypt.
1801. Treaty with Oudh; Allahabad ceded to the E. I. Co.
1802, 25th March. Peace of Amiens.
1802, 20th August. Sacrifice of children at Saugor prohibited.
1802, 1st January. Marquis Wellesley sent in his resignation, but was requested to remain.
1803, 31st July. Third Mahratta war; their armies 250,000 strong, and 1000 guns, under Gen. Perron. The following were events:—
1803, 29th August. Lord Lake (born 1772); victory over Perron at Aligarh.
4th September. Carried the fort at Aligarh.
12th ,, Battle of Dehli, and released blind Shah Alam.
18th October. Lake took Agra.
1st November. He won battle of Laswari.
1804. Raised to peerage.
17th Nov. Defeated Holkar at Farrakhabad.
13th November. Won battle of Deeg.
24th and 25th December, Deeg fort taken.
1805. Besieged Bhurtpur; stormed it, 21st January; 21st and 22d February, lost 2910; failed. (1826, 18th January, taken by Lord Combermere.)
1807, 4th November. Lake created Viscount.
1808. Died.
1803, 8th to 15th October, Colonel David Ouchterlony defended Dehli.
1803, 12th Aug. Gen. Wellesley took Ahmadnaggur.
23d September. Won Assaye.
28th November. Won Argaum.
14th December. Won Gawilghar.
16th October. Col. Stevenson took Burhanpur.
21st October. Took Asirgarh.
1803, 30th December. Peace treaty.
1803. Broach ceded by Sindia to E. I. Co.
1803, 30th December. Bulandshahr ceded to E. I. Co.
1805. Fort William College established by Marquis Wellesley; (abolished, 1854.)
1806, 10th July. Colonel Gillespie suppresses Vellore mutiny.
1807. Lord W. Bentinck recalled from Madras 11th September.
1807, 17th September. Sir John Cradock, Commander-in-Chief, Madras, recalled.
1809. Mutiny of Madras officers, and at Chittuldrug of native regiments.
1809, 13th February. Ajygarh surrendered.
1809. M. Elphinstone's embassy to Kābul.
1809, 25th April. Treaty with Ranjit Singh, who died July 1839.
1809-1846. Metcalfe, Lord Charles, Bart., arrived, 1801
Envoy to Ranjit Singh, 1st September 1808; treaty, 25th April 1809
Resident at Gwalior, ... 1810
,, Dehli, ... 1811
,, Hyderabad, ... 1820
Governor-Gen. 20th March 1835 to 4th March 1836
Lt.-Governor N.W. Provinces, May . . 1836
Quitted India, 15th February . . . 1838
Governor of Jamaica; Governor-General of Canada; died 5th September 1846
1811. Batavia, surrender of; Java taken. November, Sir George Barton recalled.
Lord Minto. Governor-General, 1807; recalled, 11th November 1811.

1812, 2d February. Kalinjar in Bundelkhand stormed.
1813, 4th October. Earl Moira Governor-General and Commander-in-chief.
1813, 21st July. Act 53 Geo. IV. c. 155, E. I. Co.'s privileges renewed for 20 years; trade to India thrown open; territorial and commercial affairs to be kept distinct, and accounts rendered.
1814, 13th August. Convention to restore to Netherlands all its colonies except Cape of Good Hope and some West India Islands.
1815. Dehra Doon taken by the E. I. Co.
1814–15–16. Gurkha war. In 1814, 31st October, Gen. Sir R. R. Gillespie fell at Kalanga; 27th November, second attack on Kalanga failed; but captured 1st December 1814. 20th (?) December, failed attack of Jytak; peace treaty signed 5th March 1816. Almora, Garhwal, and Kamaon ceded to British.
1815. Bengal sepoys mutiny at Java.
1817–1819. Third Mahratta war—
Chiefs of Pindaris of Sindia Shahi Pindari were Cheetoo, Karim Khan, and Dost Muhammad, with 18,000 horse, 1300 foot, and 15 guns. The Holkar Shahi, 3000 horse, 200 infantry, and 3 guns. British army and contingents assembled 116,464, and 295 guns, under Marquis of Hastings in Hindustan, and under Sir Thomas Hislop in the Peninsula, took the field in 1817.
1817, 5th November. Battle of Kirkee.
1817, 27th November. Battle of Seetabuldee.
1817, 21st December. Battle of Mahidpur.
1817, 19th December. Tulasi Bai, regent, seized by her troops; 20th, beheaded.
1818, 1st January. Corygaum defended.
1818, 20th February. Battle of Ashtee.
1818, 3d June. Baji Rao Peshwa surrendered, and pensioned 8 lakhs.
1817. Cholera morbus broke out in the Marquis of Hastings' army, and destroyed one-tenth of it.
1817. Ajmir ceded to the E. I. Co.
1818. Kandesh annexed; Dharwar and Baitul ceded.
1818. Appa Sahib dethroned.
1817, 5th November, to 13th May 1819. Pindari and Mahratta war lasted; 134 officers, and 3042 of all other ranks, killed and wounded.
1819. Rajput states, treaties with.
1820, 25th November. Dwarka in Okamundal taken.
1824. Barrackpur mutiny. (1857. A second time.)
1825, 10th December to 18th January 1826. Viscount Combermere; successful siege of Bhurtpur.
1825, 15th July. Sir David Ouchterlony died at Meerut, age 68.
Burma, 1753 to 1853—
1753. Alompra occupied Ava.
1757. Alompra granted Negrais Island to British.
1759, Most of the settlers murdered.
1760, May. Alompra died.
1824, March 5th, to January 26th, 1826. Burma war; peace treaty, 24th February 1826; cost 14 kror. Second war, 7th May 1852 to 10th June 1853. 1826, Tenasserim and Assam ceded.
1828. Persia and Russia treaty established the Arras (Araxes) as the boundary line.
1829, 7th December. Suttee abolished; and abolished in the Panjab and Rajputana, 1847.
1833. Dhulip Singh born; 1843, succeeds to the Panjab throne; deposed, 1849.
1833, 18th August. E. I. Co.'s charter renewed; as traders, to cease from April 1834; their British Indian territories to remain under the company till the 30th April 1854. The superintendence and control in India, civil and military, to be vested in a Governor-General and Councillors, with powers to legislate for India, and his laws and regulations to have the force of Acts of Parliament. A law commission appointed to inquire into existing laws, courts of justice, police; and British subjects allowed to reside without licence in India, and to purchase land. Persons of all colours, religion, or country admissible to any office or employment under the Company.
1835, 15th September. Freedom of the press.
1835, March. Flogging abolished in native army.
1835, 12th August. Lord Auckland appointed Governor-General of India; served 4th March 1836–1842.

EAST INDIA COMPANY.

From his time up to the present, the wars on the N.W. Frontier have been continuous.
1835, 4th Feb. Medical College, Calcutta, established.
1836, 27th January. Begum Sumroo died at Sirdhana, aged 87.
1836, 29th September. Chamber of Commerce formed at Madras.
1834–1844. Keane, Lord, an officer of the British army (born in the year 1781). Commander-in-chief, Bombay army, from the 2d July 1834 to 14th February 1840. Created a Baron of the empire, December 1839. Died 24th August 1844.
Afghanistan—
1839, 8th May. Shah Shuja replaced on the throne.
1839, 23d (12?) July. Ghazni stormed. 6th August 1839, Kābul occupied. 13th November 1839, Kalat taken.
1840. Dost Muhammad Khan surrenders. 1841, 2d November, Outbreak at Kābul. 1841, 11th December, British agree to evacuate Afghanistan. 1841, 23d December, Sir William Macnaghten assassinated. 1842, 6th January, British begin to retire. 1842, 13th January, 4500 fighting men and 12,000 followers totally destroyed; Dr. Brydon alone reached Jalalabad. 1842, 6th April, Khaibar pass forced. 1842, 8th September, Afghans defeated at Jugdallak.
1842, 7th April. Sale defeats Akbar Khan at Jalalabad.
1842, 16th September. General Pollock reoccupies Kābul. 1842, 29th September, Istalif taken. 1842, 17th December, British army returns to Firozpur
1839. Bukkur fortress temporarily ceded to E. I. Co.
1843, Sind conquered.
Viscount Gough—
1837. Commands Mysore division.
1838–1842. Commander-in-chief in China.
1840, 5th July. Chusan captured.
1841, 25th May. Canton taken.
1841, 1st October. Chusan recaptured.
1841, 1st October. Chin-hae captured.
1841, 13th October. Ning-po captured.
1842, 18th May. Cha-poo captured.
Shang-hai captured.
1842, 21st July. Chin-kiang-fu captured.
1842, 17th August. Peace.
1843. Commander-in-chief in India.
1843, 29th December. Defeated Mahrattas at Maharajpur.
1845–46. Sikh campaign.
1845, 18th December. Moodkee.
1845, 21st December. Firozshah.
1846, 28th January. Aliwal.
1846, 10th February. Sobraon.
1848, 21st November. Ramnagar.
1848, 3d December. Sadoolapur.
1849, 13th January. Chillianwalla.
1849, 21st February. Gujerat.
1849, 24th March. Sikh army surrendered at Rawal Pindi.
1845–46, at Moodkee, Firozshah, Aliwal, and Sobraon, 6263 of all ranks killed, wounded, and missing.
1848–49, at Ramnagar, Sadoolapur, Chillianwalla, Multan, and Gujerat, 10,788 killed, wounded, and missing.
1857. Lawrence, Sir Henry—

Political agent, Afghanistan,	1842
Resident at Ajmir,	1853
Resident at Oudh,	1857
Defeated at Chinhut, 30th June	1857
Died from wound, 4th July	1857

1830-1881. Lawrence, John, Lord—

Arrived in India,	1830
Chief commissioner, Panjab,	1853
K.C.B. in	1856
G.C.B. in	1857
Baronet,	1858
Raised to the peerage,	1869
Governor-General and Viceroy,	1864-1869

1841. Lieutenant-Colonel Sir H. Edwardes, born January 1820; arrived in India January 1841; subjugated the valley of Bunnu, 1848; defeated Mulraj, May 1848.

1843, January. Imamghar in the Indian desert taken by Sir Charles Napier.
1843, 17th February. Meeance won by do.
1843, 24th March. Dubba won by do.
1844, 6th May. Lord Ellenborough, Governor-General of India, dismissed their service by the Court of Directors.
1846. Balasore sold by the Dutch.
1848, 3d December. Sadullahpur battle.
1848, January, to 1856. Dalhousie, tenth Earl and first Marquis, Governor-General of India, arrived 14th January 1848; 2d Panjab war on the 29th March 1849; annexed the Panjab, created Marquis, 1849; annexed Satara, 1849; annexed Pegu, 20th December 1852; annexed Nagpore, February 1855; annexed Oudh, 7th February 1856; annexed Tanjore and Karnatic, 1856; left India, 6th March 1856.
1851. Railways begun in India.
1851, December. Telegraph lines opened.
1854, 24th March. Electric telegraph opened in India.
1854, 22d April. All real and personal property of Honourable East India Company vested in the Crown (which becomes liable for all claims, debts, contracts, etc.) since 1793, but is managed by the company. Dividend is 10½ per cent., and may be redeemed any time after April 1784. Company stock is £6,000,000. Law of residence, and right to employment, etc., 3 and 4 W. IV. c. 85, ss. 87.—No native of the said territories, nor any natural-born subject of His Majesty resident therein, shall by reason only of his religion, place of birth, descent, colour, or any of them, be disabled from holding any place, office, or employment under the said company.
1855. Civil service thrown open to competition.
1857. Mutiny and rebellion.
1857, July. Nana Rao defeated at Bithur, and his palace burned.
1857, 15th July. Massacre at Cawnpur.
1857. 2d July to 10th October. Agra besieged by Nemuch mutineers.
1857, 25th September. Sir Henry Havelock, Baronet, relieved Lucknow; created a baronet 26th November 1857; died 24th November 1857.
1858. Jhansi annexed by E. I. Co.
1858. Andaman Islands a penal settlement.
1858, 1st November. At a grand darbar held at Allahabad, was sent forth the royal proclamation, which announced that Queen Victoria had assumed the government of India, and thus closed the E. I. Co.'s career.
1859, 1st Nov. Dwarka recovered from the Waghirs.
1860. Sir Charles Edward Trevelyan, Governor of Madras, recalled.
1877, 1st January. Queen Victoria was proclaimed Empress of India at a darbar of unparalleled magnificence, held on the historic 'ridge' overlooking the ancient Mughal capital, Dehli; Queen of the United Kingdom of Great Britain and Ireland, Empress of India.

From the date of that small factory grant in 1613 at Surat, the English East India Company grew, in India, up to the year 1857. In that interval they decided the fate of kings, emperors, and rajas, and had drawn under their direct rule 150,000,000 of people, with 70,000,000 more under allied sovereigns. Their dominion was at length in 1858 absorbed under the administration of the British Crown, consequent on a great revolt of the native sepoy army of Bengal, during which the predatory races of the north, and the dissatisfied amongst the nobles, took the opportunity to plunder and strive for independence, and during their efforts much innocent blood was shed, and many horrors enacted. In the century of their rule, however, amongst the servants of the company, there had been many great statesmen, many eminent commanders, and many learned men. For one hundred years large parts of India had been under their sway. During their rule they put down predatory warfare everywhere.

They established security of person and property from governmental aggression.

They introduced civil and religious liberty, instituted colleges, schools, museums, and polytechnic institutions for the introduction of a pure and rational philosophy, and the dissemination of knowledge.

They instructed the young in a knowledge of the medical science of the West.

The English language was made known to them. They formed and introduced the Hindustani language as a lingua franca. Molesworth's Mahratta Dictionary, and the works translated and published by Colonel Jervis and others, Morris' Telugu Dictionary, Campbell's Telugu Dictionary, Gilchrist's Hindustani Dictionary and Grammar, Shakespere's Hindustani Dictionary, have been published; Richardson's Burmese Dictionary, Morrison's Chinese Dictionary, and works on botany, natural history, medicine, and physical science.

They established printing and newspapers, and gave the freedom of the press.

They translated into many languages—the Bible, a book of pure morals.

They abolished mutilation and sanguinary punishments.

They abolished slavery in most parts of India.

They abolished sati, human sacrifices, and infanticide.

They put down thuggi and its kindred iniquities.

They placed the remotest parts of India in communication with the whole civilised world.

They abolished transit duties.

They formed roads and bridges on a scale unknown to India under any previous government.

They gave India the benefits of steam communication on its shores and rivers, and of railroads.

They introduced agricultural and horticultural societies for the improvement of cultivation and produce.

They established commercial chambers and banks, and displaced the innumerable coins of its former rulers by a new coinage.

They formed great dams on wide rivers, and excavated great canals for irrigation and traffic.

The English East India Company began as peaceable merchants, but, as is the custom of the East in all countries without police, they retained armed guards over their factories, which led on the one hand to defensive and aggressive acts, and, on the other, tempted needy soldiers of fortune to try to plunder them or to seek their aid,—acts which led them by degrees to the acquisition of their vast territorial possessions.

They formed a great and cheap army, about 300,000 strong, from amongst the conquered races, and with them they made conquests in India, in China, in Sind, in the Panjab, in Afghanistan, in Aden, in Burma, in Assam, in Arakan, and Tenasserim, and twice took Egypt.

They formed a powerful navy, which gave to the Government a great influence over the lawless tribes that fringe the coasts of the Red Sea and the Persian Gulf, and the east coast of Africa. Their work was partly war, partly political, and partly scientific, and they did thoroughly and well whatever fell to them to perform.

Their Courts of Sadr and Foujdari Adalat, their Supreme Courts of Judicature, with Judges and Session Judges throughout the land, administered

to each race their own laws, and a great body of magistrates, and Courts of Small Causes, furnished the people with the means of obtaining justice, and gave the Government the means of repressing crime, with the blessing of internal peace and progressive civilisation.

The service of the state was opened to every Indian race, it having been provided by Acts 3 and 4 W. IV. c. 85, p. 87, 'That no native of the said territories, nor any natural-born subject of His Majesty resident therein, shall, by reason only of his religion, place of birth, descent, colour, or any of them, be disabled from holding any place, office, or employment under the said company.'

EAST INDIAN is a term which has been adopted by all classes in India, to distinguish the descendants of Europeans and native mothers. Eurasian and Indo-Briton were for a short time in use, but have ceased to be employed; and other names, such as Half-caste, Chatikar, and Chi-chi by the Hindus and Mahomedans of India, are derogatory designations. Chatikar is from Chitta, trousers, and Kar, a person who uses them. The Mahomedans equally wear trousers, but concealed by their long outer gowns. The East Indians are also known as Farangi, a person of Europe, similarly as Hyderabadi, Bengali, and Hindustani are employed for natives of Hyderabad, Bengal, or Hindustan. The humbler East Indians, if asked their race, reply that they are Wallandez or Oollanday, which is a modification of Hollandais, the name having been brought down through the seventeenth and eighteenth centuries from the Dutch, who were amongst the first who trafficked with the East. East Indians have, in India, all the rights and privileges of Europeans, and might advantageously be so styled. They are of French, Dutch, Danish, Spanish, Portuguese, and British descent; but many of those who claim a Portuguese origin—Xaviers, De Castellas, etc.—are merely descendants of converts to Christianity or of household slaves of Portuguese officers. East Indians are chiefly employed as clerks in public offices in all the subordinate civil departments of the British Indian Government.

East Indian is a commercial term applied to distinguish many vegetable products of that region from others of similar character of other countries. East Indian arrowroot, bird-pepper, copal, ebony, galls, gum, indigo, myrrh, screw tree, tacamahaca.

EAST INDIES. This geographical term is used to distinguish the tropical countries in the eastern parts of the world, from the West Indies, composed of the islands lying in the tropics between North and South America. The term is used by the British, the Dutch, French, Portuguese, and Spaniards, to indicate their respective territorial possessions in the East. The West Indies belong principally to Great Britain, but to possess the East Indies has been an object of ambition to western races from prior to historic times. The first great inroad of strangers into what is now British India, was that of the Eastern Aryans, about 3000 to 1500 years before Christ, who now form the brahmanical tribes of British India, —intellectual men, but without territorial possessions. Semiramis, B.C. 1200, moved with a great army, and entered India from the N.W., but was defeated and driven back with great slaughter. Alexander of Macedon approached India from a similar N.W. route, but he stopped short in the Panjab, moved southwards along the right bank of the river Indus, and then crossed the Baluchistan desert to Babylon, where he died. Many Scythic races, of whom, however, little is known, appear to have advanced in India to the neighbourhood of Gujerat, in the early centuries of the Christian era. The Arab khalifs who succeeded Mahomed, Mahomedans from Ghazni, from the vicinity of the Oxus, and from Persia, obtained possession of great parts of the country now designated British India, the British being the present rulers over much of the lands which previous conquerors obtained.

The *Dutch East Indies*, or, as that nation calls it, Nederlandsch Indie, Netherlands India, are comprised in the great islands of the Eastern Archipelago from Sumatra eastwards. They are the rulers or paramount power of five-sixths of the whole Eastern Archipelago.

The *Spanish East Indies* are chiefly the Philippine Archipelago. The chief town of Manilla was founded in A.D. 1581, and they have continued in undisturbed possession ever since.

The *Portuguese*, who of all the Europeans were earliest in the field of conquest, now hold only 1086 square miles in the small settlements at Goa, Daman, Diu, and Macao.

The *French*, who in the 18th century strove for supremacy with the British, now hold Pondicherry, Mahe, Chandernagar, Karikal, and Yanaon, with Annam in Further India.

The *Danes*, until early in the 19th century, had small patches of territory at Serampur, Negapatam, and Chinsurah. There are many Rajput, Hindu, and Mahomedan rulers in British India. Ceylon is a British colony, and Burma, Siam, Acheen, and other states are under independent rulers. See British India; India.

EASTWICK, EDWARD B., of Bombay Army, Assistant Political Agent, Kattyawar, Sind, 1839-1842, was Professor of Hindi, Hindustani, and Mahrati, at Haileybury. Author of Vocabulary of the Sindi Language;—Dry Leaves from Young Egypt, London 1847–1852;—Translator of Bopp's Comparative Grammar, and of various standard Hindustani and Persian works;—Editor of the Autobiography of Lutfullah;—On the Revenues of Khyrpoor; On the Pedigree of the Amirs of Sindh, published in Parliamentary Paper;—translated the Kissah-i-Sanjan, also the Zartash-namah; —wrote on Alore and Rohri;—translated Schiller's Revolt of the Netherlands; Memoir of Pir Ibrahim Khan; Bagh-o-Bahar, Anwar-i-Soheili, Gulistan;—Author of Handbook of India, in four volumes, and of the Kaisar-namah-i-Hind, in three volumes folio;—was private secretary to Lord Cranbourne when Secretary of State for India; was Member of Parliament for Penrhyn and Falmouth, 1868–1874.

EASTWICK, CAPTAIN WILLIAM JOSEPH, was born in 1808, and went to Bombay in 1827; was with the field force under General Welsh at Kolhapur, and in the S. Mahratta country. He was the Political Officer attached to the army of Lord Keane in 1838, and accompanied it through Sind. He was entrusted with the negotiation of the treaty of 1839 with the Amirs of Hyderabad, by which the Indus was thrown open to commercial enterprise, free of all imports and vexatious interference. He held political charge of the districts at the foot of the Bolan pass, constituting the

base of British military operations in Afghanistan. He was appointed Acting Resident in Sind. In 1847 Captain Eastwick was elected to a seat in the East India Direction, and in 1858 was appointed to the office of Deputy Chairman.

EBONY.

Yendike, Tai, . .	BURM.	Ebenus, ...	LAT.
Wuh-mu, Wu-pi,	CHIN.	Kayu-arang, . .	MALAY.
Ebben-hout, . .	DUT.	Ebenowoederewo, .	RUS.
Ebene, ...	FR.	Kalu vere, . .	SINGH.
Ebenholz, . . .	GER.	Ebon, ...	SP.
Ebenos, ...	GR.	Kaka tatee, . . .	TAM.
Hobnem, . . .	HEB.	Atcha maram, . .	,,
Tendua, Abnus, .	HIND.	Atcha manu, . .	TEL.
Ebeno, ...	IT.	Toomi-chava kara, .	,,

A black wood, exceedingly hard and heavy, of great durability, and susceptible of a high polish. It is exported from Upper Egypt, Abyssinia, Zanzibar, Madagascar, Mauritius, Ceylon, India, and Jamaica. The ebonies of South-Eastern Asia are obtained from several species of Diospyros, Dalbergia, and Bauhinia, growing in the Mauritius, Ceylon, in several parts of the Peninsula of India, as Coimbatore, Malabar, Canara, the Dekhan, in the Circars, Ganjam, Cuttack, and Gumsur; also in Assam, the Malay Peninsula, in Penang, Siam, and eastwards through the Asiatic Archipelago to the Philippine Islands. True ebony is of so deep a black, as to be used to personify blackness. But woods sold under this name have also reddish, greenish, or yellowish hues, and are distinguished in commerce as red, green, and yellow ebonies, though these are in much less esteem than the ebonies which are jet black, free from veins, and close-grained. Mottled ebony is furnished by some species of Exececaria, Nectandra, and Jacaranda. The jet black kinds are employed for ornamental furniture, cabinet and turnery work, for rulers, handles for doors, knives, pianoforte keys, philosophical, musical, and surgical instruments, mosaic work and inlaying, though cheaper woods, dyed black, are frequently substituted. It is much affected by the weather, on which account it is seldom used in the plank solid. It is mentioned in Ezekiel xxvii. 15, but in the plural, when the men of Dedan are described as bringing horns of ivory and ebony. Herodotus (iii. 97) mentions ebony as part of the presents brought in considerable quantities to the king of Persia by the people of Ethiopia; and Dioscorides describes two kinds, one Ethiopian, which was considered the better, and the other Indian, which was intermixed with whitish stripes and spotted. Diospyros ebenum, *Retz*, affords the most valuable ebony of Ceylon; but other allied Indian species, as D. melanoxylon, afford excellent cabinet wood. D. quæsita of Ceylon affords the beautiful calamander wood. Other Indian species, however, yield ebony, characterized by its extremely dark colour and hardness, the heart-wood (duramen) of the tree; the sap-wood (alburnum) being white and not durable.

The ebonies of the Mauritius, Ceylon, and the south and east of Asia are equal to those of any other part of the world. The ebony in the south of the Peninsula of India is chiefly obtained from Coorg and Canara, from various species of Diospyros, and is of a superior description, being perfectly black in colour. Smaller pieces are procured from Cuddapah, Salem, Nuggur, etc., but there is no steady demand, though for ornamental cabinet work it is peculiarly fine-veined. That of Ceylon, from the Diospyros ebenaster, is of great value. And another heart-wood, that of the Kadoem beriye, or bastard ebony of western Ceylon, also from species of Diospyros, is occasionally met with of extraordinary beauty. The ebonies of the Palghat and Coimbatore districts are supposed to be from species of Diospyros, ebenaster, and Bauhinia. In none of the trees is the entire bole black, only the heart-wood, the outer and white wood being the tendua of the Mahrattas. The ebony tree of the Malabar forests, Diospyros melanoxylon, is also found sparingly in those of N. Canara below the Woolwa Ghat, and near Meerjan inland. Ebony is procurable of a very superior quality in the hill zamindaries of the Northern Circars, particularly in the Ganjam district; also inland from Ellore in the Masulipatam district. Logs of Diospyros ebenaster yield an ebony richly variegated with bright brown stripes and mottled, similar in appearance to calamander wood, which also is from species of Diospyros. The Karens have distinctive names for four different species of Tenasserim ebony trees,—the salt water swamp ebony, the water ebony, the yellow ebony, and the true ebony. Under the Burmese term yendaik, the wood of two different trees is sometimes seen,—one a species of ebony, and the other a leguminous tree, which, according to the descriptions of the Karens, is a species of dalbergia, and the wood resembles the blackwood of Hindustan. There is an inferior kind of ebony often seen at Moulmein, from a species of Diospyros. A similar wood at Tavoy is often denominated iron-wood. The Burmese ebony, known as tai, is found in the direction of Shooay-Geen, but is very scarce.

The ebony used in China is chiefly imported from the Straits, but Diospyros melanoxylon and D. ebenus grow in the island of Hainan, Yung-pehting in Yunnan and in Kwang-si. An inferior kind of ebony, known as camagon in the commerce of China, is supposed to be a product of the D. tomentosa. West Indian ebony is furnished by Brya ebenus? *A. de C.*, a small tree of Jamaica. It takes a beautiful polish, and is used for making walking-sticks, inlaying, etc. Bastard ebony of the Brazils is the Jacaranda mimosifolia. Ebony sells in England at £5 to £10 a ton. The exports of it from India from 1874–75 to 1879–80 ranged in value from Rs. 3558 to Rs. 15,817.—*Mat. Med.; Smith, Chin.; Drs. Gibson, Wight, Mason, Tredgold, Holtzappfel, Faulkner, Crawfurd, Thwaites, Voigt; Captain Dance; Mr. Rohde; Eng. Cyc.; F. v. Mueller.*

ECBATANA lay near the Zagros mountains. It was also called Achmetha, and was the chief city of Media. According to Herodotus, Ecbatana was built near the close of the 8th century B.C., by Dejoces, the founder, or (as other authors say) the restorer of the Median monarchy. But, according to Diodorus Siculus, orientals not only described it as the capital of the first Median monarchy founded by Arbaces, but also as existing prior to the era of Semiramis. That queen in her royal progress arrived at Ecbatana, a city situated in a plain, and there built a magnificent palace. Alexander deposited in it the treasures taken from Persepolis and Pasargada, and one of the last acts of his life was a visit to Ecbatana. Williams (Essays, p. 9) affirms that the ancient Ecbatana is the modern Isfahan, the capital of Irak

Ajami. But Sir William Jones and the chief French orientalists place Ecbatana at Tauris; and Galius, who has been followed by D'Anville and later geographers, at Hamadan. Media for the most part is high and cold; such are the mountains to the east of Ecbatana, the mountains near Rhagæ and the Caspian Gates, and thence to Matiana and Armenia. It is usually now thought to be the modern Hamadan.—*Williams' Essays*, pp. 2-67; *Strabo*, xi. 13.

ECHALAT, KHASSYA, is the Nerium piscidium, *Roxb.*, the Wrightia piscidia, *G. Don.* Its bark yields a useful fibre. Steeped in water, the fishes die.—*Voigt.*

ECHENEIS NAUCRATES, the Indian sucking fish. E. remora, *Linn.*, the remora or sucking fish, is usually found attached to the shark. They are 6 to 12 inches long. Macgillivray says (pp. 237-8) that E. remora caused much annoyance to the fishermen by carrying baits off hooks, and appeared always on the alert, darting out in a body of 20 or more from under the ship's bottom when any offal was thrown overboard.

ECHINOCARPUS DASYCARPUS. *Benth.* A timber tree of Darjiling hills.

ECHINOPS ECHINATUS. *Roxb.* Oont-ka-tara, HIND. Camel thistle. Very common in Rajwara; camels consume it readily. Said to be also a native of Mysore. Dr. Hoffmeister says this plant occurs among the flora of the villages from the Errengkhal pass to Shipkie in Chinese Tartary.—*Roxb.*

ECHITES, a genus of shrubs and trailing plants of the natural order Apocynaceæ. Dangerous lactescent plants, of no known use.

ECHIUM GRANDIFLORUM, one of the Boraginaceæ. E. simplex is the bugloss.

ECITON, a genus of ants. E. rufonigrum, worker, length about 11-24ths of an inch; is very common in the Karnatic; makes its nests in boles of trees, old palings, bamboo rafters, and such like. It does not care for sweets, is never seen on flowers, but devours dead animal matter. It stings very severely. E. nigrum, worker, length 9-24ths of an inch, rare in Malabar, but tolerably common in parts of the Karnatic; same habits as the last. Females winged. E. rufipes, worker, length 11-48ths of an inch. E. minutum, worker, about 1-6th of an inch long, is found in the Karnatic and in Malabar on trees.—*Jerdon.*

ECLIPSE.

Munkasif; Munkhasif, AR.	Ecclissi, ... IT.
Finsterniss, ... GER.	Grahana, . . SANSK.
Girhan, ... HIND.	

Of Sun—Nay-kyat-hgying; of Moon—La-kyat hgying.

Celestial observations were made at Babylon B.C. 2234. The Chinese wrote of 36 eclipses, of which two are uncertain, but of the others there is no doubt, according to the missionary Gaubil, and the first mentioned by them was observed B.C. 2155. Varaha-mihira, a Hindu astronomer of the 6th century A.D., correctly described eclipses of the moon and of the sun. He says, 'In an eclipse of the moon, she enters the shadow of the earth; in a solar eclipse she obscures the sun by her shadows. Hence the commencement of a lunar eclipse does not take place from the west side, nor that of a solar eclipse from the east.' But at the present day, amongst ordinary Hindus, an eclipse is still considered to be caused by a snake's endeavouring to eat up the luminary. The Hindu myths on this point vary; but usually the Iraku or black, and Keathu or red, snakes, two giants with snake heads who seized the ambrosia, are mentioned. Another myth relates that Rahu, once a chief of the Asuras, who, from having obtained some of the ambrosia, now dwells immortal in the sky, but from time to time darts out on the sun or moon and seizes them. These myths are connected with the myth of the vaishnava Hindus about the churning of the milk-sea ocean. When the Deva and the Asura, with Mount Mandara as a churning rod propped on the god Vishnu as the tortoise Kurma, and using the serpent Sesha as a twirling thong, produced the Chauda-ratna, fourteen precious products called gems. Of these fourteen products was one of which Rahu by stealth obtained a portion, and became immortal. Another product was the poison, or medicine, which the god Siva, to protect mankind, drank up. On the occurrence of an eclipse, modern Hindus, to escape from the poison, everywhere bathe themselves. On the morning of the eclipse of the sun in 1868, the Lucknow train conveyed into Cawnpur no less than 27,000 passengers to bathe in the Ganges. The learned amongst the Hindus are perfectly acquainted with the causes of eclipses. See Ketu; Rahu.

ECLYPTA ERECTA, Bhangra, dodak, nigand, bamaro; juice used to dye hair black, also used in elephantiasis.—*Powell*, i. p. 359.

EDAGAI, Edagai Kula, also Edangai, meaning the Left-hand race, or seekers, is, amongst the Tamil and Teling people near Madras, a social classification of certain traders and artisans, who in the early part of the 19th century assumed an importance demanding the care of the police. The sections are nine in number, viz.:—

1. Panchala, comprising five subdivisions, viz. Kammaranu, or blacksmith; Badage, or carpenter; Kansagar, or brazier or coppersmith; Kallurtiga, or mason; Akasale, or goldsmith.
2. Berisethi, traders.
3. Devangada, weavers.
4. Ganigar, oil-makers.
5. Gollur, accountants of treasuries.
6, 7. Paliwan and Palawan? two tribes of cultivators, perhaps for Palligavanu, a villager, a peasant.
8. Bedar, an aboriginal race of Mysore and Central Dekhan.
9. Madiga, a worker in leather, a tanner, a shoemaker. The last is generally most active in contests with the Right-hand castes.

EDDANGALLI or Yeddangali. MALEAL. A dry grain measure in use in Malabar, cylindrical in form, $2\frac{5}{8}$ inches high, $6\frac{1}{2}$ inches in diameter, or 85 cubic inches. It ought to contain 57,600 grains of kalama nella, a kind of rice.

EDEN, a Hebrew word signifying pleasure or delight, and which was made the name of several places remarkably fruitful in their soil. The first is that province which the prophet Amos seems to notice (i. 5), when he divides Syria into three parts, viz. Damascus, the plain of Aven, and the house of Eden, called Cœlo-Syria, or the hollow Syria, because the mountains of Libanus and Anti-Libanus enclose it on both sides, and make it to resemble a valley. A second place wherein several learned men have sought for the country of Eden of the Scriptures is Armenia, between the sources of the Tigris, the Euphrates, the Araxes, and the Phasis, which they suppose to be the four rivers specified by Moses (Genesis ii. 10, etc). A third place which some have fixed on as the country of

Eden, is Chaldæa, not far from the banks of the Euphrates, a country remarkable for its extreme fertility (Joel ii. 3). Chaldæan tradition located it and its sacred tree in the city of Eridhu, whose position corresponds with the modern town of Rata. Babylon has also been so named; also Ceylon, with its Adam's footmark, peak, and bridge. The Eden mentioned by Ezekiel (xxvii. 23) as a great commercial place, is supposed by some to be the modern Aden, but it presents no signs of ancient grandeur. Eden is also supposed to have been in High Asia, between the common sources of the Jihun and other grand rivers, where there was abundance of the Ficus Indica or burr-tree, sacred to the first lord, Adinath or Mahadeva. Milton (Paradise Lost, book ix.) uses this tree to describe when Adam and Eve

'Both together went
Into the thickest wood; there soon they chose
The fig tree; not that kind for fruit renowned,
But such as at this day, to Indians known,
In Malabar or Dekhan, spreads her arms,
Branching so broad and long, that in the ground
The bended twigs take root, and daughters grow
About the mother tree, a pillared shade
High overarched, and echoing walks between.
There oft the Indian herdsman, shunning heat,
Shelters in cool, and tends his pasturing herds.
. . . . . Those leaves
. . . . . .
They gathered, broad as Amazonian large.'

—*Rajasthan*, i. 23; *Robinson's Travels*, ii. 337.

EDEN. Sir Astley Eden, a Bengal civil servant who rose to the high offices of Chief Commissioner of British Burma, Lieutenant-Governor of Bengal, and Member of the Council of the Secretary of State for India. When the ryots of several districts in 1860 revolted against the hereditary cultivation of indigo, because it had never repaid them, he was the first to point out that every tenant-proprietor in Bengal was the virtual owner of the soil, and ought to be allowed to sow it with rice, or, under contract, to cultivate indigo or any other crop; but that this supposed freedom of contract had been overridden for two or three generations by the influence and power of the planters, backed by the wealth of mercantile houses. It remained for the Indigo Commission, for Sir J. P. Grant, the Lieut.-Governor, and for Sir Charles Wood, then Secretary of State, to refuse assent to all projects for compelling ryots to sow indigo under any law making a breach of contract a criminal offence, and to cancel a temporary enactment passed with this object. As Lieut.-Governor, the education in Bengal, the jails, the roads and railroads, the finances, all received his care. He displayed some of the best characteristics of a paternal administrator, while slowly and surely educating the people to do something for themselves.

EDENTATA, an order of mammals, so named because some have no teeth, and others none in the front of the jaws. They are divided into two groups, the Tardigrada or sloths, peculiar to America, and the Effodienta or burrowers, comprising the armadilloes of S. America, Cape, and New and Old World ant-eaters. Of these, the pangolins, of the family Manididæ, of the genus Manis, occur in British India, China, Burma, Malay Peninsula, and Java. See Manis.

EDESA, now called Orfa, was the Ur of the Chaldees whence Abraham removed to Haran. It is a city on the Euphrates, where Christian, Jewish, and Buddhist tenets were discussed. Here Ephraem Syrus taught, and Syriac translations were made of the Greek and Christian works, which have preserved to us the original.—*Max Müller*. See Orfa; Sarug; Semitic Races.

EDGEWORTHIA BUXIFOLIA. *Falc.* Yields an edible fruit in Kābul, unknown in England. It is the Reptonia buxifolia, *A. de C.* E. chrysantha grows in great abundance in China. E. Gardneri, *Meisson*, is a beautiful shrub with globes of waxy, cowslip-coloured, deliciously-scented flowers. This plant is allied to daphne, from the bark of which the Nepal paper is manufactured, and is similarly utilised. E. papyrifera, Mitsa, JAP.; its bark is made into one of the papers of Japan.—*Hooker, Him. Journ.* i. 205; *Sir J. E. Reed*, p. 43.

EDIBLE BIRD NESTS are made by the Collocalia brevirostris, *M'Clelland;* C. nidifica, *Gray.* The nests are found in the caverns of the limestone cliffs in the Peninsulas of India, and are well known in the commerce of the Archipelago. In Java they are sold at from £500 to £583 per pikul of 133⅓ lbs. avoird. See Birds' Nests.

EDIBLE SEA-WEED, Plocaria candida.

Kyouk puen, . . BURM. | Agar-agar, . . MALAY.

A sea-weed abundant on the Tenasserim coast, and valuable for its nutritious and medicinal properties. It was brought to notice by Dr. O'Shaughnessy as the edible moss of the Eastern Archipelago, and referred by him to the genus Fucus. The fructifications, however, being in small tubercles, the Rev. Mr. Mason considered it as a species of Agardhs genus, Sphœrococcus, which now constitutes a member of the genus Plocaria. It is an allied genus with the Ceylon moss (Gigartina lichenoides), first described as Fucus amylaceus by Dr. O'Shaughnessy, the Plocaria lichenoides of Mr. Mason; also with a species found on the coast of Devonshire in England, Pl. compressa, with the Corsican moss of the Mediterranean, P. helminthochorton, also with the Agar-agar, Pl. tenax, but differs from the Irish moss or Chondrus crispus. It is not of the same natural family as the Iceland moss, which is a lichen, the Cetraria islandica. The Tenasserim moss is said to be superior to all others, as it is wholly free from the bitter principle which renders other fuci so objectionable. 100 parts contain—sulphate and muriate of soda, 6·5; sulphate and phosphate of lime, 1·0; iron, a trace, 1·4?; vegetable jelly, 54·5; true starch, 15·0; wax, a trace, 0·5?; ligneous fibre, 18·0.

For use, steep it for a few hours in cold rain-water, next dry by the sun's rays, and grind to a fine powder; boil for 25 or 30 minutes; while hot, pass through muslin or calico, strain and boil down till a drop placed on a cold surface gelatinizes sufficiently. With milk and sugar, and flavour with lemon-juice or sherry.

EDICTS. Asoka, the first great Buddhist regal convert, carved many edicts on the rocks at Cuttack, in Gujerat, and on the banks of the Upper Indus, besides engraving them on pillars all over the country. From these we learn that Asoka's first care after his conversion was to send missionaries to proclaim his new faith in the neighbouring lands. It does not seem, however, that they penetrated beyond Kābul or Balkh westward. The most interesting record is that contained in the thirteenth edict of the rock-cut inscriptions, where he mentions having formed

treaties or alliances with Ptolemy, Antiochus, Antigonus, Magas, and Alexander,—not treaties of war or peace, but for the protection or aid of his co-religionists in the dominions of those kings. Owing to the imperfections of the stone and of the record, it is not easy to make out what is exactly intended; but this much is certain, that about the year 258 B.C. Asoka did make arrangements for religious purposes with Ptolemy Philadelphus, Antiochus Theos, Antigonus Gonatus, with Magas of Cyrene, and Alexander, who could only be the king of Epirus and Macedonia, mentioned by Justin in the same passage in which he relates the death of Magas.

EDOM. The patriarch of the Edomites was Esau, and they dwelt on the Dead Sea, from which they were driven by an earthquake. They were a warlike, unsettled race of Arabs, whose property was in their cattle, their waggons, and what their waggons could carry. They did not cultivate the soil, nor had they any respect for a landmark. The Nabatæans were at an earlier time the tribe called Edomites. But they lost that name when they carried it to the southern portion of Judea, when called Idumæa; for when the Jews regained Idumæa, they called these Edomites of the desert Nebaoth or Nabatæans. The Nabatæans professed neutrality between Antigonus and Ptolemy, the two contending powers; but the mild temper of Ptolemy had so far gained their friendship, that the haughty Antigonus, though he did not refuse their pledges of peace, secretly made up his mind to conquer them. Petra, the city of the Nabatæans, is in a narrow valley between steep overhanging rocks. Not more than two horsemen can ride abreast through the chasm in the rock by which it is entered from the east, while the other entrance from the west is down a hill-side too steep for a loaded camel. Their temples and huts were cut out of the live rock, and hence the city was by the Jews named Selah, the rock, and by the Greeks named Petra, from which last the country was sometimes called Arabia Petræa. The existence of rock-cut viharas or monasteries at Petra, in the dominions of Antiochus, and of similar excavations at Cyrene, go far to confirm and elucidate this; for, though travellers have hitherto called every excavation a tomb, there can be no doubt that many of those at Petra and Cyrene and elsewhere were the abodes of living ascetics, and not burial-places.—*Bunsen's Egypt*, pp. iii. 314-431; *Sharpe's Egypt*, i. pp. 250-51.

EDRISI, a Nubian geographer who visited the court of Sid Rai Jye Singh, the ruler of Anhalwara Puttun, A.D. 1094 to 1145. Edrisi states that Jye Singh was then a Buddhist. Edrisi lived A.D. 1099–1186. He mentions porcelain, and the fine cotton fabrics of Coromandel, the pepper and cardamoms of Malabar, the camphor of Sumatra, nutmegs, the lemons of Mansura (near the old course of the Indus, N.E. of Hyderabad), on the Mekran (Indus), the asafœtida of Afghanistan, and cubebs, as an import of Aden. He names the Konkans as the country of Saj, *i.e.* of the sag or teak tree. Marsden says that Edrisi is improperly called the Nubian geographer, that he dedicated his work to Roger, king of Sicily, in the middle of the 12th century, and that he describes the island of Al-Rami; but the particulars so nearly correspond with those given by the Arabian traveller, as to show that the one account was borrowed from the other.—*Marsden's Sumatra*, p. 4.

EDUCATION.

Erziehung, . . . GER.	Educacion, ... SP.
Educazione, . . . IT.	Terbiyat, ... TURK.

Education in the village schools of India is usually conducted in the verandah of a house, or in the open air. Schools for children are frequently held under trees in Bengal, and children who are beginning to learn, write the letters of the alphabet in the dust. This is the old oriental custom, and is alluded to in John viii. 6, when Jesus stooped down, and with his finger wrote on the ground. A general mode in India of teaching writing, is to write with a pencil of soapstone on a wooden board, or on thick pasteboard stained black. The writing board in Sind, called a furahi, is a thin board made of hard fine-grained wood, stained red, black, green, or yellow. The ink contains no mineral substance, and is therefore easily washed off, the board being smeared with a thin layer of clay and water. When the pupil has become somewhat skilful in the management of his pen, he lays aside the board, and uses a papier-maché material called daftari. It is made of several sheets of writing paper pasted together, smeared with a composition of verdigris, and glossed with a mohro, which is a polishing instrument made of steel, so that it may be washed when dirty (Burton's Scinde, p. 396). In the Peninsula of India, the ground, the writing-board, and the pasteboard are written upon, in the schools, but the ordinary material is the olay or dried palm-leaf, which is written on with an iron style. The education of the Brahmans of India in the vernacular of their district, has usually been conducted along with a knowledge of Sanskrit. Since the middle of the 19th century, many of them have acquired a knowledge of English. The lower caste Hindus have restricted their acquirements to the vernacular languages of their district. Numbers of them know English; very few know Sanskrit. The Mahomedans throughout India learn Arabic, Persian, and a small number know English. The Lubbai Mahomedan has the Koran in the Tamil tongue. Some of the Tamil women have been learned, one was an authoress, and many of their girls are now being sent to school. On the 29th July 1859, the Bethune School for Native Girls was founded at Calcutta. The English East India Company resolved to introduce a national system of education in a despatch from the Board of Control 19th July, No. 49 of 1854. The most important feature in the despatch was the measure of grants-in-aid. It offered to all schools, already existing, or that might hereafter be established, provided they were found efficient, pecuniary aid to an amount in each case not exceeding the sums arising from local sources, subject to conditions that in no way interfered with the perfectly free action of the managers of such schools, and only requiring that they should be submitted to Government inspection, with a view to ensure the secular instruction therein furnished being of a satisfactory character. It in fact threw open the field of Indian education to any one who chose to cultivate it, offering on the part of the Government to bear half the expense. The missionaries, with few exceptions, received the proffered aid, submitting without a dissentient voice to the conditions imposed.

Up to that year, 1854, during the rule in India of the English East India Company, only small and local efforts had been made by the state to educate the people, and even these had languished. The college of Fort William, established during the Marquis Wellesley's administration, was again abolished in 1853. But in 1881, Calcutta, Madras, and Bombay cities each had a university, with professors, and granting degrees in arts, medicine, law, and civil engineering. In the ten years 1872 to 1881, there had been 56,847 candidates for matriculation, of whom 21,182 had passed.

In 1881 there were 79,953 institutions for youths, and 2590 for girls, with 2,195,614 scholars, of whom 120,365 were females. At the B.A. examination at Calcutta University in 1883, for the first time in the history of that body, two young Bengali ladies appeared as candidates, and were declared to have passed. The two girl graduates are named Chandramukhi Bose and Kadambini Bose. They were educated at the Bethune School in this city. The receipts in 1881 were Rs. 1,65,91,016, and expenditure Rs. 1,75,95,323. In 1882, during the Earl of Ripon's administration, Dr. W. W. Hunter was placed at the head of a commission to investigate the position of the Indian Government towards the people, in connection with the questions of high education and primary education.

During Hindu and Mahomedan supremacy, except in a few rare places, the education of their subjects was left to the benevolent efforts of learned men, who taught gratuitously such pupils as sought instruction; and this practice is continued to the present time. Since the arrival from Europe of Portuguese, Dutch, Danes, Italians, French, and British, their Christian missionaries of all sects have striven to spread education amongst the people, and there are Christian schools and colleges in which the English language is the medium of instruction, which compete successfully with the institutions established by the Indian Government.

Education in China is very general, and is largely encouraged by the state, but few women are educated. Children at six years of age are sent to school. The successful competitors for the literary degrees of M.A., B.A., and others are congratulated. Papers bearing Chinese characters are greatly venerated. See Han-lin.

EDWARDES, SIR HERBERT, K.C.B., K.C.S.I., born January 1820, died 1868, an officer of the Bengal army. He served under Sir Hugh Gough at Sobraon and Moodkee; served under Sir Henry Lawrence in the Panjab in 1848 and 1849. He subjugated the valley of Bunnu in 1848; and in May 1848 he defeated Mulraj, aided in the settlement of Kashmir and establishing the authority of Gulab Singh, and aided in the rescue of the British prisoners at Multan. In the revolt and rebellion of 1857–58–59, he served in the Panjab along with Sir John (Lord) Lawrence, Generals Nicholson, Cotton, and Chamberlain. His views extended to ruling India as a Christian country, and his purse and pen were ever ready to aid in extending Christianity. The Indian Council decreed a monument to his memory.

EDWARDSIA HYDASPICA, E. maderaspatana, and E. mollis are shrubs of the natural order Fabaceæ. It is doubtful whether these be different species. The flowers of E. mollis are pretty, and is supposed to be the second kind of arghawan (see Bauhinia variegata) mentioned by Baber (or his translator) as growing at Baber's tomb at Kābul. It grows in the Panjab and on the Suliman range, up to 8000 feet. Run, Rohen, and Malan are the Pushtu names for E. hydaspica.—*Dr. J. L. Stewart.*

EDYE, JOHN, wrote on the Native Vessels of India, Ceylon, Malabar, and Coromandel coasts, Lond.; also on the Timber Trees of Ceylon and Malabar, As. Trans. i. 1–15; and a Description of Seaports on the Malabar Coast, ibid. ii. 324. By a residence of five years in India, as His Majesty's master shipwright in Ceylon, he had singular opportunities of becoming perfectly informed on the subjects of which he treats in his memoirs. He describes in a clear and concise manner the various vessels of the coasts of Coromandel and Ceylon. He was afterwards employed in the department of the surveyor of the navy. —*J. R. As. Soc.*, No. i. of 1834, pp. 1 to 14.

EED. ARAB. There are five eed or religious festivals held annually by Mahomedans. The two principal are the Ramzan or Eed-ul-Fitr, and the Bakr-eed, which are farz and sunnud, *i.e.* commanded both by God and Mahomed to be observed. The other three are, Maharram, Akhri-char-shambāh, and Shab-i-Burāt, and are only sunnud, or commanded by Mahomed. The Eed-ul-Fitr, or Ramzan-ki-Eed, is held on the first day of the tenth month, Shawal, on which Mahomedans put on new clothes, make congratulatory visits, and make charitable offerings, fitr or sadka. All of them move in procession to the Eedgah, where the khutbah is read. The Eed-ul-Fitr means the festival of breaking the fast, and follows the Lent of the Ramzan. The Bakr-eed is also called Eed-i-az'ha or Eed-ul-Kurban, the festival of sacrifices, and is held on the tenth day of the month Zil-haj.

EEDEE are holiday presents, given in Mahomedan schools at the several festivals by masters, who receive a small gift from each scholar in return, at the festivals of the Kurban, Shab-i-Burat, and Ramzan. They are sometimes a verse relating to the eed (or feast), written on coloured or illuminated paper. The custom is followed in Hindu schools at the festivals of the Holi, Basant panchami, Dewali, and others.

EEDGAH, a place of festival or of prayer; a building raised by Mahomedans of India, generally without the walls of a town, often amidst gardens. It is erected on a platform or a pediment three or four feet above the level of the ground, and on an eminence, consisting of a straight wall with two or more minarets, and having in the centre, on a level with the ground, three steps, which forms the mimbur (or pulpit), from which the khutbah (or sermon) is read on particular occasions, or on particular feast days, such as those of Bakr-eed and Ramzan-ki-Eed, which occupies from an hour and a half to two hours. It is said that Mahomed, in addressing the congregation, stood on the uppermost step; Abu Bakr, his successor, on the second; Omar, on the third or lowest; but Osman, observing that at this rate we might descend to the bowels of the earth, fixed upon the middle as the one from which to deliver the sermon; since then it has continued so. This building is merely intended as a signal post for people to assemble at, to hear the khutbah read. A bamboo or any other post might answer the same purpose,

but a brick building is usually preferred, as being more durable, and affording individuals an opportunity of handing down their names to posterity, by being at the expense of erecting them. It is by no means a sacred edifice.—*Herkl.*

EEITA-AKU. TEL. The leaf of Elate sylvestris; Eeita khallu, the toddy; Eeita pandu, the fruit.

EEK, also Eekh. HIND. Saccharum violaceum. Sugar-cane, a sugar-cane field. Eek'hraj, also Ook'hraj, is the day on which sugar-cane is planted, and which, in Northern India, is performed with some rural ceremonies.—*Elliot.*

EELE-GYWOT-SHA, a bast of Arakan; strips five to six feet in length, composed of several layers, of which one side is smooth and compact, and the layers on the other side thin but cancellar; all having a considerable degree of toughness.

EESA or Isa. ARAB. Jesus. Eesa-ul-Masiha, Jesus the Christ. Hazrat-Eesa, the Lord Jesus.

EESA-KHAIL, an Afghan clan whose country extends to within 30 miles of the province of Dehra Ismail Khan. It is a strong and mountainous strip of land. The mountains of the Eesa khail and Khussur rise so abruptly from the Indus, that but for the access to this country on other sides, it might make successful resistance.—*East India Papers, Cabool and Afghanistan*, 1859, p. 22.

EESAWIYAH or Isawiyah, a sect of Mahomedans in N. Africa, who take their name as disciples of Sidi Mahomed-ibn-Isa, a Maghrabi. They are known to Europeans as the dancing darveshes, of whom there are a number in Cairo, almost all of them Maghrabi Arabs of Northern Africa. Mahomed-ibn-Isa was a native of Moqinay in Morocco. His followers at Kairwan are guilty of fanatical self-torturing. A writer in the Times of 18th November 1881, describes a circle of musicians in the centre of a room, playing a slow monotonous tune on earthenware drums and tambourines, gradually increasing in cadence until most of the devotees commenced to bow their heads and shout a refrain, swaying to and fro in time to the music. Suddenly one after another threw off their clothes and shouted discordantly. A Tunisian soldier slashed his stomach with a sword; a second forced a long iron prong against his side, which another drove in with a mallet; and others pierced their cheeks with iron skewers and their shoulders with daggers. One crunched glass; a sheep was killed, and torn and eaten raw and bleeding.

EESHWA. SANSK. From Eesh, to be grand, hence Eeshwara, the glorious; Eeshwari, feminine of Eeshwara.

EGERTON, MR., a Bengal civil servant, who wrote an account of his journey through Spiti, London 1864. In 1877 he was appointed to be Lieut.-Governor of the Panjab, was created in 1875 a C.S.I., and in 1878 a C.I.E.

EGGS.

Baiza, Baida, . . . ARAB.	Uovo, ... IT.
Matte, Tetti, Gadda, CAN.	Ovum, ... LAT.
Ki-lwan, ... CHIN.	Huevo, ... SP.
Ki-tsze, Ki-tan, . ,,	Matta, ... TAM.
Œufs, ... FR.	Gadda, ... TEL.
Betzim, ... HEB.	Zimurta, ... TURK.
Unda, ... HIND.	

Eggs as food articles are in varied estimation in the East Indies. Hindus have a religious objection to eggs. Their sacred books class both fowls and eggs in the category of unclean things, and no strict Hindu will touch anything so unholy, on any possible pretext. With Mahomedans they are largely eaten, usually in the form of omelet. The Europeans in the East Indies adhere to the customs of their race. Eggs are used in worship by the women of the Kachari, and in divinations by the Khassya race. Fowls' eggs are largely consumed by the Chinese couriers or postmen, who take them nearly raw; in China they are seldom boiled and eaten as in Europe.

Hatching of fowls' eggs and eggs of fishes is largely practised by several nations. Ducks' eggs are artificially hatched in China in large quantities, particularly in Chusan at Fa tee, and P'oee-tai-shuee and Nam-tong near Canton.

In Chusan, every spring, thousands of ducks' eggs are hatched by artificial heat. The establishment is situated in the valley on the north side of the city of Ting-hae. The hatching house is a kind of long shed, with mud walls, and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets, well plastered with mud, to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts,—a small fireplace being below each basket. Upon the top of the basket there is a straw cover, which fits closely, and which is kept shut whilst the process is going on. In the centre of the shed are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process. When the eggs are brought, they are put into the baskets, the fire is lighted below them, and a uniform heat kept up, ranging from 95° to 102°; but they regulate the heat by their own feelings, and it will therefore vary considerably. In four or five days after the eggs have been subject to this temperature, they are taken carefully out, one by one, to a door, in which a number of holes have been bored, nearly the size of the eggs; they are then held against these holes, and the Chinamen look through them, and are able to tell whether they are good or not. If good, they are taken back, and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken from the baskets, and spread out on the shelves. Here no fire heat is applied, but they are covered over with cotton and a kind of blanket, under which they remain about fourteen days more, when the young ducks burst their shells, and the shed teems with life. These shelves are large, and capable of holding many thousands of eggs; and when the hatching takes place, the sight is not a little curious. The natives who rear the young ducks in the surrounding country know exactly the day when they will be ready for removal, and in two days after the shell is burst the whole of the little creatures are sold, and conveyed to their new quarters.

In the East, during the hot summer months, some of the pond fish æstivate in the mud, where they await the advent of the succeeding year's rains. As soon as the monsoon bursts, the ground becomes saturated, and fish are perceived dispersing in all directions. In a very few days fry are also discovered in every little piece of water, while the time which elapses between the commencement of the rains and the appearance of the little fish does

not seem to be sufficient if they have to be deposited by the mother, fertilized by the father, and hatched out in the usual course. It seems probable that the eggs may have been in the mud, which retarded their hatching in the same manner as ice acts.

Salt is obtained by the Government of India from the Sambhur salt lake in Rajputana, which overflows during the rains, and when the waters subside, a deep incrustation of salt is deposited on its shores for several miles around. In the water of the lake is a peculiar form of crustacea, said to be Artemia salina. These are about half an inch in length, are provided with numerous feet, while between the body and tail there exists a small sac full of eggs. These vary in colour from a pale fawn to a brilliant crimson; and as the brine approaches saturation they die off, but before dying they deposit their eggs, which are carried by the water to the edge of the lake, where immense layers, upwards of an inch in thickness, are found. These layers of eggs are subjected to the intense heat of the hot season, and are hatched at the commencement of the annual rains.—*F. Day.*

EGG-SHELL CHINA, a manufacture in Japan, in the provinces of Fozen and Setsuma.

EGRET, the common name of several species of the Cultirostres tribe and family Ardeidæ of birds,—Herodias alba, H. egrettoides, H. garzetta, Demi-egretta asha, Buphus coromandus, and others. In Australia, what, in India, are called white paddy-birds, and in Britain are the much-prized egrets, have come to be denominated cranes; and the real crane of that country is known as the native companion. See Birds.

EGYPT, in the highway from Europe to the East, is ruled by the Khedive, a hereditary viceroy under the emperor of Turkey. The Egyptian dominions are equal in extent to Russia in Europe; its population, 5½ millions. But Egypt proper, the Balad-ul-Misr (the Misraim of the Bible), though 550 miles in length, is, as distinguished from the surrounding deserts, the narrowest country in the world. The area of its cultivable tract, which has remained unaltered since the remotest antiquity, is about 11,342 square miles, the Delta measuring about 6350 square miles; and the Egyptian valley of the Nile and the Tagum, 4992 square miles. The Nubian portion of the valley of the Nile, 930 miles in length, does not exceed 1050 square miles of cultivable area. Lower and Upper Egypt are arranged into seven provinces (Mudiriyeh), the Fayum forming a division by itself. The seaports on the Red Sea are under a Governor-General. Khartum and the Soudan have sometimes had one or two separate Governors-General, and Gordon Pasha for a few years ruled in the Soudan. The total amount of land under cultivation, roughly speaking, is 5,000,000 feddans, the feddan being equal to three-quarters of an acre. Of these, 1,000,000, or one-fifth, belong to the Khedive; one-tenth, or 500,000 feddans, are held by other large landed proprietors; while the remaining seven-tenths are in the hands of the fellaheen,—these latter being subjected to taxation varying in amount from thirty to seventy shillings per feddan. Egypt has been much resorted to by Asiatics and Europeans from the most ancient times, but it is only since the middle of the 19th century that its more ancient history has been traced. The skulls of the mummies prove that Egypt has been peopled with a variety of tribes; and physiologists have divided them into three classes,—*first*, the Egyptian proper, whose skull is shaped like the heads of the ancient Theban statues and the modern Nubians; *second*, a race of men more like the Europeans, and these mummies become more common as we approach the Delta; *third*, is an Arab race, and is like the heads of the labourers in the pictures.

Egyptian chronology now runs back to B.C. 5004 according to Mariette, and to B.C. 3892 according to Lepsius; and the earliest monuments which belong to the close of the third dynasty are therefore more than 6000 years old by one calculation, and more than 5000 by the other. The ancient Egyptians excelled in making glass, linen, and in dyeing, and they had a knowledge of metallurgy. In the 19th century A.D., Count de Lesseps successfully completed a canal from the Red Sea to the Mediterranean.

Three times during the 19th century the British have invaded Egypt, but since Cambyses, son of Cyrus, king of the Medes, led his hordes of Persians and Phœnicians against the last of the Pharaohs, and reduced him to the position of a Persian satrap, Egypt has been subject to alien races. The first invasion of which we have exact details, and the most successful with the least materials, was that of Amru, general of the Khalif Omar, 639 A.D., which won Egypt from the Greek empire for the Mahomedans. Amru entered Egypt from Syria in the month of December with 4000 men. The reduction of Pelusium fortress, close to the present Port Said, took him a month. He then marched straight upon Memphis, but was kept for seven months before Babylon, near the modern Cairo, notwithstanding that the nation rose in his favour, detesting its Greek rulers. But when, at length, in August, partly through treachery, Babylon surrendered, the country was practically won. The Greeks, though defeated in a pitched battle, after twenty days' fighting, made good their retreat to Alexandria. Alexandria held out for fourteen months, and only in December 641 the garrison finally abandoned Egypt to the Mahomedans. Many efforts for its recovery were made by Christians, the most strenuous and most disastrous being that under Louis IX. in 1250. He arrived at Damietta on 5th June with 700 knights, out of 2000 with whom he had started from Cyprus, representing probably a force of some 7000 men. The next day he defeated the Saracens, and took possession of the town. Here he wasted his time till the 6th of December, when he advanced to Mansurah, where he stayed two months more. On the 6th of February he attacked the enemy, now strongly reinforced, was hopelessly defeated, and taken prisoner with his whole army, being only ransomed by the surrender of Alexandria, and the total evacuation of Egypt.

Napoleon Bonaparte reached Alexandria with some 30,000 men on the 1st of July 1798. Next day he was in possession of the town. On the 13th he fought a bloody battle at Ramanieh with the Mameluks. On the 21st he became master of the country by the total defeat of Murad Bey, with 6000 horsemen and 20,000 foot, in the battle of the Pyramids. On the 23d he entered Cairo.

When Nelson arrived on 1st August at Alexandria, notwithstanding his total destruction of the French fleet in Aboukir Bay, he could not shake the position of Napoleon, now firmly planted in possession of the country. A year afterwards, notwithstanding his loss at Acre, on the 11th of July, Napoleon totally defeated the Turks at Aboukir. Repeated British bombardments of Alexandria had no effect, and on the 2d of March 1801, Abercromby, with 17,000 men, cast anchor in Aboukir Bay. On the 8th he effected a landing, and on the 21st he won the battle of Alexandria against 27,000 French, and lost his own life. Rosetta was taken, but the British troops hesitated to advance for two months. At length, in May, when some paltry reinforcements had arrived, they moved onwards, and again defeated the enemy, and took Ramanieh on the 7th, and Cairo capitulated on the 20th.

Meanwhile General Baird had started from Bombay in the end of December 1800, but only arrived at Kossir, on the coast of Upper Egypt, on the 8th of June. In nine days, with a force of 6400 British and native troops, he traversed 140 miles of desert to the Nile, and reached Cairo on 10th August with hardly any loss. The united force then marched down on Alexandria, and on 31st August Menou capitulated, and the whole French army evacuated Egypt.

The next British expedition to Egypt was in 1807. The Turks had declared war, and in March a force of 5000 men was despatched under General Fraser to Egypt. They arrived off Alexandria on the 15th, landed on the 18th, and took it on the 21st. On the 22d a fruitless attempt with a small force was made on Rosetta. Next month, General Stewart besieged Rosetta for thirteen days, and on 22d April he fought his way back to Alexandria, with a loss of 1000 out of 2500. On 22d September Alexandria was surrendered to the Turks, and Egypt evacuated. As on this occasion the Mameluks and the country were in our favour, the failure can only be attributed to the want of vigour in the attack.

In 1882 the British for the third time invaded Egypt. Their army disembarked at Alexandria, and occupied the line of the Suez Canal, and a contingent of British and Native Indian soldiers from the armies of India embarked at Bombay for Suez, and Ismailia and Alexandria were the head-quarters. The Egyptian army was checked by General Wolseley at Kassassin; utterly defeated, on the 13th September 1882, at Tel-ul-Kabir; Cairo was occupied by the British and Indian troops on the 14th, and Egypt won. The army and leading civilians had combined against the Khedive, because all posts of value were being given to foreigners. The numbers were—Germans, 41, with salaries amounting (monthly) to £E1248; Americans, 8, £E508; Englishmen, 174, £E6768; other British subjects, 94, £E1208; Austrians, 101, £E2369; Belgians, 12, £E352; Dane, 1, £E96; Spaniards, 12, £E252; French, 326, £E9812; Greeks, 115, £E1469; Dutch, 9, £E340; Italians, 348, £E6011; Norwegians, 2, £E106; Roumanians, 3, £E34; Russians, 5, £E341; Swede, 1, £E96; Swiss, 14, £E210; European policemen, 59, £E368;—total, 1325 persons, with monthly salaries amounting in the aggregate to £E31,588. This list comprises both the administrations which exist in virtue of special conventions, such as the Public Debt Department, Domains, Daira, Sanieh, and international courts, and also the State Administrations properly so called. The latter employ 970 foreigners. Altogether, 3,114,241 piastres per month, equal to £373,704 a year, were spent in salaries to foreign officials, or £264,000 a year, if the Domains, Dairas, and international courts are excluded.

The population of Egypt proper is 5,250,000, or about 463 to the square mile. The total population under the sway of the Khedive is between 16 and 17 millions.

Fellaheen (peasants) form the bulk of the population of Egypt proper. They are Mahomedans.

Copts amount to about 300,000. They are mostly dwellers in towns. They profess Christianity.

Turks in Egypt form an aristocracy. They number barely 100,000 souls, and are supposed to be diminishing.

In 1881–2, Egypt sent to India merchandise to the value of Rs. 4,81,964, and took Rs. 1,68,42,831 of Indian produce. The E. coast of Africa sent to the value of Rs. 30,51,623, and received Rs. 23,54,896 of Indian produce, and Rs. 22,95,396 of re-exported foreign goods.

EGYPTIAN BEAN, a name sometimes given to the bean fruits of Nelumbium speciosum, *Willd.*, from the notion that they were the beans which the disciples of Pythagoras were forbidden to eat.

EHRAM or Ihram, ARAB., meaning any sacred or holy thing or place. It is applied in Egypt to the peculiar dress worn by pilgrims during the performance of the required ceremonies in Mecca, and until the completion of the pilgrimage. It consists of two pieces of cotton or linen or woollen cloth without seam or ornament, one of which is wrapped round the loins, and the other thrown over the shoulders. The instep and heel of each foot and the head must be bare; but umbrellas are now used by many of the pilgrims.

EHRETIA, a genus of shrubs of the natural order Boraginaceæ. E. aspera and E. buxifolia, small trees of the south of India; E. internodia, a tree of the Mauritius; E. lævis and E. serrata, trees all over India; E. arenaria, *Griff.*, is one of the sand-binding plants of the Indian coasts; E. Wallichiana, *H. f. et Th.*, grows in the Darjiling hills. The root of E. buxifolia (Kuruvingi vayr, TAM., Pale ke jar, HIND.) is given in decoction as an alterative in syphilitic cachexia, and its fruit is eaten. Wight gives Ehretia aspera, cuneata, lævis, ovalifolia, umbellata, viminea, Wightiana.

EHRETIA ARENARIA, *Griffith*, found between 12° and 28° N. lat.; binds together loose sand in a minor degree. It may be the same as Ehretia X) cuneata? *Wight, Icon.* iv. t. 1385, which grows on sandbanks in the beds of all our rivers. —*Cleghorn.* See Sand-binding Plants.

EHRETIA ASPERA. *Roxb.* A small tree of the Panjab plains, Siwalik Hills, and Salt Range. In times of dearth, its bark is said to be ground, mixed with flour, and eaten. Its wood is valued for its hardness.—*J. L. Stewart.*

EHRETIA BUXIFOLIA. *R.* Cordia retusa, *Vahl.*

Heen-tambala, . SINGH.	Pitta-pisinika, . . TEL.
Kuru-vingi, . . . TAM.	Tella-juvi, . . . ,,
Visser-pallam maram, ,,	Bapana-buvi? . . ,,

A shrub of the Peninsula of India, and abundant in the hot, drier parts of Ceylon. Fruit eaten by the poor; some part of the plant taken internally in a cachectic state of the body.—*Thw.*

EHRETIA LÆVIS. *R.* Beurreria lævis, *G.Don.*

Peda pulimera, CIRCARS. | Seregada, ... TEL.
Pal-dantam, GOD., TEL. |

A pretty large tree, common in the drier parts of Ceylon, and in the Peninsula of India; is a native of the Circar mountains; grows in Hindustan, in the Dehra Doon, Kamaon, Kheeree pass, and in Bengal. It furnishes a hard, valuable small wood, which in the Circars is used by the hill people for many purposes; might be used in turnery.—*Ainslie; Thw.; Cleghorn; Beddome.*

EHRETIA OVALIFOLIA. *W. I.*

Gundun, . . . MAHR. | Naraga maram, . . TAM.

In the Coimbatore district, a common but generally small tree, and found about towns on the Bombay side, never in forests. The wood is said to be of no account.—*Wight; Gibson.*

EHRETIA SERRATA. *Roxb.*

E. pyrifolia, *D. Don.* | Nulshima, . . . NEP.
Kala aja, ... BENG. | Punra, . . . PUSHTU.

A small tree growing in Bengal, Chittagong, the Khassya mountains, Nepal, Bhutan, Kamaon, and the Dehra Doon. It furnishes a tough, light wood, easily worked and durable, made into sword handles.—*Roxb.*

EILAK. TURK. The term given by the pastoral Daurani to their summer residence,—Kishlak, also Turki, being that of their winter station.

EIMLEE, a subdivision of the Tuga tribe dwelling in Husunpur, Dhubari, Dhaka, and Oojhari, in the zillah of Muradabad; many of these are Mahomedans.—*Elliot.*

EIN-SHE-MEN. BURM. Lord of the Eastern House; the distinctive appellation of the declared heir to the Burmese throne.

EIN WIN. BURM. A tree of Moulmein, used for all ordinary purposes of building.—*Cal. Cat.*

E-JIN or Ee-gin of Malacca, a grain from, seemingly, one of the Leguminosæ. In 100 parts, —moisture, 12·60; nitrogenous matter, 23·06; starchy matter, 59·40; fatty or oily matter, 0·89; mineral constituents (ash), 4·05.

EJOO or Eju, also Gomuti, a strong black horsehair-looking fibre obtained from the Arenga saccharifera tree. This fibre is much esteemed for making rope, especially cables, for which purpose it is peculiarly adapted, from not being liable to injury if stowed away below when wet with salt water.

EK. HIND., PERS. One. It enters into many compound words, as Eka, SANSK., chief. Ek-atasha, also Ek-bara, in distillation, the spirit once passed over. When re-distilled it is called Do-atasha or Do-bara, double-distilled; Sih-atasha, or thrice distilled.

Ekach'hatra, also Ch'hatrapati, a vaulted horizontal umbrella, always reserved exclusively for royalty. It is the source of the word Satrap.

Ek-fardi, also Ek-fasli, land yielding one crop annually.

Ekhartha, a one-wheel well. A domala or dohartha well has two wheels.

Ekha or Yakha, a slight carriage drawn by one horse.

Eksuti, coarse, thin, single-thread cotton cloth.

Eka-chakra, the modern Arrah. The Pandavas dwelt in it for a short time during their exile.

Eka-danta or Eka-danshtra, from Eka, one, and Danta, a tooth, a name of the Hindu god Ganesh.

Eka-dashi, literally one and ten, the 11th day of the moon's increase or decrease. It is one of the Hindu fast days, or Bart.

Eka-dasi vrata, fasting on the 11th lunation.

EKALBIR. HIND. Datiscus cannabinus. Its root is a dyestuff; also Verbascum thapsus.

EKAMRA or Ekamra Kanana, a forest in Orissa (Utkala), which was the favourite resort of Siva, and became the great seat of his worship, at the city of Bhuvaneswara.—*Dowson.*

EKLINGA, a celebrated Saiva temple in the defiles of the Vindhya. The most antique temples are to be seen in such spots, within the dark gorge of the mountain, or on its rugged summit, in the depths of the forest, and at the sources of streams, where sites of seclusion, beauty, and sublimity alternately exalt the mind's devotion. In these regions the image of creative power appears to have been the earliest, and at one time the sole object of adoration, whose symbols, the serpent-wreathed phallus (lingam) and its companion the bull, were held sacred even by the children of the forest. In these silent retreats Mahadeva long continued to rule triumphant. The temple of Eklinga, situated in one of the narrow defiles leading to the capital, is an immense structure, though more sumptuous than elegant. It is built entirely of white marble, most elaborately carved and embellished. The brazen bull, placed under his own dome, facing the sanctuary of the phallus, is nearly of the natural size, in a recumbent posture. It is cast (hollow), of good shape, highly polished and without flaw, except where the hammer of the Mahomedan had opened a passage in the hollow flank in search of treasure. Amongst the many temples where the brazen calf forms part of the establishment of Bal-Cesar, there is one sacred to Nanda alone, at Naen, in the valley. This lordly bull has his shrine attended as devoutly as was that of Apis at Memphis, nor will Eklinga yield to his brother Serapis. The changes of position of the Apis at Naen are received as indications of the fruitfulness of the seasons, though it is not apparent how such are contrived. The physiological worship of the god Siva, with his emblem the lingam, priapus, or phallus, and his vahan, the bull Nandi or Basava, seems to have entered India on its western border. But it is now very general, and Nandi, in stone or in brass, is to be seen everywhere; perhaps half a million of them are in India, generally couching, looking to the lingam.

EKOJI, the first of the Mahratta rulers of Tanjore. He was the son of Shah-ji (A.D. 1644), a subahdar of the Karnatic under Aurangzeb, who gave Tanjore to Ekoji as a jaghir. The last of the Tanjore rulers died in 1855, and the country was annexed to British territory.

EKSHA MALL, a Nepal ruler, who in A.D. 1600 divided Patan, Khatmandu, Banepa, and Bhatgaon between his daughter and his three sons. His full name was Jaya Eksha Mall, also written Jye-Kush Mull.

EL, the Arab-Egyptian pronunciation of the article Al, answering to 'the.'

EL. HEB. The strong. Many Jewish names are compounded with this name of God, as Daniel, Ezekiel, Gamaliel, Uriel, Eliun, the highest. Several nations, in addition to the Hebrews, used this name, in one or other mode, as relating to the Supreme Being. El, also named Kronos of the Egyptians, according

to the doctrine of Byblus, was the son of heaven and earth. He conspired against his father Ouranos. El is the root of Elohim. Bethel of Genesis xxviii. 19 is a compound word,—Baith-El, the house of El, meaning God's house. El of the Greeks (Yl in Hebrew and Phœnician), *i.e.* God, the strong; whence comes Elohim, literally, the gods, and the Græco-Phœnician Bætylia, or sacred stones supposed to have fallen down from heaven, perhaps aërolites, which were honoured and held sacred on account of the divine power supposed to be inherent in them. Jacob, as he rose from his dream, exclaiming (ver. 17), 'How holy is this place: this is none other but the house of God (Baith-El). . . . And Jacob . . . took the stone that he had made his pillow, and set it up for a pillar, and poured oil upon the top of it, and called the name of the place Beth-el.'—*Bunsen*, iv. 242–3. See Bætylia; Bait.

ELÆAGNACEÆ, oleasters, a small natural order of plants, consisting of trees or shrubs whose leaves are either opposite or alternate. Several species of the genus Elæagnus occur in the south and east of Asia. Thunberg enumerates eight in Japan. E. parviflorus, *Royle*, valuable as a hedge plant, grows from the Himalaya to China. E. hortensis and E. orientalis bear a brown fruit about the size of an olive, which is brought to market in Persia under the name of Zinzeyed; in quality it is like a jujube. The red drupes of E. conferta, the large olive-shaped ones of E. arborea, and the pale orange-coloured ones of E. triflora, are eaten in India. The ripe berries of E. angustifolius are eaten in Kashmir, as also are those of E. dulcis, E. hortensis, and E. orientalis. E. Moorcroftii has ornamental flowers. The wood of E. conferta is the winter fuel of the people of Iskardo; and the honey gathered by bees from the sweet flowers of E. orientalis is much esteemed. E. latifolia, *Linn.*, is very common in Ceylon up to 5000 feet. It is very variable, and is the E. arborea, conferta, and parvifolia, *Roxburgh*, and the ferruginea, Kologa, Thwaitesii, and Wallichiana of Schlegel. —*Mueller; Stewart; Roxb.; Wight; Hooker; Thw.*

ELÆAGNUS ORIENTALIS.

Sanjit, Sanjad, . . PERS.	Sanzilleh, . . PUSHTU.
Zinzid, ... ,,	

Grows along the banks of watercourses in Afghanistan and Persia. The trees are remarkable for their silvery lepidote and aromatic foliage. The fruit is eaten fresh, or boiled with rice, like the apricot. It sells at Peshawur several seers for a rupee.—*MacGregor; Powell.*

ELÆIS GUINEENSIS is the oil-palm, or Maba of the natives of Congo. It is common all along the west coast of Africa, and might with advantage be introduced into India. The fruits afford the important product palm-oil, of which upwards of 1,000,000 cwts. were imported in 1871. The oil is obtained by bruising the fleshy part of the fruit (and not the kernel, as sometimes stated), and subjecting the bruised paste to boiling water in wooden mortars; an oil of an orange-yellow colour separates, which concretes when cool to the consistence of butter, and has when fresh the smell of violets or of the root of Florentine iris, with a very slightly sweetish taste. The oil is used by the Africans in cookery and for anointing the body. In Europe it is chiefly employed in perfumery and medicine. The Elæis occidentalis of Swartz, the thatch-tree of Brown's Jamaica, and the Avoira of Aublet, are probably all identical with the Maba or oil-palm, of the African coast.

ELÆOCARPACEÆ of Lindley, an order of plants comprising species of Elæocarpus, Ganitrus, and Monocera. Dr. Roxburgh describes E. aristatus, fruticosus, ganitrus, lanceæfolia, lucides, robustus, rugosus, serratus, and tuberculatus; and E. cuneatus occurs in Malabar, Quilon, and Ceylon. In Japan are E. japonicus and photiniæfolius. E. amœnus, *Thw.*, a very beautiful tree, is common in the central provinces of Ceylon up to 4000 feet, and is also cultivated in gardens. E. ferrugineus, *Wight*, the Monocera ferruginea, *Wight*, *Icones*, tab. 225, is a good-sized tree, very common on the Neilgherries, Animallays, and Pulneys, at the higher elevations. The margins of the leaves are always connivent, rendering the leaves quite boat-shaped. The timber is used for building purposes. Wight figures the ovary as four-celled; but in several flowers that Colonel Beddome dissected it is three-celled. E. lanceæfolius, *Roxb.*, is a tree of the Darjiling Hills. E. venustus, *Bedd.*, a fine large tree, only observed in the Muti Kulivayal, South Travancore, at 4500 feet elevation; in flower in August. It is truly beautiful when covered with its snow-white large flowers, which it produces in great abundance. E. robustus grows on the Khassya Hills. E. longifolius, *Bl.*, is of Java and Burma. E. Indicus, *R.*, and E. lucidus, *R.*, are trees of Chittagong. E. montanus is a middle-sized tree of Ceylon. In Burma are several species, undetermined, which the Burmese name Tau-mangyee, Than-lwen, and Wa-hso-ben.

Elæocarpus ganitrus, *Roxb.*

Ganitrus sphæricus, *Gærtn.*

Utrasum bead tree, ENG.	Rudra-kai, . . . TAM.
Rudraksha, . . SANSK.	Rudra-challu, . . TEL.

A tree of Java. The seeds, about the size of marbles, are worn as necklaces by Brahmans and ascetics; they are commonly called Utrasum beads.

Elæocarpus hinau, the hinau of New Zealand, is a large timber tree. Its berry is edible, though taste harsh.

Elæocarpus lanceæfolius, *R.*

Ootradijke manke, DUKH.	Utrasum? . . . . TAM.

A tree of the Khassya Hills, Assam, Moulmein, and Java. The seeds are very rough, and about the size of small nutmegs. Saiva Brahmans and Pundarums, religious devotees of the Saiva sect of Hindus, who live by alms, wear strings of them round their heads and necks, and form them into rosaries. This small tree is covered over with a profusion of white flowers.—*Mason; Ain.; Roxb.*

Elæocarpus oblongus, *Gærtner*, Kassow, DUKH., is a handsome tree of the Dekhan; flowers in May, petals beautifully fringed; the foliage is frequently tinged with red, giving an autumnal appearance to the tree.

Elæocarpus obovatus, *Ainslie*, E. coriaceus, *Hook.* This tree grows at Newera Ellia and other elevated parts of the island of Ceylon, at an elevation of from 6000 to 8000 feet.—*Thw.*

Elæocarpus tuberculatus, *Roxb.*

Monocera tuberculata, *W. Ic.*	E. serrulatus, *Roxb.*
	E. bilocularis, *Roxb.*
Rudrakai, Badrachai, TAM.	Rudracha, Badracha, TEL.

This truly magnificent tree is very common in Coorg, the Animallays, Malabar, and Travancore, up to an elevation of about 4000 feet. Very large trees of it may be seen about the foot of the Neilgherries and Makurty Peak; and the seeds

are worn as ornaments, also as rosaries by Vaishnava Brahmans and by fakirs.—*Mr. Rohde, MSS.; Royle; Thw.; Riddell; Ward*, p. 371; *Beddome, Fl. Sylv.* part x. p. 113.

ELÆOCOCCA VERNICIA. *Ad. Juss.*

Vernicia montana, *Lour.* | Dryandra vernicia, *Corr.*

A tree of Assam, Cochin-China, and China. Its nuts furnish some of the wood-oil or varnish-oil extensively used in China for paying boats, junks, and rough wood-work.—*Hogg; Smith.*

ELÆOCOCCA VERRUCOSA. *Ad. Juss.*

Dryandra cordata, *Thunb.* | D. oleifera, *Lam.*

The Ying-tsze-tung or Yu-tung of the Chinese, is a tree of China and Japan and the Mauritius? It grows plentifully in the valley of the Yang-tze river. Its seeds or nuts furnish the wood-oil (tung-tsze-yu) of Chinese commerce. The fruits are very acrid.—*Hogg*, p. 461; *Smith.*

ELÆODENDRON, a genus of plants belonging to the Celastrinæ, growing in Ceylon, Berar, Garhwal, Darjiling Terai, and Burma. The wood of E. Roxburghii weighs about 53 lbs. the cubic foot.

ELÆODENDRON INTEGRIFOLIA. *M'Cl.* Hsoak and Jouk-bin, BURM. This is a very plentiful, strong, fine timber tree, found throughout the forests of the Tounghoo and Pegu districts, as well as about Rangoon. It is adapted for fancy work and cabinetmaking.—*Dr. M'Clelland.*

ELÆODENDRON PERSICUM, a tree of Burma. Its leaves form the principal ingredient in the hla-pet or pickled tea.—*Imp. Gaz.*

ELÆODENDRON ROXBURGHII. *W. and A.*

Neerija dichotoma, *Roxb.*	E. glaucum, *Wall.*
Elæod. paniculatum, *W. A.*	
Tamrooj, . . CAN., MAHR.	Irkuli, ... TAM.
Merandu, Padriun, PANJ.	Karkava, ... ,,
Jamoa, ... ,,	Nirija, Neradi, . . TEL.

This tree is not uncommon in the eastern part of the Siwalik tract E. of the Ravi. It is found in Garhwal, throughout the Madras Presidencies, Bombay, Bengal. It is very variable. In the dry Segur forests about the foot of the Neilgherries, it is found of immense girth; and in the moist forests of the Animallays, at 2000 feet elevation, it is a very large tree. Again, in the Coimbatore plains it is met with as only a shrub, with sharply serrated leaves, but differing in no other way. The wood is not very strong or stiff, but is tough, close, and even-grained, and the surface beautifully curled and flowered, and of a reddish-brown colour, and suited for cabinet work; it is used by the natives for the manufacture of combs, etc., and is suited for picture frames, etc. A cubic foot unseasoned weighs 60 to 65 pounds, and 46 pounds when seasoned; and its specific gravity is ·736. The root and bark are used medicinally by the natives.—*Dr. J. L. Stewart; Drs. Wight and Gibson; F. v. Mueller; Beddome, Fl. Sylv.*

EL AJAM. Ajam, in Arabic, literally means foreign; but in the southern parts of Arabia, El Ajam is applied to the opposite parts of the coast of Africa.

ELAKOLA or Yelakola. MALEAL. A form of accounting in which words are used in place of figures; each syllable has a numerical value, and the whole is read backwards.

ELAM or Susiana was the country on the east of the southern portion of the Tigris, south of the Luristan mountains, and was the cradle of ancient sovereignty. Berosus mentions a legend to the effect that the first dawn of civilisation was there, and that the teachers of mankind came from the shores of the Persian Gulf. Susiana was known as Elam, and all the Babylonian and Assyrian dynastic arrow-headed inscriptions, hitherto deciphered, refer to Susiana as the cradle of sovereignty, where the ruins of great cities were discovered by Sir H. Rawlinson. The Elamites were a powerful nation in the early days of Abraham, before either the Assyrian or Babylonian governments rose into power. Chedorlaomer, king of Elam, held Canaan and Arabia Petræa in subjection.—*Bunsen*, iii. 352. See Iran; Lud.

ELA-MAVI. TEL. Its Sanskrit name is Sahakara, a fragrant kind of mango; hence the name from Ela, cardamom, fragrant.

ELAND, an antelope of Africa, the Oreas canna. In shape and general aspect it resembles a Gujerat ox, not unfrequently attaining the height of 19 hands at the withers, and weighing from 1500 to 2000 pounds. It might be introduced into India. It breeds readily in confinement.

ELANUS MELANOPTERUS, the black-winged falcon or elanet, is a pretty little hawk of Asia, Africa, and S.E. Europe.—*Jerdon.*

ELAPHRUS DAVIDIANUS. *Smith.*

Ss-puh-siang, . . CHIN. | Chu; T'o-luh, . . CHIN.

This is found in the eastern part of Manchuria, the S.W. of Koko-Nor, the district of Tarbagatai on the frontiers of Ili, and the northern parts of Sze-chuen province. The tail is used by the Taoist monks as a fan.

ELAPIDÆ, a family of venomous colubrine snakes. See Reptiles.

EL ARAM, mentioned in the Koran as the Sail-ul-Aram, or Flood of ul-Aram, is the dam of Mareb, built by Queen Balkis above the city of Saba. It burst A.D. 120. See Mareb.

ELARAMU. TEL. A root employed in dropsical affections, supposed to be that of Ophioxylon serpentinum.

ELATER. See Firefly; Fulgora; Insects.

ELATER NOCTILUCUS, one of the lantern flies. There are over 70 species of Elater in tropical America.

ELATERIUM, the Ku-kwa-chih of the Chinese.

ELATINACEÆ. *Lindley.* The water pepper tribe of plants, comprising two species of Bergia.

ELA-VANNIAR of Telingana, a caste of cloth merchants.

EL-AYNEN, a town of Nejid in Arabia, the birthplace of Mahomed-ibn-Abdul-Wahab. He founded the puritan Wahabi sect. He was born A.D. 1691. See Wahabi.

EL-BAKIA, the companions of Mahomed, the Astuwanat-ul-Ashab, the column of companions, are buried at El-Bakia.—*Burton's Mecca*, iii. 396.

EL-BEIT, a town founded by Tobba-ul-Akram (A.D. 90-140), grandson of Shammir Yerash. Shammir, in an invasion of China, perished with his army in the deserts of Tibet. Tobba, to revenge his grandfather's death, marched from Yemen, rebuilt Samarcand; according to Thalaba, carried war into China, where he built El-Beit, in which he left a colony of 30,000 Arabs, who continued a distinct people when Hamadun wrote in A.D. 553. See Samarcand; Shammir; Yemen.

ELBURZ. The mountains of Elburz, at the foot of the southern slopes of which the town of Teheran is situated. They extend from the plains of Kazvin on the west, to the town of Demavend

on the east, forming the division between the low belt of country on the southern shores of the Caspian, and the high lands of the central province of Irak. They are a portion of the lofty chain which branches off from the Caucasus, and, after passing through Azerbijan, the north of Persia and Afghanistan, terminate in the range of the Himalaya. The line of these mountains, though occasionally broken in Persia, especially in Khorasan, where it is intersected by several extensive plains, may easily be traced throughout the whole of this vast tract of Asia, 400 miles, from long. 50° to 56° east. The Elburz, although of the enormous height of 18,526 feet above the sea, has not a very imposing appearance from the plain of Teheran. Kazbek is 16,546 feet, but, with the exception of the huge cone of Demavend, no peak towers above its fellows, and from a distance the summit of the range seems to be nearly level. In summer the snow disappears almost entirely from the southern face, but on the northern side it remains in large quantities throughout the year. Like the generality of mountains in Persia, those of Elburz are but scantily clothed with vegetation, the plants growing on the slopes having a dry, blighted appearance, and, as usual, there is a total want of trees of natural growth. They are, like many other parts of this extensive range, rich in mineral productions, copper, iron, lead, and orpiment being found in large quantities. Five rivers, besides smaller streams, take their rise in the Elburz, within 25 miles north of Teheran.—*Chesney's Euphrates*, p. 4; *MacGregor*, p. 134.

EL-CHASAI or Elkesaites, called also Mughtasilah, or washers, a sect founded in the 1st century of the Christian era.

ELCHEE. PERS. An ambassador.

ELCHI, according to the maps Ilitsi, is the city known to older travellers as Khoten.

EL-DOZ. After the death, in A.D. 1205, of Mahomed of Gour, his kingdom was divided amongst his generals, and Kābul and Kandahar in Afghanistan fell to his slave El-Doz. He was, however, soon dispossessed by a prince of Kharasm, whose successor, Jalal-ud-Din, was compelled to yield to Chengiz Khan.

ELECAMPANE ROOT.

Ussul ur-rasun, . ARAB.	Bekh-i-zanjabil-i-shami, PERS.
Inuleaulnee, . . . FR.	
Alant-wurzel, . . GER.	

Elecampane root has an aromatic and slightly fetid odour. Formerly prescribed in dyspepsia, pulmonary complaints, and palsy.—*O'Sh.*

ELECTRICITY is evolved abundantly in tropical Asia, at the beginnning and close of the monsoon rains. The close of the S.W. monsoon is often attended with much electric disturbance. The N.W. storms at Calcutta are always attended with a great evolution of electricity. The art of sending information by means of electric currents passed along wires, was early perfected in India by Sir William O'Shaughnessy, and all British India is now in intercommunication, and in connection with Europe and America. Electric lights are often seen in the swamps of India, and in storms on the masts and spars of ships at sea.

ELEMENTS. In the philosophy of the Hindus, as stated in the Puranas, the elements enumerated are the same as given by Empedocles and Pythagoras. The order of Empedocles was ether, fire, earth, water, air. Pythagoras arranged them into fire, air, water, earth, and ether. In the Hindu Puranas are ether (akas), air (vayu), fire (tejas), water, and earth. The Chinese name them earth, water, fire, metal, and wood, each denoting five innate essences, and the nature of each essence is indicated by its corresponding form of matter. The Chinese consider that health or sickness depends on the proportions in which the five elements are present in the body.

ELEMI, Lan-hiang, CHIN., occurs in yellow transparent masses, which readily soften by the heat of the hand, and have a strong aromatic odour, and a hot, spicy taste. It is a gum-resin, and is said to be the concrete resinous exudation from one or more genera of plants, Amyris, Balsamodendron, Canarium, Elaphrium, and Icica. The Elaphrium elemiferum, *Royle*, yields Mexican elemi. Canarium commune, *Lam.* (synonym of Canarium zephyrinum, *Rumph.*), of the Spice Islands and Ceylon, also C. balsamiferum of Ceylon, are said to yield a resin which in odour and general appearance strongly resembles elemi. The resin called arbol-abrea at Manilla, which somewhat resembles elemi, is considered by M. Baup to be the product of Canarium album, a Philippine tree. Brazilian or American elemi is from the Icica Icicariba, *Marcq.*, and the resin of Courina from I. ambrosica. It is abundantly produced from a Canarium in the forests of the Philippines, where it often assists in giving a cheerful blaze to the fire of the traveller. It is also exported from Manilla as a drug. This gum-resin forms an essential ingredient in many of the finest varnishes.—*Waterstone; Faulkner; Clegh.*

ELEOCHARIS TUBEROSUS, or Scirpus tuberosus. A kind of arrowroot is prepared by the Chinese from its tubers.

ELEPHANT.

Hsen, ... BURM.	Hasthi, ... SANSK.
Olyphant, DUT., SCOTCH.	Fiel, ... SCAND.
Elephas, . . . GR., LAT.	Gallah, ... SINGH.
Hathi, ... HIND.	Elephante, ... SP.
Elephantes, ... IT.	Ani, ... TAM.
Beram, . . . MALAY.	Yeni; Yenuga, . TEL.
Fel, . . . AR., PERS.	Fil, ... TURK.
Pil; Gaja, . . PUSHTU.	

The source of the word elephant is doubtful. Sir J. E. Tennant supposes it to be the Hebrew Eleph, an ox, and Hindi, Indian. Pictet derives it from Airavata or Airavana, the elephant vahan of Indra, from Airavanta, son of the ocean. Burton says (Pilgrim. i. p. 275) it is from Pilu, in Sanskrit, or, as we now have it in Pushtu, Pil, in Persian Fel, which in Old Persian becomes Fil, and, with the Arabic article, El-fil, turned to Elephas in Greek. Lassen thinks it may be from the Arabic Al, and the Sanskrit Ilhadanta. The elephant is mentioned but two or three times in the Rig Veda, by the name Mrigo-hasti, the beast with a hand, and in such a way as to show that he was still an object of wonder and terror. In the Atharvan he occurs also, only rarely, under the name Hastin (the mriga now left off), and is exalted as the mightiest and most magnificent of animals. Nothing appears there to show that he had been reduced to the service of man. In the Syrian armies, anciently, the elephant seems to have been much employed. According to the Apocrypha (1 Maccabees vi. 33, 37), Antiochus, when warring against Judas Maccabæus, had in his army elephants guided by Indian drivers, each

stated to have had on his back a strong wooden tower, containing thirty-two fighting men. But this would amount to about 2½ tons weight, quite beyond what any elephant could easily carry.

The African elephant is not now known to be tamed, but there is no doubt that the Carthaginians availed themselves of the services of this species. Also, on the stupa at Bharhut, at least 2000 years old, there is a representation of a captive untamed elephant being led off by monkeys.

The elephant is the largest of terrestrial mammals. Though the Sumatran has been considered to differ, there is, according to most authors, only one African and one Asiatic species. The Asiatic species, E. Indicus, is found in Ceylon, in the southern and western parts of the Peninsula of India, in the forests at the foot of the Eastern Himalaya, in Nepal, in the sal forests, Tiperah, Chittagong, Burma, the Malay Peninsula, and the larger islands of the Eastern Archipelago. There are differences; the elephants of the same locality even vary in form and character. They attain their full height when 18 or 24 years of age, and range from 7 feet to 10 feet in height, up to the top of the shoulder. Twice round its forefoot gives nearly the exact height of an elephant. Elephants of Ceylon do not average above 8 feet in height, and never exceed 9 feet; yet Wolf says he saw one taken near Jaffna which measured 12 feet 1 inch, of course to the arch of the back. The Ceylon elephants are not so large as those of other parts of India. Mr. Corse says the greatest height ever measured by him was 10 feet 6 inches. He mentions the case of an elephant belonging to the Nawab of Dacca, which was said to be 14 feet high. The driver assured him that the beast was from 15 to 18 feet, yet when carefully measured it did not exceed 10 feet. The skeleton of an elephant in the museum at St. Petersburg, which was sent to Peter the Great by the Shah of Persia, measures 16½ feet in height, and probably this is the tallest authentic instance on record. In Ceylon an elephant is measured at the shoulder, and 9 feet at this point is a very large animal. The African elephant is perhaps not inferior to that of Pegu. Major Denham, in his expedition into Central Africa, met with some which he guessed to be 16 feet high; but one which he saw killed, and which he characterized as 'an immense fellow,' measured 12 feet 6 to the back. The fossil remains of an elephant discovered at Jubbulpur measured 15 feet to the shoulder.

In India they are classed according to their outer forms, viz. the Kumariah or princely, a strong-bodied animal; the Mirghi or deer-bodied; the Sankariah, or mixed breed between the Kumariah and Mirghi; and the Mirghabali, approaching the Mirghi. The Dantela is the tusked elephant. The Mukna has a head like that of the female, with comparatively small straight tusks. The elephant with nicely curved tusks is called the Palang (or bed) dant; and a one-tusked elephant is the Ek-danti or Ganesh, after the Hindu god of wisdom, who is represented with the head of an elephant, and one tooth.

The Kumariah is the most valuable, and is marked for the smallness of its head, the stoutness of its body, and swiftness of its pace, lifting its foot no higher than is sufficient to clear intervening obstacles. The Mirghi has a large head, and long legs in comparison to the size of its body; its paces are high, and rather clumsy. The cross between the Kumariah and the Mirghi is called Nasl, and partakes of the qualities of both. The Mukna is a tuskless male of either variety. They are large and strong animals, having been longer able to suck. Not more than one in three hundred has tusks; the others are merely provided with short grubbers. Those with tusks are usually males.

Elephants are gregarious, averaging in a herd about eight, although they frequently form bodies of fifty and even eighty in one troop. Each herd consists of a very large proportion of females, and they are constantly met without a single bull in their number. Baker had seen some small herds formed exclusively of bulls, but this is very rare. The bull is much larger than the female, and is generally more savage. On each side of the elephant's temples is an aperture about the size of a pin's head, whence in the season of rut a secretion exudes, which is called mada or dana. Whilst it flows the elephant is called matta, and at other times nirmada. The odour of this fluid, frequently alluded to in Hindu poetry (see Wilson's Meghaduta, i. p. 132), is compared to that of the sweetest flowers, and is supposed to deceive and attract the bees.

White elephants, either lepers or albinos, possibly in both of these conditions, are occasionally found; and the kings of Burma and Siam take, as one of their titles, the appellation of Lord of the White Elephant. Indeed, the presence of a white elephant in Siam is considered as a palladium for the king's life, and for the prosperity of the state. Crawfurd saw six in the king's stables. In Enarea, in eastern Central Africa, a white elephant is reverenced. When Jaya Chandra of Benares and Kanouj was defeated and slain by Shahab-ud-Din, Mahomed Ghori, in A.D. 1194, on the banks of the Jumna, between Chandwar and Etawa, a white elephant was captured, which is related to have refused to make obeisance to the sultan, and had almost killed its rider who endeavoured to force the animal to comply. In the time of Mahomed's grandfather, when Abrahah, the Christian king of Himyar, advanced against Kenanah in Hijaz, to revenge the pollution of the Christian church at Sennaa, he was seated on an elephant named Mahmud, distinguished by its bulk and skin of pure white.

Elephants rarely breed in captivity. They are becoming scarce in S. India; and in 1868 the Madras Government began to preserve female elephants. They frequent hilly and mountainous districts. They are met with in Ceylon at heights of 7000 and 8000 feet, and in the south of India at about 4000 and 5000 feet. In the Ceylon forests they come forth to feed about 4 P.M., and they invariably retire to the thickest and most thorny jungle in the neighbourhood of their feeding place by 7 A.M. In these impenetrable haunts, says Baker (Rifle, pp. 10, 11), they consider themselves secure from aggression. The period of gestation with an elephant is supposed to be twenty months or two years, and the time occupied in attaining full growth is about sixteen years. The whole period of life is supposed to be a hundred years, but Baker would increase that period by fifty.

These great mammals have been trained to take

part in theatrical representations. At present the elephant is usually employed for the transport of large tents and other articles of equipment, beyond the power, or of size inconvenient to be carried by camels or bullocks. Its load for steady work varies from about 15 to 20 cwt., exclusive of the pad or pack saddle. With this it travels at the rate of 3 miles an hour from 16 to 20 miles per diem; but it can perform and bear longer marches for some time without injury. On an emergency, a riding elephant can travel at the rate of 5 miles an hour, and will go about 40 miles in a day; but for a continuance its performance will not much exceed that of the baggage elephant. In India there are elephant batteries of heavy artillery needed for sieges, and the nobles of the Dekhan Hyderabad use them largely for riding.

The Agagir swordsmen of the Hamram Arabs hamstring the Abyssinian elephants with swords. The Abyssinians still eat the flesh and that of hippopotami, as described by Strabo (lib. xvi. p. 772, and Diod. Sic. lib. p. 161).

In India, at the present day, the herds driven into the kraal or kheddah are sometimes very numerous. In January and February 18—? Mr. Sanderson captured 106 in the comparatively small forest tract near Dacca; and immediately afterwards, 23 more near the Garo Hills; and in 1874 (1st July) he captured 53 of a herd in Mysore.

The Ceylon elephants are found in all the uncultivated parts of the island, but their favourite haunts are near to the farms, to which they prove so destructive, that the colonial government paid 7s. 6d. for every tail of the animal which was brought to the authorities. Mr. Talbot paid £200 during one year for tails, which would give 600 as the number of elephants destroyed. One officer actually killed, during his residence on the island, no less than 600 of these gigantic animals. They are ordinarily shot with a rifle. The sportsman approaches his game in front, so that he may aim at either of the only two vital parts upon which a rifle ball will have any effect, one being directly in the forehead, through which the brain is penetrated, and the other behind the ear.

The catching and taming of elephants furnish a large source of revenue to the Nepal government. The T'haroo elephant catchers, having marked down a wild herd of 300 or 400 elephants, about 200 T'haroo collect together, mounted upon elephants, and accompanied by two large 'taking elephants,' highly fed, and thereby kept always must (sensual). The herd of wild elephants having been started, they get away trumpeting and whistling into the thickest part of the forest, hotly pursued by the mounted T'haroo, each of whom is provided with three or more nooses, called the moosack, which is made of very strong raw hide, well soaked in oil, and so ingeniously contrived, that when once attached to the elephant, the hind legs are gradually drawn together at every step it takes, until it is brought to a complete stand-still. The chase continues frequently for 20 miles at full speed, until in fact the wild herd becomes blown, and is brought to a stand. The danger then commences, from the wild ones dashing at their pursuers, in their turn causing the most intense excitement during half an hour, until the arrival of the two must elephants, whose bulk prevents their keeping up with the more active ones ridden by the T'haroo. These two elephants, each having three keepers upon their backs, dash into the herd. Their appearance, accompanied by the powerful nauseous odour emitted by must elephants, creates an immediate panic among the wild ones, and soon paralyzes their efforts of resistance. The active little T'haroo now slide down from their steeds, and, under cover of one of the must elephants, who pushes himself forcibly against the wild one selected from the herd, they in a most dexterous and daring manner slip the moosack on to each of the hind legs, which performance occupies about three minutes. The noosed elephant is then allowed to depart, and he goes off evidently delighted; but as the noose becomes contracted at every stride, he finds his intended flight brought to a close at a distance of sixty or seventy yards. After operating upon about fifty wild elephants in a similar manner, the T'haroo permit the remainder of the herd to abscond, and employ themselves in fastening the noosed elephants to separate trees, where they are detained from two to three weeks under the careful charge of the takers. If any of the captured show symptoms of violence, they are immediately punished most severely by two of the large tame elephants, who belabour them unmercifully with their trunks. Two such thrashings effectually cure the most insubordinate, and at the expiration of six weeks the once free and independent denizen of the forest has a keeper on his back, and becomes as quiet as if he had been in a state of subjection all his life. The full-grown female elephants of Nepal seldom exceed 7½ feet in height, but the males of forty years old, at which age they are considered to be full grown, average from 9 to 11 feet.

Elephants are captured in Siam by loosing female elephants in the forests at certain seasons, when the wild males return with them, and are captured.

In Ceylon, the Peninsula of India, Cachar, and Assam, the capture of herds is effected by driving them into a kraal or kheddah. In Travancore, the state and private persons have about a thousand pits as elephant traps. The pits are 8 feet square, rounded off towards the bottom, from which, with the aid of tamed elephants, the animal is raised and tamed. The tamed elephant is guided by the ankus (Ankasa, SANSK.; Arpe, GREEK; Cuspis, LATIN; Hendoo, SINGH.), a goad and guiding rod, in shape resembling a small boat-hook. It is figured in the medals of Caracalla of the identical form in use at the present day in India.

In August 1880, Mr. Sanderson delivered before the Viceroy at Simla, a lecture on the elephant. Out of many hundreds which Mr. Sanderson had measured in the south of India and Bengal, he had only found one male of 9 feet 10 inches vertical height at the shoulder, though the raja of Nahun had a tusker which measures 10 feet 5½ inches. Few female elephants attain 8 feet at the shoulder, A dead elephant, one that has died a natural death, is so rarely if ever seen, as to have given rise to the belief among some wild tribes, that wild elephants never die; whilst others believe that there is a place unseen by human eye, to which they retire to end their days. Mr. Sanderson had never seen the remains of an elephant that

had died a natural death, and had never met any one among the jungle tribes or professional hunters who had. The Singhalese have a superstition that on feeling the approach of dissolution, the elephant retires to a solitary valley, and there resigns himself to death. There is a similar belief in India.

Elephants are expert swimmers, though they cannot jump a trench 8 feet wide. Large numbers of them are annually sent across the tideway of the Ganges between Dacca and Barrackpur, and are sometimes six consecutive hours without touching the bottom. Mr. Sanderson had seen an elephant swim a river 300 yards wide with his hind legs tied together. They are sometimes drowned.

At that lecture Mr. Sanderson gave the opinion that there is no diminution in the numbers now obtainable in Bengal; and that in Southern India elephants are annually appearing in places where they had never been heard of before. But the diminution of the forests, the increase of population, the destruction of the weaker by the stronger males, the captures of such great number, the deaths during the capture, and the cessation of breeding amongst the captives, cannot but greatly diminish the numbers of the free elephants. Out of the 53 driven into the kheddah in Mysore on the 1st July 1874, no fewer than —? died before they could be tamed.

During the three years previous to Mr. Sanderson's lecture, 503 elephants had been captured by the Dacca kheddah establishment in a tract of country 40 miles long by 20 broad, in the Garo Hills, whilst not less than 1000 were met during his hunting operations. Baber states that in his time elephants abounded about Calpi, and in Karrah and Manikpur; and Akbar fell in with a herd near Colhras, in the east of Malwa.

Under Mr. Sanderson's arrangements, when an elephant chases the takers, they betake themselves to the shelter of tree trunks, bamboo clumps, or long grass, and it is astonishing to see how they frequently escape uninjured. He had known many cases of men standing against a tree, or hiding in tufts of long grass, within a couple of yards of elephants that were pausing in indecision, without being discovered, though the elephants were evidently aware of their close proximity, as they kicked up the ground in anger, and then made off. In such cases the slightest movement would have led to the hunters being instantly trampled to death. Men are frequently killed, but they are almost always young hands who are learning. He saw one such make a narrow escape. He ran from an elephant and climbed a tree; the elephant butted the trunk, and the man fell down, but his pursuer was so astonished at the sight, that she fled at once. Sometimes drives are conducted by torchlight, and these seldom fail, owing to the elephant's fear of fire. The scenes on these occasions are exciting beyond description.

The African elephant is usually less in size than the Asiatic species. The head is rounded, the front is convex instead of concave, the ears are much larger, and the general physiognomy is quite different from that of the Indian elephant. The tusks of the adult males of this species are very large, and of great value. They are imported into England in great quantities from different parts of the African continent, in the unexplored interior of which this huge animal is still met with in great abundance.

The elephant has, besides the tusks, only grinders, twenty to twenty-three on each side of the jaw. The milk grinders, four in number, one in each side of either jaw, are completed soon after birth, and are said to cut in about eight or ten days. The tusks may be 8 or 10 feet long, or only as many inches. They may weigh 325 lbs. the pair, or they may not reach as many ounces. In rare instances a considerable portion of the tusk is found to have been injured by a musket ball, the iron or leaden bullet being enclosed in it. Two instances, if not more, have occurred in which these bullets were of gold, showing that the shot was fired by royal hands, for it is the reputed custom among Eastern potentates to use gold or silver bullets in their sports. One of these golden bullets is stated to have been cut through by a combmaker in dividing a tusk. The portion of the tusk thus injured is generally useless for any ornamental purpose for many inches each way around the ball; but cases have occurred in which a ball, and even a spear-head, has entered at the thin part near the skull of the animal, and become embedded without injury to the external surface.

The elephant has been discovered fossil in the strata of the Nerbadda and in Burma. Amongst the remarkable remains brought from the Siwalik Hills in Northern India by Captain Cautley and Dr. Falconer, were the remains of several species of the genus Elephas and other proboscidean animals. This fossil fauna is composed of representative types of mammalia of all geological ages, from the oldest of the tertiary periods down to the most modern, and of all the geographical divisions of the old continent, grouped together into one comprehensive assemblage. Among the forms contained in it, there are, of the Pachydermata, several species of mastodon, elephant, hippopotamus, rhinoceros, anoplotherium, and three species of equus; of the Ruminantia, the colossal genus sivatherium, which is peculiar to India, with species of camelus, bos, cervus, and antelope; of the Carnivora, species of most of the great types, together with several undescribed genera; of the Rodentia and Quadrumana, several species; of the Reptilia, a gigantic tortoise (colossochelys), with species of emys and trionyx, and several forms of garials and other crocodiles. To these may be added the remains of struthiones and other birds, and also fishes, crustacea, and mollusca. The genus Elephas, in the collection which has been desposited in the British Museum, includes six species or varieties, viz.:

E. planifrons, distinguished by the flatness of the forehead and the intermediate character of its molar teeth.

E. namadicus, with a great development of the cranium, and teeth closely allied to those of the Indian species.

E. hysudricus, with a turban-like vortex of the skull and teeth, whose structure approaches that of the African elephant.

E. Ganesa is the most remarkable of the Siwalik species. A skull exists, with remains of the other species, in the British Museum. The total length of the cranium and tusks is 14 feet; length of the skull, 4 feet 2 inches; width of the muzzle, 2 feet; length of the tusks, 10 feet; circumference of the

tusk at the base, 26 inches. The other two species are named E. insignis and E. bombifrons. Besides these, the Bengal Asiatic Society's Museum had one called E. Cliftii. — *Owen's British Fossils; Falconer and Cautley, Fauna Antiqua Sivalensis; Elphinstone; Crawfurd, Embassy; Beng. As. Soc. Cat.; Smith's Nepal; Yule, Embassy; Yule, Cathay; Gosse, Nat. Hist.; Tennant's Sketches; Bikmore, Trav.; Wallace, Archip.; Aide, Memoire; Studies*, pp. 24–26; *Williams' Story of Nala*, p. 195.

ELEPHANTA, or Gharapuri, is an island about six miles from Bombay, and four from the mainland. It was named Elephanta by the Portuguese, from a large stone elephant, 13 feet 2 inches in length, and about 7 feet 4 inches high, that stood near the old landing place on the S. side of the island. The most striking of the sculptures are the linga and a colossal three-faced bust or trimurti, or tri-form figure. The central face is mild; on its right is that of Rudra (Siva), and on its left Vishnu.—*Ferg. and Burgess*, 465, 568.

ELEPHANTA, the designation which the October storms bear, all over the western side of India, is conferred on them as occurring about the time when the sun is in the constellation Hast'hi, the Sanskrit for elephant. But as they reached Bombay from nearly due east, their name is there not unnaturally imagined to have been conferred on them from the celebrated island Elephanta, or Gharapuri. The elephanta commonly makes its appearance a fortnight or so after the S.W. monsoon weather has fairly cleared up, when showers have almost ceased to fall, the barometer has become high, the sky bright and clear, and the alternating sea and land breezes have set in. For three or four evenings before its appearance, superb piles of thunder-clouds are seen to accumulate about 3 o'clock every afternoon over the Ghats; they soon ascend some way in the air, advancing apparently against the sea-breeze,—that is, the upper and lower strata of air move opposite ways to each other. Magnificent displays of lightning, with low growling thunder, prevail as twilight sets in; an hour or two after sunset the sky resumes its serenity. At length the clouds grow darker and more watery, the thunder becomes louder, the lightning more brilliant; they tumble up the sky, rolling in vast masses over each other, till a sudden squall bursts, and a deluge of rain follows. This scarcely ever occurs earlier in the day than 3 P.M., and it very seldom continues till dawn, though after three or four hours' interruption it sometimes resumes before noon next day. When once the gale is over, the sky in general clears up, the clouds vanish, the alternate winds resume sway,—hot days and dewy nights succeed, and the settled season commences. From 1840–1857, Bombay was five times without a squall from the east, with rain and thunder; it has usually happened betwixt the 7th and 10th October.—*Bombay Standard and Chronicle of Western India.*

ELEPHANT APPLE, Feronia elephantum. Elephant creeper, Argyreia speciosa. Elephant-foot yam, Dioscoria, *sp.* Elephant gourd, Hasti kosataka, SANSK.; Ennuga bira, TEL.; Elephantopus scaber. Elephant grass, Typha elephantina.

ELEPHANTIASIS.

Da'i'l-Fel, . . . ARAB.	Goni-parangi, . . SINGH.
Hat'hi-ka-paon, . DEKH.	Ani kal, ... TAM.
Gaja-pada, . . . SANSK.	Yenuga-kalu, . . TEL.

This disease generally attacks the legs and feet; but the arms, the skin of the scrotum, are sometimes affected by it.

ELEPHANT MOUNTAIN, five miles N.E. from Madura. It is a block of gneiss, 2 miles long, a quarter of a mile wide, and about 250 feet high. A porch and a temple have been hewn out of one side of it.

ELEPHANTOPUS SCABER. *Linn.*

Shamdulum, . . . BENG.	Husti kasaka, . . . TEL.
Samdulun, . . . HIND.	Enuga bira, . . . ,,
Ana shovadi, MAL., TAM.	Eddu nalike chettu, ,,

This plant grows in the Peninsula of India, and its leaves are used in medicine.

ELEPHANT ROCK. In Ceylon, Allagalla, Ætagalla, and Goomeragalla, all signify the Elephant Rock. The former—the grand mountain up whose precipitous side runs the railway incline of 1 in 45 for 13½ miles—is simply the Allia (Untusked Elephant) Rock. The rock which, like an elephant couchant, guards Kornegalle, Ætagalla, is the Tusked Elephant Rock; and the strange massive block which towers over and gives its name to one of the finest estates in the Knuckles, is the Goomeragalla, Speckled Elephant Rock. The rock at a distance gives the outline of an elephant, and the patches of cryptogams which spot its precipitous sides has led to the specific name, —the Goomera elephant being a semi-leprous one, in an advanced stage of the cutaneous affection.

ELEPHANT'S TAIL, Hair of

Hathi-dum-ka-bal, DUKH.	Ani kal myr, . . . TAM.
Beram rambut, MALAY.	

Of this article, Yenuga toka ventrucalu, TEL., rings, bracelets, and other female ornaments are made in India.—*Ains. Mat. Med.*

ELEPHANTS' TEETH are obtained in South Africa, India, Ceylon, Burma, Siam, and Cambodia. They should be chosen without flaws, solid, straight, and white; for if cracked or broken at the point, or decayed inside, they are less valuable. Every specimen, however, is useful to a greater or less degree, and can be entirely used. The largest and best delivered in China weigh from 5 to 8 to a pikul, and decrease in size to 25 in a pikul. The number of articles which the Chinese make of it, and the demand for them on account of their exquisite workmanship, render the consumption very great. The circular balls which the Chinese make of ivory, as well as their miniature boats, fans, chessmen, boxes, and fancy articles of all descriptions, are specimens of carved work unequalled in any other part of the world. From a quantity of ivory not weighing over three pounds, they will make toys worth a hundred dollars. The largest teeth are sometimes valued at 120 dollars a pikul, but the article usually ranges from 50 to 80 dollars per pikul. A large proportion of the ivory brought to China is re-exported in fancy carved ware.—*Morrison, Co. D.*

ELEPHAS INDICUS. *Cuv.*

Ani, . CAN., TAM., TEL.	Hathi, ... DUKH.

The elephant occurs in Ceylon, in the south of the Peninsula of India, at the foot of the Himalayas, in Burma, and in the Eastern Archipelago.

Elephas primogenus, the mammoth. One was discovered in 1799 by a Tungus, near Lake Oncoul in Siberia.

ELETTARIA CARDAMOMUM. *Wh. and Mat.*

Alpinia cardamomum, *R.*
Amomum repens, *Woodv.*
Am. cardamomum, ,,
Am. racemosum, *Lam.*
Cardamomum minus.
Elettaria, *L. and E. Pharm.*
Var. α. E. cardamomum minor, *Rheede.*
Var. β. E. cardamomum major, *Smith.*

Kakula, Ebil, . . ARAB.
Pa-lah, Ba-la, . . BURM.
Cardamom plant, . ENG.
True, Lesser, Long cardamom, . . ,,
Wild card. of Calcutta, ,,
Choti Ilachi, . . HIND.
Guzerati Ilachi, . ,,
Barra Ilachi, . . HIND.
Capulaga, Puwar, MALAY.
Yalum, . . . MALEAL.
Kakelah-seghar, . PERS.
Dokeswa, . . . SYLHET.
Ela cheddi, . . . TAM.
Elaki chettu, . . TEL.
Yela kulu, Sanna elaki, ,,

The various vernacular names and the botanical synonyms will show that both the scientific and the unscientific world have believed that the round and conical-seeded cardamoms are the products of two species; but Mr. Thwaites, after a careful comparison of growing specimens, was satisfied that the plants producing respectively the round and the long cardamoms of commerce are not distinct species, but merely two varieties of the present species. In every essential particular the structure is similar in the two plants, the only difference being that var. α, which produces the round cardamom, is a little taller, with rather narrower and less firm leaves, and that its fruit is more aromatic as well as different in form from that of var. β. The seeds of both varieties are used by the Singhalese to chew with their betel, and as medicines. The long cardamom, called Ensal in Ceylon, grows wild in the Ceylon forests up to 3000 feet; but the round cardamom is there only a cultivated plant, and is called by the Singhalese Rata-ensal. The wild or Ceylon cardamoms are of less value in the market than those of Malabar. In the Travancore forests they are found at elevations of three or five thousand feet. The mode of obtaining them is to clear the forest of trees, when the plants spontaneously grow up in the cleared ground. Before the commencement of the rains in June, the cultivators seek the shadiest and woodiest sides of the loftier hills; the trees are felled, and the ground cleared of weeds; and in about three months the cardamom plant springs up. In four years the shrub will have attained its full height, when the fruit is produced, and gathered in the month of November, requiring no other preparation than drying in the sun. The plant continues to yield fruit till the seventh year, when the stem is cut down, new shoots arising from the stumps. They may also be raised from seeds. Cardamoms are much esteemed as a condiment, and great quantities are annually shipped to Europe from Malabar and Travancore. In commerce there are three varieties, known as the short, short-longs, and the long-longs. Of these the short are more coarsely ribbed, of a brown colour, and are called the Malabar cardamoms or Wynad cardamoms. They are reckoned the best of the three. The long-longs are more finely ribbed, and of a paler colour. The seeds are white and shrivelled. The short-longs merely differ from the latter in being shorter or less pointed. It is usual to mix the several kinds together when ready for exportation. Some care is required in the process of drying the seeds, as rain causes the seed-vessels to split, and otherwise injures them; and if kept too long in the sun, their flavour becomes deteriorated. In Travancore they are chiefly procured from the high lands overlooking the Dindigul, Madura, and Tinnevelly districts. In these mountains the cultivators make separate gardens for them, as they thrive better if a little care and attention be bestowed upon them. Cardamoms are a monopoly in the Travancore State, and cultivators come chiefly from the British provinces, obtaining about 200 or 210 rupees for every candy delivered over to the Travancore Government. The average number of candies for the years 1845–54 was about 300.—*H. D.; Thw. En. Pl. Zeyl.* p. 318. See Cardamoms.

ELETTARIA FLORIBUNDA. *Thw.* A plant in the Ambagamowa forest district. E. involucrata, *Thw.*, is of the Central Province, in damp forests, at an elevation of 4000 to 6000 feet. E. nemoralis, *Thw.*, of the forests in the Reigam and Pasdoon Corles.—*Thw. En. Pl. Zeyl.* p. 319.

ELEUSINE, a genus of plants of the natural order Panicaceæ. E. calycinia, coracana, Indica, and stricta occur in India.—*Voigt.*

ELEUSINE CORACANA. *Gært.*

Cynosurus coracanus, *Linn.*

Murua, Murha, BEN., HD.
Raggi, . . CAN., DUKH.
Mandal, Munrivi, HIND.
Maud, Koda, . . ,,
Chalodra, ... ,,
Mutami tsjetti pullu, MALEAL.
Mandwah, . . . PERS.
Rajika, Natchenny, SANS.
Nauguli, ... SIND.
Korakan, . . . SINGH.
Kayveru, kelwa-ragu, TAM.
Tamidelu, ... TEL.
Chiviki velama, Ragulu, ,,

This is cultivated throughout India, and is the most productive of all Indian cereals. It is the staple food of the inhabitants of Mysore; and, though coarse in appearance, is a wholesome and nutritious grain. It is largely used in the Rajputana desert. Its chemical composition in 100 parts ranges about 11·50 moisture, 5·88 of nitrogenous matter, 79·31 starchy matter, 0·85 fatty or oily matter, with 2·37 of mineral constituents. It is very indestructible, and may be preserved for about sixty years, if carefully deposited in grain caves or pits. These pits are generally placed in hard, dry ground. The pit is formed by digging a small hole of the size to admit a man, and as the pit descends it is enlarged into a moderate-sized circular room. After the pit is dug out, a large fire is lit in it to harden the sides. These stores are of inestimable value in moderating dearths. The straw is a very good fodder for cattle, and it too keeps well. Large stocks of it were at one time in Mysore, kept in the granaries of wealthy farmers. When cheap, it sells in Bangalore at 7 marcals or 84 seers for a rupee; or if dear, 2½ marcals or 30 seers. It is usually sown in fields mixed with buller, togari, hutchellu, lave, kari, jola, sasava, and haralu. The drill consists of many reeds with holes, so that the whole of the seeds are sown through their respective holes in parallel lines. A fermented liquor is prepared from it, called bojali or murwa, chiefly drunk in the Mahratta countries, and as a drink in the Sikkim Himalaya; it seems more to excite than to debauch the mind. The millet seed is moistened and allowed to ferment for two days. Sufficient for a day's allowance is then put into a vessel of wicker-work, lined with India-rubber to make it water-tight, and boiling water is poured on it with a ladle of gourd, from a large iron caldron that stands all day over the fire. This fluid, when quite fresh, tastes like negus of Cape sherry, rather sour.—*Roxb; Mad. Ex. Jur. Rep.; Cleghorn; Stewart; Ainslie.*

ELEUSINE INDICA. *Gœrt.*

Cynosurus Indicus, *Linn.*	Panicum compress., *Forsk.*
Mal-ankura, . . . BENG.	Hsen-gno-myeet, BURM.

Grows throughout India. Tufts of it are conspicuous everywhere among other grasses of Tenasserim.—*Mason.*

ELEUSINE STRICTA. *Roxb.*

Ragi, ... HIND.	Maddi rubba chettu, TEL.
Pedda sodi, . . TEL.	Pedda chollu, . . ,,

This species is larger in size and more productive than E. coracana. It is cultivated in S. India to a large extent, and, like Dolichos uniflorus, yields in favourable seasons more than a hundred-fold. The spikes are straight and large, and their great weight bends the head down in a horizontal direction.

ELEUSIS. The mysteries of Osiris and those of Eleusis were of the same character, commemorative of the first germ of civilisation, the culture of the earth, under a variety of names, Ertha, Isis, Diana, Ceres, Ella. In the terra-cotta images of Isis, frequently excavated about her temple at Pæstum, she holds in her right hand an exact representation of the Hindu lingam and yoni combined; and on the Indian expedition to Egypt, of 1801, Hindu soldiers deemed themselves amongst the altars of their own god Iswara (Osiris), from the abundance of his emblematic representatives. —*Tod.* See Earth; Mrittika.

ELEUTH, a tribe of the Kalmuk, dwelling in Zungaria. See Kalkas.

EL-EYN. ARAB. The evil eye.

EL-FATTAHA, a town at the southern opening of the Hamrin Hills, at which the Tigris makes its exit from the hills.

ELGHAR or Yelghar. PERS. The forced march of an army, or sudden incursion, or raid.

ELGIN. The Right Honourable James, Earl of Elgin and Kincardine, K.T., G.C.B., and G.M.S.I., succeeded Lord Canning as Viceroy of India on 12th March 1862. He was born in London in 1811, and died and was buried at Dharmsala in the Kangra valley of the N.W. Himalaya on the 20th November 1863. In April 1857 he was appointed Ambassador to China; and in August 1858 concluded a treaty at Tien-tsin. He subsequently concluded another treaty with the Japanese at Jeddo, and he returned to Great Britain. In March 1860 he was appointed Ambassador to the Emperor of China, and a treaty was signed at Pekin. The French convention was signed the following day.—*Loch, Narrative of Events.*

ELIJAH, also called Elias, a Hebrew prophet of Tishbeh beyond the Jordan, in Gilead. The Ali Ilahi sect of Karund revere him as an incarnation of the deity. A makān or resting-place of Elias exists on the borders of the Kassan and Sulmania governments of Kurdistan. The Mahomedans believe that Elias never died, but is still on earth, awaiting the second coming of Christ. These views they derive from the Jews, some of whom even took Christ for Elias. The Mahomedans identify Elias with Khajah Khizr. A well and a chapel in the ascent to Mount Sinai are named after the prophet Elias, whom the Scriptures state to have sought refuge from the persecutions of Jezebel in the solitudes of Horeb (see 1 Kings xix.). Its presence in this situation, mentioned also by Edrisi, seems to be an argument for the identity of Jabl Musa with the Sinai of the Scriptures.—*Hamilton's Sinai*, p. 28. See Karund.

ELIM, mentioned in Numbers xxxiii. 10,—'they removed from Elim, and encamped by the Red Sea,'—Wellsted (Tr. ii. p. 44) supposes to be Girandel, where there is still water and palm trees.

ELIUN, also Helyun, the Most High God of the Egyptians,—Higuthan kabiri.

EL-KAJA. ARAB. Trichelia emetica, *Försk.* A tree 30 to 40 feet high. Its fruit is fragrant, and is an ingredient of the abir or besan, with which the Mahomedan women wash their hair.—*Hogg.*

EL-KASR, a lofty, extensive, but disturbed mound in Babylon, supposed by some to have been the site of the royal palace of Nebuchadnezzar, and the hanging gardens of his queen Amytis.

EL KUSH, an ancient town of Babylonia; its ruins are 11 miles E.S.E. of Felujah. The ancient kingdom of Babylonia comprehended a narrow tract along the river Euphrates, extending from the neighbourhood of Erech, or from about the modern town of Shaik-el-Shuyukh, to Babel, a distance of about 154 miles in a direction westward of north, and continuing from thence 287 miles further in the same direction to Calneh, on the Khabur. The kingdom extended eastward till it joined Assyria, including Akkad and two other cities no less remarkable. One of them bears the name of El Kush, extensive ruins about 11 miles E.S.E. of Felujah, and the other is the supposed site of antediluvian Sippara, Siferah of the Arabs (Lieut. Lynch), which is within the Medina wall, near the southern extremity.

ELL.

Eln, . . ANGLO-SAXON.	Hat'h, ... HIND.
Zira, ... ARAB.	Auna, Cauna, . . . IT.
Aune, Aunage, . . FR.	Ulna, ... LAT.
Elle, ... GER.	Elina, . . OLD GERMAN.
Aleine, . . . GOTHIC.	Ratni, Aratni, . SANSK.
Olene, ... GR.	Ana, ... SP.

The ell measure is taken from the length of the forearm. Aratni, SANSK., is the short ell measure.

ELLA, in Hindu mythology, is the earth personified,—the Eartha of the Saxons, Ard in Hebrew. She is sometimes described as the daughter, sometimes as the sister, of Icshwacu. In Hindu mythology, according to Colonel Tod, the serpent (Budha) ravished Ella, daughter of Icshwacu, the son of Manu, whence the distinctive epithet of his descendants in the East, Manus, or men. He says that in Portici there is a lingam entwined with a brazen serpent, brought from the temple of Isis at Pompeii; and many of the same kind, in mosaic, decorate the floors of the dwelling-houses; and that there are wreaths of lingams and of the yoni over the door of the minor temples of Isis at Pompeii, while on another front is painted the rape of Venus by Mercury. The Lunar race, according to the Puranas, are the issue of the rape of Ella by Budha. See Eleusis; Ila.

ELLA KUDA, a term given to the Eastern Ghats, from Vella, white, Konda, mountain.

ELLAMMEN, one of the Gramma-devata in Southern India. She has been identified by Hindus with Renuka, the wife of Jamadagni, father of Parasurama.

ELLENBOROUGH, EARL OF, Governor-General of India from the 28th February 1842 to the 23d July 1844. He had been President of the Board of Control during the Duke of Wellington's administration. While holding the office of Governor-General, he moved armies into Afghanistan to recover the positions which had been lost during

his predecessor Lord Auckland's time, by the retreat and destruction of a division of the British Indian army. And the officers who won distinctions in this forward movement were Pollock, Nott, Sale, Dennie, Monteith, Broadfoot, Fenwick, Mayne, Havelock, Pattison, and Oldfield.

During his administration, General Sir Charles Napier defeated the Amirs of Sind, and that country was annexed, and slavery abolished. After the death, without heirs, of the Maharaja Sindia, in December 1843, the Maharani, with the approbation of the Indian Government, adopted the deceased's nearest relative, a boy named Jyngi Rao Sindia, who assumed the title. But in the dispute that occurred as to a regent, Dada Khasgee Wala obtained power. He was opposed to the British, and an army under Lord Ellenborough moved against Gwalior, and two battles were fought on the 29th December 1843, one at Maharajpur by Sir Hugh Gough, the other at Punniar by General Grey. The Gwalior fort was then surrendered. In April 1844 Lord Ellenborough was recalled by the Court of Directors, under the provisions of Mr. Pitt's bill of 1784.

ELLICHPUR, a town in East Berar, of considerable size, though greatly decayed. A military cantonment of the Hyderabad contingent is near. The town is in lat. 21° 15′ 20″ N., and long. 77° 29′ 30″ E., and has about 27,017 inhabitants.

ELLIOT, CHARLES MORGAN, Captain Madras Engineers, obiit 1853? brother of Sir Henry Elliot. He was employed from 1846 to 1849 in the Magnetic Survey of the Indian Archipelago. In this duty he visited Moulmein, Madras, Nicobar, Sambuanga, Penang, Pulo Dinding, Borneo, Celebes, Pulo Penang, Singapore, Carimon, Pulo Buaya, Sumatra, Batavia, and the Kokos or Keeling Islands.—*Magnetic Survey.*

ELLIOT, Sir HENRY MIERS, K.C.B., one of fifteen children of Mr. John Elliot of Pimlico Lodge, Westminster. He was born in 1808; was educated at Winchester School and Oxford, from which he passed into the civil service of the E. I. Company in Bengal, and twice filled the post of Foreign Secretary. He published, in 1846, a Supplementary Glossary of Indian Terms. In 1849 he published the first volume of his Bibliographical Index to the Historians of Mahomedan India. He collected many Arabic, Persian, and Urdu manuscripts for a History of India as told by its own Historians, but he died, aged 45, in 1853, at the Cape of Good Hope, before he could write more than the first volume. His widow finally entrusted the completion to Professor John Dowson, M.R.A.S., of the Staff College at Sandhurst; and in the ten years 1867 to 1877 that learned man produced eight volumes, containing extracts illustrative of Indian and Central Asian history from about 200 authors. The eight large volumes gave detailed accounts of 143 historical works, with extracts from their contents in English. Besides the original text of nearly all these works, he collected a large number of local histories, biographies, collections of letters, geographical treatises, etc., illustrating Indian history, and some works on other subjects. It consists of 421 manuscripts, chiefly Persian, and a large quantity of unbound papers, partly notices on historical manuscripts preserved in various Indian libraries, and partly translations of historical works prepared for him. He was possessed of a vast store of information, which his early death prevented him giving to the public.

ELLIOT, Sir WALTER, K.C.S.I., a member of the Madras Civil Service, who wrote on Hindu Inscriptions, Lond. As. Trans. iv. p. 1; Catalogue of Mammalia in the Southern Mahratta Country, Mad. Lit. Trans. 1839, x. pp. 92, 207; On the Language of the Gonds, with a Vocabulary, Bl. As. Trans., 1848, xvii. p. 1140; Illustrations of the History of Southern India, Lond. As. Trans. iv. p. 1, Mad. Lit. Trans. vii. p. 193; Notice of Expedition into S. Africa, with Descriptions of New Species of Rhinoceros, ibid. xiv. p. 181; Notice of the late Dr. Turnbull Christie, ibid. xv. p. 150; Description of a New Species of Terrestrial Planaria, ibid. 182; Flora Andhrica, Madras, 1859.—*Dr. Buist's Catalogue.*

ELLORA, in lat. 20° 2′ N., and long. 75° 11′ E., in the Dekhan, N.W. of Aurangabad. The entrance to the caves is 2064 feet above the sea. It is called by the people Yerula, and Ballora, and Varula, and is near Roza in the Dowlatabad province of the Dekhan. The plateau of Roza, in the face that looks into the valley of the Godavery, is scarped, and the porphyritic greenstone amygdaloid rock has been excavated into great caves and temples, and dwellings about thirty in number. They are partly Buddhist, partly Jaina, and partly Brahmanical.

The Buddhist group of cave-temples occupies the southern extremity of the crescent in which the caves of Ellora are excavated. Later on, the northern horn was taken possession of by the Jains, who excavated there a remarkable series of caves. But between these two, at an intermediate age, the Brahmans excavated some 15 or 16 caves, rivalling those of their predecessors in magnificence, and exceeding them in richness of decoration. The series culminated in the Kailasa, which is the largest and most magnificent rock-cut temple in India, and is the one in which their Brahmanical authors emancipated themselves from the influence of Buddhist cave architecture. The most northern there is a magnificent temple, known as Sita's Nhani or Dumnar Lena; others are Ravan ka Khai, Rameswara, Nilakant'h, Teli-ka-Gana, Kumharwara, Janwasa, and the Milkmaid's Cave, the last near a high waterfall.

The Ellora Buddhist caves are the Dherwara, Do Thal, Maharwara, Tin Thal, and Viswakarma chaitya.

The Brahmanical caves are Dasa-Avatara, Dumnar Lena, Kailasa monolithic temple-caves between Kailasa and Rameswara, Rameswara, Nilakantha, Teli ka Gana, Kumharwara, Janwasa, Milkmaid's Cave, and small caves above the scarp.

The Jaina caves are Chota Kailasa, Indra Sabha, and Jaganath Sabha.

The chief structure, called the Kailas, is a perfect Dravidian temple, complete in all its parts. It is one of the most wonderful and interesting monuments of architectural art in India. It is a model of a complete temple such as might have been erected on the plain. In other words, the rock has been cut away externally as well as internally. It measures 138 feet in front, the interior is 247 feet in length by 150 feet in breadth, the height in some places being 100 feet. This temple is said to have been built, about the 8th century, by Raja Edu of Ellichpur, by whom the town of Ellora was founded, as a thank-

offering for a cure effected by the waters of a spring near the place. The lofty basement of the temple has a row of huge elephants and sārdulas or lions, griffins, etc. It is surrounded with figures also of Vishnu, and the whole Puranic pantheon.—*Fergusson's Eastern Architecture*, p. 334; *Ferg. and Burg.* p. 450. See Architecture.

ELLORE, a town in the Godavery district of the Madras Presidency, in lat. 16° 42′ 35″ N., and long. 81° 9′ 5″ E., with 25,487 inhabitants; it is to the west of the Kolar lake in the Northern Circars. It is but little elevated above the sea, and is a civil station of the Madras Presidency. It is called by the natives Upu (or salt) Ellore, to distinguish it from Rai (or stony) Ellore, the Vellore of the maps.

ELM-BARK is the Yu-pi, Fen, or Tsien-yeh-yu-pi of the Chinese. The liber of the barks of Ulmus Chinensis and U. pumila are used in China medicinally.—*Smith.*

ELOHIM, God, the eternal Lord, is sometimes so called in the Bible, the meaning being Godhead or Gods; also called Jahvah (pronounced Jehovah), but the word was not spoken,—Adonai, the Lord, being used instead. Gen. ii. 3 alone uses Jehovah. —*Bunsen*, iv. p. 379. See Elim.

ELPHINSTONE, the HONOURABLE MOUNTSTUART, a civil servant of the East India Company, who went as ambassador to Shah Shuja-ul-Mulk, king of Afghanistan. In 1802 Shah Mahmud was driven out by Shuja-ul-Mulk, the younger brother of Zaman Shah, and Shah Shuja was still in possession of the undivided empire of Ahmad Shah at the time of Mr. Elphinstone's mission in 1809. This mission was sent for the purpose of concerting with Shah Shuja the means of mutual defence against the threatened invasion of Afghanistan and India by the Persians, in confederacy with the French. He proceeded through Bikanir, Bahawulpur, and Multan, and reached Peshawur on the 25th February. The expenditure was lavish, and on the 14th June the mission left Peshawur on its return. He had scarcely left Kābul ere Shah Shuja was driven out by Shah Mahmud, with the aid of Futteh Khan. He was afterwards Resident at Poona, while the last Peshwa, Baji Rao, was ruling the Mahratta states, and subsequently was Governor of Bombay. He wrote—Account of the Kingdom of Caubul, and its Dependencies in Persia, Tartary, and India; History of India, Hindoo and Mahomedan Periods; Report on the Territories conquered from the Paishwa. He is the most judicious and impartial of all Indian historians.—*Dr. Buist's Catalogue.*

ELPHINSTONE, LORD, Governor of Madras 1836 to 1840; Governor of Bombay at the period of the revolt of the soldiery of Bengal, during which some of those of Bombay also were implicated. Died 19th July 1860.

EL-SHAM-i-SHARIF, also Sham, the eastern names of Damascus.

EL-SHARK (Us-shark), the East, the popular name in the Hejaz for the western region as far as Baghdad and Bussora, especially Nejd. The latter province supplies the Holy Land with its choicest horses and camels.—*Burton's Mecca*, ii. 4.

ELTAZAI, a branch of the Kambarari tribe, who occupy Bagban in Baluchistan.

ELTHARIAH, descendants, more or less pure, of Rajputs, and other Kshatriyas of the plains, who sought refuge in the Nepal mountains from the Mahomedans, or took military service as adventurers. The Elthariah speak only the Khas language.

ELUKA JIDI CHETTU. TEL. A plant resembling mint, eaten in times of dearth; perhaps Hydrocotyle rotundifolia or Marsilea dentata.

ELUTH, also called Sangariam, a Mongol tribe, whose mode of life, in habitations, food, and drink, resembles those of the Kirghis. Along with the Torgat, Kalkas, and Khoit, they occupy the country about Lake Koko Nor. See Kalkas.

ELYMAIS, according to De Bode, the modern Tengi-Saulek in the province of Pars. The name, according to Professor Max Müller, has been derived from Ailama, a supposed corruption of Airyama. The Persians, Medians, Bactrians, and Sogdians all spoke, so late as the time of Strabo, nearly the same language, and claimed for themselves one common name, in opposition to the hostile tribes of Turan. And when, after years of foreign invasion and occupation, Persia rose again under the sceptre of the Sassanians to be a national kingdom, we find the new national kings the worshippers of Masdanes, calling themselves, in the inscriptions deciphered by De Lacy, 'Kings of the Aryan and Anarian races;' in Pehlevi, *Iran va Aniran;* in Greek, 'Αριάνων καὶ 'Αναριάνων. Colonel Chesney says that Elymais or Sosirate was the capital of the province from which the hardy Cossæi spread their conquests over Susiana and the districts eastward. The Elymæans inhabited Mount Zagros, which is on the southern confines of Media, and overhangs Babylon and Susiana.—*Chesney; Max Müller's Lectures*, p. 226; *De Bode.* See Luristan.

ELYTRA, or wing-sheaths, of several of the beetles of India are highly lustrous, and are articles of trade. See Beetle; Insects.

EMBELIA, a genus of plants of the natural order Myrsinaceæ. E. basæal, nutans, ribes, robusta, and villosa are known. The leaves and berries of E. basæal of the W. coast of India are used in medicine (Roxb. i. 587). E. pentandra, Ambut, DUKH., is a scandent shrub with alternate polished leaves; flowers in the cold season; fruit red; size of a currant.—*Riddell.*

EMBELIA RIBES. *Burm.*

E. glandulifera, *Roxb.*	E. ribesoides, *Linn.*
Babirung, Bai-barung, BEN.	Visha-al, . . MALEAL.
Kar-kunni of . BOMBAY.	Vishal, Vellal, . . TAM.
Wai-warung, . . HIND.	Vayu velangam, . . TEL.

A scandent shrub growing in the Peninsula of India and at Sylhet. Its berries are pungent, and used to adulterate black pepper. They are stated to be anthelmintic and cathartic.—*Roxb.* i. 586.

EMBERIZINÆ, a sub-family of birds of the family Fringillidæ. They comprise the genera Emberiza, Euspiza, and Melophus, the buntings, ortolans, corn buntings, and crested buntings. Three or four visit India during the winter.

Emberiza pithyornis, *Pallas*, white-crowned bunting.

E. cia, *Linn.*, white-browed bunting of S. Europe, is common in the W. Himalaya.

E. pusilla, plentiful in Sikkim, has occasionally been observed in Europe, even so far west as Leyden.

E. fucata of N. Asia, Japan, and common in the W. Himalaya, occurs sometimes in considerable numbers in Lower Bengal.

E. melanocephala of S. Europe is common in parts of India.

E. miliaria, the common bunting of Europe, W. Asia, Arabia (Schlegel), Barbary.

E. citrinella is the yellow bunting of Europe, to beyond the polar circle; and is replaced in the W. Himalaya by E. pithyornis, an inhabitant also of Siberia, which occurs rarely in W. Europe.—*Blyth.*

EMBLICA OFFICINALIS. *Gœrtn.*

Phyllanthus emblica, *Linn.*	Myrobalanus emblica, *B.*
Aonla, Anola, . . BENG.	Kadondong, . . MALAY.
Nilika-mara, . . CAN.	Nelli, ... MALEAL.
Emblic myrobalan, ENG.	Ambla, Amla, . . PANJ.
Μυροβαλανος ἐμβλικα, GR.	Umriti, Amalaca, SANSK.
Amliki, Amlika, . HIND.	Amusada nelli, . SINGH.
Aruli, Aungra, . . ,,	Nelli, ... TAM.
Malaca, . . . MALAY.	Usirika, Amla kamu, TEL.

A crooked tree, almost the thickness of a man's body. It grows in Ceylon, in the south of the Peninsula, in Canara, the Southern Mahratta country, the Konkan, the Dekhan, in the forests of the Godavery and Circars, in Bengal, on the banks of the Jumna, the Panjab, all over the forests of Kamaon, in the outer Himalaya, and eastwards in the Moluccas. The wood is hard and durable, is used for boxes, and for veneering. Is good for well rings, does not decay under water, and is well adapted for turning. The strongly astringent bark is used as a tanning material, and in dysentery and diarrhœa. The myrobalan fruit can be pickled or preserved in sugar. Native women consider the powder of the seeds to possess cooling properties, and to be good for the hair, and use it mixed with either water or milk. The fruit is also used for making ink, and to obtain a black dye.—*Beddome; Mr. Rohde; Cleg. Rept.; O'Sh.; Stewart; Honigberger.*

EMBROIDERY.

Tatriz, ... ARAB.	Chikandozi, . . . HIND.
Broderie, ... FR.	Chikankari, . . . ,,
Stickerei, ... GER.	Ricamatura, ... IT.
Kashida Zardozi, . HIND.	Bordado, ... SP.

The art of embroidery is one consonant with the habits of the people of India; their patience and delicate handling render success certain, and there is scarcely a town or city where creditable embroidery cannot be found. The oriental races have ever been celebrated for their skill in the art of embroidery, which appears to have been practised in Assyria, and introduced from thence into India. Pliny, however, mentions that it was a Phrygian invention, and in Rome embroiderers were called Phrygiones. The art of embroidery was known and practised with great skill in ancient times, in Egypt, Assyria, and Persia. The Israelites learnt the art before their exodus; the Babylonians were famed for their rich tapestries, and the Assyrian monuments display richly embroidered robes and trappings. In Babylon, clothes were woven of different colours, and called Babylonica. During the early part of the middle ages, Europe obtained its most important embroideries from Greece and the East. In the present day, the embroidery of Kashmir, Lahore, and Dehli is the most beautiful. Sindi embroidery has a character of its own, and is easily recognisable. In India, embroidery is done on muslin, silk, velvet, merino, or cloth, in gold or silver thread, in a variety of styles, and very elegant and ingenious designs, on shawls, scarfs, jackets, bottle-stands, tablecloths, tablecovers, footstools, chess cloths, cushions for chairs, mats, bags, slippers, dresses of women, aprons, parasols, and book-covers. In the embroidered fabrics of India, it may be mentioned, as a principle, that their patterns and colours diversify plane surfaces without destroying or disturbing the impression of flatness. They are remarkable for the rich diversion shown in the patterns, the beauty, distinctness, and variety of the forms, and the harmonious blending of several colours. Embroidery in gold and silver is an art which furnishes some of the most gorgeous and expensive manufactures for which India has been long celebrated. In the taste and judgment evinced in the blending of brilliant colours, and contrasting them with gold and silver on grounds of velvet, satin, silk, or muslin, India in this manufacture stands unrivalled. Some are very gorgeous shamianahs and elephant saddle-cloths. The gold and silver fancy fringes of Hyderabad are deserving of mention. Small samples of solid silver wire fringes and ornaments from Madura were deemed worthy of notice, but they are surpassed by the silver thread of Hyderabad. The embroiderers of India, though bringing into use, especially on her thinner textiles, a great deal of tinsel, the articles do not look tinselly, and the tasteful application of foil, tinted in various colours, often lends great beauty. Long deep borders and large centres embroidered in gold and silver are wrought with much skill, and the admirable contrasts made by the mingling of silver with gold, as well as the happy way in which the dispersing is managed, is well worth the attention of European embroiderers. The artistic judgment with which the golden embroidery is tastefully encircled by finely executed scrolls done in silver, while the bright scarlet flowers lend and receive back brilliancy from the golden ground out of which they are made to sprout, as well as the admirable dispersing itself of the gold, ask for, and ought to win, the notice of Europe.

Dehli is a great place for embroidered fabrics, both in silk and gold threads. In Lahore and Amritsar, the manufacture of kalabatun, or gold thread, is extensively carried on. And Benares has long been famed for gold and silver threads, and also for its beautiful brocades.

'From Dacca,' says the Abbé de Guyon, writing in 1744, as quoted by Dr. Taylor, 'come the finest and best Indian embroideries in gold, silver, or silk, and those embroidered neckcloths and fine muslins which are seen in France.' There has always been a demand for such scarfs for the markets of Bussora and Java. In the present day, they have silks and woollens, muslins and nets, Kashmir shawls, European velvets embroidered with silk or tasar, that is, wild silk of either floss or common twisted silk thread, or with gold and silver thread and wire in great variety. The cloth to be embroidered is stretched out on a horizontal bamboo frame, raised about a couple of feet from the ground, and the figures intended to be worked or embroidered are drawn upon it by designers, who are generally Hindu painters. On woollen cloths, however, the outlines are traced with chalk, and on muslin with pencil, and the body of the design copied from coloured drawings. The embroiderers, seated upon the floor around the frame, ply the needle by pushing it from instead of towards them. In place of scissors they commonly use a piece of glass or chinaware to cut the thread. Among the embroidered articles at the Exhibition of 1851, those from Dacca and from Dehli were probably the best known. In Dehli, small shawls

and scarfs are chiefly embroidered both with floss and twisted silk. In Dacca, both nets and muslins with floss silk of various colours. But Dacca is also famous for its embroidery of muslins with cotton, which is called chikankari or chikandozi. One kind is formed by breaking down the texture of the cloth with the needle, and converting it into open meshes. Dr. Taylor states that Kashida is the name given in Dacca to cloths embroidered with muga silk or coloured cotton thread, and, though generally of a coarse description, gives occupation to a number of the Mahomedan women of Dacca. Though the scarfs of both Dehli and of Dacca are much admired, muslins or nets, worked so as to be suitable for making ball dresses, would probably be in demand, as those which are now sold in Britain for such purposes are very inferior in taste and elegance to the Indian embroidery. The beetle-wing embroidery exhibited in 1851 from Madras was particularly elegant; and the velvet awnings, musnud covers, hookah carpets, and elephant trappings, embroidered with gold and silver, chiefly at Murshidabad and Benares, were admired as well for richness as for the skill with which the groundwork was allowed to relieve the ornaments. The embroidered saddles and saddle-cloths and floor-coverings from Patiala, Multan, and Lahore were of the usual style of what are called the works of that famed valley, and which was conspicuously shown in the dresses, caps, and slippers from Kashmir itself. But that the skill and taste are not confined to one part of India, was also to be seen in the tablecovers from Tatta in Sind, and in the embroidered boots from Khyrpur, which Mr. Digby Wyatt illustrated.

In Southern India this art is practised, chiefly at the towns of Tanjore, Madras, and Secunderabad, on lace, tusseh, silk lace, muslin. The Tanjore and Madras works are very superior in quality, and consist of a variety of fancy articles, particularly pocket-handkerchiefs, worked muslin dresses, scarfs, which show great taste in the patterns and beautiful finish.

The Chinese are famous for their skill in silk embroidery, and in Canton are shops for its sale. Buddhist nuns largely embroider silk. The skill of the Chinese, says Mr. Williams (Middle Kingdom, ii. p. 123), in embroidery is well known, and the demand for such work to adorn the dresses of officers and ladies of every rank, for embellishing purses, shoes, caps, fans, and other appendages of the dress of both sexes, and in working shawls, tablecovers, etc., for exportation, furnishes employment to numbers of men and women. The frame is placed on pivots, and the pattern is marked out upon the plain surface. All the work is done by the needle, without any aid from machinery. There are many styles of work, with thread, braid, or floss, and in one of the most elegant the design appears the same on both sides, the ends of the threads being neatly concealed. This mode of embroidery seems also to have been known among the Hebrews, from the expression in Deborah's song (Judges v. 30), 'of divers colours of needlework on both sides,' which Sisera's mother vainly looked for him to bring home as spoil. In China, books are prepared for the use of embroiderers, containing patterns for them to imitate. The silk used in this art is of the finest kind and colours; gold and silver thread is occasionally added to impart a lustre to the figures on caps, purses, and ladies' shoes. A branch of the embroiderer's art consists in the formation of tassels and twisted cords for sedans, lanterns, etc., and in the knobs or corded buttons worn on the winter caps, made of cord intertwisted into the shape of a ball. Spangles are made from brass leaves, by cutting out a small ring by means of a double-edged stamp, which at one drive detaches from the sheet a wheel-shaped disc; these are flattened by a single stroke of the hammer upon an anvil, leaving a minute hole in the centre. Another way of making them is to bend a copper wire into a circle and flatten it. The needles are very slender, but of good metal. In sewing, the tailor holds it between the fore-finger and thumb, pressing against the thimble on the thumb, to push it into the cloth.—*J. B. Waring, Masterpieces of Industrial Art, Exh. of* 1862; *Williams' Middle Kingdom*, ii. p. 123; *Royle, Arts of India, etc.*, pp. 506, 507; *Rev. Canon Royle.*

EMBRYOPTERIS GLUTINIFERA. *Roxb.*

Diospyros glutinosa, *Koen.*	D. embryopteris, *Pers.*
Gab, . . . Beng., Hind.	Pani-jika, . . . Maleal.
Kusharta mara, . . Can.	Timberri, . . . Singh.
Cusharatha mara, . ,,	Tumbika, ... Tam.
Pi-tsz, Tsih-tsz, . Chin.	Pani-chika, . . . ,,
Wild mangosteen, . Eng.	Tumei, Tumika, . Tel.

In the northern province of Ceylon, its timber is used for common house buildings, and the juice of the fruit is used to rub over fishing lines for the purpose of hardening and preserving them; also for paying the bottoms of boats. A cubic foots weighs 45 pounds, and it is esteemed to last 20 years.—*Mr. Mendis; Dr. Cleghorn.*

EMERALD.

Zamurrud, . Arab., Pers.	Punna, ... Hind.
Emeraude, ... Fr.	Smeraldo, ... It.
Smaragd, ... Ger.	Permataeju, . . Maleal.
Ismaragdon, . . . Gr.	Esmeralda, ... Sp.
Smaragdus, . Gr., Lat.	Patchee kallu, . . Tam.
Nophec, ... Heb.	Patsa rai, . . . Tel.

This precious stone is mentioned in Exodus xxviii. 18; in Tobit, Judith, Ecclesiastes, and Ezekiel. The famous emerald mines in Jabl Zabarah in Egypt—the Samaragdus Mons of the ancients—were worked 1650 B.C., in the time of the great Sesostris II., and by extensive galleries. They were again worked in the early part of the reign of Muhammad Ali, and about 1876 a British company undertook them. The mines (Bunsen's Egypt, ii. p. 303) were on the Kosseir road from Koptos to Aennum (Philoteras).

It is the rarest of all gems, of a beautiful green colour, unsurpassed by any gem. When of a deep rich grass-green colour, clear and free from flaws, it sells at from £20 to £40 the carat, those of lighter shade from 5s. to £15 the carat. The finest occur in a limestone rock at Muzo, in New Granada, near Santa Fé de Bogota, 5° 28′, at Odontchelong in Siberia, and near Ava.

From ancient times many stones have been famed as emeralds, which can only have been jasper or other green mineral, such as the emerald pillars in the temple of Hercules at Tyre, the emerald sent from Babylon as a present to a king of Egypt, four cubits in length and three in breadth, and the emerald obelisk described by Herodotus, were all doubtless green jasper. The book of Esther describes the hall of king Ahasuerus as paved with emeralds. De Carne mentions (p. 125) an emerald statue of Buddha, a cubit in height,

valued at £40,000, now in the pagoda of the king of Siam. It was carried off in 1777 from a pagoda in the city of Vien-chan in Upper Laos. In the United States very large beryls have been obtained, but seldom transparent crystals; they occur in granite or gneiss. One in the imperial collection of Russia measures 4½ inches in length and 12 in breadth. Another is 7 inches long and 4 broad, and weighs 6 pounds. Mr. Powell had seen a flat tablet of emerald, full of flaws, but otherwise of good colour, nearly 2½ inches square, worn as an amulet, and engraved all over. The maharaja of Kapurthalla possesses a large oblong emerald of this kind, and the maharaja of Patiala has a round emerald of enormous size. A crystal in the cabinet of the Duke of Devonshire measures in its greatest diameter 2⅞ inches nearly; its lesser diameter barely 2 inches; its 3d diameter, 2⅛ inches; the extreme length of the prism is 2 inches. It contains several flaws, and is therefore only partially fit for jewellery. It has been valued at more than 500 guineas. A more splendid specimen, weighing 6 ounces, belonging to Mr. Hope, cost £500. Aquamarine includes clear beryls of a sea-green, or pale-bluish, or bluish-green tint. Hindus and Mahomedans use them pierced as pendants and in amulets. Many of the stones used as emeralds in India consist of beryl. Prismatic corundum or chrysoberyl, says Dr. Irvine, is found among the Tora hills near Rajmahal on the Bunas, in irregular rolled pieces, small, and generally of a light green colour. These stones are considered by the natives as emeralds, and are called in Panjabi Panna. The most esteemed colours are the Zababi, next the Saidi, said to come from the city Saidi in Egypt; Raihani, new emeralds; Fastiki, old emeralds, that is, such as have completed their 20 years; Salki, Zangari, colour of verdigris; Kirasi and Sabuni.

Most of the emeralds commonly in use in India are smooth, cut and bored like beads; they are always full of flaws.—*Powell*, p. 49; *Tavernier's Tr.* p. 144; *Bunsen's Egypt*, ii. p. 303; *Wellsted's Tr.* ii. p. 323; *Irvine, Med. Top.; Tomlinson.*

EMERY.

Emeri; Emeril, . . Fr.	Nashdak, ... Rus.
Smirgel, ... Ger.	Esmeril, ... Sp.
Smeregio; Smerglio, It.	Zimpara, . . . Turk.
Smiris, ... Lat.	

This substance is greatly used in the arts for grinding and polishing hard minerals and metals. Corundum, emerald, ruby, topaz, sapphire, and emery are only surpassed in hardness by the diamond. Emery is regarded as granular or amorphous corundum, coloured with iron, and is not known to occur in India, where corundum and garnets are used by the people in its place. It was, however, sent to the Exhibition of 1862, from Monghir; and Callastry, near Madras, is also named as a site, also Ongole. In the mixed corundums of Greece and Turkey the iron seems equally diffused through the mass, imparting to it a bluish-grey colour; but in specimens which reached the Madras Museum from Southern India, the corundum and ore of iron, though occurring together, are not mixed, but remain apart, segregated, the corundum forming one side of a mineral, and the oxide of iron, in a lump or lumps, on the other side; and all such masses are magnetic, and possess polarity. In the arts, that of Naxos is preferred, as it is more uniform in its quality than that from Pulah and Gumuch. That from Naxos is of a dark grey colour, with a mottled surface, and with small points of a micaceous mineral disseminated in the mass. It frequently contains bluish specks or streaks, which are easily recognised as being pure corundum. When reduced to powder, it varies in colour from dark grey to black, but the colour of its powder affords no indication of its commercial value. The powder of emery examined under the microscope shows the distinct existence of the two minerals, corundum and oxide of iron. The specific gravity of emery is about 4, but its hardness is its most important property in its application to the arts. The only difference in corundum seems to be the absence of oxide of iron. There could be no difficulty in preparing corundum powders of the requisite degrees of fineness. The selling price of corundum in London has ranged from £10 to £25 a ton. There seems no reason why the picked corundums should sell for less than the finest emeries; and Captain Newbold mentions that the corundums near Gram, when sorted into the three sorts known in commerce, viz. the red, the whites, and the scraps, of these two are sold to the Arab merchants at Mangalore and Tellicherry at prices from 12 to 15 or 30 rupees the candy, equal to £4, £6, and £12 a ton.—*Madras Museum Report.* See Corundum.

EMIGRATION from British India and China is in a large and gradually increasing rate. From 250,000 to 350,000 of the Tanjore, Trichinopoly, Tinnevelly, and Madura districts, find employment every year in Ceylon. In the ten years 1872 to 1881 inclusive, 188,712 embarked from Calcutta, Madras, and French ports for the British, French, and Dutch colonies.

EMILIA SONCHIFOLIA. *D. C.*

Emilia purpurea, *Cass.*	Crassocephalum son., *Less.*
Cacalia sonchifolia, *Linn.*	Senecio sonchifolia, *Mœnch.*
Sadi modi, . . . Beng.	Muel shevi, . Maleal.

In Southern Asia it is used in medicine. In China its leaves are used as salad.

EMODUS and Imaus or Himaus are surmised by Rennell (p. 125) to be different readings of the same name, derived from the Sanskrit Himah, signifying snowy, a name borne by the great mountain range of the Himalaya.

EMPAGUSIA FLAVESCENS. *Gray.*

Monitor flavescens, *Gray.*	Varanus Piquotii, *Dum. and Bib.*
M. exanthematicus, *var.* Indicus, *Schlegel.*	V. Russelii, *Schlegel.*
Indian empagusia, Eng.	Kabara, ... Singh.

The colour of this reptile is olive, with yellowish cross-bands. Head-shields sub-equal; eyebrows with a central series of larger plates. It is found in Nepal.

EMU, Emeu, or Emew, the Dromaius Novæ Hollandiæ of Australia, is generally dispersed over the whole interior of the continent. They are strictly monogamous. The whole duties of incubation, as well as the care of the young bird when hatched, devolve upon the male bird. This is believed to be the case with all other struthious birds.

EMYDIDÆ, a family of reptiles. See Reptiles; Tortoises; Turtle.

ENAM. Hind., Pers. Grants or gifts, generally of land, and commonly in perpetuity, for charitable purposes. A jaghir is usually an assignment of lands for service, or as a pension. Altumgha is

an estate in perpetuity for service, or free, as expressed in the deed.—*Malcolm's India*, ii. p. 62. See Inam.

ENAMEL.

Mina, ...	ARAB.	Mina-kar, . . .	HIND.
Email.	FR.	Smalto, ...	IT.
Schmelz, ...	GER.	Esmalto, ...	SP.

An enamel in the arts is an artificial vitreous mass, the same as a paste, ground fine, then mixed with gum water, and applied by a brush, and fixed by fusion. The art of fixing colours by melting in fire, says Dr. Royle (Arts of India, p. 475), is of very ancient date. It was practised by the Egyptians, and carried to a high degree of perfection in Persia. The art is known in every part of India, and some exquisite specimens were sent to the Exhibition of 1851 both from Central and from North-Western India. It is chiefly employed in ornamenting arms and jewellery, not only in gold, but also in silver. In general, in India, ten parts of lead and three parts of tin are oxidized by continued heat and exposure to air. To the mixed oxides add ten parts of powdered quartz, and ten parts of common salt, and melt in crucibles. Thus is obtained a white enamel, and the basis of coloured enamel, metallic oxides being added. Oxide of lead or of antimony produces a yellow enamel; reds are obtained by a mixture of the oxides of gold and iron. Oxides of copper, cobalt, and iron give greens, violets, and blues, and a variety of intermediate colours by mixtures. The workmen of Behar are stated to make two enamels, which are applied to the surface of some of the rings. One is yellow. Five parts of lead are melted in a shallow crucible, and to these is added one part of tin, and the alloy is calcined for four or five hours. It is then heated to redness in the crucible of the glass furnace. One part of white quartz is next added, and the mass stirred about for three hours. It is then taken out with a ladle, poured out on a smooth stone or iron, and cooled in water. They then take one part of their palest green glass, and add a fourth part of the other materials, to make the yellow enamel. The green enamel is made in the same manner; and to the melted glass is added, not only the prepared lead and tin, but a small portion of the black oxide of copper. In Mysore they make a bright yellow enamel, by first calcining five parts of lead and one of tin, then adding one part of zinc, calcined in a separate crucible. When these begin to adhere, they are powdered in a mortar. When the maker of glass rings is at work, he melts some of this powder, and, while the ring is hot, with an iron rod applies some of it in powder to the surface of the glass.

The finest enamelled work of India is produced at Jeypore, and is considered of great artistic merit. The enamellers there came originally from Lahore. Their enamel is a kind of glass made in earthen vessels, and when fused, the colouring matters are added; the whole is then allowed to cool, and in this state is kept for use. Only pure silver or gold articles are enamelled. From the silver the enamel may come off in course of time, but it never does from the gold. All good enamel is consequently only applied to gold, which must be free from alloy, or otherwise it would tarnish by contact with the enamel in the great heat to which it is subsequently exposed. The gold is first carved of the required pattern; the enamel, having been ground to an impalpable powder, and made into a paste with water, is then placed on the exact spot required by the pattern. The article is then strongly heated, much skill being required to take it out at the precise moment when the enamel is thoroughly fused, but before the colours begin to run into one another. As soon as removed, the workmen then exert the full power of their lungs in blowing upon it as quickly and as violently as possible. The hardest colours are first placed in the furnace and fused, and then those which melt more easily. Afterwards, the whole is ground and polished. The translucent enamels for which Jeypore is famed, are enamel colours on gold or gold leaf, which gives light and brilliancy to the colours. Lord and Lady Mayo exhibited from Jeypore a cup, saucer, and spoon made in fine gold, and designed in most elegant forms. Each of these forms was heightened and defined by enrichment made by incisions into the metal in beautiful conventional ornament, subsequently filled in with transparent and opaque enamel pastes, but principally the former, the dominant parts and mouldings being heightened yet further by setting in diamonds in various ornamental forms. The result was a specimen of goldsmith's work as lovely (although, of course, in a very different style) as anything Celline or Caradosso ever did. Artisans form a small family, and the real process of enamelling is kept by them as a secret, which descends from father to son like an heirloom.

The Panjab is famed for its blue and green enamels. It is said that Kashmir has long served as a great field for artists emigrating from Persia; and a careful comparison of Persian with Kashmirian products leads one instinctively to the impression that Kashmir must certainly owe much of her delicate perception of the beauty of colour and floral form to her proximity to, and intercourse with, the time-honoured land of the Sun.

Enamelling, as applied in India to jewellery, consists of an extremely fine pencilling of flowers and fancy designs in a variety of colours, the prevailing ones being white, red, and blue, and is invariably applied to the inner sides of bracelets, armlets, anklets, necklaces, ear-rings, sarpech, tiara, and all that description of native jewellery, the value depending upon the fineness of the work, and often exceeding that of the precious stones themselves. In general the cost is moderate, as the finest specimens are only made to order. The best come from Benares, Dehli, and the Rajputana states. In the south of India, the manufacture of enamels on articles of domestic use like the above is almost entirely restricted to Hyderabad. It presents no varieties, but in general consists of a blue coating interlined with white on a surface of silver, and is applied to rose-water sprinklers, spice-boxes, basins, and such-like articles. The merit of the manufacture lies in the simplicity of the enamel itself, and in the lightness of the silver article to which it is applied. Though pleasing, it is the coarsest enamel produced in India. At Indore in Central India, the manufacture does not constitute a regular trade. It is invariably applied to articles of personal decoration, such as necklaces, armlets, brooches, ear-rings, etc., which are set by native jewellers, according to the taste of the purchaser.

These subjects generally consist in a representation of the avatars, or pictures of the metamorphoses of Indian deities; and the work is so perfect, that it will stand not only the influence of climate, but even rough handling.

The specimens of this kind of work have no fixed market value, and the price is therefore entirely dependent upon the number of competitors that may be in the field when any of them are offered for sale. A set of these ornaments, consisting of a necklace, ear-rings, two armlets, and a brooch, in plain gold, contributed to the Exhibition of 1851, was valued at Rs. 1700, or £170. A duplicate, forwarded to the Paris Exhibition in 1855, was purchased for Rs. 600, or £60.

Enamel ornaments are largely used by Chinese women. It is a fine glass or paste of various colours. The art of enamelling on silver is also brought to great perfection in China, and specimens surpass any ever produced at Genoa.—*Sirr's Chinese*, i. p. 387; *Report of Exhib. of* 1862; *Royle, Arts of India*, p. 475; *Trs. of Hind.* ii. p. 377.

ENCEPHALARTOS, a genus of the Cycadaceæ; their fruits are called Kafir bread. E. Denisonii is of New South Wales.

ENDELU, of Sumatra, yields a fibre from which twine is made.

ENDIVE, Cichorium endiva, used as salad, blanched by the leaves being tied together.

ENG. Burm. In Amherst, a wood used for boat-building. Tree produces oil. It is a strong, heavy, useful, grey wood, suited for beams, piles, and the like. Dipterocarpus grandiflora. Engbeng of Tavoy is a strong wood, used for common carpentry. Eng-gyeng, in Amherst, a timber used for posts of religious buildings. A useful wood, but liable to split. Hopea suava? *Wall.*

ENGELHARDTIA LESCHENAULTII grows well in the plains of the N.W. Provinces, but does not fruit. E. Colebrookiana is found as far north as Jurripani, Garhwal, and Nepal. E. Roxburghiana, in Sylhet and at Chappedong, forms a large tree, the wood of which is valued by turners, and the bark, containing much tannin, is considered the best used by natives for tanning. E. spicata, *Blume*, is the spurious walnut tree of the Himalaya, Darjiling, and eastward to Java. It attains to 200 feet of height. E. Wallichiana is found as far south as Penang and Singapore.—*Mueller; Royle, Ill. Him. Bot.* p. 342; *Wall. Pl. As. Rar.*

EN-GIE or In-gie. Burm. A white linen jacket used as an article of dress by Burmans.

ENGLAND, the southern part of an island on the west of Europe, which, with Ireland, another island on its west, forms the United Kingdom of Great Britain and Ireland, that now rules British India. It is said to have been known to the Aryan Hindus under the name of Sweta-dwipa, or White Island, and is said to be the Sacam of the Puranas.

ENG-RAI-GYI, a lake in Bassim district, Pegu division, British Burma, about 3 miles in circumference, and a depth of from 20 to 45 feet in the centre. It is valuable as a preserve for fish. The lake is dragged by floating capstans worked by hawsers attached to a frame, and occupies three months, working at the rate of about 45 fathoms each day. The fishing begins with the full moon in June, when the temperature of the water has been reduced by the first showers of the monsoon. The number of fish caught is never below 70,000 to 80,000 of all kinds, the principal belonging to species of the genera Circa, Cyprinus, Gobio, Labeo, Cimelodus, Cirrhinus, Cyprinodon, and Silurus. The largest specimens weigh about 56 lbs. each. Crocodiles of all sizes are found in the drag-net, but no casualty has been known to have been caused by them. Some 8000 to 10,000 persons are engaged in the taking and disposal of the fish, of which about 40 tons are annually sold on the spot.—*Imp. Gaz.*

ENGRAULIS ENCRASICOLUS, Anchovy.

Anchois, ... Fr. | Acciughe, ... It.

The anchovies of commerce met with in India are wholly imported. It is a small fish, about 4 inches long, with bluish-brown back, and silvery white on the belly, very abundant in the Mediterranean, where, though occurring in other seas, they are chiefly caught at night by nets, their heads immediately taken off, their entrails removed, and pickled. Another Mediterranean species, E. meletta, is largely substituted for and mixed with the true anchovy. A species is said to occur in the Bay of Bengal, and is one of the fish made into Balachang.

ENKIANTHUS QUINQUEFLORUS, a flowering plant of China, on mountains from 1000 to 2000 feet above the level of the sea, fixing itself in the crevices of the rock, in situations with very little soil. At the Chinese New Year its flowers are in great request in the south of China for the decoration of the houses, boats, and temples, just as those of the Nandian are in the north with camellias, coxcombs, magnolias, and various plants which flower at this season. The enkianthus is brought down from the hills with the buds just expanding, and, after being placed in water for a day or two, the flowers come out healthy and fresh. At New Year's day in Canton, the budding stems of the flowering almond, narcissus, plum, peach, and the Enkianthus reticulatus, or bell-flower, are forced into blossom to exhibit, as indicating good luck in the coming year.—*Fortune's Wanderings; Williams' Middle Kingdom*, p. 283.

ENNORE or Katipak, in lat. 13° 14′ N., long. 80° 21′ 55″ E., 9 miles N. from Madras, a small hamlet on the southern end of the Pulicat Lake, a marine lagoon.

ENTADA PURSÆTHA. *De C.*

E. monostachya, *D.C.*	Mimosa entada, *Linn., R.*
Mimosa scandens, *Linn., R.*	Acacia scandens, *Willde.*
Gila-gacha, . . . Beng.	Pus-wael, . . . Singh.
Gardul of . . Bombay.	Hin-pus-wael, . . ,,
Gradul, ... Dukh.	Maha-pus-wael, . ,,
Parin-kaka-vulli, Maleal.	Gila tiga, . . . Tel.
Kastori-kaman, . Panj.	

An immense climbing shrub, forming elegant festoons, legumes from 1 to 5 feet long and 4 or 5 inches broad, formed of a series of joints, each containing one seed. They are roasted and eaten; enter into the native Materia Medica as an anti-febrifuge; are emetic, and used to wash the hair. Its gigantic pods excite astonishment in passing through the forests. Its seeds are made into boxes.—*Cat. Ex.* 1862; *Tennant; Riddell; Mason.*

ENTOMOLOGY. See Insects.

ENTOMOSTOMATA of De Blainville, a family of molluscs, in which are included the genera cerithium, planaxis, subula, terebra, eburnea, buccinum, nassa, harpa, dolium, oniscia, ricinula, cancellaria, and purpura. See Mollusca.

EOLUS. The chronicles of Eri describe Eolus as the chief of a Scythian tribe, who lived about 40 years after Moses, *i.e.* 1368 to 1335 before Christ. He composed the chronicles of Eolus with the ancient traditions of his tribe.

EOS RUBRA, a brush-tongued parrakeet of Amboyna, of a vivid crimson colour; the red lori. —*Wall.* i. p. 297.

EPEIRA, a great spider, found by Captain Sherwill 1100 feet high, on the summit of Maruk, south of Monghir. Some of the webs, including the guy ropes, were from 10 to 12 feet in diameter, the reticulated portions being about 5 feet, in the centre of which the spider, of a formidable size and very active, sits waiting for prey. In one web was found entangled a bird about the size of a field lark, and eight young spiders feeding on the body. It was near the centre of the web, and its wings had been completely pinioned by the entwined web. The old spider sat about a foot above the bird. It was 6 inches across the legs, and had a formidable pair of mandibles.—*Goss.; Proc. Ent. Soc.* 1852, p. 239. See Insects.

EPHEDRA, a genus of plants growing in the Himalaya and China. E. alata, *Stewart*, is used for scrubbing metal dishes. E. Gerardiana, *Wall.*, is eaten by goats. E. saxatilis, *Cleghorn*, is a plant of Kaghan.—*Stewart; Cleghorn.*

EPHESUS, a decayed town of Ionia, in Asia Minor, 45 miles south of Smyrna, famous in ancient times for its temple of Diana. Amongst the Mahomedans of the East, its story of the Seven Sleepers is continued, through the Koran. When the emperor Decius persecuted the Christians, seven noble youths concealed themselves in a cavern, which was then blocked up with stones. They immediately fell into a deep slumber, which lasted for 187 years. At last the slaves of Adolius removed some of the stones for building materials, on which the Seven Sleepers were aroused, and despatched Jamblichus, one of their number, to the city to procure food; but the altered appearance of Ephesus, the age of the coin he presented to the baker, and his long beard, led to a discovery of the marvellous adventure. The bishop of Ephesus, the clergy and magistrates, visited the cavern, and, after conversing with the somnambulists, they quietly expired. James, a Syrian bishop of the 5th century, devotes a homily to its praise; and the Seven Sleepers are found in the Roman, Abyssinian, and Russian calendars. Mahomed introduced the tale in his Koran, as the Companions of the Cave, and says God caused them to turn over occasionally from right to left. —*Milner's Seven Churches of Asia*, p. 171; *Sale's Koran*, p. 219. See Decius.

EPICARPUS ORIENTALIS. *Blume.*

Trophis aspera, *Willde.*

Sheora, ...	Beng.	Tinda parua, .	Maleal.
Nak chilni, . . .	Dukh.	Pirahi, ...	Tam.
Siura, ...	Hind.	Pukki, ...	Tel.

A fibre is obtained from the stem. Used as a tooth-brush by the natives.

EPICHARMUS, with Plato and others, adopted a philosophy similar to that of the Vedanta, a system of perceptions of primary or secondary qualities.

EPIMACHUS MAGNUS, a bird of the coasts of New Guinea, Upupa magna, *Gm.*, and U. superba, *Lath.* Its tail is 3 feet long, and its head feathers are lustrous steel-blue. See Birds.

EPIODORUS, according to the Periplus, an island, the seat of the pearl fishery; it is the modern Manaar.

EPIPHYTES are plants growing upon other vegetables, adhering to their bark, and rooting among the scanty soil that occupies their surface, in which respect they are distinguished from parasitical plants, which, like mistletoe and the various species of Loranthus, strike their abortive roots into the wood, and flourish upon the juices of the individual to which they attach themselves. Orchidaceous epiphytes grow upon trees in the recesses of tropical forests; and Dr. Wallich found them growing equally well in Nepal upon trees and stones, provided the latter had a certain quantity of mould and moss adhering to them. In the Malay Archipelago, the mean temperature of which is estimated at between 77° and 78°, and is very damp, they are found in profusion; while on the continent of India they are almost unknown, their place being occupied by parasitical Loranthi. At the estuaries, however, of the Ganges, the Brahmaputra, the Irawadi, and the rivers of Martaban, they exist in vast quantities, but all these stations are excessively damp. In the Botanic Garden at Calcutta they grow most vigorously during the rainy season, but in the fiercely hot season, which begins in March, and lasts till the 10th of June, they perish, notwithstanding the care they receive.

In Nepal, orchidaceous epiphytes grow in company with ferns, and the thicker the forest, the more stately the trees, the richer and blacker the natural soil, the more profuse the orchidaceæ and ferns upon them. There they flourish by the sides of dripping springs, in deep shady recesses, in inconceivable quantity, and with an astonishing degree of luxuriance.

Reinwardt speaks of great quantities of orchidaceæ in the storax and laurel woods of Java, growing along with nepenthes, rhododendrons, magnolias, and oaks, in a zone of vegetation whose lower limit is 3000 feet above the sea. Dendrobium nobile, Renanthera coccinea, and some others, bear the periodical cold of Canton, where it occasionally freezes. Dendrobium catenatum and D. moniliforme occur in Japan as far north as 37° or 38°, or the parallel of Lisbon, and are periodically subject to a very low temperature; and Dr. Royle met with the deciduous Caelogynes and Dendrobium alpestre on the Himalaya mountains, at the height of 7500 feet, where snow sometimes lies in winter for a week or more.

EQUIDÆ, a family of mammals, in which the Asinus or ass, Hippotigris or zebras, and Equus, the horse, are the only genera, with the mule breed between. The horse does not occur in a wild state in India, and will be noticed under 'Horse.'

Equus onager, *Pallas, Blyth, F. Cuv.*

E. hemionus, *Auct.*		Asinus Indicus, *Sclater.*	
Wild ass of . .	Cutch.	Koulan, . . .	Kerghiz.
Gor-khar, . . .	Hind.	Ghour, ...	Pers.

The wild ass of Cutch, Gujerat, Jeysulmir, and Bikanir is not found south of Deesa, nor east of lat. 75° E. It also occurs in Sind, and to the west of the Indus in Baluchistan, extending into Persia and Turkestan, as far north as lat. 48° N. They foal in June, July, and August. They are shy, and difficult to approach. The voice is a shrieking bray.

Equus hemippus, *Is. Geoffroy*, inhabits the countries to the west of E. onager, viz. Syria, Mesopotamia, North Arabia, etc. The voice is like the bray of the common ass. This is considered by Blyth to have been the hemionus of the ancients.

Asinus tæniopus, *Heuglin*, onager of the ancients; Equus asinus, wild ass. This species occurs wild in N.E. Africa and South Arabia.

Equus hemionus, *Pallas*, the kiang or dzightai of Tibet and Central Asia, is met with across the snowy Himalaya, in Ladakh, and other parts. It is much darker in hue than the Gor Khar or E. onager, *Pallas, Blyth, F. Cuv.*, the upper parts being of a dull ruddy brown.

The zebras and quaggas, genus Hippotigris, are of Africa. The horse has been found fossil in Ava.—*Cat. Mus. Ind. Ho.; Jerdon*, pp. 236–9. See Horse.

EQUISETUM HYEMALE. *Smith.* Muh-tsih, CHIN. This species of the horse-tail tribe of plants grows to a considerable height in marshy places in Kan-suh and Shen-si, and with E. arvense is used to polish wood. A large quantity of silex, arranged in a beautifully regular manner in the cuticular structure, confers this property E. debile, *Roxb.*, is a plant of India and Burma.

ERA. See Chronology.

ERAGROSTIS, panicum, pennisetum, poa, rotbellia, saccharum, vilfa, are the grasses of the Doab. Several species of Eragrostis grow in the Panjab, where they are called chinka, kuri, lamb, and mirukar, and are considered good pasture grasses.

ERAN, a village of a tract of the same name in the Sagar (Saugor) district, Central Provinces, 48 miles west of Sagar town, in lat. 24° 5′ 30″ N., long. 78° 15′ E., population (1870) 446; its monumental remains are attributed to Raja Bahrat. The chief of these is a rudely-shaped image of Vishnu in his boar avatar. The tip of the projecting tongue supports a human figure erect. The breast bears an inscription, and, as at Oodehghir (Odaigarh), a young female hangs by the arm from the right tusk. On one side of Vishnu stands a four-armed deity, above 12 feet in height, with girt loins, a high cap, and round his neck and reaching to his feet a thick ornamental cord. On the columns before this statue are seen figures weaving the sacred thread, with twisted snakes, elephants, nude female figures, seated Buddhas, faces of satyrs, and other devices. Besides these and other remains, there are three figures of crouching lions.—*Imp. Gaz.*

ERANDI. HIND. The castor-oil plant, Ricinus communis. The small plant is called Choti erandi; the larger, Barri erandi. It is the name of a tasar silk-moth, so called because it feeds on the castor-oil leaves.

ERANNOBOAS, the same with the river Sone or Heranya. See Pataliputra-baha.

ERECH of Scripture, the modern Warka, near the Euphrates. It was founded under the second ruling dynasty, of the date B.C. 2286. See Kesra.

EREMURUS SPECTABILIS. *Bieb.*

Bre, Prau, BENG., CHENAB. | Shili, ... JHELUM.

This magnificent plant grows in the Panjab to 5 or 6 feet high, with close spikes of white flowers to half that length. It is common at places on the Upper Chenab and in the Jhelum basin, at from 6000 to 9000 feet. The leaves when young are much eaten, both fresh and dry, cooked as a vegetable, and are excellent treated as spinach.—*Stewart.*

ERI, as in the Madras suburb Vepery, means a tank, a large reservoir or piece of water. It is a Tamil word, sometimes a prefix, sometimes a suffix; Vepery means the Vepa tree (Azadirachta) on the tank.

ERIA. HIND. A silk fabric used in Assam, manufactured from the cocoon of a wild moth. In Assam each householder reels, spins, and weaves his own cloth, and the holiday attire of the Assamese is usually of silk. In Durrung, a than of good silk, measuring 10 yards, can be purchased for from 5 to 10 rupees, according to the fineness. The cloth is occasionally coloured, but the Assamese silks are usually of the natural colour as wound from the cocoon.

ERICACEÆ of De Candolle, the heath tribe of plants, comprising the genera Andromeda, Cassiope, Gaultheria, Rhododendron. Gaultheria fragrantissima, *Wall.*, grows in Nepal, and there are several beautiful species of rhododendron in the Himalaya.

ERIGERON, a genus of plants of the order Compositæ; several species occur in India. In Italy large bundles of E. viscosum, *Linn.*, a viscous species, are dipped in milk and suspended in the rooms, to attract the flies.

ERIKA-VADU, the Yerkal race in the Peninsula of India, called also Yera Keddi. See Eruku.

ERINACEIDÆ, the hedgehog family of the mammalia. Species of the genera Erinaceus and Tupaia occur in India and the Archipelago.

ERINOCARPUS NIMMONII. *Grah.*

Chowra, ... CAN.? | Jungli-Bhendi, . HIND.

This middle-sized tree is common on the Konkan ghats; flowers yellow, in terminal panicles, appear in September and October; fruit triangular, covered with bristles; angles somewhat winged; has a pleasing fragrance; bark is used for making ropes.—*Jaffrey; Beddome.*

ERINYS of the Hindus has been identified with the Greek Erinnys; the word means the fleet runner.

ERIOBOTRYA JAPONICA. *Lindl.* Loquat.

Mespilus Japonicus, *Thunb.*

Yung-mai, Yang-ma, CHIN. | Kin-ling-tsze, . . CHIN.
Lu-kiuh, Kin-lin-tsze, ,, | P'i-P'a, ... ,,

This small tree of Japan and China has been introduced all over the Dekhan, the Panjab, and also in Bengal, where it is much cultivated on account of its excellent fruit, the beauty of the tree, and the exquisite fragrance of its flowers. In the Botanic Gardens at Calcutta it blossoms twice in the year, but bears fruit only once, viz. in February and March. It also grows in great perfection in New South Wales, and bears fruit twice in the year, and is highly esteemed both for desserts and preserves. The finest fruit is produced at the second crop, at the end of the cold season, and requires protection day and night, from birds in the former, and flying foxes in the latter. The fruit is of a yellow colour, with thin skin, a sweet acid pulp, one or two seeds in the centre, sometimes more. The seeds grow easily, and the fruit appears to be capable of great improvement. In Ajmir it is cultivated in gardens, but does not thrive well. It is very common in China, grown along with peaches, plums, oranges, the Chinese gooseberry, Averrhoa carambola, the wanghee, Cookia punctata, the longan and leechee.—*Rox-*

burgh; Tea Districts, p. 30; *Riddell; Irvine; Voigt; Cleghorn.*

ERIOCAULON CANTONIENSE, the Kutsing-tsau of China, is a troublesome weed in gardens and corn-fields. This and E. setaceum are used there in eye diseases, tinea tarsi, and small-pox.—*Smith.*

ERIOCHEIR JAPONICUS, a crab of Manchuria, with a hairy hand. It is of a dark olive hue, freckled and flat-backed. They are eaten.

ERIODENDRON ANFRACTUOSUM. *D. C.*

Bombax pentandrum, *L.*	Gossampinus Rumphii, *Sch. and End.*
Ceiba pentandra, *Gærtn.*	
Shwet shimool, . . BENG.	Paniala, Pania, MALEAL.
White cotton tree, ENG.	Pulim, Imbool, . SINGH.
Hattian, Safed simal, HD.	Elavum maram, . . TAM.
Shamieula, . . MAHR.	Pur, Buruga, . . . TEL.

There are six species of this genus of plants; five of them are natives of America, but all are known by the name of wool or cotton trees. They are large trees, with a spongy wood, which is used for little besides making canoes in the districts where they grow. This one only grows in Asia and Africa; it attains a height of 150 feet or more. But there are two varieties described, the one growing in the East Indies, and the other in Guinea, which differ chiefly in the colour of their flowers. The Indian variety, E. (a) Indicum, has flowers yellowish inside and white outside; whilst that of Guinea, E. (b) Africanum, has large crimson flowers. The Guinea tree is one of the largest and tallest of the forest trees, and the trunk is employed for making the largest-sized canoes. This is an elegant tree in Ceylon; it is very common up to an elevation of 2000 feet, and is common on the Coromandel coast. The leaves fall during the cold season, and the blossoms appear in February before the leaves. It grows in many parts of the Dekhan, but is not common on the Bombay side, save in some parts of Kandesh. The trunk is perfectly straight. Its light wood is employed by the toymakers or Muchi race, and is likewise used for making rafts and floats. The seeds are numerous, smooth, black, and enveloped in a very fine soft silky wool. The gum is termed Huttian ka gond, and is given in solution with spices in bowel complaints.—*O'Sh.; Ainslie; Gibson; Wight; Riddell; Cleghorn; Voigt; Thwaites.*

ERIOLÆNA, a genus of plants of the order Sterculiaceæ. Six species are known in India and Burma, E. Candollei, Hookeriana, quinquelocularis, spectabilis, Stocksii, and Wallichii. The heart-wood of Candollei, Hookeriana, and Wallichiana is of a reddish-brown or brick red colour, hard.

ERIOPHORUM CANNABINUM. *Royle.* The cotton grass, or bhabur of Hindustan, grows throughout the Panjab Siwalik tract, and outer hills to 5000 feet; in the Salt Range most of the baggar or bhabar rope appears to be made of Andropogon involutus; but part of the cordage for bedsteads, Persian wheels, etc., is made of this. Its seeds are clothed at their base with a cotton-like substance, with which pillows are stuffed and candle wicks made.—*Royle; Stewart.*

ERIVAN, in lat. 40° 10′ N., long. 44° 30′ E., and 3167 feet above the sea, a town in Russian Armenia, of which it is the capital. It has been repeatedly taken by Turks, Persians, and Russians. From the time of Nadir Shah in 1748, it was in the hands of the Persians till taken by the Russians in 1828. The province of Erivan is watered by a network of canals, by the Karasu, the Zangi, Abaran, and the great Arpa Chai. It contains 508 villages.—*Porter's Travels; MacGregor*, p. 195.

ERMINE.

Sinjab, ... ARAB.	Ermellino, ... IT.
Hermine, ... FR.	Gornostai, . . . RUS.
Hermelin, ... GER.	Armino, ... SP.

The prepared skin of a weasel, largely used by the wealthy of Europe and China.

ERNAAD, a naad or district on the western side of the Neilgherries.

ERRODE, or French rocks, 5 miles N. of Seringapatam, is a military cantonment. It was a station for a French regiment in the time of Tipu.

ERTHA, the German goddess of the earth, whom Colonel Tod supposes to be the Hindu Ella. The German Ertha had her car drawn by a cow, under which form the Hindus typify the earth (Prithivi).—*Tod's Rajasth.* i. 574. See Eleusis.

ERTOGHRUL, father of Usman, the founder of the Turkish empire. He was the leader of a little band, a fragment of a tribe of Oghuz Turk, which, under Ertoghrul's father, Suliman Shah, had left their settlements in Khorasan, and sojourned for a time in Armenia. After a few years they left this country also, and were following the course of the Euphrates towards Syria, when their leader was accidentally drowned in that river. The great part of the tribe then dispersed; but a little remnant of it followed two of Suliman's sons, Ertoghrul and Dundar, who determined to seek a dwelling-place in Asia Minor, under the Seljuk Turk, Ala-ud-Din, sultan of Iconium. The adversaries, from whose superior force they delivered Ala-ud-Din, were a host of Mongols, the deadliest enemies of the Turk race. Ala-ud-Din, in gratitude for this eminent service, bestowed on Ertoghrul a principality in Asia Minor, near the frontiers of the Bithynian province of the Byzantine emperors. The rich plains of Saguta along the left bank of the river Sakaria, and the higher district on the slopes of the Ermeni mountains, became now the pasture-grounds of the father of Othman. The town of Saguta or Sægut was his also. Here he and the shepherd-warriors who had marched with him from Khorasan and Armenia, dwelt as denizens of the land. Ertoghrul's force of fighting men was largely recruited by the best and bravest of the old inhabitants, who became his subjects; and still more advantageously by numerous volunteers of kindred origin to his own. The Turk race had been extensively spread through Lower Asia long before the time of Ertoghrul. Quitting their primitive abodes on the upper steppes of the Asiatic continent, tribe after tribe of that martial family of nations had poured down upon the rich lands and tempting wealth of the southern and western regions, when the power of the early khalifs had decayed like that of the Greek emperors.

ERU. HIND. Manure.

ERUA BOVII. *Webb.* This and E. Javanica and E. scandens of Jussieu grow up to 3000 and 4000 feet in the N.W. Himalaya. The flowers have a sweet fragrance, and the woolly fruit is used for stuffing pillows.—*Stewart.*

ERUKU, also called Erkal, Yerkalvadu, Erikavadu, and Yerakeddi, a homeless migrating tribe in the Peninsula of India, occupying themselves ostensibly as basketmakers and in fortune-telling.

But they are notoriously predatory, and steal girls, whom they devote to prostitution. They are found in mat huts on the outskirts of towns, in the border districts of the Teling, Tamil, and Canarese countries.

ERULAR, a Dravidian race occupying the skirts of the forests at the base of the Neilgherry Hills. They dwell in the clefts of the mountains, and in the little openings of the woods. They arrange themselves into two clans, the Urali and Kurutalei, meaning rulers and serfs. The word Eruli means unenlightened or barbarous, from the Tamil word Erul, darkness, and is the term applied to them by their neighbours. They speak a rude Tamil dialect. They sacrifice he-goats and cocks to Mahri, their deity, which is a winnowing fan; and they have minor deities, mere stones, that they call Moshani and Konadi Mahri. They inter their dead in great pits, 30 or 40 feet square, thatched over and planked across, with an opening about a cubit square in the centre of the planking. Across this opening are laid pieces of wood, on which the dead are placed, and covered with earth, and are left so till another person die, when the former remains and the earth are turned into the pit, and replaced by the newly dead. They are in small scattered communities, practising a rude system of agriculture, which scarcely furnishes them with sufficient food. They make use of animal food of every description, even vermin and reptiles. They collect the jungle produce. They hunt and take game of every description, with great cunning and expertness. The other Neilgherry Hill tribes do not recognise the Erular as inhabitants of the Blue Mountains, and do not hold much converse with them. The following is the result of the weight and measurements of an average of 25 men, age 26·68 years :—

Height, . . .	61·78 in.	Hands, . . .	6·50 in.
Head circumf., .	19·83 ,,	Breadth of hands,	3·25 ,,
Neck ,, . .	11·59 ,,	Length of legs, .	34·50 ,,
Chest ,, . .	29·91 ,,	Feet, ...	9·0 ,,
Arms, ...	8·42 ,,	Breadth of feet,	3·25 ,,
Thighs, . . .	15·17 ,,	Weight (avoir.),	96·20 lbs.
Length of arms,	30·0 ,,		

They are superior in physique to the Kurumbar, and in some respects even to that of the Kotar. They do not recognise the Toda as lords, nor do they pay them goodoo. The women are strong and stoutly built, and very dark skinned. Their feet, of all the S. Indian races, are the most beautifully formed. They wear heaps of red and white beads about their necks, thin wire bracelets and armlets, with ear and nose rings. The women wear a double fold of a wrapper cloth, which extends from the waist to the knees; the upper part of their bodies, with their bosoms, are nude. At one time the Erular rarely held communication with the other natives, living isolated lives in secluded places and unhealthy localities, and eking out a precarious existence. Their villages were small, seldom exceeding five or six huts, and cattle pens scattered far apart, mostly located in groves of plantain and other fruit trees, and built somewhat after the Kurumbar huts, surrounded by the usual filth and dirt. They are more numerous in the southern than in the eastern parts. But of late years they have improved wonderfully, by mixing with others and taking employ as coolies on plantations, and working side by side with other natives. They give satisfaction to their employers.—*Dr. Shortt, F.G.S.*

ERVUM HIRSUTUM. *Willde.* Lentil.

Jhunjhunian-kari, HIND. | Masuri, Massur chenna, PANJ.

This is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 5000 feet, grows in corn-fields in Northern India, and is cultivated for fodder.—*Cleghorn.*

ERVUM LENS. *Linn.* The lentil.

Adas, Adz, . . . ARAB. | Massur parupu, . TAM.
Massur, Mauri, GUJ., HD. | Chiri sanagalu, . TEL.
Masura, . . . SANSK.

This pulse is grown all over India, and is eaten as a dal in food, but is said to be heating, and to cause eruptions if too much indulged in. By a slight change, Ervum lens became the Ervalenta; and another person, with another little change, sold the same article as Revalenta, adding the term Arabica to denote its Asiatic origin. Its flour is now used all over England by all classes to make a good wholesome soup without meat, though meat, soup, and vegetables can be added. The knowledge of this has rapidly spread.—*Stewart; Hassall.*

ERYNGIUM CAMPESTRE of Europe grows in Kābul and Kashmir. E. giganteum and E. Perowskianum are ornamental garden plants, and E. planum grows in Kashmir.—*Stewart; Honigb.; Riddell.*

ERYSIMUM PERFOLIATUM is cultivated in Japan for its oil-seeds.—*O'Sh.* p. 187.

ERYSIPHE TAURICA is one of the fungi of the Himalaya.

ERYTHRAS, son of Ariarius, a satrap of Phrygia. Erythras was banished by Darius to Kishm island, and Nearchus was told that Erythras had given his name to the adjoining sea.

ERYTHREAN SEA (Pliny, lib. vi. caps. xxxiii. and xxxiv.) was applied to the Indian Ocean, as well as to the two gulfs which it forms on each side of Arabia. Herodotus includes the Arabian Sea and part of the Indian Ocean under the general name of Red or Erythrean. And Pliny styles the Persian Gulf 'a bay of the Red Sea.' Greek and Roman authors, however, generally used the term Persian Gulf; but it appears also among them as the Babylonian Sea and the Erythrean Sea, and this has caused a confusion with the Red Sea. The Persian Gulf by many is described as the Green Sea, also in Eastern manuscripts as the Sea of Fars or Pars, of Oman, of Kirman, of Katis, of Basrah, deriving these and other names from the adjoining provinces and remarkable places on its Arabian and Persian coasts. See Red Sea.

ERYTHRINA, a genus of tropical trees and tuberous herbs, with clusters of very large, long flowers, which are usually of the brightest red, whence their name of coral trees. Moore, when describing the Indian islands, notices the

> 'Gay, sparkling loories, such as gleam between
> The crimson flowers of the coral tree,
> In the warm isles of India's sunny sea.'

Frequently their stems are defended by stiff prickles. Voigt notices 11 and Gamble 8 species as known in India.—*Voigt*, p. 237.

ERYTHRINA ARBORESCENS. *Roxb.*

Pariala, ... BEAS. | Gul nashtar, . . PANJ.
Thab, ... CHENAB. | Gileru, Gaderwa, . RAVI.
Gul nasar, . . . PANJ. | Pudara, . . . SUTLEJ.

Grows up to 7000 feet in the Outer Himalaya,

from the Ganges and Bhutan, also in the Khassya Hills; wood spongy.

ERYTHRINA INDICA. *Lam.* Coral tree.

Palita mandar, . .	BENG.	Furrud, Pangra, .	HIND.
Ka-theet, . . .	BURM.	Mandara, . . .	SANSK.
Moduga vriksha, .	CAN.	Erabadu gass, .	SINGH.
K'oh ping, . . .	CHIN.	Murukka, . . .	TAM.
Man-to-loh, . . .	,,	Badida chettu?. .	TEL.
Moochy-wood tree,	ENG.	Chalo-dhona, .	URIYA?

A large tree of all India and the Archipelago, flowering at the beginning of the hot season, its seeds ripening in June and July. Its place in the forests is generally taken by Erythrina suberosa. It supplies a soft white wood, as easily worked as the pine, commonly used for light boxes, scabbards, children's toys, rafts, fishermen's floats, and is hollowed out and made into canoes. The wood used for this purpose in Upper Hindustan is the Bombax ceiba. This is the Muchi wood of Madras, and the varnished toys from the Northern Circars are made of it. For sword scabbards it is a first-rate material. It is eaten by white ants eagerly. This tree is employed to support the black pepper vine, being of quick growth from cuttings, with firm, permanent, smooth bark, which never peels off, and gives firm hold to the roots of the vine, and they are full of leaves and very shady during the hottest months of the year, which shelters the vine from the intense heat of the sun, and keeps the ground moist. As soon as the hottest weather is over, the leaves drop, and expose the vines to the sun and weather during the cool season.—*Roxb.; Ainslie; Wight; Mason; O'Sh.; Cleghorn; Thw.*

ERYTHRINA OVALIFOLIA. *Roxb.*

Huri kankra, . . BENG. | Yak erra baddu gass, SING.

A tree of the hot, drier parts of Ceylon, and grows in Bengal.—*Roxb.; Voigt; Thw.*

ERYTHRINA STRICTA. *Roxb.* This is a large tree very common on the western side of the Madras Presidency; the wood, as in all the other erythrinas, is soft, light, and spongy. It is employed as a substitute for deal, is much in use in the manufacture of toys, trunks, etc., and is afterwards varnished, its large pores admitting and retaining the varnish better than almost any other wood; the wood is not liable to warp, contract, or split. It is also used for the scabbards of weapons.—*Beddome.*

ERYTHRINA SUBEROSA. *Roxb.*

Muni, Motaga, . . TAM. | Moduga, ... TEL.

A small tree of all India, growing in every soil and situation; leaves deciduous during the cold season. Flowers in February and March, soon after which the leaves appear; the trunk is generally erect from 8 to 12 feet to the branches. The trunk is covered with deeply cracked corky bark.

ERYTHRINA SUBLOBATA. *Roxb.*

Badadumu?. . . TAM. | Mullu moduga, . . TEL.

This tree is a native of the inland mountains of the Circars, and is frequently of great size, with branches spreading and numerous, and trunk without prickles. The wood is remarkably light, soft, and spongy, and is much employed by the Muchis, who make trunks, toys, and other things that are to be varnished, the wood retaining its priming or under coat of paint better almost than any other wood; and it is not liable to warp, contract, or split. The Muchis at Condapilly and Nursapur are famed for their art in forming and varnishing this wood for toys, etc. It is planted by the Tamil people about their temples. In Bengal, the leaves fall during the cold season in February; when destitute of foliage, the blossoms appear, and soon afterwards the leaves; the seed ripens in May. The trunk is perfectly straight, in large trees five or six feet in circumference, tapering regularly; and the seeds are enveloped in fine soft or silky wool, adhering slightly to them.—*Roxb.* iii. 254; *Rohde's MSS.*

ERYTHROSPERMUM PHYTOLACCOIDES. *Gard.* A middle-sized tree of the Ambagamowa and Ratnapura districts in Ceylon, growing up to an elevation of 1500 feet.—*Thw.* p. 18.

ERYTHROXYLON, a genus of plants of the order Lineæ. E. Burmanicum, Kunthianum, and monogynum are known in the East Indies. The heart-wood of E. monogynum, *Roxb.*, has a pleasant resinous smell, is very hard, and takes a beautiful polish. Beddome gives it as a synonym of E. Indicum, D. C. calls it bastard sandal, also Devadaru and Adavi goranta. Wood is used as a substitute for sandal-wood; and an empyreumatic oil or wood-tar of a reddish-brown colour is procured from it, which is used for preserving the wood employed in construction of native boats.

In South America, the leaves of E. coca, *Lam.*, are dried in the sun, and used as a masticatory. In the time of the first Incas, its use was specially restricted to certain religious rites, and the private consumption of the monarch. But when Peru was subjugated by the Spaniards, they found coca used as a means of exchange in the absence of a metallic currency, and one of their early monopolies was that of its cultivation. At the present time it is largely cultivated in the warmer valleys near La Paz, covering the mountain slopes, under about 7000 feet elevation. The leaves are chewed with a minute quantity of an alkaline paste, serving as a condiment, made from the ashes of the quinoa; but also of a cactus or some other plant, or in some parts of the continent, with lime. One of the most remarkable features in the use of this nervous stimulant, is the power which it confers to endure long-continued fatigue. The miner will perform for twelve long hours the work of the mine, and sometimes even doubles that period, without taking any further sustenance than a handful of parched maize, but every three hours he makes a pause for the purpose of chewing coca. Its leaves are called spadic, also coca, and they contain two alkaloids, cocain and hygrin, also a peculiar tannic acid. More than £600,000 worth are annually collected. Whether the Asiatic species of this genus have this sustaining power, is not known.—*Markham; Poeppig; Bedd. Fl. Sylv.* part vii. p. 81.

ERZRUM, Arz-i-Rum, or Roman or Constantinople territory, was taken with pillage and havoc by the Tartars in 1241. It is the capital of the pashalic which bears the same name, and is about ten days' journey from the Persian frontier. It is built on an elevated plain about 6000 feet above the level of the sea. The cold there is intense, and lasts usually from September till May. Lying on the high road from Persia to Constantinople, it is the resort of many merchants and caravans; but it has not recovered the Russian occupation in 1829, when its fortifications were dismantled, and many of its most opulent and industrious inhabitants, the Armenians, were in-

duced to emigrate. One of the branches of the Euphrates flows at a short distance below the city.

ES or Œs, according to the translator of the Eddas, is the name for God with all the Celtic races. So it was with the Tuscans, doubtless from the Sanskrit, or rather from a more provincial tongue, the common contraction of Eswur, the Egyptian Osiris, the Persian Syr, the sun-god. Thor is called Asa Thor, the Lord Thor; and Odin is also called As or Lord; the Gauls also called him Œs or Es, and with a Latin termination, Hesus, whom Lucan calls Esus. Eswara is a usual title of Siva.—*Edda*, ii. pp. 45-6; *Tod's Rajasthan*, i. p. 564.

ESA KHAIL, an Afghan tribe on the Panjab frontier, who, along with the Shiah Turi and the Jaji, dwell on the daman or skirt of the Sulimani range. The Esa Khail occupy the banks and islets of the Indus in a valley containing 45 villages. It is a narrow oblong strip between the Indus and a long spur of the Khuttak range, that runs southward into the plain.—*Rec. Govt. of India*, No. 11.

ESCHSCHOLTZIA, one of the Papaveraceæ, a very beautiful, very delicate little flower, of a deep yellow orange colour. E. cristata, *Tatarinov*, the Hiang-ju of the Chinese, is a fragrant plant of China.—*Smith; Riddell.*

ESCULAPIUS, amongst the Greeks and Romans, the deified mortal to whom the care of medicine and health pertained. Esmun, the snake-god of the Phœnicians, is identified by Bunsen (iv. p. 259) with the Egyptian Hermes, called Tet and Taautes in Phœnician. Esmun is strictly a Phœnician god. He was especially worshipped at Berytus. At Carthage he was called the highest god, together with Astarte and Hercules. At Babylon, Bel corresponded with him. According to Jamblichus and the Hermetic books, the Egyptian name of Esculapius was Kameph (Bunsen, iv. pp. 256-7). The Aswini-Kumara, the sons of Surya, amongst the Hindus, correspond with the western Greek and Roman Esculapius; but Dhanwantari, a physician, is also the analogue. The Esculapian rod has been supposed by some to be a stem of a Bauhinia plant. It is probably, however, the form serpents assume when in congress, and which is represented at every Hindu serpent shrine. The Hindu Esculapius has no rod.

ESDAILE, Dr., ob. 1859 at Sydenham, a Bengal medical officer, the eldest son of the Rev. Dr. Esdaile, was born at Montrose 6th February 1808. He devoted himself to the study of mesmerism. His first trial was casual. Seeing a felon in agony after a surgical operation, he thought he would try to mesmerize the sufferer, who presently exhibited the phenomena which were witnessed in England. After this time Dr. Esdaile performed a very large number of surgical operations—some of them absolutely gigantic—without pain. In 1846 he removed 21 tumours, some weighing 30 lbs., one 40 lbs., and one 112 lbs.; in 1847-48, one of 40 lbs., and another of 100 lbs. in weight; in 1848, 34, some of very great size and weight. In 1849 he removed 10, some very large. In 1849 he performed 62 capital operations. After 100 capital operations, with insensibility, only two patients died within a month,—one from cholera, and the other from lock-jaw.

ESKAR. Can. A village servant.

ESPARTO, a valuable paper material of N. Africa, in use since the middle of the 19th century. See Stipa.

ESSENIANS, a sect amongst the Hebrews, who every day saluted the rising sun.

ESSENTIAL OILS, called also volatile oils, the Atr of the Arabs and Hwa-lu of the Chinese, are obtained from various parts of odoriferous plants, chiefly by distillation, but also by the chemical perfuming process of enflowering. The best known volatile oils are those of almonds, aniseed, bergamot, cajaputi, chamomile, camphor, caraway, cassia, cinnamon, citronelle, cloves, juniper, lavender, lemons, lemon grass, mint, nutmeg, orange, peppermint, pimento, rhodium, rosemary, roses (otto), savine, sassafras, mint, but in India, sandal-wood, jasmine, nutmegs,—indeed, every odoriferous plant is by the perfumers made to yield perfumed oil. The chambeli-ki-atr of Lucknow, extracted from the petals of Jasminum grandiflorum, sells at 2 rupees per tola. This plant is extensively cultivated in gardens in Lucknow for the sake of its flowers. Motiah or Belak-ki-atr of Lucknow, Jasminum sambac, also extracted from the petals, sells at 2 rupees per tola. It is cultivated extensively in gardens in Lucknow for the sake of its flowers, and is coloured red by means of dragon's blood. The essential oils of cinnamon, citronelle, and lemon grass are made chiefly in the neighbourhood of Galle, in the southern provinces of Ceylon. The oil of cinnamon is also made largely at Colombo from the broken or inferior pieces of bark rejected in packing the bales of spice. The Andropogon muricatum, Jasminum grandiflorum, J. sambac, Lawsonia inermis, Pandanus odoratissimus, and the rose flowers are all utilized. Common mustard oil is often scented with malaghussa, and sold as an essential oil. See Atr; Oils; Otto.

ESTHER. In the centre of Hamadan is the tomb of Ali bin Sina (Avicenna), and not far from it are those of Esther and Mordecai, which are held in great veneration by the Jews of the town, and kept in a perfect state of repair. On the dome over these tombs is an inscription to the effect that Elias and Samuel, sons of Kachan, finished building this temple over the tombs of Mordecai and Esther on the 15th of the month Adar, 4474. The tombs are made of hard black wood, which has suffered little from the effects of time during the 11½ centuries they have existed. They are covered with Hebrew inscriptions, still very legible, of which Sir John Malcolm has given the following translation:—'At that time there was in the palace of Susa a certain Jew of the name of Mordecai; he was the son of Jair of Shimei, who was the son of Kish, a Benjamite, for Mordecai the Jew was the second of that name under the king Ahasuerus, a man much distinguished among the Jews, and enjoying great consideration amongst his own people, anxious for their welfare, and seeking to promote the peace of all Asia.' The traveller, unless told, would never recognise them as tombs. The entry is by a low door, and the tombs occupy the whole of the internal space to the ceiling, leaving only a very narrow passage for walking round the huge stone-like construction in the middle. Literally not an inch is left on the whitewashed

walls on which the Jewish pilgrims of a thousand years have not inscribed their names.—*Ed. Ferrier, Journ.* p. 37.

ESWARA, a title of Siva, who is also styled Mahadeva, the great god; Maheswara, the great lord; Bhuvaneswara, the lord of the earth; Brahm-eswara, is the lord of lords, or the lord of the first creative energy. See Es.

ETA, an unclean race in Japan, curriers, tanners, about three millions.

ETAH, a revenue district in the North-Western Provinces of India, lying between lat. 27° 19′ 42″ and 28° 1′ 39″ N., and long. 78° 27′ 26″ and 79° 19′ 23″ E. Area, 1512 square miles; population in 1872, 703,527. From the 6th to the 10th century, Etah appears to have been held by Ahir and Bhar, and then to have been occupied by the Rajputs. The Rajputs are 57,025; the Banyas or trading castes, 13,056. The Chamars are the most numerous tribe, forming the landless labouring class throughout the whole Doab.—*Imp. Gaz.*

ETAMU. TEL. Pikota, TAM. A lever for raising water.

ETAWAH, a revenue district in the North-Western Provinces, lying between lat. 26° 21′ 8″ and 27° 0′ 25″ N., and between long. 78° 47′ 20″ and 79° 47′ 20″ E. Area (1878), 1691 square miles; population (1872), 668,641 persons. The Chamar, 96,923, are agricultural labourers; Ahir, 75,035, come next, and have some landed property of small value.—*Imp. Gaz.*

ETHER, the air, the atmosphere. In India, amongst the Aryan Hindus of the Vedic times, adoration was offered to Ether as Indra (Zeus), with the sacrifice of milk and the fermented juice of plants. See Elements.

ETHER, medicinal substances obtained by distilling alcohol with an acid. There are several ethers; they are very inflammable.

ETHERSEY, LIEUT., Indian navy, in 1834–36 made an excellent but incomplete survey of the Gulf of Cambay; and the coasts to the westward were surveyed by Lieuts. Whitelocke and Constable and Mr. Jones. Between 1844 and 1852, Lieuts. Saunders, Rennie, Taylor, Constable, and other officers, surveyed other portions of the west coast, and Lieut. Selby completed the off-shore soundings on the west coast.

ETHIOPIA, a country mentioned in the Scriptures, corresponding to the present kingdoms of Nubia and Abyssinia. It was also called Seba, also Meroe. It was at one time occupied by Arabs, under a settled form of government, who conquered Nubia and harassed the Thebans. During the earlier Christian centuries the Arabs were conquered by the Egyptians.—*Sharpe*, i. 104.

ETREK, a considerable river, about 300 miles long, which drains a wide valley lying between two ranges of hills. It runs nearly N.W. from near Meshed to the Caspian Sea, into which it disembogues at its S.E. corner. Its lower course is through wide and fertile plains, over which the Yomut Turkomans roam. They have a village on the left bank.—*Collett, C. As.*

ETWAR. HIND. Abbreviation of Adityavara, Sunday.

ETYMANDER, of the classics, is the river Helmand.

ETZEL, known to Europe as Attila, was the leader of the Hiong-nu, a pastoral tribe who had been expelled from the borders of China by the powerful dynasty of Han, and formed one of the tribes who roam in the lands from the Altai to the walls of China. The Hiong-nu, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel, into the heart of France. Hordes from the same regions, under Togral Beg, and Seljuk, and Mahmud, and Chengiz, and Timur, and Othman, have since then overwhelmed the khalifat and the empires of China, of Byzantium, and Hindustan; and lineal descendants of the shepherds of High Asia still sit on the throne of Cyrus and on that of the great Constantine.

EUCALYPTUS. This genus of lofty trees is found in the Malay Peninsula, but it is chiefly in Australia, where the numerous species occur in great profusion, and, with the leafless acacia trees, give a most remarkable character to the scenery. Several eucalypti have been introduced into India, and are growing on the Neilgherry Hills. Their Australian names—blue, grey, spotted gum trees, etc., iron-bark, stringy bark, blood-wood, box, peppermint, swamp ash, mahogany trees, etc.—are terms which vary in each district. Many of them yield a timber tougher and more durable for shipbuilding than either oak or teak, and not liable to injury from salt water or white ants. An essential oil is extracted from the leaves of one variety, the E. robusta, which was pronounced not unlike cajaputi, and very fragrant. All the varieties tried on the Neilgherries have succeeded, on every description of soil, from the swamp to the poorest clay, at all elevations, but also with a rate of growth little short of miraculous, viz. a foot per mensem, whereas hard woods in Britain progress at the rate of one foot annually. Householders on the Neilgherries are now covering their compounds with the eucalypti, and with that pretty Australian favourite the Acacia melanoxylon, which is so invaluable as a source of fuel; for, like the perennial grasses, the more it is cut the better it grows. E. acmenoides, amygdalina or white peppermint tree or ash tree, botryoides, calophylla or red gum tree, citriodora, coriacea, cornuta or yate tree, corymbosa or blood-wood tree, diversicolor or karri, doratoxylon or spear tree, eugenioides, ficifolia, globulus or blue gum tree, gomphocephala or tooart, goniocalyx, Gunnii, hemiphloa or box tree, leucoxylon or iron-bark tree, loxophleba or York gum tree, macrorrhyncha or stringy bark tree, maculata or spotted gum tree, marginata or jarrah or mahogany tree, melanophloia or iron-bark tree, meliodora or yellow box tree, microcorys or stringy bark tree, microtheca, obliquoa or stringy bark tree, oleosa or mallee, paniculata or white iron-bark tree, phœnicea, pilularis or black butt tree, poalyphylla, polyanthemos or red box, raveretiana grey gum tree or iron gum tree, redunca or white gum tree, resinifera, robusta, rostrata or red gum tree, salmonophloia or salmon-barked gum tree, saliqua or white or grey gum tree, salubris or gimlet wood or fluted gum tree, siderophloia or white iron-bark tree, Stuartiana, tereticornis or red gum tree, terminalis or blood-wood tree, tesselaris, viminalis or manna gum tree, virgata or stringy bark tree. The useful products to be obtained from these trees are very numerous, and include, in addition to timber and potash, oils, tars, acids, dyes, and tans.

E. globulus has acquired a high reputation for rendering habitable localities which were previously

the unhealthy seats of malaria. In Algeria and Portugal are valleys which only a few years since were most unhealthy, but which have been rendered salubrious by the planting of some of these trees; while a striking example of their fever-preventing properties is furnished by the re-habitation of a deserted cluster of monastic buildings in the most desolate part of the Campagna, about three miles from Rome. This was effected by some Trappist monks, who planted, six years since, groves of the eucalyptus. For centuries the fever-stricken monks had battled against the malaria, until, towards the close of the last century, the monastery was deserted. Its leaves have been recommended as a febrifuge; but the Government Quinologist informed the Madras Government that he had examined the bark and leaves of the Eucalyptus globulus, and had satisfied himself that neither quinine, quinidine, cinchonidine, nor cinchonine is contained in the plant in any proportion.

Eucalyptus Oil is a volatile oil obtained from the foliage of all the species of Eucalyptus, from 0·5 to 3·3 per cent. For select varnishes, it dissolves camphor, pine resins, elemi, sandarac, kauri, dammer, asphalte, xanthorrhœa resin, dragon's blood, benzol, copal, amber, anime, shell-lac, caoutchouc, wax, etc.—*F. von Mueller; G. Bennett; O'Sh.; Simmonds; Eng. Cyc.*

EUCHEUMA SPINOSUM, *Ag.*, of Malacca, yields part of the agar-agar of commerce. The plants and their synonyms which yield the commercial agar-agar are as under:—

Eucheuma spinosum, *Ag.*	Gigartina spinosa, *Grev.*
Fucus spinosus, *Linn.*	Plocaria candida, *Nees.*
F. tenax.	Gracillaria tenax.
Gigartina tenax, *Turner.*	G. spinosa.

Bulung, ... Jav.	Agar-agar, . . . Malay.
Dongi dongi, . . . Mac.	Karang, Sajor-karang, ,,

Plocaria candida, *Nees*, yields the Ceylon moss; and the whole thallus of this one of the algæ is sometimes imported from Ceylon into Britain, and used there for dressing silk goods. The Malay name of agar-agar is also given to the Gracillaria spinosa, likewise one of the algæ, of the order Rhodymeniaceæ, and seems to have as synonyms Gigartina tenax, also Gracillaria tenax, also Fucus tenax of Turner. Mr. Williams and the Honourable Mr. Morrison say of the Gigartina tenax, that the Chinese people collect this sea-weed on the coast to a great extent. It is boiled, and the transparent glue obtained is brushed upon a porous kind of paper called sha-chi, which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and is extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south, and extensively used for food (Williams, p. 275). The Honourable Mr. Morrison says of the Gracillaria tenax, the Fucus tenax of Turner, about 27,000 pounds of it are annually imported into Canton from the provinces of Foh-kien and Tchikiang, and sold for 6d. to 8d. the pound. Mr. Neill thinks that the gummy substance, called chin-chou or hai-tsai in China and Japan, may be composed of this substance. Windows made of slips of bamboos, and crossed diagonally, have frequently their interstices wholly filled with the transparent glue of hai-tsai.—*Morrison, Comp. Summ.; Williams.*

EUCHIRUS, a genus of beetles, one of the Lamellicornes, said to have similar habits to its congener Lucanus cervus. Euchirus longimanus, the long-armed chafer of Amboyna, drinks the sap of the sugar palms. It is a sluggish insect.—*Wallace*, p. 300. See Beetles; Insects.

EUCHLÆNA LUXURIANS. *Durieu.* A fodder grass of Guatemala; has been introduced into Northern India.

EUCRATIDES, a Bactrian king, B.C. 185, who ruled over Bactriana, Ariana, Patalene, Syrastrene, Larice, Nisa, Gandharitis, Peukelaotis, and Taxila. While still ruling, Antimachus Nicophorus seized part of his dominions, and, after the parricidal murder by Heliocles of Eucratides, his countries remained in the hands of Antimachus Nicophorus and Apollodotus. The Aryan written character was adopted first on the coins of the Greek kings, from Eucratides down to the barbarian king Hermæus. Eucratides was the earliest of the Greek kings of Bactria, Kābul, and Arya who adopted bilingual inscriptions on his coins. It is supposed he did so consequent on his conquest of the Paropamisus after assumption of the title of Great King. On his murder by his son Heliocles, his wide dominions are supposed to have been broken into several independent kingdoms. His parricidal son ruled for a few years over Bactria and Paropamisus, under the title of Eucratides II. According to Cunningham (Hist. Panj. i. p. 57), Eucratides invaded India B.C. 165, and annexed the Panjab southwards to Patala, in Sind, the modern Hyderabad, which on his demise fell to Menander or Apollodotus. A list of kings, he says, had been obtained from recently discovered coins, of Greek mintage, bearing Aryan inscriptions on the reverse, ranging from 153 to 120 B.C., who are supposed, upon good grounds, to have been sovereigns of the Panjab, the valley of the Indus, and Kābul. —*Thomas' Prinsep; History of the Panjab*, i. p. 57.

EUDEMOS, a Greek ruler in the Panjab, who, along with Taxiles and Porus, was named by Alexander to succeed Philip, on the murder of the latter by the mercenary soldiery. The Greek colonists in the Panjab had first been placed under Philip, while the civil administration remained in the hands of Taxiles and Porus. After Alexander's death in B.C. 323, Eudemos made himself master of the country by the treacherous assassination of king Porus. A few years later, in B.C. 317, he marched, with 3000 infantry and 5000 cavalry and 120 elephants, to the assistance of Eumenes, and did good service at the battle of Gabiene, but during his absence Chandragupta roused the nation, and slaughtered and expelled the Greeks. See Chandragupta.

EUDYNAMIS ORIENTALIS. *Linn.*

Kokil, ... Beng.	Nallak (male), . . Tel.
Koel (the male), . Hind.	Podak (female), . . ,,
Koreyala (the fem.), ,,	

The male bird is greenish black throughout, and the female is glossy dusky green, spotted with white above. Like the cuckoo, the koil lays its eggs in the nests of other birds. The nest of the seven brothers, the satbhai, is selected occasionally, and it is a curious sight to see these social birds unitedly feeding the young koil that has been hatched in their nest. Because the koil's song is especially heard at the season of spring, it is called the friend of love—

'Sweet bird, whom lovers deem Love's messenger,
Skilled to direct the god's envenomed shafts,
And tame the proudest heart; Oh, hither guide
My lovely fugitive, or lead my steps
To where she strays.'

—*Pantheon*, p. 206; *Hero and the Nymph; Jerdon.*

EUGEISSONIA TRISTIS, *Griff.*, and E. truncata, *Griff.*, Bartam, MALAY, palms growing on the hills about Ching, Malacca, and Penang. E. truncata, *Griffiths*, is a stemless palm, growing in thick tufts, which are surrounded by the debris of the old leaves. Leaves numerous, the outer ones spreading, fifteen to twenty feet in length. It is very common, and in Penang is much used in making mats for sides of houses, for thatch, and for the same purposes as those of Nipa fruticans. —*Griffiths' Palms.*

EUGENIA, a genus of plants named in honour of Prince Eugene of Savoy. It still contains nearly 200 species, though numbers have been removed to the genera Nelitris, Jossinia, Myrcia, Sizygium, Caryophyllus, and Jambosa, in which are now contained the clove-tree, the rose-apple, and jamoon of India, formerly included in Eugenia. This genus is confined to the hot and tropical parts of the world, as Brazil, the West India Islands and Sierra Leone, and extends from the Moluccas and Ceylon in the south to Sylhet and the foot of the Himalayas in the north. Some of the species secrete a warm volatile oil in their herbaceous parts, abound in tannin, yield good wood, and a few have fruits which are edible, though not very agreeable, from being impregnated with the aroma of the oil. Dr. Wight gives, in Icones, 66 species of the E. Indies; and Duthie and Gamble name 77 species. Dr. Thwaites enumerates several species in Ceylon. The generally accepted names of the species are—

acuminata.
albiflora.
alternifolia.
amplexicaulis.
aquea.
areolata.
argentea.
Arnottiana.
balsamea.
Beddomei.
bifaria.
brachiata.
bracteata.
bracteolata.
calcadensis.
calophyllifolia.
caryophyllata.
caryophyllifolia.
claviflora.
codyensis.
cuneata.
cymosa.
diospyrifolia.
floccosa.
Formosa.
frondosa.
fruticosa.
Gardneri.
grandis.
grata.
Helferi.
hemisphærica.
Heyneana.
inophylla.
jambos.
jambolana.
Javanica.
Jossinia.
Khasiana.
Karzii.
laeta.
lanceæfolia.
lanceolaria.
lepidocarpa.
leptantha.
lissophylla.
macrocarpa.
macrosepala.
Malabarica.
Malaccensis.
mangifolia.
microphylla.
Mooniana.
montana.
Monronii.
myrtifolia.
oblata.
obovata.
obtusifolia.
occlusa.
operculata.
pachyphylla.
paniala.
pellucida.
polyantha.
polypetala.
ramossima.
revoluta.
Rottleriana.
rubens.
rubicunda.
rubricaulis.
Singampattiana.
Stocksii.
tetragona.
thumra.
toddalioides.
tristis.
venusta.
Wallichii.
Wightiana.
Wynadensis.
Zeylanica.

EUGENIA ALTERNIFOLIA. *Roxb.*

Manchi-moyadi, . . TEL. | Movi chettu, . . . TEL.
Moyi chettu, . . . ,, |

A very beautiful species, growing in Kurnool, Cuddapah, and N. Arcot; timber used for building and other purposes.—*Roxb.*

EUGENIA CARYOPHYLLATA. *Thun.*

Caryophyllus aromaticus. | Myrtus caryophyllus, *S.*
Luvunga, . . . BENG. | Ran jambool, . . MAHR.

The clove tree of the Moluccas, cultivated in Ceylon, the Malay Peninsula, in the south of India, in Travancore, also in Mauritius and Bourbon. The cloves (laung karanful) of commerce are the unopened flowers, the flower-buds. It is hardly found on the Bombay side north of the Savitree. South of that river it is found only in Raees or greenwood jungles, and about temples. The wood appears quite equal to that of the common jambul, the Eugenia jambolana.—*Roxb.; Gibson; Voigt.*

EUGENIA CARYOPHYLLIFOLIA. *Roxb.*

Calyptranthes caryophyllifolia, *Ains.*

Choto jam, . . . BENG. | Nawel maram, . . TAM.
Thab-yeh-gah, . . BURM. | Neredu manu, . . ,,
Naradidi Vriksha, CAN. |

It is a native of various parts of India, growing luxuriantly in almost every soil and situation. Flowering time the hot season; bears a round berry, black when ripe, the size of a pea. The wood is very strong, close-grained, hard, and durable.—*Roxb.*

EUGENIA CYLINDRICA. *W. Ic.* Jambosa cylindrica, *Thw.* When in flower, a middling-sized Ceylon tree, section Jambosa, very beautiful, at 3000 feet elevation.—*Bedd.*

EUGENIA FLOCCOSA. *Bedd.* This is a good-sized and most beautiful tree, section Eugenia, very common in the dense moist woods on the South Tinnevelly ghats above Calcad, at 3000 to 4000 feet elevation, flowering in August and September.—*Bedd. Flor. Sylv.*

EUGENIA FORMOSA. *Wall.* An evergreen moderate-sized tree of the Sub-Himalaya and Tenasserim, with very handsome large flowers and large fruit.—*Wall.*

EUGENIA HEMISPHÆRICA. *W. Ic.* A very handsome, large tree, is common in the mountain forests from South Canara down to Cape Comorin at about 3000 feet elevation; is abundant in Coorg, the Animallays, and Tinnevelly ghats, and is also found in Ceylon up to 4000 feet. The timber is used for a variety of purposes.—*Beddome.*

EUGENIA JAMBOLANA. *Lam., Roxb.*

Syzygium jambolanum, *D. C., W. I., W. Ill., W. and A.*
S. caryophyllifolium, *D. C.*
Eugenia caryophyllifolia, *Lam.*
E. obtusifolia, *Roxb. Fl. Ind.* ii. p. 485.
Calyptranthes jambolana, *Willde.*
C. caryophyllifolia, *Willde.*
Myrtus cumini, *Linn.*

Kalo jam, . . . BENG. | Kotti naga maram, . TAM.
Rai jamun, Jambool, HIND. | Pedda neredu, . . TEL.
Peru nagal, Sina nagal, TAM. | Sanna neredu, . . ,,

It grows in Coimbatore, Ganjam, Gumsur, Bengal, and Kamaon. About Madras this tree is generally much destroyed by the carpenter bee. Dr. Gibson says the wood makes excellent beams, but on account, probably, of its brittleness, is never cut up for cabinet purposes. The bark affords a large supply of a kino extract.—*Drs. Wight, Gibson, Voigt, Cleghorn; Captain Macdonald.*

EUGENIA JAMBOLANA. *Lam., Roxb., W. Ic.*

E. fruticosa, tab. 624.
E. Morei, *F. Muell. Fragm.* v. 33.
E. caryophyllifolia, *Lam., Wight Icones*, 553.
Syzygium jambolanum, *D. C.* iii. 259.

Jambool, ... BOM. | Madang, ... SING.
Narala, ... CAN. | Nawal, Nawar, . . TAM.
Jamun, ... HIND. | Naregar, ... TEL.

This large and beautiful tree is found almost everywhere throughout the plains of India, whereas most of the other species affect the mountains. It is much planted in topes and avenues in the Madras Presidency, but it ascends the mountains to 4000

or rarely 5000 feet elevation. It is also indigenous in the Archipelago and in Australia. The bark is strongly astringent, and dyes excellent durable browns, and it yields an extract like the gum kino. The jamun fruit is eaten; and that from some of the larger fruiting varieties (when it is as large as a cherry, or much larger) is very agreeable. The fruit of the very small fruiting variety (E. caryophyllifolia, *Lam.*) is not eaten, and is not larger than a pea.—*Beddome*, p. 197.

EUGENIA MALABARICA, *Bedd.*, is very common in the Wynad in Malabar, at 2000 to 4500 feet elevation, generally in swampy places, and also occurs in the Animallays.—*Bedd. Fl. Sylv.*

EUGENIA ZEYLANICA. *Wight, Ill.*

Acmena Zeylanica, *Thw.* | Var. B. laxiflora.

This tree is of the Acmena section of Eugenia. It is common on the South Tinnevelly mountains up to 3500 feet, where it generally affects beds of rivers, and in Ceylon, where it is called morang; it is very beautiful when in full flower.—*Bedd. Fl. Sylv.* p. 202.

EU-HO, called also the Yun-lian-ho, a river of China, a tributary of the Pei-ho river. At the junction is the town of Tien-tsing-fu, a place of great trade.

EULOPHIA CAMPESTRIS, *Lindley*, is found in Oudh, Rohilkhand, in the Siwaliks of the Gangetic Doab, and in low land by the Ravi, close to Lahore. E. herbacea, *Lindley*, occurs in Southern India and the Outer Himalaya, near the Jumna; and E. vera, *Royle*, occurs near the Jhelum river, in the Panjab, Himalaya. The tubers of all three are used as salep.—*Dr. J. L. Stewart.*

EULOPHIA VIRENS. *R. Br.*

Limodorum virens, *Roxb.*

Khassiat us Salib, ARAB.	Goru chettu gadda, TEL.
Whitlow root, . . ENG.	Raye duru dumpa, ,,
Salep misri, . . . ,,	Orkis, Saturyun, YUNANI.
Verduru gadda, . . TEL.	Turphylla, . . . ,,

The tubers form part of the saleb misri or salep of commerce. Most of the rhizomata of the family Orchidaceæ yield starch in a peculiar form, and are used under the name of salep as an article of diet. The same use is made of the rhizomata of the species of Eulophia.—*Lindley; Birdwood; Hogg; Voigt*, 629.

EUMETA CRAMERII. *Westw.*

Sack trager, . . . GER.	Kundi puchi, . . . TAM.
Dalme-kattea, . SINGH.	Muluka rasari, . . ,,

This is one of the wood moths or wood carriers of Ceylon. The insect gathers a bundle of thorns or twigs about it, binds them together by threads so as to form a case. The male, at the close of the pupal rest, escapes from one end of the case, but to the female it is a covering for life. Another species is E. Templetonii.—*Tennant's Ceylon.*

EUNUCH.

Eunuque, ... FR.	Eunuco, ... SP.
Verschnittene, . . GER.	Khadim, . . . TURK.
Khajah, Khoja, . HIND.	

Eunuchs are employed in the households of the Mahomedans and Hindus of Egypt, Persia, Arabia, India, and China. We learn from Herodotus (lib. 6) that the Persians in remote times were waited upon by eunuchs, and some attribute to them their introduction. Ammianus Marcellinus (lib. 14) ascribes the origin to Semiramis. Burton says that they were not known in Arabia at the time of Mahomed; but in the chapter of the Koran on Nur or Light, men who have no need of women are spoken of as persons before whom women may appear; the learned, however, do not agree as to who were there meant. Burton also (Pilgrimage, ii. 74 to 155) mentions eunuchs coming to the prophet's tomb. Nearly all the slave-hunters in Abyssinia, when they catch a young lad, mutilate him completely, and send him over to Mecca; and lads are still said to be mutilated in Rajputana and in Aurangabad. Dr. Wolff (Bokhara, vi. p. 217) mentions that in his time several of the eunuchs were married to several wives, and he instances Manujar Khan, the governor of Isfahan; others of them have wives. Sir John Malcolm had known only two or three instances of eunuchs being employed in situations of trust during the reign of the king of Persia, to whom he went as ambassador. He, however, observed that they were treated with uncommon attention and deference. In Hyderabad, in the Dêkhan, eunuchs are few. Eunuchs in India have the title of Agha, also of Khajah, or Khojah. The eunuchs employed in the imperial haram of China sometimes rise to positions of eminence.—*Malcolm's Persia*, ii. p. 438, 155, n.; *Burton's Mecca*, iii. p. 408.

EUONYMUS, a genus of plants belonging to the natural order Celastraceæ. About thirty species, mostly small trees, are known to occur in the south and east of Asia. E. echinatus of Nepal is a shrub or climber. E. glaber occurs in Chittagong; E. grandiflorus, and E. Hamiltonianus, *Wall.*, in the Dehra Doon; E. grossus in Nepal; E. dichotomus, E. Goughii, and E. acutangulus, in the Peninsula. In Japan are japonicus, Sieboldianus, Thunbergianus, subtriflorus, Hamiltonianus, latifolius.—*Roxb.; Voigt.*

EUONYMUS CRENULATUS. *Wall.* A small tree, common on the Neilgherries, Pulneys, and higher parts of Western Ghats of the Madras Presidency. The wood is white, very hard and close-grained, and answers for wood engraving, and is about the best substitute for boxwood in the Madras Presidency; the wood of the other species is very similar.—*Beddome, Fl. Sylv.*

EUONYMUS FIMBRIATA.

Saki, Sikhi, Papar, HIND. | Bar-phulli, Batal, . HIND.

Wood hard and useful; it is beautifully smooth and white.

EUONYMUS GARCINIFOLIA. *Roxb.* i. 628.

Nooee of . . . NEPAL. | Mori of . . . SYLHET.

A small tree, growing near the Bombay ghats in the upper country to the south. It seems to be often cultivated in Canara, on account of its straightness, as applicable for house rafters. It does not reach a size sufficient to fit it for general purposes.—*Dr. Gibson.*

EUONYMUS JAPONICUS, the Tu-chung and Muh-mien of the Chinese. It grows in Honan, Shen-si, and Shan-si. The leaves are eaten when young; fruit is astringent; wood used for making pattens. On breaking the bark, a delicate, silvery, silky fibre is seen.—*Smith.*

EUONYMUS REVOLUTUS. *Wight, Ill.* A middle-sized tree of Nawera and other very elevated parts of Ceylon.—*Thw.*

EUONYMUS TINGENS. *Wall.* The bark in the inside is of a fine yellow colour, similar to that of rhamnus. It is used to mark the tika on the forehead of the Hindus, and is considered by the natives to be useful in diseases of the eye.—*Royle; O'Sh.*

EUPATORIUM TRIPLINERVE. *Vahl.*

E. ayapana, *Vent.* | E. aromaticum.

Ayapana, . . . BENG., HIND.

The dried leaves and twigs are used in medicine. An infusion is a very agreeable diaphoretic and mild tonic, and is a favourite remedy among the native practitioners. There are several exotic species, E. Guaco, E. odoratum, E. perfoliatum, and E. rotundifolium, or bone-set, is possessed of greater bitterness and less aroma than E. triplinerve, and is stated to be employed with much success as an antiperiodic in the intermittent fevers of the United States of America.—*O'Sh.*

EUPHORBIACEÆ, the Euphorbium tribe of plants, consists of trees, shrubs, or herbs, many of them abounding in an acrid juice. The number of species has been estimated at 1500, and Dr. Roxburgh describes 120 in India. The general property of this order is that of exciting, varying in degree from mere stimulants to the most dangerous poisons. The application of heat is sufficient to destroy the stimulating principle, as in the instance of the Jatropha manihot or cassava, which when raw is poisonous, but when roasted becomes a nutritious article of food. A caoutchouc, turnsol, and farfiyun are useful products of the order. The more important genera in the East Indies are agneya, aleurites, acalypha, Bridelia, buxus, cnemidostachys, cicca, cluytia, crozophora, croton, codiæum, emblica, elæococca, excœcaria, euphorbia, fluggea, glochidon, hura, janipha, jatropha, macaranga, phyllanthus, plukenetia, poincettia, Rottlera, ricinus, sapium, stillingia, siphonia, sarcococca, stylodiscus, xylophylla. Williams says (Middle Kingdom, p. 107) that in China a strong oil is derived from the seeds of two or three plants belonging to the euphorbiaceous family, for mixing with paint, smearing boats, etc. Voigt enumerates 31 species of Euphorbium as known in India, viz. :—

acaulis.	ligularia.	prolifera.
antiquorum.	linearis.	prunifolia.
arborescens.	lophogona.	punicea.
bojeri.	maculata.	pyrifolia.
bupleurifolia.	mellifera.	sessiliflora.
chamæsyce.	nivulia.	splendens.
dracunculoides.	parviflora.	thymifolia.
exigua.	peltata.	tiraculli.
hirta.	peplis.	trigona.
hoyæfolia.	picta.	uniflora.
lactea.		

In February and March, women are to be seen wherever the milk-bush prevails. They apply the milk to their bodies and limbs, and then stick the places over with tufts of raw cotton. It produces a hot and slightly prickly feeling, and a small degree of blistering. It is considered good for the health, and is supposed to ensure fecundity. The exhibitions seen at this season, in applying the milk, are often indelicate in the extreme. The Euphorbia plant is sacred with the Kachari. It is the representation of their god Batho, and is worshipped by them.

The gum euphorbium plant of Morocco is the E. resinifera. The juice issues from incisions made with a knife. The people who collect the gum tie a cloth over their mouth and nostrils, as the small dusty particles produce incessant sneezing. The branches are used by the tanners, and to it probably the morocco leather owes its reputed pre-eminence. Iron coated with the juice of some of the euphorbia does not rust, even though long immersed in water. To this end the gum is dissolved in spirits, and applied as a coating for ships' bottoms, and for ironwork generally, the spirits evaporating, and the gum being left on the surface of the metal. The composition has also been successfully tested in Africa against the ravages of the white ant.

EUPHORBIA ANTIQUORUM. *Linn.*

Tekata sij, . . . BENG. | Thuar, ... HIND.
Nara sij, . . . ,, | Shadida kalli, . MALEAL.
Triangular spurge, ENG. | Shadre kalli, . . TAM.
Nara sij ; Siard, . HIND. | Bonta-chemudu, . TEL.

A common plant in the south of Asia. The inspissated milky juice of this species is said, in common with that of other succulent euphorbias, to produce the drug euphorbium. In India this is mixed with sesamum seed oil, and used externally in rheumatic affections, and internally in cases of obstinate constipation. It is worshipped by Hindus as Manusa, the serpent goddess.—*Roxb. ; Ainslie.*

EUPHORBIA CANARIENSIS. *Linn.*

Akeil nefseh, . . ARAB. | Sudusudu, . . MALAY.
Firfyoon, Firbeyoon, ,, | Furbiune, . . MOROCCO.
Shia-dzaon, . . . BURM. | Sheer-darakht-zekoom, PERS.
Canary spurge, . ENG.

In the Canaries, on volcanic soil, this and E. laphylla form great bushes, with arms like candelabras.

EUPHORBIA CATTIMANDU. *W. Ell.*

Aku chenrudu, . TEL. | Kattimandu, . . TEL.

In Telugu, literally 'knife medicine,' because used to fix knives in wooden handles. The juice of this plant is used in Telingana in cementing iron with other substances. At the Madras Exhibition of 1855, Mr. Elliot exhibited a basin, ewer, and tumbler made of cattimandu gum, moulded with the hand, without any preparation. The fresh juice is used as a vesicant.

EUPHORBIA CHAMÆSYCE. *Linn.*

Ti-kin, ... CHIN. | Tsioh-rh-ngo-tan, . CHIN.

Grows in Ch'u-chau in Ngan-hwui in China. Juice purgative; also applied externally in skin diseases.—*Smith.*

EUPHORBIA LATHYRIS.

Spurge, ... ENG. | Sudab, ... HIND.
Caper spurge, . . ,,

The seed of this euphorbium contains yellow fixed oil, stearine, acrid brown oil, crystalline matter, brown resin, an extractive colouring matter, and vegetable albumen. The seeds purge, and cause violent vomiting; they are used in dropsy.—*O'Sh.* p. 565 ; *Powell*, i. p. 376.

EUPHORBIA LIGULARIA. *Roxb.*

Munsa sij, . . . BENG. | Sha zoung, . . BURM.

A plant sacred to Munsa or Manusa, the goddess of serpents. The root, mixed with black pepper, is employed for the cure of snake-bites, both internally and externally.—*Roxb.* ii. 465 ; *O'Sh.*

EUPHORBIA LUNULATA. *Smith.*

Ts'eh-tsih, . . . CHIN. | Miu-yen-ts'au, . . CHIN.

This is called cat's-eye euphorbia. Its young shoots are edible; used also like E. chamæsyce. —*Smith.*

EUPHORBIA NIVULIA. *Buch., W. Ic.*

E. nereifolia, *Linn., Roxb., Rheede.*

Patteun, P'tun, Sij, HIND. | Elle kalli, . . . TAM.
Pattakarie, . . . SANSK. | Akuje madu, . . TEL.

Branches round; juice used by the natives as a

purgative; externally, mixed with nim oil, as a stimulant in rheumatism and contracted limbs; leaves diuretic. Grows all over the rocky parts of the Dekhan. Abundant over all the hills within some miles of Ajmir. It has a whitish, dead appearance, except during the rains, and forms a capital fence round fields, etc.—*Irvine; Riddell; Honig.; O'Sh.*

EUPHORBIA ROYLEANA. *Bois.* Shakarpitan, HIND. Grows wild in the Siwalik tract; is used as a hedge plant, growing on a dry rock. By boiling down the juice of this euphorbia, adding dates, and again boiling and skimming, a gutta-percha-like material was obtained, better fitted for cementing iron than that from the Ficus Indica or F. religiosa, etc.—*J. L. Stewart, M.D.*

EUPHORBIA THYMIFOLIA. *Linn.*

Shwet kherua, . .	BENG.	Patcha-arise? . .	TAM.
Duddhi, ...	HIND.	Sittrapaladi, . .	,,
Racta vinda chada,	SANSK.	Bidduru nanabiyam,	TEL.
Chin-amam, . .	TAM.	Reddi-vari-nana-bala,	,,

This little annual plant is common in the south of Asia. Its juice and flowers are purgative, and given in worms.—*Roxb.; O'Sh.; Honig.*

EUPHORBIA TIRACULLI. *Linn.* Milk-hedge.

Azfur zukkum, .	ARAB.	Tirukalli, . .	MALEAL.
Lanka sij, . . .	BENG.	Shir tothar, . . .	PERS.
Indian tree spurge,	ENG.	Tirukalli, . . .	TAM.
Sendh, ...	HIND.	Kalli chemudu, .	TEL.
Seyr teg, ...	MAHR.	Lodhoka sijhu, .	URIYA.

Natives of India suspend in their houses a few branches of the milk-hedge to attract flies. On the Bombay side it is used as a dunnage material for the flat roofs of houses. The root of old shrubs is adapted for gun-stocks, but plants of sufficient age are seldom met with. On the Godavery it grows to a tree, and the wood seems hard, but is not used there. The plant is much used for hedges. It grows best either upon a bank, or wall of large stones laid loosely for the purpose, having a good cover of earth upon it. Any cuttings will grow, and the plant, if by itself, will attain the height of 20 feet or more. The wood makes the best charcoal for gunpowder. A parasite of a yellow thread-like appearance, and leafless (the Cassyta filiformis), is very destructive to it, and will totally destroy a tree or a whole hedge in a short time, if not removed. The milk, mixed with flour, in doses of a drachm daily, is used to blister, as an Indian specific in syphilis. The inspissated milk is a violent emetic and purgative.—*Roxb., O'Sh., Wight, Riddell.*

EUPHORBIUM.

Farfiun, Akal-nafzah,	AR.	Vajrakshira, .	MALAY.
Zekum, Gholak, Kala,	,,	Vajrakantaka, .	SANSK.
Nara-shij, . . .	BENG.	Dalukgaheh-kiry,	SINGH.
Shia-d'zaon, . .	BURM.	Shadr'kalli pall, .	TAM.
Saynd-ka-dud, . .	HIND.	Bonta jemmudu palu,	TEL.
Sudusudu, . .	MALAY.		

A concrete gum-resin, obtained from Euphorbia Canariensis of N. Africa and the Canaries, E. officinarum of Arabia and Africa, E. antiquorum of Arabia and India, and E. tetragona. That found in the Indian bazars is from E. antiquorum and other species. King Juba of Mauritania is said to have called it after his physician, Euphorbus.

EUPHORIA LONGANA. *Roxb., Lam.*

Scytale longana, *Roxb.* Dimocarpus longana, *Lour.*		Nephelium longanum, *Comb.*	
Longan, ...	CHIN.	Wumb, .	MAHR., TAM.
Mal-ahcota,	MAHR., TAM.	Mora, ...	SINGH.

A rather large, handsome tree, common in Ceylon in all the jungles, up to 3000 feet, on the west side of the Madras Presidency, in South Canara, the Animallays, Tinnevelly mountains, the Sivagherry Hills, Courtallum, in Mysore, Bombay, Eastern Bengal, and China. The wood is said to be hard, close-grained, and white, and worth attention. The succulent aril of the seed is an agreeable acid, and something like the Litchi. As a genus it should not, Col. Beddome thinks, be kept distinct from Nephelium.—*Bedd. Fl. Syl.*

EUPHRASIA OFFICINALIS, euphrasy, eye-bright, a native of the heaths and pastures of Europe, of the Himalaya, Kashmir, and all the north of Asia. It is a pretty plant, slightly bitter and aromatic; once celebrated as an application to weak eyes, but now seldom or never employed.—*O'Sh.; Hogg; Honig.*

EUPHRATES, in Arabic and Persian Forat or Forath, in the Hebrew language Perath or Phrath, words which mean to fructify or to fertilize. The elevated plateau which extends from the base of Mount Ararat into Northern Armenia, Kurdistan, and part of Asia Minor, contains the sources of four noble rivers, having their estuaries in three different seas. One of these, the Euphrates, rising near the shores of the Black Sea, and in its course to the Persian Gulf almost skirting those of the Mediterranean, at one time formed the principal link connecting Europe commercially with the East. It has two great sources in the Armenian mountains, and the most northern of these sources is situated in the Anti-Taurus, 25 miles N.E. of Erzerum. The branch from thence takes at first a westerly direction, and, after passing within 7 or 8 miles of the capital of Armenia, it is joined by two small feeders. Its first large tributary, however, is the Mahmah Khatun, which runs into it down the plain of Tejran. From hence the river, which is now a considerable stream, known by the name of the Kara Su, makes a circuit, winding through the mountains and over rapids, into the plain of Erzingan, through which it flows in the same general direction, close to the town of that name. At Erzingan it is fordable only at a few places even in the dry season. As it nears the ancient Hit, with its bituminous fountains, the stream has an average width of 350 yards with a depth of 16 feet, and a current of three knots per hour in the season of the floods, when there are fourteen islands, on some of which are small towns. About 70 miles lower down is the modern castle of Felujia, situated 29¾ miles W. 2° N. of Baghdad. The average width in this part of the river decreases a little, being only about 250 yards, with an ordinary depth of 20 feet; and there is a current of less than 2½ miles per hour in the flood season, when the river forms thirteen islands without wood. About Felujia, at 5¾ miles N. 60° W. from it, the deviation, or channel, called the Saklawiyah, takes place; this stream crosses Mesopotamia by a tortuous eastern course on the north side of Akar Kuf, and enters the Tigris at a point 5 miles below Baghdad, but, until altered by Daud Pasha to avoid the danger of inundations, it joined the Tigris a little above the city. The distance from river to river (by the course of the Euphrates steamer, in passing, under Lieut. Lynch, in 1838) is about 45 miles. Near the junction of the Euphrates and Tigris, in lat. 31° N. and long. 47° E., after a course of 950 miles,

is the walled town of Kurnah, containing about 800 houses, disposed along the right bank of the Tigris and the left of that of the Euphrates. The Euphrates and Tigris from this form one tidal channel, almost half a mile wide, and which takes nearly a straight course S. 37° E. under the well-known appellation of Shat-el-Arab, and when 5 miles below Kurnah, their united waters receive those of the Kerah or Kerkhah, which, coming from the mountains of Ardelan through an extensive tract of country, passes a short distance westward of the ruins of Susa, and likewise of the town of Hawizah. After receiving this accession, the Shat-el-Arab flows through date groves and near several villages, chiefly on the left bank, and at length arrives opposite Basrah, which is 39½ miles by the river, and 36 miles S. 34° E. direct from Kurnah. Basrah is built on both sides of a creek or canal, and contains about 6000 houses, which commence nearly at the edge of the main stream, and on its right bank. Below the city, this majestic river sweeps a little more to the eastward; its width is about 700 yards, its ordinary depth 30 feet, and it forms three large islands between this place and the small town of Mohamarah, that is, within a distance of 22½ miles by water, or 20½ miles direct S. 70° E. Here the Karun enters it, after a long course from the Koh-i-zard, through Shustar, Ahwaz, and other places. After this great accession to its waters, the Shat-el-Arab inclines a little more towards the south. During the remainder of its course it passes many large villages, and almost continuous belts of date groves, and at length it reaches the sea, which at the bar is 40 miles from Mohamarah. Between this last place and the sea its average width is 1200 yards, and its ordinary depth 30 feet.

The permanent flooding of the Euphrates is caused by the melting of the snow in the mountains along the upper part of its course. This takes place about the beginning of March, and it increases gradually up to the time of barley harvest, or about the last days in May, when it is usually at its greatest height. The river continues high, and its course very rapid, for 30 or 40 days; but afterwards there is a daily decrease, which becomes very small and regular towards the autumn. From the middle of September to the middle of October the river is at the lowest. Lieut. Rennie found the quantity of water discharged by the Euphrates at Hit to be 72,804 cubic feet per second; and the quantity discharged by the Tigris at Baghdad to be 164,103 cubic feet.

The Euphrates and Tigris valleys are inconsiderable strips of good land, hemmed in closely by a barren desert. They have long ceased to lie on the track of commerce. They contain no place of importance, with the exception of the pilgrim shrines of Kerbela and Meshed Ali, and the decayed city of Baghdad, and a few villages, depending for their subsistence on the date palm, the disforesting of the hills in the upper part of their course having rendered both the Tigris and the Euphrates subject to sudden freshets, which overflow the banks, and wreck the labours of the husbandman. For 150 miles the latter river passes through a barren desert, succeeded by unprofitable marshes, while the Tigris from Mosul to Baghdad boasts but three inconsiderable villages, and from Baghdad to Bussora about six. Irak, the ancient Babylonia, is now either a swamp, or an unproductive desert covered with reh, the result of over-irrigation in ancient days. Owing to rapid alternations of flood and drought, this vast plain, once so fertile, is neither habitable nor cultivable at the present day. The great irrigation works constructed by captives have fallen into irreparable ruin; and the miserable Arab population that now dots the plain of Irak, is useless for any kind of sustained labour. So late as the 12th century, Upper Mesopotamia contained several flourishing towns, dependent, however, for their existence on the traffic between Eastern Asia and Europe. As trade declined, these different stations gradually disappeared, and, under the terrible effects of Mongol and Othoman conquests, Western Asia was rapidly depopulated, and reduced to its present condition. South-Western Persia is at present destitute even of nomadic and pastoral tribes, with the single exception of a tract of cultivated land lying between Dizful and Shustar, and another between Dilam and Bushire. Nevertheless the region will ever be of interest. The valley of the Euphrates and Tigris is the home of man's earliest traditions; and Babylon was on the Euphrates, Nineveh on the Tigris. The Euphrates was crossed by Abraham. The crossing of the Tigris, the passage of which is noticed as Heber (Eber), occurred B.C. 4500 or 5000, subsequent to Nimrud. The mountainous lands at the sources of this river formed the primeval seat of the Semitic races (Bun. iii. pp. 413-460). The western side of the Euphrates, and stretching towards Felujia, is a tract pregnant with interest; for between the last-named place and the bitumen springs of Hit, the battle of Cunaxa was fought, in which the younger Cyrus lost his life, and whence Xenophon made a retreat more brilliant than victory.—*Mignan's Travels*, pp. 254, 326; *Porter's Travels*, ii. p. 252; *Skinner's Journey*, ii. p. 185.

EUPLÆA MIDAMUS, a very beautiful butterfly of the Malay Archipelago. It is exactly mimicked by two rare papilios (P. paradoxa and P. ænigma). The even more beautiful E. rhadamanthus, with its pure white bands and spots on a ground of glossy blue and black, is reproduced in the Papilio caunus.

EUPLECTELLA ASPERGILLUM, a superb sponge found in Japan, the Moluccas, and Philippine Islands. The strangest, as well as the most beautiful, inhabitants of the deep-sea ooze are the glassy sponges, in which the skeleton is composed not of horny fibres, as in the sponges of our dressing-rooms, but of flexible flint, often more delicate than the finest spun glass. The best known of these is this Venus's flower-basket, or Euplectella, which lives embedded in the mud of the seas of the Philippines, supported by a glass frill standing up round it like a Queen Elizabeth's ruff. In Europe it may be now bought in any curiosity shop, and is one of the most exquisite, both in form and texture, of all natural objects; is often seen as a drawing-room ornament.

EUPODOTIS EDWARDSII. *Gray.*

Otis nigriceps, *Vig.*	Otis lucionensis, *Vieill?*
Tokdar, ... HIND.	Gurrayin of HURRIANA.
Sohun, Guganbher, ,,	Bat-meka, . . . TEL.
Burra chirath, . ,,	Bat-myaka, . . . ,,

This noble bird is 4½ to 5 feet long, and extent

8 feet. It weighs 26 to 28 lbs. It is not known in Bengal, Behar, or the Malabar coast, but seeks the open grassy plains of India. It is becoming very scarce in the cultivated country. In the Mysore country, in 1837, the Editor once raised three or four in a morning ride, to the east of Bangalore; but since 1865 he never raised one in the Peninsula. They are abundant in Rajputana. Their usual food are insects, but they eat reptiles and fruits. They are polygamous, and at the breeding season the male struts about on some eminence, puffing out the feathers of the neck and throat. O. lucionensis of China, it is supposed, may be a distinct species. Other species are—E. nubra, *Ruppel.*, E. Ludwigi, *Rupp.*, E. caffra, *Licht.*, E. Denhami, *Children*, E. Arabs., *L.*, and E. kori, *Burchell.* A species very closely allied to E. Edwardsii is the Otis Australis, *Gray*, the wild turkey of Australia.

EURASIAN, a name applied to the descendants of Europeans and natives of India, also called Indo-Britons and East Indians, all of which terms might advantageously cease to be used, and the race be designated Europeans. Most of them are of Portuguese, Dutch, Danish, French, and Spanish descent. Races with a mixture of European with Asiatic blood possess a proud and susceptible tone of mind. See East Indians.

EUROPA seems to be derived from Su-rupa, SANS., of the beautiful face,—the initial syllable Su and Eu having the same signification in the Sanskrit and Greek languages, viz. good, and Rupa is countenance.—*Tod.*

EUROPE, one of the five great divisions of the world. Its extent from Cape St. Vincent to the mouth of the Cana is nearly 3400 miles; and from Cape Matapan, in Morea, to the North Cape in Lapland, about 2400. Europe is much smaller than either Asia or Africa. It is entirely within the temperate zone, except a small part of Norway and Russia. The inhabitants are all whites. Europe contains Norway, Sweden, Denmark, the Netherlands, France, Germany, Poland, Italy, Spain, Portugal, Hungary, Switzerland, and part of Russia and Turkey; also Great Britain, Ireland, Iceland, with other considerable islands in the Mediterranean and other seas. The languages are the Italian, French, Spanish, and Portuguese, which are dialects of the Latin; the German, Flemish, Dutch, Swedish, Danish, and English, derived from the old Teutonic; the Sclavonian, which prevails, mixed with others, in Poland, Russia, Bohemia, and a great part of Turkey; the Celtic, of which there are dialects in Wales, the Highlands of Scotland, Ireland, Bretagne in France, Biscay in Spain, and Lapland; the modern Greek; and several others. The principal mountains are the Alps, Apennines, and Pyrenees. The prevailing religion is the Christian, divided into the Greek, Romish, and Protestant Churches; Mahomedanism is the established faith of the Turks; and there are Jews in every country.

European, in British India, is usually meant to signify a native of Europe or America, of pure descent, in contradistinction to a native of India, or an East Indian. The Government of India has, as regards the last of these questions, in a late resolution declared Europeans to be 'all persons (in India) of European origin or descent, however remote, who hold to European habits or modes of life.'

EURYA JAPONICA. *Thunb.*

Var. α. E. Thunbergii. | *Var.* γ. E. Chinensis.
Var. β. E. acuminata. | *Var.* δ. E. parviflora.
Hooloovi of NEILGHERRIES. | Neyadasse-gass, . SINGH.

This is a very variable plant, and Colonel Beddome gives, as further synonyms,—E. Wightiana, *Wall.*, E. fasciculata, *Wall.*, E. tristyla, *W. and A. Prod.*, E. Ceylanica, *W. Ill.*, E. elliptica and E. membranacea. It is common on the western side of the Madras Presidency, principally on the mountains at the higher elevations. It grows also in Northern India. Its timber is of a light chocolate brown; in leaf and general appearance it much resembles the tea plant, and is sometimes reared as such in tea plantations. There is only one species in the Madras Presidency. Vars. α, β, and δ grow in the more elevated parts of Ceylon island, up to 8000 feet; δ in exposed situations; var. β from a little above the sea-level, up to an elevation of 5000 feet, very abundant.—*Thw. En. Pl. Zeyl.* i. p. 41; *Beddome, Fl. Sylv.*

EURYALE FEROX. *Salisb.*

Nymphæa stellata, *Willde.* | Anneslea spinosa, *Roxb.*
Kien-shih, Ki-tu, . CHIN. | Juwur, . . . KASH.
Machana, Makhana, HIND. | Nallani padmam, . TEL.

A water-lily with a small bluish purple flower, covered everywhere with prickles, and so closely allied to Victoria regia as to be scarcely generically distinguishable from it. It grows in all S.E. Asia and in Japan. The discoverer of Victoria called the latter Euryale Amazonica, and both these interesting plants grew side by side in the new Victoria house at Kew; but the Chinese species has been erroneously considered different from the Indian one. In China the plant is said to have been in cultivation for upwards of 3000 years. It is much cultivated there for its stems, rhizomes, and seeds, all of which contain much starch, and are eaten by the Chinese, who also prepare a kind of dry biscuit, called kien-shih-kau, from the meal of the kernels. These biscuits are sold by confectioners, and given to children suffering from the kau disease. The fruit is large, of the size of a small orange, pear-shaped, and indehiscent; its interior is white, hard, and starchy, and contains from 8 to 15 round black seeds as large as peas, which are full of flour, and they are eaten roasted in India. This plant is common in the lake of Kashmir. Its broad round leaf lies on the water like that of the lotus, its under surface being covered with numerous hard, sharp, and hooked spiculæ.—*Mrs. Hervey, Tartary; Royle, Him. Bot.* p. 65; *Hooker*, ii. 255; *Thw.; Voigt; Smith.*

EURYANGIUM SUMBUL. *Kaufman.* A plant of Central Asia; yields the true sumbul or musk root.

EURYCLES AMBOINENSIS. *Salisb.*

Cœpa sylvestris, *Rumph.* | Pancratium Amboinense, *L.*
Crinum nervosum, *L. Her.* | Proiphys Amboinensis, *Herb.*
Eur. coronata, *Auct.*

La-men; Næmen, . . BURM.

This plant, one of the Amaryllaceæ, or narcissus tribe, grows in Tenasserim, Borneo, the Moluccas, and other islands. It is called Bunga Si-kudip by the Dyaks of the southern branch of the Sarawak river, amongst whom it is held in great esteem. By the Si-booyah sea Dyaks it is called Si-kenyang. By the Dyaks of the southern river the bulbous roots of this plant are preserved with jealous care, being always taken up when the rice is ripe, and preserved amongst it in the

granaries, to be planted again with the seed-rice in the following season. It bears a beautiful crown of white and fragrant flowers, which rise about a foot above the bulb.—*Low's Sarawak*, pp. 273–304; *Mason*.

EUSUFZAI, an Afghan tribe whose territory is bounded on the S. by the Indus, N. and E. by the Swat mountains, and W. by the Kābul river and the Mehra or desert plateau between it and Hushtnuggur. The tract is intersected on the E. by offshoots from the Swat mountains, but in other parts it is a perfect plain. The inhabitants are proud, warlike, and extremely sensitive in all matters connected with family custom. In the Peshawur district the Eusufzai are of political importance. As soldiers, they are not inferior to any of the independent tribes. They are the most martial of all the British subjects on that frontier, and the history of many generations attests their military exploits. Participators in every war that has convulsed the Peshawur valley, and always the recusant subjects of the Sikhs, they have now literally turned their swords into ploughshares, and are right good subjects of the British. Their customs have been respected, the allowances of the chief and their village headmen have been confirmed. Though constantly tampered with by the Swat government to rebel, they only once yielded to temptation. At the battle of Teree, which gave the sovereignty of Peshawur to the Sikh, the Eusufzai formed the strength of the Mahomedan army, which, numbering 30,000 men, withstood a Sikh force of equal numbers, supported by guns and headed by Ranjit Singh himself. The Eusufzai are democratic and in small communities, with patriarchal government. They are agricultural, lying in warm and fertile valleys, touching the Indus on one side and the Punjkora on the other, extending on the south to Kābul, occupying the northern part of the plain of Peshawur, Bunir, Swat, Punjkora, and Chumla. The Swat, Bunir, Punjkora, and the Eusufzai part of the Kābul valley, are the lands of the Akkozai, the Mullezai, and the Lawezai. The clans of the Eusufzai and Mahmudzai have a system of periodical interchange of lands, called Waish. The numbers of the Eusufzai are estimated at from 700,000 to 900,000 souls, and are of Afghan, Indian, and Kashmir blood, with the old occupants of the land, the Dehkani and Swati. Many Eusufzai have fair complexions, grey eyes, and red beards; are stout and brave, quarrelsome and proud, and those in the plains are very immoral.

The Eusufzai were expelled from Garra and Nushky about the end of the 13th or beginning of the 14th century of the Christian era, and soon after settled in the neighbourhood of Kābul. Ulugh Beg, whose power was at that time strengthened by the accession of many Moghuls, to rid himself of his troublesome allies, began by fomenting dissensions between the Eusufzai and Guggeeani (for the Khukkai had now broken into independent clans), and he soon after attacked them at the head of that tribe and his own army. He was defeated at first, but, having cut off all the chiefs of the tribe at a banquet, during an insidious peace which he had the art to conclude with them, he plundered the Eusufzai of all their possessions, and drove them out of Kābul. The Eusufzai, reduced to extreme distress, took the way to the neighbourhood of Peshawur. That country was then in a very different state from that in which it is at present. The tribes who now possess it were then in Khorasan; and the plain of Peshawur, with several of the neighbouring countries, was occupied by tribes which have since either entirely disappeared, or have changed their seats. Lughmaun was in the hands of the Turkulani, who are now in Bajour; the tribes of Khaibar and the Bungush had already occupied their present lands, but all the lower part of the valley of Kābul, all the plain of Peshawur, with part of Bajour, Chuch, Huzareh, and the countries east of them as far as the Hydaspes, belonged to the Afghan tribe of Dilazak, which is now almost extirpated. The country between the Dilazak and the range of the Hindu Kush, on both sides of the Indus, formed the kingdom of Swat, which was inhabited by a distinct nation, and ruled by sultan Oveiss, whose ancestors had long reigned over that country. On the first arrival of the Eusufzai, they threw themselves on the generosity of the Dilazak, who assigned them the Doabeh for their residence.

Living among a conquered people, like Spartans among Helots, and enjoying entire independence on all around, every Eusufzai is filled with the idea of his own dignity and importance. Their pride appears in the gravity of their manners, and in the high terms in which they speak of themselves and their tribe, not allowing even the Daurani to be their equals.—*Elph. Caboul; Rec. Govt. Ind.*, No. ii. *Parl. Pap. E. I., Caboolland Afgh.*

EUTHYDEMUS has been noticed at p. 222, Bactria. He led the Syrian army through Bactria, *i.e.* by the route N. of the mountains, to the Kābul valley and across the Indus, in B.C. 206. There Antiochus made peace with Sophagasenus (Asoka), which that sovereign recorded by edicts on rocks and pillars in various parts of India, in characters exactly resembling those on the coins of Agathocles. In B.C. 205, Antiochus returned by way of Arachotia. The translation of the edicts of Asoka is in the Asiatic Society's Journal for 1838, and that on the Girnar rock names Antiochus as Antiochia Yona Rajah. Demetrius, son of Euthydemus, obtained possession of Arachosia, and a large portion of Persia; he also made conquests in India, and was in possession not only of Lower Sind, but also of the coast of India, further to the east. He seems, however, to have been excluded from Bactria, of which Eucratides remained master. After the death of Euthydemus, Demetrius made an unsuccessful attempt to dispossess his rival, and in the end lost all his Indian conquests, which were seized by Eucratides. —*Elph.* p. 245.

EVAPORATION. M. Lamairesse mentions that the engineers in the Madras Presidency allow for a loss of water in irrigation by evaporation, of 3 inches daily per square yard of land irrigated. In the Red Hill tank, near Madras, in the five months April to August the water went down 75 inches, in spite of 8 inches of rain, in all 83 inches. Of that, 53 inches were lost by evaporation, and 30 inches used in irrigation. In the years 1864-65, in the same months, at Pondicherry, the mean daily evaporation was 0·329 inch; at Red Hill tank, Madras, in the tank, 0·374, and in the open, 0·469. The depth of the waters, the prevalence of dry winds, and the degree of tree shelter for the waters, exercise great influence over the rates of evaporation. It

is a subject of great importance to India and all tropical countries, but has not been worked out. In his annual report of the Bombay Geographical Society, from May 1849 to August 1850, ix., Dr. Buist, on the authority of Mr. Laidly, stated the evaporation at Calcutta to be about 15 feet annually; that between the Cape and Calcutta it averages, in October and November, nearly $\frac{3}{4}$ of an inch daily; between 10° and 20° in the Bay of Bengal, it was found to exceed an inch daily. Supposing this to be double the average throughout the year, we should have 18 feet of evaporation annually.—*Beng. Ph.; Maury's Ph. Geog.*

EVE, the mother of the human race, is recognised under different names in all cosmogonies. The Eve of Mosaic history became the Astarte of the Assyrians; Isus nursing Horus of the Egyptians; the Demeter and the Aphrodite of the Greeks; the Scythian Friya and Baltis. The Eve of Genesis is the Hawa or Havvah of the Arab and Mahomedans generally; Baltis, in Byblius called Beuth or Behuth, *i.e.* void of genesis, is identical with space, and means the mother's womb, the primeval mother,—the fundamental idea being the mother or source of life, which is the meaning of Havvah, the Eve of Genesis. The tomb of Eve is pointed out in several places. On the east, Mecca is bounded by a hill called Abu-Kubays, and, according to many Mahomedans, Adam with his wife and son Seth lie buried there. At less than a mile from the Medina gate of Jedda, a tomb, said to be that of our common mother Eve, is surmounted by a cupola and surrounded by walls, enclosing a pretty cemetery, in which many of her children lie around her.—*Bunsen's Egypt; Hamilton, Sinai*, 66.

EVEREST, Rev. Mr., wrote on the Fossil Shells in the Himalayas (As. Res. 1833, xviii. part 2, p. 107); On the Quantity of Water and Mud discharged by the Ganges annually (Prinsep's Gleanings in Science, iii.; Bl. As. Trans. i.; Lyell's Principles of Geology, 8th ed., 1851, p. 241); Rain and Drought of the last Eight Seasons in India, Lond. 1847, 2 vols. 4to, Edin. Rev. on 1841; Geological Observations from Calcutta to Ghazipore (Gleanings in Science, 1831, iii. 131); Experiments and Observations on Quantity of Mud brought down by the Ganges near Ghazipore, with its Depth and Velocity (Bl. As. Trans. 1833, i. 238, p. 549); On the Gypsum of the Himalayas (ibid. 430).—*Dr. Buist's Catalogue.*

EVEREST, MOUNT, the loftiest known peak in the world, situated in the Nepal ranges of the Himalayas, beyond Bengal, lat. 27° 59′ 12″ N., long. 86° 58′ 6″ E. Altitude above the sea, 29,002 feet.

EVERGREENS, trees and plants of the S. and E. of Asia which retain their foliage, consist of species of abies, Cunninghamia, cupressus, ilex, juniperus, thuja, arbutus, aucuba, buxus, laurus, rhamnus, acacia, affinis, eucalyptus, ligustrum, magnolia, berberis, cistus, colletia, cotoneaster, daphne, rhododendron, yucca, bignonia, jasminum, and vinca. Everlasting flowers are flowers which retain their shape and appearance after being dried.

EVIL EYE.

El-eyn, ... Arab.	Mal occhio, Jattatura, It.
Baskanos ophthalmos, Gr.	Drashti dosham, Sansk.
Kako mati, ... ,,	Kan pada, ... Tam.
Chashm-i-bad, . Hind.	Kannu taku, . . . Tel.

The evil eye alluded to in Proverbs xxviii. 22 and Mark vii. 22, is still a subject of dread in all Eastern countries, as well as in many of those of Europe. The Irish and Scotch as much believe that their cattle are subject to an injury from the blight of the evil eye, as did Virgil's shepherd when he exclaims, Nescio quis teneros oculus mihi fascinat agnos. The Greeks of the present day entertain the same horror of their Kako mati as did their ancestors in their Baskanos ophthalmos, and the Mal occhio of modern Italy is the traditional fascinatio of the Romans. Mr. Buckingham relates that, when in Persia, being ill, his companions attributed his sickness to the ill-wishes of a malignant enemy; to remove which, a fakir took some rags from his body and deposited them in the new-made graves of some holy personages, believing that they thus acquired a virtue potent enough to dispel the supposed evil influence. The Arabians and Turks believe in it, and apologise for the profusion of jewels with which they decorate their children, on the plea that they are intended to draw aside the evil eye. The Mahomedans suspend objects from the ceilings of their apartments for the same purpose; and the Singhalese and Hindus place whitened chatties on the gable ends of their houses and in fields, to divert the mysterious influence from their dwellings and crops. The Mahomedans hang round their children's necks, and suspend in their houses, or place over the lintels of their doors, charms consisting of verses of the Koran, which are inscribed by holy men, or incantations by pretended exorcists, written on paper, or engraved on potstone, silver or gold, to guard against the evil eye. And Hindus resort to their temples to make offerings to their deities for the same object. Hindus and Mahomedans alike think that jewels on children tend to attract on the jewels the evil eye. Hindu mothers, when they suspect that the evil eye has fallen on their child from home, on returning to their house, take some chillies and salt in their hands, and describe a circle round the infant's head, and thereafter place the chillies and salt in a well or in the fire, to destroy the evil eye and its charm together. Pretending exorcists, both men and women, also exorcise those blighted with the evil eye, by reciting a charm over cow-dung ashes, and rubbing it on the forehead and body of the child. In Italy, Pope Pius ix. is supposed to have had the evil eye. Popular superstition has generally divided them into two classes,—those who involuntarily and innocently possess the fatal power, and are unconscious of its exercise, and those who knowingly acquire it, and take a delight in exercising it against all who offend them. The maleficent power has been known by several English words. It is to 'eye-bite,' to 'overlook,' and to 'take.' The French and Italians simply call it fascination in the evil sense of the word; the Germans, the Scheelauge, or squint-eye, ascribing the power to a squint; and the Zauberblick, or enchanted glance. To 'take,' in Shakespeare, means to blast or blight by witchcraft. In King Lear, act ii. scene 4, occurs the imprecation, 'Strike her young bone, you taking airs, with lameness.' He says of Herne the Hunter, in The Merry Wives of Windsor, that he 'blasts the tree and takes the cattle, and makes milch kine yield blood.' In Hamlet, speaking of Christmas time, he says,—

'The nights are wholesome, then no planets strike,
No fairy takes, no witch hath power to charm,
So hallowed and so gracious is the time.'

And this meaning, somewhat modified, still holds good amongst English women.

Pliny speaks of 'those among the Triballians and Illyrians who with their very eyesight can kill those whom they look wistfully upon for any long time;' and Plutarch states, on the authority of Philaretus, that 'the Thybiens who inhabited Pontus were deadly not only to babes but to men grown, and that whomsoever their eye, speech, or breath would reach, were sure to fall sick and pine away.'—*Buckingham's Travels*, p. 172; *Milner's Seven Churches*, p. 120; *Burton's City of the Saints*, p. 129; *Sonnerat's Voyage*, p. 89; *Sir J. E. Tennant's Ceylon*. See Somal.

EVOLVULUS ALSINOIDES. *Linn.*, *Roxb.*

Sankh pushpi, . . HIND. | Vishnu kranta, . . TEL.
Vishnu karandi, . TAM. |

This, the E. hirsutus, *Lam.*, is common in many parts of India. The different parts of this plant are used in medicine.—*J. L. Stewart, M.D.*

EXACUM BICOLOR, *Roxb.*, has long been used as a bitter tonic. It grows in Cuttack, at Mangalore; rare on the Neilgherries below Kotagherry, and abundant a mile below Nedawuttum, where it flowers during the autumnal months, and enamels the swards of the Western Ghats with its beautiful blossoms. It has the same bitter stomachic principles for which the Gentiana lutea, is so much employed. It is sold in Mangalore at 1 anna 6 pie per pound, and is used as a substitute for Andrographis paniculata. —*Roxburgh; Ind. An. Med. Science*, No. 6; *Cleghorn.*

EXACUM TETRAGONUM. *Roxb.* Purple chiretta.

Koochuri, . . . BENG. | Ooda chiretta, . . HIND.

A very elegant plant growing throughout British India. Its large flowers are beautifully blue, with gold-coloured anthers. Other species are E. carinatum, pedunculatum, and teres.—*Roxb.* i. p. 398.

EXCOECARIA AGALLOCHA. *Linn.*

Arbor excoecans, *Rumph, Amb.* ii. 179.

Ugaru, ... BENG. | Gengwa, ... HIND.
Ta yau, Ka yau, . BURM. | Tella keeriya gass, SINGH.
Boue baya-za, . . ,, | Tella chettu, . . TEL.

This small tree grows in Ceylon, where it is very common in salt swamps near the sea. It grows freely in the Sunderbuns, is plentiful in the Rangoon and Tounghoo districts, and grows through the Eastern Archipelago. The Bengali name, Ugaru, indicates a belief that it yields the fragrant aloe-wood of commerce, but this does not seem to be the case. Dr. O'Shaughnessy at one place says (p. 563) that its wood is knotty, grey or blackish, smooth and resinous. But Dr. M'Clelland describes it as white-coloured, and adapted to every purpose of house-building. The sap is described as extremely acrid, and as causing great agony, if, in cutting down the tree, any of it fall into the eyes. Hence Rumphius' name, Excoecans, or blinding; and this is probably correct, as Rumphius himself became from some cause blind at the early age of 44.—*Thw.; M'Cl.; O'Sh.*

EXCOECARIA JAMETTIA. *Spreng.*

Tiger's milk tree, . ENG. | Kametti, . . . MALEAL.

Grows on the western coast of India. It abounds in an acrid juice, from which a good kind of caoutchouc may be prepared.—*Drury.*

EXCOECARIA OPPOSITIFOLIA. *Jack.* This is E. crenulata, *Wight.* It is a small tree growing in Malabar, on the Animallay Hills, and common in the central province of Ceylon at an elevation of 4000 to 6000 feet.—*Thw.; Jack, Cal. J. Nat. Hist.* iv.

EXCOECARIA SEBIFERA, *J. M.*, syn. of Sapium sebiferum. This is the Chinese tallow tree. The white pulp round the seeds give the Chinese tallow, which is separated by boiling in water, and used in China and Japan for candles; it melts at 104°. The seeds yield an oil, and the leaves a black dye. Wood hard, used for printing blocks.

Other species included are E. acerifolia, baccata, Cochin-chinensis, holophylla, and virgata. The acrid juice or milk of E. insignis, E. Indica, and E. agallocha is poisonous, and the seeds of E. Indica are used to poison fish.

E. insignis is a tree of Kangra, and E. Indica a tree of the Sunderbuns.—*Roxb.; Gamble; Kurz.*

EXIDIA AURICULA JUDÆ. *Fries.* Jew's ear fungus, one of the thallogens, of almost universal growth, and used medicinally. E. hispidula is one of the edible fungi of China.

EXOCARPUS, an inferior kind of sandal-wood, the produce of Exocarpus latifolia, is met with in the Percy Isles, Repulse Bay, Cape Upstart, Palm Islands, etc.

EXOCETUS, a genus of fishes belonging to the abdominal Malacopterygii, forming part of the family Exocideæ. Their pectoral fins are very long, nearly equal to the length of the body. The fish, to escape its enemies, rises into the air, and its pectoral fins vibrate while wet, and re-vibrate as often as they pass through a crest wave, wetting the fins afresh. Some of the fish proceed from 70 to 250 yards. There are several species of the flying fish: Exocetus volitans, *Linn.*; E. solitarius; E. evolans; E. exiliens; E. mesogaster. The E. volitans is usually 10 or 12 inches long, but attains to 15 or 20 inches. Thirty-two seconds is the greatest length of time that their flight has been observed, and distance accomplished 250 yards. They are captured by torchlight in the West Indies.—*Collingwood; Bennett's Gatherings of a Naturalist; Bikmore.*

EXOGAMY, the custom of selecting a wife from a different tribe. Exogamy prevails throughout Western and Eastern Africa, in Circassia, Hindustan, Tartary, Siberia, China, and Australia, as well as in North and South America.—*Lubbock, Orig. of Civil.* p. 99.

EXORCISM is practised very frequently, more especially by the Shanar race of S. India. See Charms; Divination; Evil Eye; Ordeal.

EYES PAINTING, mentioned in 2 Kings ix. 30, Jeremiah iv. 30, Ezekiel xxiii. 40, and tiring of the head are still common in every Eastern country. In painting the eyes, Mahomedans use two substances, lamp-black (koh'l) and grey oxide of antimony; the latter the men use, and the women use lamp-black. But thoughout India plumbago is substituted for antimony.

EYRE. General Sir Vincent Eyre, C.B., K.C.S.I., born 22d January 1811; died 1881, at Aix les Bains, Savoy. He served in the Bengal Artillery, 1828. He was at Kābul in the Afghan insurrection in 1841, when he commanded a

detachment of horse artillery, and was severely wounded. He was made a prisoner in the retreat from Kābul. In the Indian mutiny of 1857 he commanded the field forces sent for the relief of Arrah, and was brigadier of artillery at the first relief of Lucknow under Sir Henry Havelock, and at the occupation of Alambagh by Sir James Outram. During the final siege of Lucknow he was in command of the artillery division at Alambagh, and took part in the repulse of an attack on that place in March 1858. He wrote: Military Operations at Caubul, 1842; Prison Sketches, 1843; Metallic Roads, 1856. His defence of Arrah in the revolt of 1857 virtually suppressed the rebellion in Shahabad. He was the founder of the town of Esapur, near Dehra Doon, at the base of the Himalayas.

EYUBI, descendants of Salah-ud-Din, the Saladin of the crusaders. The family are known as the Hasan Keif, and occupy the district of Shirwan. In Mr. Rich's time, the Bey was powerful and independent. Eyub is Job. See Kafra.

EZEKIEL. Not far from the ruins of Babylon, the Majallibah, on the banks of the Euphrates, is a white minaret which marks Ezekiel's tomb. Ezekiel, in the reign of Hophra, while the war between the Assyrians and Egyptians was yet doubtful, foretold the end. He had (ch. xxx.) warned his countrymen that Egypt was to fall in the struggle. The fulfilment of this eloquent threat began with the march of Nebuchadnezzar, and within fifty years of its being uttered it was completed on the conquest by Cambyses. Chapter xvi. 17 and Amos v. 26 are supposed to relate to the god Siva.—*Sharpe's History of Egypt*, i. 159.

EZRA, the prophet scribe, called by the Mahomedans Ozair. According to Mahomedan tradition, Ezra was of the race of Jacob, of the tribe of Levi, and fourteenth in descent from Aaron. They say that the Holy Scriptures, and all the scribes and doctors who could read and interpret them, excepting a few who were taken captive to Babylon, were involved in the destruction of Jerusalem by Nebuchadnezzar. Ezra, who was then very young, was among the captives, and continued to read and teach the law of God to his countrymen during their captivity. At the end of the captivity, Ezra returned to Jerusalem, and some say there, some near Babylon, while he was occupied in weeping over the ruined city and temple of God, he said to himself, 'How can fallen Jerusalem ever rise again!' No sooner had he conceived this thought than God struck him dead, and he remained so for one hundred years, when he was raised again, and employed the rest of his days on earth in explaining the word of God to the Jews. The Christians of the East say that Ezra drank three times of a well in which the holy fire had been hid, and that thus he received the gift of the Holy Ghost, which rendered him capable of re-establishing the Holy Scriptures among his countrymen. About 100 miles above Kurna, on the right bank of the Tigris, is his tomb. It is a pretty mosque of tessellated brickwork, surmounted by a green cupola, and the corners and tops of the tomb are ornamented with large balls of copper gilt.—*Rich's Kurdistan*, ii. p. 390; *Mignan, Travels*, p. 9; *Townsend's Outram and Havelock*, p. 308.

F

F. This English letter has a perfect representative in the Fay of the Arabic, Persian, and Urdu, but has no representative in Sanskrit, Hindi, Mahrati, Gujerati, Bengali, Uriya, Telugu, Karnata, Tamil, and Malayalam. The Mahratta people, however, pronounce it distinctly, the sound of f being given by them to that of the English and Hindi ph. The Mohawks of N. America, as also the Hurons and the tribes called the Six Nations, never articulate with their lips. They have no p, l, m, f, v, or w,—no labials of any kind. In the Society Islands the gutturals are wholly absent; and in China neither the d nor r is used; and g, h, ph, and f in the non-Aryan tongues are often interchanged. F is not in the Singhalese, and the letter p is used instead.

FA-ANG. JAP. The red-wood of Japan.

FAARSI. JAP. A varnish in use in Japan, of an inferior kind, supposed to be from the Rhus vernix, but adulterated with the varnishes of India and Siam.

FABACEÆ, the bean tribe, leguminous plants, of which about 300 known species belong to New Holland and Polynesia, 42 to Japan and China, 12 to Timor, 14 to Persia, 20 to Arabia, and 891 species in the E. Indies and Java, arranged under 133 genera. It comprises 362 genera, and between 3000 and 4000 species, and most of them furnish products useful to man. Peas, beans, clover, saintfoin, lucerne, liquorice, indigo, medicks, and trefoils, lupines, and numerous other common European genera belong to the section Curvembriæ. Many species yield tonics and astringents, others yield a kind of gum, and in a very large number of species, narcotic properties have been discovered. A cassia furnishes the senna leaves of the shops; to this also belong the tamarind and algaroba fruits, the trees yielding logwood, Brazil-wood, sappan-wood, etc., and hymenæa, from which gum-anime is procured. Some of them yield dyes. The locust trees of North America belong to this order, and are celebrated for their gigantic stature. Gum arabic, senegal, sassa, and others are produced by different species. Catechu is the extract of the astringent bark of Acacia catechu; and one of the timbers known in England as rosewood, is said to be the wood of some Mimosa inhabiting the interior of Brazil. One of the most striking phenomena among the plants of this order is the excessive irritability observable in the leaves of certain species of mimosæ, such as M. pudica, M. sensitiva, which are hence called sensitive plants. It is, however, a special peculiarity, and not one of general occurrence,—unless the folding up at night of the leaves of the whole sub-order be regarded as an instance of the same irritable quality in a low degree. Of this family the following are valuable timber trees,—Acacia stipulata, a valuable wood for general purposes; Cassia fistula, a beautiful ornamental tree, yields a wood useful for furniture, naves and spokes of wheels, and tool handles; Inga xylocarpa has a dense wood, resembling Cassia fistula, used for windlasses, block sheaves, and for parts of gun

carriages, but too brittle to resist concussion.—*Major Benson; Voigt.*

FABA VULGARIS. *Mœnch.* Vicia faba, *Linn.*

Pinnis, . . ANGLO-TAM.	Bakla, ... HIND.
Tsan-tau, Hu-tau, CHIN.	Kaiun, . . N.W. HIM.
Common bean, . . ENG.	Chastang, Nakshan, ,,

This is found wild in the Sutlej valley between Rampur and Sungnam, at an elevation of 8000 to 14,000 feet. Cultivated from time immemorial for food for man and beast as a vegetable, or for the beans, which are ground into flour. The bean and the pea were taken from Central Asia into China by Chang-kien, the ambassador of the Han dynasty. In China they are parched, and largely eaten.—*Stewart; Cleghorn, Panjab Report; Smith.*

FADHLI, an Arab tribe occupying the coast on the N.E. of Aden. They are a proud, martial, and independent race, prone to take offence, vindictive and treacherous, morals lax. Men call themselves after their mothers, as Ban Salma and Zanoo. An illegitimate son is more honoured than one of legitimate birth.—*Prideaux, Arab Tribes.*

FAGARA PIPERITA, the pepper bush of Japan. The leaves as well as the berries have a spicy taste, are heating, and at the same time rather disagreeable to the palate.—*Thunb. Tr.* iii. 62.

FAGONIA CRETICA. *Linn.*

Damahan, Damahar, HIND.	Dhama, Damiya, N.W. H.
Spalaghzai, . N.W. HIM.	Bad-aurd, . . . PERS.

A small spinous weed common in most parts of the Panjab plains, and occurring in Afghanistan to about 3500 feet. The plant is given as a febrifuge and tonic; and Dr. Bellew states that, in the Peshawur valley, it is administered to children as a prophylactic against small-pox. The Hindi and Persian names mean 'carried by the wind.'—*Stewart; Powell,* p. 335.

FAGOPYRUM, a genus of plants of the buckwheat tribe, Polygonaceæ. F. cymosum, *Meissner*, the perennial buckwheat or beech-wheat of the higher elevations of Asia and China, can be used for spinach; leaves yield a blue dye. F. tataricum is of High Asia; and Dr. Stewart thinks there are three species in the N.W. Himalaya. Buckwheat is eaten by Hindus on their fast days. F. triangulare, *Meissner*, ascends to 11,500 feet in the Himalaya.—*Von Mueller.*

FAGOPYRUM EMARGINATUM. *Meissner.*

Palti, ... BHOT.	Ogal, Ugla, . . . KHAS.
Sweet red-flowered buckwheat, ... ENG.	Phappar, Phulan, . ,,

This is found in the Sutlej valley between Rampur and Sungnam at 13,000 feet, and at high elevations is cultivated to a great extent. This has reddish flowers, and is generally said to grow lower than P. esculentum, but both are seen on the Sutlej at the same level, about 8500 feet.—*Cleghorn, Panj. Rep.; Stewart.*

FAGOPYRUM ESCULENTUM. *Mœnch.*

F. polygonum, *Smith.*

Bhey, ... BHOT.	Common buckwheat, ENG.
Bitter white or yellow flowered buckwheat, ENG.	Kathu, Bres, . . PANJ.
	Jhaki, ... ,,

It is found in the Sutlej valley between Rampur and Sungnam at 13,000 feet. This and F. emarginatum are cultivated at high elevations to a great extent. It grows on the worst and poorest soils, and is often sown as food for game. It is a native of Persia and other Asiatic countries, but was introduced into Europe by the crusaders; and in many parts of France, where it is commonly grown, is called Saracen corn. So much is it esteemed in Belgium, that M. Bory St. Vincent says he was shown the tomb of the person who is reported to have first brought it into that country. —*Cleghorn's Panj. Rep.; Powell.*

FAGRÆA, a genus of plants of the natural order Loganaceæ, *Lindl.* F. lanceolata, *Bl.*, is a tree of Penang and Java; F. Malayana, *Mart.*, is a tree of Penang. Dr. Wight in his Icones figures the three species, Coromandeliana, Malabarica, and Zeylanica.

FAGRÆA COROMANDELIANA. *W. Ic.* A small tree with very large showy flowers, common throughout the western forests of the Madras Presidency, from the level of the sea to nearly 6000 feet. It is well worth cultivating for ornament. It may be F. obovata, *Wallich*, a tree of Khassya and Singapore. Gamble notices six species. —*Beddome, Fl. Sylv.* p. 244.

FAGRÆA FRAGRANS. *Roxb.* i. p. 460.

Annah-beng, BURM. ?	A-nan, Annan-tha, BURM. ?

This evergreen tree grows in Martaban, inland up the Attaran river, is very abundant in Amherst, Tavoy, and Mergui, and in the islands of the Tenasserim coast. Its maximum girth 4 cubits, and maximum length 20-25 feet, but is of so slow growth that the Burmese refer to it in a proverb. When seasoned it sinks in water. It is a compact, yellow, and very beautiful wood, a very hard and excellent timber. It bears a breaking weight of 400 to 500 lbs., and its chief value as a timber is its imperishability when exposed to water or damp. The Teredo navalis will not attack it. Neither heat nor moisture will warp or rot it. It is impervious to the attacks of ants; and the posts of a wharf at Tavoy, which for several years had daily, as the tides flowed and ebbed, been partly dry and partly wet, continued untouched by the worm. It is used for building houses, kyoungs, zyats, etc., as posts for Buddhist edifices, piles for bridges, wharves, etc., but for lay purposes only by the British, as the Burmese regarded it as too good for the laity, and say it ought to be confined to sacred purposes. Hence, as the phoungyes or Burmese priests look on it as a sacred tree, it has been more preserved in the forests of Amherst, Tavoy, and Mergui, than any other valuable wood. It is scattered thickly over the alluvial plains together with Strychnos nux vomica. It has been recommended for railway sleepers.—*Mason; Capt. Dance's Rep.; M'Clelland's Report; Roxb.*

FAHAM TEA, a name given in the Mauritius to the dried leaves of the Angræcum fragrans, a fragrant orchid which owes its odour to the presence of coumarin. The infusion is drunk to promote digestion, and is useful for certain diseases of the lungs.—*Simmonds' Dict.*

FA HIAN, a Chinese Buddhist traveller in India, Khotan (Yu-than), and Tibet, along with Hoei King and other Chinese pilgrims. They reached Yu-than or Khotan in A.D. 399-400. Fa Hian then travelled by Tsu-bo and Yu-hoei and over the Tsu-Ling mountains southwards to Kie-Chha, the modern Ladakh, where he rejoined Hoei King. From Kie-Chha the pilgrims proceeded westward to Tho-ly, which they reached in one month. He passed successively through Kashmir, Kabul, Kandahar, and the Panjab, into the central parts of India, and the country of

Mathura was one of the first in which he entered (Cal. Rev.). He left China A.D. 399. He was six years on his route to Central India, residing at places on his way. He passed six years in India, visited Ceylon, and sailed from there to Java, and returned to China A.D. 415. The silence of Fa Hian and Hiwen Thsang regarding Dehli is a proof of the insignificance of that city from A.D. 400 to 640. His usual place of residence was Chang-au, in the province of Shen-si. On his return he wrote an account of his travels, called Fo-kue-ki, or an account of the Buddhist countries. His journal is very concise, and is chiefly taken up with the description of the sacred spots and objects of his religion; but as he usually gives the bearings and distances of the chief places in his route, his short notices are very valuable. At the time of his visit, Buddhism was still the dominant religion, though Vaishnava doctrines were gaining ground. I-tsing gives a history of fifty-six Chinese Buddhist priests who visited India during the early part of the T'ang dynasty.—*Cal. Rev.; Travels of a Hindoo*, p. 156; *Cunningham's Ancient Geography of India.*

FAILI, a tribe of Kurds, also called Bakhtiari, who dwell in the mountainous part of Kirmanshah. See Kurdistan.

FAIL ZAMIN, amongst the Rajputs, security for good behaviour. Hazir zamin, security for re-appearance.

FAIR, called in India a mela or assemblage, is held periodically at many places. The system exists in full force in Turkestan, north of Hindu Kush. It is not unknown in some parts of the Kābul dominions, and has long been familiar to the natives of India. At the great Dehli fairs, 50,000 persons assemble, some of them from 500 miles' distance. In 1861, at the great solar eclipse, 200,000 persons assembled at Thaneswar in Ambala, some from 1000 miles away. About 130 fairs are held in the Panjab, and the Hindu custom of assembling at shrines, and taking the opportunity of displaying merchandise, prevails throughout India. In Asia they flourish as the only means by which nations distant from each other, and the population of which is often widely spread, can be readily supplied with articles of home and foreign produce. The merchants who carry on the trade from India to Kābul are principally the Povindah or Lohani Afghans, whose country lies westward of the Indus between Dehra Ismail Khan and Kābul. They make annual journeys to and from these places, bringing with them the productions of Afghanistan, and taking back those of India and Europe. They are a race, and require no protection but their own arms. They leave the rugged mountains of the west at Drabund, and assemble at Dehra Ismail Khan, where they dispose of some of their property; others proceed lower down the Indus to Dehra Ghazi Khan, or cross to Multan and Bahawulpur, where their wants in a return supply of goods are sometimes to be procured. Failing this, they pass into India, and even to Calcutta and Bombay. The Lohani and all other traders descend from Bokhara and Kābul about the month of November, and set out on their return in the end of April. In the Russian empire, fairs have been founded in the memory of man, at which business to the amount of 200,000,000 of roubles, or about £10,000,000 sterling, is now transacted, and this is even on the increase. The removal of the great fair of Maccaire to Nijni has only served to give commerce a greater impetus.—*Burnes, in East India Papers, Cabool and Afghanistan*, p. 103.

FAIRY HAIR. ENG. Adiantum capillus Veneris. The Persians give the name of Mu-i-Pari, or Hair of the Fairy, to Saxifraga stenophylla.

FAIZABAD, the capital of Badakhshan. The people are purer Iranians than the Tajak.

FAIZABAD, a town in Oudh, situated in lat. 26° 46′ 45″ N., and long. 82° 11′ 40″ E., on the left bank of the river Gogra, 78 miles east of Lucknow; adjoining it to the west is the modern town of Ajodhya, both towns being on the site of the ancient city of Ajodhya. It gives its name to a revenue division or commissionership of Oudh, with a population (1869) of 2,648,070 Hindus; Mahomedans, 315,604; Christians, 1410. The district consists of a densely populous, well cultivated plain of great fertility, having an average elevation of 350 feet above sea-level. The principal river, and that which affords the chief means of communication between Faizabad and the Gangetic valley, is the Gogra. The early history of Faizabad is that of Ajodhya, of which kingdom it formed a part. Faizabad, two miles and a half in length by one mile in breadth, is built chiefly of materials extracted from the ruins of Ajodhya. The two cities together occupy an area of nearly six square miles, just about one-half of the probable size of the ancient capital of Rama. In Faizabad the only building of any consequence is the stuccoed brick tomb of the old Bhao Begum, whose story was dragged before the public during the famous trial of Warren Hastings. Faizabad was the capital of the first Nawabs of Oudh, but it was deserted by Asaf-ud-Doulah in A.D. 1775.—*Tod's Rajasthan; Williams' Nala.*

FAIZI, the literary title of Shaikh Abu'l Faiz, son of Shaikh Mubarak, and elder brother of Abul Fazl, who lived in the reign of Abkar, emperor of Hindustan. Faizi was presented to Akbar in the 12th year of his reign, and he introduced Abul Fazl six years later, in A.D. 1574. The brothers soon became the intimate friends and inseparable companions of their sovereign. They not only were the confidants of all his new opinions in religion, and his advisers in his patronage of literature, both in foreign countries and in his own, but were consulted and employed in the most important affairs of government. Faizi was sent on a special embassy to the kings of the Dekhan, prior to Akbar's invasion of that region, and Abul Fazl lived to attain the highest military rank, and to hold the office of prime minister. At midnight, when the news was brought to Akbar that Faizi was dying, he hastened to his room, and called out to him, with a familiar term of endearment, 'Shaikh-Ji, I have brought Ali the physician to you; why do you not speak?' Receiving no answer, he threw his turband on the ground, and burst into the strongest expressions of sorrow. On recovering his composure, he went to Abul Fazl, who had withdrawn from the scene of death, and remained for some time endeavouring to console him, before he returned to his palace. Faizi was the first Mahomedan who applied himself to a diligent study of Hindu literature and science. By the aid, and under the direction of the emperor, he conducted a systematic inquiry into every branch of the

knowledge of the Brahmans. He translated from the Sanskrit the Nala and Damyanta, an episode of the Mahabharata; he made a version of the Bija Ganita and Lilawati of Bhaskara Acharya, the best Hindu books on algebra and arithmetic. He wrote a great deal of original poetry and of other works in Persian, and he superintended translations made by other learned men, including one at least of the Vedas, the two great historical and heroic poems the Mahabharata and Ramayana, and the history of Kashmir, the only specimen of that sort of composition in Sanskrit prose. He was directed to translate the Evangelists. He seems to have been more studious and less a man of the world than Abul Fazl. When Abul Fazl was assassinated, Akbar was deeply affected, and passed two days and two nights without food or sleep.—*Elliot; Elph.* p. 468; *Mantakhib u Tawarikh.*

FAKHTAI, a grey colour, probably from Fakhtah, HIND., a dove.

FALCONER, HUGH, a Bengal medical officer, a distinguished palæontologist. He was born at Forres in 1808, and went to India in 1829. He was one of the first botanists who visited Kashmir and Little Tibet, Kamaon, and the Panjab, where he formed magnificent collections, illustrating his specimens with voluminous notes and details of their structure and affinities. He was superintendent of the Botanic Gardens of Saharunpur and Calcutta. He returned to England in 1856 or 1857, and died 31st January 1865. In the latter half of his life, he devoted his time to the study of mammalian palæontology; and, after his death, two volumes of his palæontological memoirs and notes were published by Dr. Murchison. He and Sir T. P. Cautley examined the fossils of the Siwalik Hills; Fauna Antiqua Sivalensis, or the Fossil Fauna of the Siwalik Hills, Cautley and Falconer, Lond. 1845–1846, folio. He wrote an Account of Fossil Bones at Hurdwar, in Bl. As. Trans. 1837, vi. 233; On Elastic Sandstone, ibid. 240; On the Geology of Perim Island, Gulf of Cambay, in Lond. Geol. Trans. 1845, i. 365. Of the many varied subjects treated of in the palæontological memoirs, there are several of great interest even to the general reader. His investigations have shown that, at a period geologically recent, the present Peninsula of India was a triangular island, bounded on each side by the Eastern and Western Ghats, converging to Cape Comorin, while the base of the triangle was formed by the Vindhya mountain range, from which an irregular spur (forming the Aravalli mountains) extended northwards; while between the northern shore of this island and a hilly country, which is now the Himalaya mountains, ran a narrow ocean strait. The bed of this strait became covered with débris from the adjacent Himalaya on its northern shore, and with this débris became entombed and preserved many and various animal remains. The present condition of the country has been produced by an upheaval of the land, so that what was the ocean strait forms now the plains of India,—the long, nearly level valleys in which flows the Ganges and the Indus. Besides this, a great upheavement along the line of the Himalaya has elevated a narrow belt of the plains into the Siwalik Hills (determined to be but of tertiary age), and added many thousand feet to the height of the Himalaya. In the Siwalik explorations, Dr. Falconer and Sir T. P. Cautley discovered the sivatherium, a gigantic four-horned ruminant-like animal, considered by Dr. Falconer to have been furnished with a trunk like the tapir; also certain fossil apes, the first ever discovered, and a gigantic tortoise, Colossochelys atlas, a description of which was communicated to the Zoological Society in the year 1844.

FALCONERIA INSIGNIS. *Royle.*

Excoecaria insignis, *Mull.*

Karalla, Bilodar,	BEAS.	Lodar of . . .	KANGRA.
Ankhar, ...	„	Biloja, ...	SUTLEJ.

This tree only extends scantily along the Panjab Siwalik tract as far as the Beas. The wood is occasionally employed for domestic purposes, but is of no special use. F. Malabarica, *Wight*, is a synonym of F. insignis.—*Royle, Ill.; Stewart.*

FALCONERIA WALLICHIANA, *Royle*, a tree of Nepal.

FALCONIDÆ, a family of birds of the order Raptores, comprising the sub-families Accipitrinæ, Aquilinæ, Buteoninæ, Falconinæ, and Milvinæ. With five or six exceptions only, the whole of the European diurnal birds of prey are met with in India, many of them being much commoner in that country, and they are associated with numerous other species unknown in Europe. The true Falco peregrinus is common in India, together with F. peregrinator, which would otherwise be regarded its Indian counterpart. The shangar of Indian falconry seems to denote it as a bird of excessively rare occurrence in the Panjab. The Falconinæ are the True Falcons, and those of the south and east of Asia are as under:—

a. Peregrines, viz.

Falco peregrinus, *Gmel.*, peregrine falcon, Bhairi.
F. peregrinator, *Sundevall*, the Shahin or royal falcon.

b. Lanners, viz.

Falco sacer, *Schlegel*, the Saker or cherrug falcon.
F. jugger, *Gray*, the Laggar falcon.
F. Balylonicus, *Gurney*, red-headed lanner.
Hierofalco, *sp.*, of Kaup, the Shankar or Shangar; is brought from northern countries.

c. Hobbies, viz.

Hypotriorchis subbuteo, *Linn.*, the hobby.
H. severus, *Horsf.*, the Indian hobby.

d. Merlins, viz.

Hypotriorchis œsalon, *Gmel.*, the merlin.
H. chicquera, *Daud.*, Turumti, red-headed merlin.

e. Kestrels.

Tinnunculus alaudarius, *Briss.*, the kestrel.
Erythropus cenchris, *Naum*, the lesser kestrel.

f. Falcons.

E. vespertinus, *Linn.*, the red-legged falcon.
Hierax eutolmos, *Hodgs.*, the white-naped pigmy falcon.
H. melanoleucos, *Blyth*, from Assam.
H. cærulescens of Java and Malayana.
H. erythrogenys, *Vigors*, from the Philippines, and H. sericens from China.—*Jerd.* i. p. 20. See Hawking.

FALITA. HIND. A slow match; also, amongst Mahomedans, a lamp charm. Slow match is made generally, if for matchlocks, of the air-roots of the Bar tree; and if for cannon, of thread soaked in powder and spirits of wine.

FALLOPIA NERVOSA. *Lour.* The Kai-pou-yeh and Hau-shan-ch'a of the Chinese, a tall shrub of Macao and Canton, furnishing a tea-leaf. —*Smith.*

FALLOW-DEER of Deut. xiv. 5, 1 Kings iv. 23, called in Hebrew yachmar or red, is supposed to be the Bakkar-ul-wash of the modern Arabs, a kind of antelope.

FALODEH. PUSHT. A white jelly strained from wheat, and in spring-time, in Kabūl, drunk with sherbet and snow.

FALSA. HIND. Grewia Asiatica; also its acid berry, used to make a sherbet.

FALSAR. HIND. of Kotah. Fibrous ginger, the inferior sort.

FALSE POINT, in Cuttack, is a low and wooded headland, and has a lighthouse 120 feet above the water. It is in lat. 20° 20′ 10″ N., long. 86° 46′ 25″ E. False Point harbour, at the mouth of the Mahanadi, is the most sheltered anchorage on the E. coast of the Peninsula of India.

FALUS. AR., PERS., HIND. A small copper coin, of varying weight and value, current in Arabia and Persia. Sometimes applied to the paisa of India. Also a copper coin formerly current in Madras, equal to five kas or cash.—*W.*

FAMINES.

Qahat, ...	ARAB.	Hambre, ...	SP.
Hunger-snoth, . .	GER.	Achlik, ...	TURK.
Carestia, ...	IT.		

Famines have repeatedly occurred in S. Asia and in India, owing to the failure of rain, but occasionally aggravated by wars, necessitating an interruption to agricultural operations, and rendered longer distressing by succeeding swarms of insects and rats.

The Rev. Robert Everest seems to have been the first who adduced facts to show that unfavourable seasons in India are periodical. In the report on the Bengal famine of 1860–61, Colonel Baird Smith recommended irrigation, and remarked on the rough periodicity of famines, and it may be said that local famines recur in one part of the country or other every 5, 10, or 15 years, and greater famines occur in successive centuries, at intervals of 50, 100, and 150 years. Dr. W. W. Hunter, about the year 1877, mentioned that the years of famine in the Madras Presidency had been 1811, 1824, 1833, 1854, 1866, and 1877, there being deficient rainfall in preceding years. The years 1810 and 1823 were years of minimum sun spots; 1832 was a year preceding minimum sun spots; 1853 was the third, and 1865 and 1876 were the second, years preceding minimum sun spots. The average rainfall in Madras from 1813 to 1876 was 48·51 inches, and in all the famine years the rainfall was far below the average. And, from the occurrence of sun spots and of rainfall, between the years 1813 and 1876, he arrived at the conclusion that the minimum period in the cycle of sun spots has been a period of regularly recurring and strongly-marked drought in S. India.

In the past 109 years, 21 famines and scarcities are recorded, making a proportion of two bad seasons to seven good. Of the greater famines there have been eight at intervals which have reached 12 years. Five have afflicted the 19th century, and have affected 202 millions of people. The practical result is that the Indian Government must be prepared for a drought followed by severe distress every twelve years, though an extreme famine may not ravage any one province oftener than once in fifty years. There seems some tendency for a bad year in the north to follow immediately a bad year in the south.

Great famines devastated the N.W. Provinces in 1770, 1783, 1803, 1819, 1837, 1861, and 1877. Droughts of less importance visited the same regions in 1733, 1744, 1752, 1790, 1813, 1826, 1833, and 1873. The less serious droughts occurred at intervals of 6 or 8 years; but at intervals ranging from 13 to 24 years the failures of rainfall have been sufficient to involve a bad famine. Each of the great famines was preluded by years of climatic irregularity, especially noticeable in the case of the famines of 1803, 1837, and 1861; the same phenomenon announced the advent of the dearth in 1877 in the N.W. Provinces.

Famines have been recurring in Asia from the most ancient times. That one mentioned as of the time of Abraham, was about B.C. 2247; that in Genesis xlii., which led to the sojourn of the Israelites in Egypt, was about 500 years later.

503-443 B.C. ? In India, during the reign of the emperor Jye-chand, there was great pestilence and famine.
331 A.D. Antioch, a bushel of wheat was sold for 400 pieces of silver.
336. Syria, famine and plague.
381. Antioch, famine and plague during reign of emperor Theodosius the Great.
1022. India, during the reign of Musaood I., great drought followed by famine; whole countries depopulated.
1052-1060. Seven years' drought in Ghor; the earth was burned up, and many men and animals perished.
1215. Famine of a severe kind is said to have lasted from Samvat 1204 (A.D. 1148) to Samvat 1215.
1291. A terrible famine about Dehli, from drought.
1299. Persia ravaged by pestilence and famine.
1337. China, a famine and pestilence.
1342. Famine in Dehli, very severe.
1344-45. Famine over all Hindustan; very severe in the Dekhan; the emperor Muhammad was unable to obtain the necessaries for his household.
1412-13. In the Ganges, Jumna, Doab, great drought, followed by famine.
1471. Famine in Orissa. There is vague mention of great famines in the 13th, 14th, and 15th centuries, notably one in 1471.
1491. A great dearth in Hindustan about this date.
1521. A very general famine in Sind.
1540-43. A general famine in Sind during these years.
1581. Persia desolated by famine and plague.
1598. In Pegu, very severe.
1630. The records of the East India Company mention a severe famine in Surat in A.D. 1630.
1631. Famine in India general by drought and war, and throughout Asia.

There seems to be no doubt that one of the great historical famines affected India about the year 1631, in the reign of Shah Jahan. During the wars in the Dekhan which that ruler carried on against the Murtazza Nizam Shah of Ahmadnaggur, Muhammad Adal Shah of Bijapur, and Kutub Shah of Golconda, a destructive famine desolated the Dekhan. It began from a failure of the periodical rains of 1629, and was raised to a frightful pitch by a recurrence of the same misfortune in 1630. Thousands of people emigrated, and many perished before they reached more favoured provinces; vast numbers died at home; whole districts were depopulated, and some had not recovered at the end of forty years. The famine was accompanied by a total want of forage and by the death of all the cattle; and the miseries of the people were completed by a pestilence, such as is usually the consequence of the other calamities.

1661 A.D. Dow mentions a severe famine in the Moghul empire in A.D. 1661, caused by drought.
1703. In the Thar and Parkar districts of Sind.
1733. In the N.W. Provinces.
1739. Dehli and neighbourhood.
1745. In the Nara, Thar, and Parkar districts.
1770. Bengal suffered in the year 1770 from famine, more widespread and terrible than any which had ever befallen any other British possession, and which Colonel Baird Smith deemed to have been the most intense that India ever had experienced, and one-third of all Bengal lay waste and silent for twenty years.

The crops of December 1768 and August 1769 were both scanty, and prices became very high; and throughout the month of October 1769 hardly a drop of rain fell. The usual refreshing showers of January to May also failed in 1770, in which year until late in May scarcely any rain fell. The famine was felt in all the northern parts of Bengal as early as November 1769, but by the 4th January 1770 the daily deaths from starvation in Patna were up to 50; and before the end of May, 150. The tanks were dried up, and the springs had ceased to reach the surface, and before the end of April 1770 famine had spread desolation. In Murshidabad, at length, the dead were left uninterred; dogs, jackals, and vultures were the sole scavengers. Three millions of people were supposed to have perished. It is also said that within the first nine months of 1770, one-third of the entire population of Lower Bengal perished for want of food. According to Grant, one-fifth of the entire population perished; according to Mill, five-eighths; while Ward and Marshman state one-third. The year 1770 corresponds to the Bengali year 1276, and it is known to this day amongst the people as the Che'hattar Saler Durbhikya Manwantara. It was during the governorship of Mr. Cartier; his Government did nothing to help the people, and the Company's servants trafficked in grain. The executive civil administration was conducted by native officials, who temporarily remitted £8000 of rent. Another famine occurred in Bengal in A.D. 1783, and again in 1788.

1781-83 A.D. Famine and scarcity in Karnatic and Madras districts, caused by the incursions of Hyder Ali. Dearths and famines again recurred in S. India in 1802–4, 1807, 1812, 1824, 1833, 1854, 1866, and 1877.

1782-84. In the Thar and Parkar districts, caused by a burning of crops and suspension of cultivation during the hostilities between the Kulhora and Talpur dynasties.

1783. About A.D. 1783, the Gukkar nation of the Hazara district suffered from a severe famine.

1783-84. In the N.W. Provinces of the Panjab was great drought in 1781, 1782, and 1783; and in October 1783 a terrible famine occurred in all the countries from beyond Lahore to Karumnasa, the western boundary of Behar. The famine had been already felt in all the western districts towards Dehli; to the north of Calcutta, the crops had been nearly burned up.

1785. A million of people are said to have died of famine in the Panjab.

1787-88. Famine prospects in Behar and N.W. Provinces from excess of rain and floods. Export of grain prohibited.

There have been four famines in Ganjam within historical recollection; the first, 1789 to 1792; second, 1799 to 1801; third in 1836; and the fourth in 1865–1866. Of these, the first was the most severe, far surpassing in intensity that of 1866. In the third period of scarcity in Ganjam, in 1836, cholera was very prevalent, and many of the cattle also perished. The great famine which desolated Bengal, 1770-72, did not extend to Ganjam. The extent of the famine of 1791-92 is not anywhere exactly given.

1790-91 A.D. A very severe famine in Baroda and adjoining districts; many people emigrated, others destroyed themselves, some ate their own children.

1791. In Cutch, a famine was caused by innumerable black ants, which almost destroyed vegetation.

1790-92. Serious dearth in the northern districts of the Madras Presidency from November 1790 to November 1792; many deaths from starvation; grain exports from Tanjore prohibited, and Government distributed rice.

1802-4. Famine in the Nizam's dominions. In Cutch, the crops were destroyed by locusts; in Pahlunpur, Rewa Kanta, Surat, Gujerat, Hyderabad, Belgaum, and Ratnagherry, by want of rain. Kandesh was overrun by the armies of Holkar and the Pindaris, and famine raged in Ahmadnaggur, Poona, and Sholapur; and in Satara, Kolhapur, Dharwar, and Colaba the great multitude of starving immigrants caused scarcity.

1804-7. In the Bombay Presidency, 1804 was an unfavourable season, and the following year a general failure of crops occurred; famine was severe about Poona and Ahmadnaggur, and the scarcity did not cease till October 1807.

1812-13. In 1810 flights of locusts had appeared in the Bengal provinces, from which they passed through the southern parts of Hindustan, and in fifteen months they arrived in Marwar. In 1811 the annual rain failed in Marwar, and the locusts entered Patan, in the N.W. of Gujerat, and from thence scoured Kattyawar, and on one occasion they appeared as far south as Broach, but they disappeared with the beginning of the monsoon of 1812. The destruction was deplorable, and the mortality amongst the Gujerat people and the immigrants from Marwar was immense.

1812-13. Famine prevailed in parts of Sind, Cutch, Palanpur, Gujerat, Ahmadabad, Mahikanta, Kattyawar, and Broach. In Cutch and Palanpur and Broach it was aggravated by locusts. In Kattyawar it was followed by a plague of rats; Ahmadabad was overrun by starving immigrants, and that in Gujerat was increased by the exportation of grain.

1812-14. In Madras Presidency, considerable scarcity.

1813-14. In many parts of the Agra district the 1812 autumn crop failed, and the spring harvest of 1813 was indifferent, and this was followed by excessive rain.

1819-20. Bundelkhand kharif crop failed, and frost nipped the spring crops of 1820.

1819. Failure of crops in Ahmadabad and Sawuntwari, caused by excessive rains.

1819. In Nagpur, the price of jowari rose from Rs. 5 to Rs. 30 per candy (As. Journ. 1820, ix. p. 79).

1820-22. Partial drought in Upper Sind, causing famine.

1824-25. Famine in Dehli and neighbouring provinces of Hindustan, in the Karnatic and western districts of the Peninsula.

1825-26. In the N.W. Provinces, Saugor, Nerbadda, from want of rain, caused by blight and thunder-storms.

1827-28. In parts of Hindustan, in the Rania and Sirsa parganas.

1831-32. In Poona and the S. Mahratta country and Madras; and Gerrard gave an account of a famine at Herat in 1832, when 25,000 persons perished (in As. Journ., new series, vol. xiii. part 2, p. 165).

1833-34. In some of the N.W. Provinces; in Ajmir not one shower fell in 1832. In 1833, drought severe in Bundelkhand and Cawnpur.

1833-34. In famine in Bundelkhand in 1834, 600 persons died (As. Journ., new series, vol. xvi.). That of 1837 was noticed, vol. xxvi. part 1, and that in 1838 in vol. xxvii. part 1.

In 1824, 1830, and 1831, Madras town suffered from dearths, approaching to famine. In 1766 the British had acquired possession of the delta of the Kistna or Krishna river, and from that time for eighty years famines repeatedly occurred, destroying the people. That which occurred in Guntur in 1833 was described by Captain Best. In this famine 150,000 human beings died of starvation, also 74,000 bullocks, 159,000 milk cattle, and 300,000 sheep and goats. The loss of revenue occasioned to Government during the 15 following years exceeded two and a half millions sterling (Mad. Lit. Trans. 1844, No. 30, p. 186; As. Journ., new series, vol. xiii.). The famine of 1833 extended southwards to Madras, where its severity

was intensified from January to September 1833 by the arrival of thousands, and at one time 59,817 starving people were fed.

1834. In Cutch, Ahmadabad, caused by locusts.

1835. In Broach, caused by excessive rain.

In 1838 a famine occurred in the N.W. Provinces. In 1837 the autumn harvest was scant, owing to insufficient rainfall, and the spring harvest wholly failed from want of rain, and many emigrated, and the cattle perished. Government alone gave in cash Rs. 44,000, but remitted and abandoned revenue to 17 lakhs.

In the famine year of 1837–38, the gross value of the crops saved by the waters of the Jumna canal was estimated at £1,462,800, of which about one-tenth was paid to Government as land and water rent, while the remainder supported the inhabitants of nearly 500 villages.

1838-39. Scarcity and distress in Surat and other Bombay districts, caused by failure of rains.

1853-54. Great scarcity in Bellary district, caused by failure of 1853 rains.

1860-61. In 1859-60 the Dehli territory suffered from want of rain; the 1860 rains completely failed between the Jumna and the Sutlej, from Peshawur to Cawnpur, a range of 800 miles, and an area of 25,000 square miles. Great Britain subscribed £108,090.

1861-62. Scarcity in Cutch and other Bombay districts from failure of 1861 rains, and short fall in early part of 1862.

1866. Awful famine occurred in Orissa from drought, and the lower parts of Bengal and Behar also suffered.

The rains of 1865 were scanty throughout the lower provinces of Bengal and on part of the Madras coast, and in Orissa they ceased on the 14th September. In Orissa the total fall was much below the average, and prices rose to famine rates, and in Balasore and Midnapur grain robberies became frequent. Orissa, 200 miles long, has an area of 8518 square miles, and before the famine its population was estimated at 3,015,826, of whom 814,469 perished and 115,028 emigrated. The deaths were 27 per cent. Of these victims a very large proportion perished in the north-eastern districts of the province. In the Madras division of the country the mortality was lessened by successful measures; and it is estimated, therefore, with only too much probability, that in some parts of the Bengal division three-fourths of the entire population had been swept away. During the scarcity and famine in Orissa, in Nuddea, and Midnapur, the starving people fled to Calcutta, where not fewer than 20,000 people were at one time fed daily. The two earlier famines of 1789 and 1800 began in the north of the Ganjam district, and increased in intensity towards the south; whilst that of 1836, as in 1866, was felt with greatest severity in Orissa and parts of the district adjacent to Bengal. Cuttack, Puri, and Balasore were the three districts of Orissa—omitting the hill tracts—in which the famine raged with greatest intensity, and continued longest. Mohurbhunj is a very large territory, covering an area of upwards of 4000 square miles, and the greater part of this tract was included in the area of most severe suffering. In Chutia Nagpur, in which are the districts of Manbhum and Singbhum, the mortality for the famine of 1866 fell on the population about the same as in Orissa.

In 1868 a severe drought prevailed over all Rajputana, the Central Provinces, the N.W. Provinces, including Meerut and Dehli. The harvest of 1867 was scant, and that of 1868 failed. Rajputana, with its area of desert and its scanty water supply, was most afflicted. It is usual in times of scarcity for the population of the more arid districts to migrate to the more fertile states, but on this occasion all were alike parched by the drought, which was the most calamitous on record. Thousands of the famine-stricken poured into British territory in search of food, greatly aggravating the burden already felt there. In the Central Provinces, the drought, though less severe, was general. The northern parts of the N.W. Provinces, and those bordering on Rajputana, suffered most; in the Panjab, those south of the Sutlej. The famine of 1868, in Rajputana, in severity surpassed that of 1813, which was the most calamitous in Rajputana of which they had record. It was most severely felt in Marwar, the northern portion of which was deserted.

1871-2. An intense famine prevailed in Persia. The harvests of 1869, 1870, and 1871 proved deficient from various causes. The slight fall of rain had diminished the natural reservoirs, and many of the invaluable subterranean canals fell dry. The Persian population live much on fruit, but at Isfahan the fruit harvest was a failure. Thus cereals, water, and fruit were cut of.

1874. Bengal suffered from drought. In 1871 the rainfall had been excessive, but in 1872 it was deficient.

In 1873, also, in Bengal and Behar, the autumn rains were scanty, and in 1874 frost and west winds dried up the crops. In those two districts a scarcity of rice occurred. Sir George Campbell, then Lieut.-Governor, Sir Richard Temple, and the Viceroy, Lord Northbrook, arranged for the importation of rice, of which half a million of tons were poured into the districts where scarcity prevailed, obtained from the Panjab, N.W. Provinces, Madras, and Burma; the last-named district alone sent 289,534 tons. Fifty miles of railroad were constructed at the rate of a mile a day; military officers were employed to aid in the distribution, private charity largely aided, and hardly twenty persons died. The population in reality lived on other grains and pulses. But it cost the Government about nine millions sterling. Macaulay, noticing the former famine there, says —'In the summer of 1770 the rains failed; the earth was parched up, the tanks were empty, the rivers shrank within their beds; and a famine, such as is known only in countries where every household depends for support on its own little patch of cultivation, filled the whole valley of the Ganges with misery and death. Tender and delicate women, whose veils had never been lifted before the public gaze, came forth from the inner chambers in which Eastern jealousy had kept watch over their beauty, threw themselves on the earth before the passers-by, and with loud wailings implored a handful of rice for their children. The Hoogly every day rolled down thousands of corpses close to the porticoes and gardens of the English conquerors. The very streets of Calcutta were blocked up by the dying and the dead. The lean and feeble survivors had not energy enough to bear the bodies of their kindred to the funeral pile or to the holy river, or even to scare away the jackals and vultures who fed on human remains in the face of day.'

1874-75. Severe famine in Asia Minor; the deaths up to July 1874 were 150,000.

1877-78. One of the most severe and most extended famines on record occurred in the Peninsula of India, in the Madras Presidency, Mysore, part of the Bombay Presidency, and lasting from the end of 1876 till the middle of 1878.

The 1876 S.W. monsoon rains were deficient all over the Madras Presidency and in the Poona district, and the N.E. rains utterly failed. The drought in Bombay extended to nine districts in the Dekhan and Southern Mahratta country, including Kandesh, Nasik, Ahmadnaggur, Poona, Sholapur, Satara, Kaladgi, Belgaum, and Dharwar; and adjoining native states, Kolhapur, Phultun, Akulkote, and Sawuntwari, also suffered. The area of this territory, exclusive of native states, comprises about 54,000 square miles, and the total population amounts to eight millions, of which five millions were included in the tracts immediately affected. By October 1876 all the nine of the Bombay Dekhan districts were threatened with famine, as nearly all the monsoon crops had perished, and the spring and summer rains failed, and rain fell short all over India; there were scarce rains also in Egypt, Morocco, and Brazil. In Madras famine affected the districts of Cuddapah, Bellary, Nellore, Kurnool, Madura, North Arcot, Salem, Chingleput, Coimbatore, Kistna, Trichinopoly, and Tanjore. In Mysore, and also some part of the Nizam's country, the area of the distressed districts amounted approximately to 80,000 square miles, and the total population affected to nearly 18 millions.

In the beginning of 1878, a trial census was taken of the districts of N. Arcot, Bellary, Chingleput, Coimbatore, Cuddapah, Kistna, Kurnool, Madras town, Madura, Nellore, and Salem. In these, in 1875-76, the deaths were 340,545; but in 1876-77 they increased to 925,103, or 67 per thousand of the population of 13,765,165. According to the estimated population at the end of 1876, the losses were in Bellary 21 per cent.; Kurnool, 27 per cent.; Cuddapah, 26 per cent.; Nellore, 21 per cent; Coimbatore, 17 per cent.; Chingleput, 10 per cent. The Salem district estimated population in 1876 was 2,129,850. The actual population on the 14th of March 1878 was 1,559,876,—that is, there were 569,956 souls in this one district, or nearly 27 per cent. of the people, unaccounted for. And in this Salem district the famine distress was not then over.

In Mysore the January census showed that about 25 per cent., or one-fourth, of the population had melted away, equal to 1,250,000 souls.

In Bombay the average deaths had been 32,909; but in the year 1876-77 the mortality was 149,053, and there were 32,054 diminished births.

In Oudh, the N.W. Provinces, the Panjab, and Central Provinces, the deaths were abnormally great.

Great efforts were made to relieve the famine-stricken. The people of Great Britain subscribed about £800,000; the Government of India laid out about £10,000,000; and private individuals and the public servants in India vied with each other in efforts to save life.

The loss in cattle was very great. In Bellary the Madras Board of Revenue considered it unlikely that more than 25 per cent. of non-agricultural cattle, and from 60 to 70 per cent. of the agricultural cattle, would survive.

1877–78. An appalling famine prevailed in the N.E. parts of China, chiefly in the provinces of Shan-si and Ho-nan; out of a population of 70 millions, 9 millions of people were reported to be destitute, and 7 million persons in all are computed to have died. The province of Shan-si alone is said to have lost 500,000 inhabitants in one winter. Women, girls, and boys were sold in the market for 2 to 5 dollars each, and many killed their children and then themselves. It was severest inland from the Yang-tze to near Pekin, and east to Corea. In Shan-si, in 1877, the dead could not get a burial; they were too many, and none could afford the expense, so they were cast daily into large pits. The people at Shan-si, in 1878, were said to be living on the corpses of their fellow-beings who died of starvation! And the strong were killing the weak for the sake of obtaining their flesh for food. It was accompanied by locusts.

In Kashmir, also, through the year 1878 it was very severe. The last previous famine in this state was about the middle of the 18th century.

1879. The swarms of rats which from January to March swept through the country between Sind and Madras, are stated by a contemporary to have destroyed quite 50 per cent. of the crops in the agricultural land which they passed over. The length of their journey was not less than 1000 miles.

Sir Arthur Cotton estimated that two acres of rice land will feed seven people for a year; and Mr. Fischer considered that a family of five will consume under 6 lbs. of grain per diem. The fields of India yield abundance of the finer grains, such as rice and wheat, but, except in Burma, these are used only by the well-to-do classes, the producers living on the coarser grains, pulses, and millets. And food at three times its ordinary price, at a season when some months must elapse without relief, means famine in the great majority of cases; while in some cases famine comes long before that rate is reached. When the rate rises to four times the ordinary standard, it is probably accompanied by famine of a very severe description. After the 1877–78 famine in India, a commission was appointed to report how 'Government might by its action diminish the severity of famines.' They calculated that India regularly yields a surplus of food, more than enough to supply a dearth in any particular district. But they avowed their conviction of the incapacity of 'any human endeavours altogether to prevent an increase of mortality during a severe famine.' In 1873 alone, an outlay of six millions and a half sterling averted an increase of mortality. But with the solitary exception of 1873, famine in India has been too strong for the State to bar its devastations. For a famine at Cawnpur, a million and a half sterling of subscriptions was realized and distributed; 1300 were fed daily, but 1200 persons died.

A larger proportionate expenditure was made by the State on the relief of the famine in Orissa in 1866 than on any previous occasion, yet nearly a million persons died.

By the famine of 1868–69 in the N.W. Provinces and the Panjab, and by the diseases which are the followers of famine, though enormous sums were spent on relief, 1,200,000 lives were lost.

Unless when a region is dependent upon rain for its fertility, and the rainfall fails, the soil in India yields the husbandman his fair return. In Sind the rainfall is always meagre. So Sind has learned to trust to artificial irrigation from the Indus, and Sind is safe from famine. Assam and Burma, the country between the Western Ghats and the sea,

the tract immediately east of the Ghats, the valleys of the Nerbadda and the Tapti, enjoy rains or river floods, which have never deserted them. Eastern Bengal, in the parts between the Ganges and the Jumna, is now completely protected by its irrigation canals. It is the portion of India with a total average rainfall from 20 to 35 inches which is subject to drought when the south-west monsoon fails, and consequently is the prey of famine. No past famine has been more intense than that of 1876–78, so none may exceed it in the future. On that presumption, the largest population likely to be severely affected by famine at one time is put at 30 millions. An estimate for relief on a scale double that given in Madras and Bombay during the last famine, shows four and a half millions as the maximum number of objects of relief in the height of the famine, and from two to two and a half millions as needing aid for the space continuously of a year. For each working adult male of this mass the commissioners compute that a pound and a half of flour or rice is sufficient; for a man doing light work, a pound and a quarter; and for a man doing none, still less. A woman needs rather less than a man, and children from half to a quarter the quantity, according to age. The commissioners recommended that for all who can work, public work should be provided, at fixed reasonable wages, the same for all, and 'on which life and health can be maintained.' Piece-work, unless as an experiment, they refused to recommend. The works selected should be of permanent utility, and contiguous to the dwellings of those to be employed upon them. The true policy is to begin a series of comprehensive or connected undertakings of permanent utility, and to entrust their construction to professional engineers, who shall take care that none but the able be employed, and that they be paid regularly in money for a fair day's work. An unfinished canal in Orissa in 1871–72 sufficed to irrigate 100,000 acres, on which 750,000 cwt. of rice was grown.

The impression generally prevailing, that the preservation of life by Government measures of relief in Indian famines, is entirely a question of money, is erroneous. The same atmospheric conditions which produce a scarcity of food, produce also epidemic diseases; secondly, a larger proportion of the mortality of a famine season is due to epidemic diseases than to absolute deficiency of food, although their destructiveness is increased by the people being, from want, less able to withstand them; and thirdly, a point in the process of chronic starvation, when nutriment can no longer save life, is often reached before the people can obtain, or will seek, relief at a distance from their homes. After the famine of 1877, the Indian Government endeavoured to ascertain approximately the deaths it had caused, and by enumerating certain districts, with the following result:—

District.	Normal Death-rate. Average of 5 years.	Deaths in 1877-78.	Percentage of Increase.
Salem from Dec. 1876 up to Feby. 1878, . . .	63,183	204,019	222·8
Bellary (Gooty), . . .	4,405	17,067	278·4
Kurnool (Nundikotkur), .	3,039	16,261	435·0
Cuddapah (Madanapilly), .	4,490	16,095	260·4
Nellore (Gudur), . .	1,985	6,173	210·3
Coimbatore (Palladam), .	5,110	14,099	175·9
Chingleput (Poneri), . .	2,776	7,160	157·9

The immediate effects of famine soon disappear. An Indian population grows normally at the rate of 1½ per cent. per annum, and this proportion is within the mark in ordinary times. And within two years of the great famine of 1877–78 its injuries were no longer apparent, while calamities of other kinds continue to be remembered for long periods.—*Army Sanitary Comm. Rep.*; *As. Soc. Journ.*; *As. Res.*; *Hunter's Rural Life in Bengal*; *Famine Comm. Rep.*; *India Administration Rep.*, vol. xii.; *Proceedings of the Government of India*; *Saturday Review*, 1878; *Sanitary Commissioner of Madras, Report*; *Dr. W. W. Hunter in Geog. Magazine*; *Montgomery Martin's Famine Chronology*, 1640 *to* 1841; *Statistical Journal*, 1843, i. 3d series, p. 468; *Macmillan's Magazine*; *Geog. Mag.*, May 1877; *Khafi Khan*; *Elphin.* p. 510; *Ward's Hindoos*, iii. p. 107. See Food.

FANAM, a silver coin of the Karnatic, now uncurrent, the falam of the Tamil race. The correct value of one Company's rupee was 12 fanams 68·57 cash. Where much nicety was not required, the usual rate of conversion was 1 fanam = 1 anna 3 pice. It was a small silver coin, the 1-12th of a rupee; no longer coined.

FAN PALMS. The Chamærops humilis, *Linn.*, used for this purpose, grows in considerable abundance on the shores of the Mediterranean. The leaves of many of the palms of Southern Asia—the Corypha, the Livistonia, palmyra, and date palms—are similarly employed. That of Ceylon is the Corypha umbraculifera, *Linn.*

FAQEER, Fakir, Darvesh or Dervis, amongst the Mahomedans, religious orders or communities, of whom there are several sects. In India only ten classes are generally met with. The Kalandar darvesh are rarely seen in India.

Faqir is from Fukr, ARAB. The Persian name Darvesh is from Dar, a door, and Vihtan, to beg. There have been many branches and orders. Jalal-ud-Din founded the Mulavi order. In European Turkey, they have formed somewhat permanent communities, and about sixty different orders, each named after its founder, are supposed to exist there. The Batashi of Constantinople are said to be quite atheistic, not attached to the principles of the Koran, nor firm believers in Mahomed as a prophet. They are generally of the Shiah sect of Ali, and are Sufi or Mahomedan spiritualists. The Rafai darvesh, in Turkey, inflict on themselves great self-torture. Some of the wandering Indian fakirs wander so far west as Hungary, to visit the shrine of a santon, Gul-baba, and they sail to Tenasserim and Burma. One whom the Editor met near Hingolee, in the Dekhan, was a native of the Panjab, but had been to Ceylon, Mergui, Tavoy, Rangoon, and Moulmein. As a general rule, the fakirs in India are now a low, profligate set of men, held in great disesteem by all classes of the community, and some of them are utterly degraded in habits and mode of life. The bulk of them are Be-Sharra, literally without law, *i.e.* do not act up to the precepts of Mahomed, but are latitudinarians; a few are Ba-Sharra, or with law, following Mahomedanism. The latter are the Salik. The Be-Sharra are styled Majzub, Azad, Ras-us-Shahi, Imam Shahi. The Kalandar are of both sects. Some of the fakir take up their residence in burial-places, which they create, or of which they become the proprietor or makandar; or they reside in an asthan or a takia.

The Kadria or Banawa profess to be the spiritual descendants of Saiad Abdul Kadir Jilani of Baghdad. The Chisti are followers of Bandanawaz, whose shrine is at Kulburga; they are usually of the shiah sect. Shutaria are descendants or followers of Abdul Shutar-i-nak. Tabkatia or Madaria, followers of Shah Madar; many of the Madaria are jugglers, also bear or monkey leaders. Malang are descendants from Jaman Jati, one of Shah Madar's disciples. Rafai or Gurzmar are descended from Saiad Ahmad Kabir Rafai, who seem to beat, cut, and wound themselves without betraying suffering, and who, in the belief of the faithful, can cut off their own heads and put them on again. Jalalia, followers of Saiad Jalal-ul-Din Bokhari. Sohagia, from Musa Sohag, dress like women, wear female ornaments, play upon musical instruments, and sing and dance. Naksh-bandia, followers of Baha-ud-Din of Nakshband, distinguished by begging at night, and carrying a lighted lamp. Bawa piari dress in white. There are other distinctions. At the Maharram a number of the lower classes assume the character and garb of fakirs of different ridiculous personations, for the amusement of the populace and the collection of contributions.—*Wils.; Kanoon-i-Islam.* See Darvesh; Sufi; Eesawiah.

FAQIH. ARAB. A doctor of law; in Spanish, the alfaqih.

FARABATUN, a Christian priest, whom Abul Fazl names Padre Farabatun, and describes as learned in science and history. Akbar prevailed on him to come from Goa to undertake the education of a few youths destined to be employed in translating the productions of Greek literature into Persian.—*Elph.* p. 468.

FARAN, the valley from which the Jabl-Musa range rises. That part of the range on which the Convent of St. Catherine is built is called Tur Sina. See Jibbel-Musa; Senai.

FARARI. PERS., HIND. Absconding, disappearance; a person who has disappeared. Fauti-o-farari, casualties by deaths and disappearance.

FARAS. HIND. The tamarisk plants. Tamarix orientalis and T. dioica, in the drier parts of the Doab and in the vicinity of Dehli, are called Asul or Atul; and the galls, or choti-mai, which are formed on the tree are called Samrat-ul-asul in Arabic.—*Elliot.*

FARASH. PERS. A carpet; hence Farāsh, a carpet-spreader. But in Persia, Afghanistan, and India, applied to under-servants generally. Amongst the Mahomedan armies the Farāsh was a tent-pitcher, which in the British camps is the duty of the lascar or khalassi.

FARAZ. ARAB. In the Mahomedan religion, points ordered by God—God's commandments; Sunnud being the ordinances of their prophet. For instance, the Ramzan or Eed-ul-Fitr feast and the Bakr-eed feast are alike Farz and Sunnud, while the Akhri-char shambah, the Maharram, and the Shab-i-Burat are only Sunnud. Thus, also, Captain Burton says, the afternoon prayers being Farz, or obligatory, were recited, because we feared that evening might come on before the ceremony of Ziyarat (visitation) concluded. Throughout India, the Farz, or commands of God, are almost obscured by the quantity of the Sunnud and the traditions, and there are frequent reformations attempted, but these speedily assume political features. A sect styled Farazi, or Faraizi, was formed at Dacca in 1828. Daulatpur village, in Faridpur district of Bengal, was the birthplace of Haji Sharit-ulla, the founder of that Faraizi sect, which rapidly spread throughout the whole of Eastern Bengal. The Faraizi are a branch of the great Sunni division, and in matters of law and speculative theology they belong to the school of Abu Hanifa, one of the four authoritative commentators on the Koran. They reject traditional customs, declare that the Koran is the complete guide to spiritual life, and they therefore call themselves Faraizi, or followers of the Faraiz (pl. of Arabic Farz), the divine ordinances of God alone. The majority of Musalmans in the delta of the Ganges and Brahmaputra are descendants of the aborigines, who retained many of the superstitious ceremonies of their former life. The reform inaugurated by Haji Sharit-ulla was a protest against such pagan practices, and a return to the simple habits and monotheism of the Koran. He insisted on the duty of the holy war (jihad), the sinfulness of infidelity (kufr), of introducing rites and ceremonies into worship (bida'at), and of giving partners to the one God (shirk). Externally a Faraizi may be known by the fashion of wrapping his dhoti or waist-cloth round his loins without crossing it between his legs, so as to avoid any resemblance to a Christian's trousers, and by his ostentatious mode of offering prayers with peculiar genuflexions in public. The rapid spread of the Faraizi movement in the lifetime of its founder affords sufficient justification for his enthusiasm. The majority of them are cultivators of the soil, but not a few occupy the rank of traders, being especially active in the export of hides. All alike are characterized by strictness of morals, religious fervour, and faithful promotion of the common interests of the sect.—*Elliot; Wilson; Burton's Mecca*, ii. p. 66; *Imp. Gaz.*

FARD. ARAB. Any single thing; in accounting, a slip of paper, a list, a sheet, a slip in an account book, a statement, an account; a single long shawl, as opposed to Do-shala (q.v.).

FARDUSI, a celebrated Persian poet. He wrote the Shah-namah in the 11th century, containing three heroes, Jamshid, Faridun, and Garshasp, as the three earliest representatives of the generations of mankind. See Firdusi.

FARFEYUN. HIND. Gum of Euphorbia Canariensis and other species. Its Persian name is Shir-i-darakht-i-zakum, and Arabic, Akal-nafsah. The Euphorbium known in Europe is very likely the juice of E. Canariensis, but that of the bazars of India is produced from E. antiquorum and other species. It is used as a remedy for rheumatism.—*Powell.*

FARFUGIUM GRANDE. *Lindley.* A beautiful new herbaceous plant, having rich blotched or variegated leaves.—*Fortune's Res.* p. 420.

FARGARD. PERS. A section of the Vendidad, the sacred book of the ancient Zoroastrians.

FARGHANA, Baber's ancestral dominions were on both sides the Jaxartes, a portion of ancient Sakatai or Sakadwipa (Scythia), where dwelt Tomyris, the Getic queen, immortalized by Herodotus, and where her opponent erected Cyropolis, as did in after times Alexander the Macedonian his most remote Alexandria. From this region the same Gete, Jit, or Yuti, issued to the destruction of Bactria, two centuries before the Christian era,

and again in the 6th century to found a kingdom in N. India. A thousand years later, Baber issued with his bands to the subjugation of India, which his descendants retained up to the end of the 18th century. This portion of Central Asia is the officina gentium whence issued those hordes of Asi, and of the Jit or Yeut (of whom the Angles were a branch), who peopled the shores of the Baltic, and the precursors of those Goths who, under Attila and Alaric, altered the condition of Europe. Baber quitted Samarcand as a fugitive, and with less than 2000 adherents commenced his enterprise, which gave him the throne of the Pandu.—*Malcolm's Persia.*

FARHAD and Shirin, two lovers in a Persian story, fabled to have their tombs near Kumb-i-Shirin, a pool in Las, in the great Lak or pass connecting that province with the western district of Jao.

FARIA, MANUEL DE, author of the History of the Discovery and Conquest of India by the Portuguese, written in Spanish, and translated into English by John Stevens.—*Playfair's Aden.*

FARIDKOT, one of the Sikh states under the political superintendence of the Panjab Government, lying between lat. 30° 13′ 30″ and 30° 50′ N., and between long. 74° 31′ and 75° 5′ E.—*Imp. Gaz.*

FARIDPUR, a revenue district in Bengal, lying between lat. 22° 47′ 53″ and 23° 54′ 55″ N., and between long. 89° 21′ 50″ and 90° 16′ E. Area in 1877, 2365 square miles; pop. in 1879, about 1,502,436. Of its various races the Chandals are numerous. They are capable of great fatigue. They are a despised race, and a Brahman thinks himself defiled by even crossing the shadow cast by a Chandal; but in 1873 they organized a general strike in the district, resolving not to serve the upper classes until their own position was ameliorated. The Bunas, another aboriginal race, number 2412. See Faraz.

FARID-ud-DIN, styled Shakr-Ganj, a Mahomedan saint, whose shrine is at Ajudhan, on the bank of the Sutlej. See Pak Pattan.

FARIGH. ARAB. Release, free. Farigh nama or Farigh khatti, deed of release. From this word also is the word Faraghat, leisure, enjoyment, repose, affluence; also Farigh-khatana, a fee to the writer of a Farigh khatti.—*Elliot.*

FARINA. ENG., LAT., SP. Flour, meal; any flour used as food, either from wheat, rice, janipha, potato, jatropha, maranta, curcuma, canna. Every now and then some one of the farinæ is prominently put before the public as a novelty. Semolina consists of the gluten of wheat, with a proportion of the starch, part of this having been removed. Semolina resembles in appearance sago; but the little granules of which it is composed, in place of being round as in sago, are angular. When moistened, the water is rendered perceptibly opaque and milky by the starch still present, and the fragments swell up and become soft and glutinous. See Ervum.

FARING. HIND., PERS. Europe, from the old term Frank. Hence Faringi, a European, or relating to Europe.

FARMAN. PERS., HIND. A royal mandate; an order from a king or other superior, which the British write Firman.—*Elliot.*

FARMS of an experimental character have been formed by the British Indian Government, since the middle of the 19th century, for the object of improving the agricultural knowledge of the people, at Sydapet near Madras, Nagpur, Kandesh, Sind, Dharwar.

FAROKHSIR, or Mahomed Farokhsir, emperor of Dehli, was the son of Azim-us-Shan. He ascended the throne on the 4th February 1713, after defeating and putting to death his uncle, Jahandar Shah. In Dehli he tortured to death Banda, the Guru of the Sikhs, the successor of their Guru Govind, and beheaded 700 of his followers. When the empire began to totter, he furnished the last instance of a Moghul sovereign marrying a Hindu princess, the daughter of raja Ajit Singh, sovereign of Jodhpur or Marwar. To this very marriage the British owe the origin of their power. When the nuptials were preparing, the emperor fell ill. A mission was at that time at Dehli from Surat (1715), where they traded, of which Mr. Hamilton was the surgeon. He cured the king, and the marriage was completed. In the oriental style, he desired the doctor to name his reward; but instead of asking anything for himself, he merely asked a grant of land for a factory on the Hoogly for his employers. It was accorded; and this was the origin of the greatness of the British empire in the East. Such an act deserved at least a column. Farokhsir was deposed and murdered on the 16th February 1719, by Abdullah Khan and Husain Khan. His feeble, brief reign was disturbed by the intrigues of these Syuds of Barrh, Abdullah Khan and Husain Ali.—*Elph.* pp. 610–612; *Tod's Rajasthan*, i. p. 152.

FARQAH, a tribe, from ARAB. Farq, separation. Hence also Farāqat, separation; Faraqat behtar az mululat, Absence is preferable to quarrelling; also Farq, the part on the crown of the head where the hair parts.

FARRAH-RŪD, a river of Afghanistan, which rises in the mountains in the unexplored country of the Taemuni, and, after a course of 200 miles, falls into the lake of Seistan.

FARRAKHABAD, a town in the N.W. Provinces of British India, in lat. 27° 23′ 35″ N., and long. 79° 36′ 50″ E., with a population of 79,204 souls. It gives its name to a revenue district, lying between lat. 26° 46′ 31″ and 27° 42′ 51″ N., and between long. 76° 9′ 59″ and 80° 3′ 59″ E. Area, 1744 square miles, with a population in 1872 of 918,850 persons. It possesses great antiquarian interest, owing to the presence within its boundaries of Kanouj, the capital of a powerful Hindu kingdom in the earliest centuries of the Christian era. Amongst the tribes, the Baniya number 15,717; Ahirs, 36,372; Chamars, 94,274; Kayasths, 15,378; and Kurmi, 30,884.—*Imp. Gaz.*

FARS, Pars or Farsistan, is the province of the kingdom of Persia which gives its name to the country. It lies between lat. 27° 20′ and 31° 42′ N., and long. 49° 20′ and 54° E., being about 220 miles in length and breadth. It has Kirman and Luristan on the east, the Persian Gulf on the south, Khuzistan on the west, and Irak-Ajam on the north, with a superficies of about 44,335 geographical square miles, or nearly one-third of France. It has many rich and picturesque tracts, and is less desert than other parts of Persia. This province of Persia contains the salt lakes of Bakhtegan (also called Niriz) and Dereachte,

which are in the neighbourhood of Shiraz; and there is a fresh-water lake in the plain of Zerdan. The principal streams are the Bendamir or Araxes, which receives the Kur-ab or Cyrus river, as it falls into lake Bakhtegan, and the Nabon, whose course is from Firozabad southward to the Persian Gulf. In this province are also the higher parts of the two branches of the Tab. Towards the north (according to Mr. Morier) Madar-i-Suliman marks the tomb of Cyrus (son of Cambyses); to the west are the ruins of Kizla Safed; and nearly in the centre are those of the ancient capital, Persepolis. This territory represents ancient Persis, which was watered by the Araxes, Gyndes, Oroatis, Arasis, Pelevar, and Bagrad. Its cities were Corna, Axima, Arbrea, and Artacana, besides many others whose sites are unknown. Persepolis was the capital in the time of Alexander; more anciently, the seat of the government was at Pasargada (Strabo, lib. xv. p. 729), the Persagadis of Quintus Curtius (lib. v. cap. vi.); but as this historian speaks of the fortress of Persepolis, and the city of Persagadis (Farsa-Gerd?), it is possible that the extensive ruins in the plain, near the former, may be the Pasargada of Pliny (lib. vi. cap. xxvi.). The tribes now inhabiting it are,—

Feili, 100 houses, Lek, Persians and Lek.
Byat, 120 houses, Turk.
Bergushadi, 50 houses, Turk.
Gurani, 400 houses and tents, Lek.
Kajar Afshar, a mixed tribe of Turk, 250 houses, and Lek 100 houses.
Abulvardi, 300 tents, smugglers, engaged in trade.
Tewellellee, 40 houses, Turk cultivators.
Amelsh, 40 houses, Turk cultivators.
Zargar Lek and Kara Guzlu Turk, 100 houses.
Basile, 3300 tents, of Arab descent.
Arab, 7300 tents.
Kashki, 30,000 to 40,000 tents of Turks.
Mamasenni, 8000 tents and houses of Lek.

The entire southern region of Fars, bordering on the Persian Gulf, is called the Garmsair. It extends from the sea to the latitude of Kazerun, and runs parallel with the Persian Gulf. From the banks of the Tab to the confines of Luristan, from Bushir eastward as far as Cangoon, the tract is named the Dushtistan, or land of plains. The Tungistan is a small tract of land east of Bushir. The greater portion of the people of the whole Garmsair consists of an independent lawless set, many of the tribes being robbers by profession. A huge wall of mountains separates the Garmsair or low region, from the Sardsair or high table-land of Persia. One of the most conspicuous of these is an abrupt lofty hill named Hormooj, where specimens of coal were found. Sardsair is also termed the Sarhada, a word literally signifying boundary or frontier, but, there, is generally applied to any high land where the climate is cold. The Sea of Oman, or Persian Gulf, called also Persian Sea, Erythrean Sea, also Sea of Fars, has several islands, the Jazirah-i-Lafet, called also Jazirah-i-Daraz, or Long Island, known on maps as Kishm; also Khareg Island, on maps Karrack, a small island, but well watered, not very far from Bushir, which once belonged to the Dutch, and was held from 1838 to 1846 by the British.—*Ouseley's Tr.* i. p. 304; *Kinneir's Per. Empire*, p. 54; *Chesney's Euphrates*, p. 210; *Porter's Tr.* i. p. 548; *MacGregor's Persia.*

FARSAKH. PERS. By the old Greek historians παρασάγγης. It is the Persian league, about 18,000 feet in length, and is known to Europe as the Farsang or Parasang. It is usually reckoned at 3¾ British miles, but, like the cos of India, it varies greatly. According to Major Rennell, the farsakh is little short of 3½ British miles (Illustrations of the Retreat of the Ten Thousand, p. 4). Mr. Fraser (Journey into Khorasan, p. 367) says, The Khorasani farsakh is rather more than that of Irak; rather less than 4 British miles. A farsang is also said to be a distance within which a long-sighted man can see a camel, and distinguish whether it be white or black (Bundehesch, cap. xxvi.). It is also described as one hour's travel or journey, or three miles.—*De Bode's Tr.* p. 57; *Rich's Kurdistan*, i. p. 197; *Porter's Tr.* i. p. 255.

FARSAN, an island off the coast of Yemen, about three miles from the seaport of Jezan. The population are largely occupied in the pearl fishery.

FARSETIA HAMILTONII is the Farid buti, HIND., a Panjab plant, rarely used in medicine. Leaves and stem glaucous, pilose, with pink cruciferous flowers, and broad flattened siliquæ, one of the Brassicaceæ.—*Powell*, i. p. 328.

FARUD. ARAB., HIND., PERS. Literally descent or alighting; in the customs department, delivery in of goods.—*Ell.*

FARUKHI, a dynasty of kings of Kandesh, founded by Malik Raja, a person of Arab descent.

	A.H.	A.D.
Malik Raja,	?	?
Nasar Khan, first king,	1399	801
Miran Adal Khan,	1437	841
Miran Mubarak I.,	1441	844
Adal Khan I.,	1457	861
Daoud Khan,	1503	909
Miran Muhammad Shah,	1520	926
Miran Mubarak II.,	1535	942
Miran Muhammad Khan,	1566	974
Raja Ali Khan,	1576	984
Bahadur Shah,	1596	1005

FASL. ARAB., HIND., PERS. A season, a crop, a harvest; a space of time, hence 'fasli,' applied to the era established with reference to harvests in India. There are two chief crops, viz. Fasl-i-Rabi or Rabbi, the spring harvest, from seeds sown in September and October, which yield, when reaped in February and March, the dry or cold-weather crops of India, as wheat, barley, and different pulses not requiring irrigation. The other is the Fasl-i-Kharif or simply Kharif, the autumnal harvest, consisting chiefly of rice, or grains requiring irrigation, sown at the commencement of the rainy season, and usually reaped at its close, about October or November. Fasl-Bhadonwi is the harvest of millets, pulses, and other plants of quick growth, sown at the commencement of the rainy season, and gathered about September.—*W.*

FASLI, or harvest era of Northern India, has been traced to the year of Akbar's accession to the throne, or the 2d Rabi-us-Sani, A.H. 963 (14th February 1556), when a solar year for financial and other civil transactions was engrafted on the current lunar year of the Hijra, or subsequently adjusted to the first year of Akbar's reign, the object of that sovereign being merely to equalize the name or number of the year all over his vast empire, without interfering with the modes of subdivision practised in different localities, and from this spring the four existing harvest years. The Fasli year of the Dekhan owes its origin to the emperor Shah Jahan, who, after

bringing his wars in Maharashtra to a close in 1636, endeavoured to settle the country, and introduce the revenue system of Todar Mull, the celebrated minister of Akbar, and thus naturally came the revenue or harvest year. It differs from the Fasli of Bengal by seven years, from the acceleration of the lunar year. The year is or ought to be sidereal, but the Madras Government have now fixed its commencement to the 12th July, and applied it solely to revenue matters. The Bengali san, the Vilayati san, and the Tamil Fasli year, may be always considered identical with the Saka solar year, while the Fasli of the Western Provinces may in like manner be classed with the luni-solar samvat there current. The Hijra year began on the 26th November 1555 N.S. The concurrent Fasli year, A.H. 963, began on the 1st of the lunar month Asan (Aswina), which fell on the 10th September 1555; the Valayati year 963 on the 1st of the solar month Asan, which occurred on the 8th September 1555. But the Bengali san 963 began on the 1st Baisakh, falling within the same Hijra year, which was necessarily that of the 11th April 1556. The number 592 must be added to convert the two first eras into Christian era account, if less than four of these months have transpired, and 593 years if more; also 593 years for the first nine months of the Bengali san, and 594 for the rest. —*Prinsep's Antiquities by Thomas*, p. 170; *Elliot*.

FASTIKI. HIND. A kind of emerald.

FASTS form part of the religious practices of Hindus, Christians, and Mahomedans. The Hindu fasts called Barth are observed in sorrow for the dead, in honour of Vishnu, Lakshmi, Eswara or Siva, Vigneswara, and Subramanya, son of Siva; and the use of phulaha, certain grains, as buckwheat, etc., is admissible on other fast days, some of which seem to have an astronomical or sidereal bearing. The fasting of Christians consists of abstinence on certain days seemingly from one kind of animal food; but the Mahomedan fast in India (roza rakhna) during the month of Ramzan is from before sunrise till after sunset, during which they do not even swallow the moisture of the mouth, and abstain from all enjoyment.

FATAH ALI SHAH was king of Persia up to the year 1828. His life illustrates one phase of Persian customs. He was an eminently handsome man. He possessed one of the largest families on record, in ancient or modern times. Besides the four akad or lawful wives permitted to every Mahomedan, he had more than 800 mutea or inferior spouses. He continually changed his wives, as he was tired of them and lacked novelty; but he never parted with any who had borne him male children. He had upwards of 130 sons, and 160 or 170 daughters. At the time of his demise, his children, grandchildren, and great-grandchildren amounted to about 5000 souls. The descendants of these princes (Shahzade) were long a heavy burden to the country. Scarcely a village of any size in some parts of Persia but had some resident at it. Some have become comparatively well off, but many fell into great poverty; and some of his descendants have had to earn their living as mechanics and tradesmen in the different cities. Augustus XI. of Poland is said to have had 354 children by his numerous concubines. He also had one of his own daughters for his mistress, a piece of depravity of which Fatah Ali Shah was never accused.

FATAH-ul-BALDAN, a historical work on Mahomedan countries from Spain to Sind, by Ahmad, son of Yahya, son of Jabir, styled Al-Biladuri. He was tutor to one of the princes of the family of the khalif Al Mutawakkal, and died A.D. 892-3 (A.H. 279).—*Elliot, Hist. of India.*

FATE, the Taqdir, Nasib, Kaza, Kismat, Honhar, and Tali of Mahomedans.

FATEHPUR, a revenue district in the N.W. Provinces of India, lying between lat. 25° 26′ 17″ and 26° 12′ 50″ N., and between long. 80° 16′ 39″ and 81° 23′ E. In 1872 there were 593,256 Hindus, 70,554 Musalmans. The Kurmi and Kachhi together amounted to 89,044. They are industrious and diligent agriculturists. They pay higher rents than any other tribes, and pay them easily. The Ahirs, Lodhs, Arakhs, and Pasi numbered in all 162,907 persons.—*Imp. Gaz.*

FATEHPUR SIKRI, a municipal town in the Agra district of the N.W. Provinces, and formerly capital of the Mughul empire; population (1872), 6878; lat. 27° 5′ 35″ N., long. 77° 42′ 18″ E. It chiefly consists of a vast expanse of ruins, enclosed by a high stone wall some five miles in circuit; amongst them the tomb of Shaikh Salim, Chishti, a Musalman ascetic, through whose intercession Akbar obtained an heir, in the person of Prince Salim, afterwards known as the Emperor Jahangir. The tomb consists of an elaborately carved shrine in white marble, enclosing a sarcophagus within a screen of lattice-work, inlaid with mother-of-pearl. On this terrace stand, among other noble buildings, the houses of Birbal and of the 'Christian lady;' the Diwan-i-Khas and the Diwan-i-am, or Council Chamber and Hall of Judgment. The Elephant Gate contains two massive figures of the animals from which it derives its name. Close by towers the Hiran minār, a pile some 70 feet in height, covered with enamelled imitations of elephants' tusks.—*Imp. Gaz.*

FATHER and Mother.

Walidin,	ARAB.	Baba, Peder (father),	TURK.
Père, Mère,	FR.	Ana, Nine (mother),	,,
Vater, Mutter,	GER.	Taya, Tya pan,	TAM.
Ma-Bap,	HIND.	Tilli, Tandri,	TEL.
Padre, Madre,	IT., SP.		

Among the people of India, and amongst the Chinese, an honorific style of address to people of rank, or to a person from whom a kindness is received or expected. In China it is a title by which the representatives of authority are designated.—*Huc, Chinese Empire*, i. p. 22.

FATHOM.

Bu,	ARAB.	Braccio,	IT.
Lan,	BURM.	Tesa,	LAT.
Toise,	FR.	Braza,	SP.
Klafter, Tiefe,	GER.	Kulaj,	TURK.
Bam,	HIND.		

This is a natural measure, from point to point of the outstretched hands. It was common to Greek, Roman, and Indian, and is four cubits in length. The Greeks and Romans had also the foot (pes), the hand (palm), the palm (παλαιστή), and the finger (digitus). The Romans also had the military pace; the Greeks and Romans also had the cubit (cubitus.) The ancient inhabitants of Asia had, as a unit measure, the cubit or ell, from the elbow to the point of the little finger.

All of these—digit (angul), palm, ell (hath), and span (bilish)—are in use in India.

FATIHAH, ARAB., also Al-fatihat, Fatihat, and Fatiha. The name of the opening chapter of the Koran. It is a prayer, and is held in great veneration by Mahomedans, who give it several honourable titles, such as the Chapter of Praise, of Prayer, of Thanksgiving, or Treasure. They esteem it the quintessence of the whole Koran, and often repeat it in their devotions both public and private, as Christians repeat the Lord's prayer. Most Turkish epitaphs end by the words, 'Fatihah ruhun ichun,' say a fatihah for his soul. The fatihah is also entitled the preface of the Koran, or introduction. It was revealed at Mecca, and is as follows, commencing with the words Bismillah-ir-Rahman-ur-Rahim:—'In the name of the most merciful God, praise be to God, the Lord of all creatures, the most merciful, the king of the day of judgment, thee do we worship, and of thee do we beg assistance. Direct us in the right way, in the way of those to whom thou hast been gracious; not of those against whom thou art incensed, nor of those who go astray.' This prayer is offered with upraised hands, which are afterwards drawn down over the face. The hands are raised in order to catch the blessing that is supposed to descend from heaven upon the devotee, and the meaning of drawing the palms down the face is symbolically to transfer the benediction to every part of the body. The Dairah ki fatahah is the cemetery oblation; the Hazrat shah ki fatahah is on Maula Ali; the Niat khair ki fatahah is the prayer offered for the welfare of any one.—*Sale's Koran; Burton's Mecca*, i. p. 286; *Ferrier's Journey*, p. 502.

FATIMAH, daughter of Mahomed, and wife of her cousin Ali. Her tomb at Loms, Armenia, is held by Shiah Mahomedans in the highest reverence. The Koran is read there night and day; and nearly the same privileges are offered to the pilgrims as at Mecca. It is a place of pilgrimage.—*Chatfield's Hindustan*, p. 209; *Tavernier*, ch. iii. and vi.

FATSIA PAPYRIFERA. *Bentham.*

Aralia papyrifera, *Hooker.* | Panax pap., *F. v. Mueller.*

The rice-paper plant of Formosa, used to make into the commercial rice-paper, also for sola hats.

FATSIZO, or Inaccessible Island, in lat. 33° 6′ N., and long. 140° E., a penal settlement of Japan.

FATTEH MAHOMED, a Mahomedan of Sind, who in 1788 dethroned Rahiden, Rao of Cutch, who had embraced Mahomedanism; ob. 1813.—*Burnes' Sind.*

FATWA. ARAB. A judicial sentence.—*W.*

FAUCHE, HIPPOLYTE, translator of the Mahabharata, in 7 vols., Paris 1863–67.

FAULKNER, ALEXANDER, an officer in the civil service of H. M. Government at Bombay in the middle of the 19th century, author of Commercial Dictionary, a work containing in a small bulk a vast amount of useful information relating to the commercial and economic products of India.

FAYRER, SIR JOSEPH, M.D., LL.D. and F.R.S. London and Edinburgh, F.R.C.P. London, and F.R.C.S. of England and Edinburgh, Fellow of the University of Calcutta, Fellow of the Botanical Society of Edinburgh, Vice-President of the Zoological Society of London, Knight Commander of the Star of India. He entered the British navy on the 12th August 1847, from which he retired; and during the siege of Palermo, from December 1847 to March 1848, he served in its military hospitals. In 1848 he was present in Rome during its siege by the French. From December 1849 till April 1850 he was in the Royal Artillery branch of the British medical service, but resigned and entered the East India Company's service, arriving in Calcutta on 9th October 1850. During the second Burmese war he was present at the taking of the stockades and the capture of Rangoon, in charge of the field hospital, where he remained for a year as medical storekeeper and civil surgeon. In 1853 he was appointed Residency Surgeon of Lucknow, in which he served in 1857 during its siege by the mutineers. His house was one of the chief garrisons, and 14 were killed and 40 were wounded in it. He was with Lord Clyde at the relief of Cawnpur. He was appointed in 1859 Professor of Surgery and First Surgeon to the Medical College Hospital, Calcutta. In 1858 he was created a Companion of the Star of India, accompanied the Duke of Edinburgh and the Prince of Wales during their travels in India, and in 1876 was created a Knight Commander of the Star of India. He was author of a book on the Indian Tiger; of one on the Thanatophidia of India; of a work on Clinical and Pathological Observations in India; of another on Tropical Diseases; of one on Indian Fevers; and of many papers and monographs in the journals of Europe and India. The Royal Family of Great Britain and his contemporaries bestowed on him many professional honours. He was Honorary Physician to the Queen, and to H.R.H. the Prince of Wales, and to H.R.H. the Duke of Edinburgh. He was President of the Asiatic Society of Bengal; Member of the Senate of the Army Medical Schools, Netley; President of the Medical Board at the India Office; President of the Medical Society of London; President of the Epidemiological Society, London; a Governor of Guy's Hospital; Consulting Physician of Charing Cross Hospital; Fellow of the Royal Geographical Society of London.

FAZL ULLAH RASHID, styled Rashid-ud-Din, author of Jami ut Tuarikh. See Rashid-ud-Din.

FEASTS.

Ziafat,	ARAB., PERS.	Banchetto,	IT.
Festin,	FR.	Banquete,	SP.
Fest,	GER.		

Feasts are often mentioned in the Old and New Testamemts, and the texts find many illustrations in India. Genesis xlv. 22 says, 'To all of them he gave changes of raiment;' and at the close of a feast, Hindus, among other presents to the guests, commonly give new garments. A Hindu garment is merely a piece of cloth, requiring no work of the tailor. Deuteronomy xxiii. 10 says, 'He shall not come within the camp;' and Hindus in a state of uncleanness are interdicted from feasts, etc. Mark xiv. 20 says, 'It is one of the twelve that dippeth with me in the dish.' In the East, Hindus never eat together from one dish, except where a strong attachment subsists between two or more persons of the same caste. In such a case, one person sometimes invites another to come and sit by him, and eat

from the same dish. It is highly probable that the same custom existed among the Jews, and that the sacred historian mentions this notice of our Lord's, 'It is one of the twelve that dippeth with me in the dish,' to mark more strongly the perfidy of the character of Judas. John ii. 8 says, 'Bear unto the governor of the feast.' It is customary, both with the Hindus and the Mahomedans, to appoint a person who is expert in conducting the ceremonies of a feast, to manage as governor of the feast. This person is rarely the master of the house. The numbers invited amount occasionally to hundreds, sometimes thousands, and a person to secure regularity is indispensable. In Asia the term is applied by Europeans to all the religious festival rites of the natives, as to the Ramzan and Maharram, etc., of the Mahomedans, to the Diwali and Dassarah, etc., of the Hindus, to the festivals of the Chinese, Burmese, Japanese, etc.—*Ward's Hindoos.*

FEATHERS.

Rishat, ...	ARAB.	Plume, ...	IT.
Pluimen, ...	DUT.	Bulu, ...	MALAY.
Plumes, ...	FR.	Plumas, ...	SP.
Federn, ...	GER.	Rakaigal, . . .	TAM.
Par, ...	HIND.	Rekkalu, ...	TEL.

In Asia, feathers are never used for stuffing beds or pillows, but, as in Europe, they are largely used for personal ornament, those of the ostrich, the Indian roller, the green kingfisher, and the egret being most frequently employed. Those of the ostrich are imported from Africa, and the west of Europe is chiefly supplied from the northern margin of the Great Desert of Arabia. Those plucked from the living animal, or recently killed birds, are more beautiful and more durable than if taken from the animal some time after death, or than cast or dropped feathers. The plumage of the male bird is very superior to that of the female, the fine drooping plumes on the back and near the tail being of the purest white, while those of the female are never free from a tinge of grey near the tip. Commercolly, in Bengal, is celebrated for its egrets' feathers for head-dresses, tippets, boas, and muffs, and some of them are exceedingly beautiful, and not inferior in quality to those imported into Great Britain from Africa. The down of the young adjutant bird also is made into ladies' boas and victorines. The under tail coverts are collected and sold in considerable quantity. Many are procured at Trichoor in Malabar. In the Panjab the narrow black wing feathers of the onkar are used to make the kalgi, or plumes for the khod or helmet. These plumes have a very elegant appearance; they stand about 6 or 8 inches above the helmet. The feathers of the bustard are similarly used. In Madras, dealers in birds' feathers carry on their trade on an extensive scale. One dealer had nearly 100 sets of hunters, each composed of 4 or 5 shikaris and 1 cook; most of these people are Korawa (basket-makers) who live in and about Madras. Each set has its headman, who is responsible for the others. These sets are sent out once a year, each receiving from 20 to 100 rupees, together with a certain number of nets, a knife, etc. They traverse all India, collecting the feathers of kingfishers, and return after six or eight months to Madras, each set bringing from 1000 to 6000 feathers, which are taken by the dealer at Rs. 14 per 100, and shipped to Burma, Penang, Singapore, and Malacca, bringing 10 to 13 dollars the 100. Feathers form a considerable export from India. In the four years 1857-8 to 1860-1, to the value of £27,570 were exported, about one-third of which went to Britain, France, and China. Wings of a kingfisher are imported into Burma from India through Arakan. In 1875–1880 the feathers exported from India were:—

Year.	Lbs.	Value, Rs.	Year.	Lbs	Value, Rs.
1875-76,	119,793	3,51,177	1878-79,	55,000	2,19,330
1876-77,	67,466	2,55,466	1879-80,	41,279	1,86,187
1877-78,	67,223	2,69,359			

The blue feathers of the jay, the kingfisher, and other blue-feathered birds, are largely used in China for ornamentation, pasted on silver gilt. The long scapular feathers of the Indian snake-bird, Plotus melanogaster, *Gmelin*, is looked on by the Khassya race as a badge of royalty.—*M. E. J. R.; Dr. Taylor in Ex.*, 1851.

FEE-SHOO. CHIN. A yew tree of the genus Cephalotaxus. Its seeds are to be found in a dry state in all the doctors' shops in Chinese towns. They are considered valuable in cases of cough, asthma, and diseases of the lungs or chest.

FEET-WASHING, alike amongst Hindus and Mahomedans, is a purification strictly attended to before meals. It has always been an oriental custom. With Hindus, so soon as a guest enters, to present him with water to wash his feet is one of the first civilities.

FEL. PERS. Elephant. Hence Fel-khana, elephant shed; Fel-pai, elephantiasis. It is from this word 'Fel,' with the Arabic 'al,' that the words Elephas and Elephant seem to come.

FELAMORZ, the son of Rustum, the hero of Persian romance, was defeated by Behram near the fort of Fessa, between Shiraz and Darab. Behram caused Felamorz to be hanged, and his tomb existed in the village, until, it is said, a European traveller took it away as a relic.

FELIS, a genus of the mammalia, of the cat kind, of the natural order Carnivora, the family Felidæ, and tribe Felinæ. Amongst naturalists, the notices of them are usually limited to the larger wild animals of this genus. The lion, the pard, the cheeta, the chaus, the wild cat, and the caracal or lynx, are common to India and Africa. The tiger, the pard, the clouded leopard, the marbled tiger cat, the large tiger cat, the leopard cat, and the bay cat are common to India, Assam, Burma, and Malayana. The ounce is of Central Asia; and the small tiger cat (F. Jerdoni), the rusty spotted cat, and the spotted wild cat, are confined to the Peninsula of India.

Several of the smaller species of Felis have a very close family resemblance, and zoological writers have not agreed as to their specific distinctions. Similarly, amongst sportsmen in India, there is a continuous attempt to distinguish the various kinds of the cheeta. This word is of Hindi or Mahrati origin, and means spotted; and amongst the spotted feline animals, sportsmen speak of the leopard, the panther, the black leopard, the cheeta, the hunting or maned cheeta; and cheeta is generally applied as a suffix to all of these. There would seem to be at least four varieties of spotted cats, besides such rare animals as the snow leopard of the Himalaya, and the black panther.

The two larger animals, which are confusingly called cheeta, panther, leopard, differ so much in marking and appearance, as to make them,

alike to the scientific and to the unscientific eye, appear distinct species. The lighter coloured of the two has the ground of a light tawny yellow, shaded into white at the belly, and inside of the legs, neck, and chest.

Besides these, there is a small spotted cat also called cheeta, which preys on dogs and small animals, but is quite unequal to cope with a bullock. The rings are closer and smaller than those on the larger panther.

The hunting or maned leopard (Felis jubata, Leoparda jubata), the fourth on the list, is quite distinct, and it has a mane. Its claws are only partially retractile. Many of the native princes train them to hunt antelopes.

Felis leo, the Lion.

Shingal, ... BENG.	Sher; Babbar Sher, HIND.
Untia-bag'h of . . GUJ.	Singha, ... ,,

Naturalists are now of opinion that the lion of Africa and Asia are identical, pale-coloured varieties being common in Africa; but the African lion has a somewhat different physiognomy, and generally a finer mane, as well as a median line of lengthened hairs along the abdomen, which is seldom present in the Asiatic lion. It is found chiefly in the north-west, from Cutch to Hurriana, Gwalior, and Saugor.

Felis tigris, *Linn.*, the Royal Tiger.

Striped tiger, . . ENG.	Putte wagh, . . MAHR.
Bagh, ... HIND.	Rimass, Ha-riman, SUMAT.
Machan, . . . JAVAN.	Pilli, . . . TAM., TEL.

The royal tiger is found throughout India to the S.E. boundary of China, through the Malay Peninsula, in Java and Sumatra. They are numerous in the centre of the Peninsula of India, and very numerous in Singapore. Full-grown specimens vary considerably in size, colour, and markings, but are considered to be of one species. They feed on cattle, on the sambur or Rusa hippelaphus, and more rarely on the Axis maculata or spotted deer, but only when suffering from extreme hunger. Frogs, hog, porcupine, and other creatures are eaten by them. The tiger is not brave, retires before opposition, unless wounded. The buffaloes in herds charge at a tiger and beat it off. The wild dogs hunt down and will drive a tiger away, but have not the power to destroy one; and one was found evidently killed by a boar's tusk. On one occasion, a herd boy being carried off, the buffaloes charged the tiger, and made it drop the lad.

Felis pardus, *Linn.*, the Pard.

F. leopardus, *Schreb.*	Leopardus varius, *Gray.*

Var. *a.* the Panther.

F. leopardus, *Temm.*	F. pardus, *Hodgs.*
Honiga, ... CAN.	Tahir-hay, Bay-heera, HIM.
Adnara, . . CENT. IND.	Asnea, ... MAHR.
Burkal, ... GOND.	Chinna puli, . . TEL.
Tendwa, Chita, . HIND.	Sik, ... TIBET.
Chita bag, . . . ,,	Leopard of Sykes.

This variety of the larger cheeta is generally found in Western Asia, Bengal, Africa, and Afghanistan. It is of a pale fulvous yellow, with white belly, and a shorter and closer fur than the smaller variety; dwells in more open country than the smaller variety, and is a slighter and more active animal, extremely strong and fierce, and instances occur of several men being killed before this cheeta can be destroyed. They destroy wild pigs, monkeys, occasionally domestic cattle, ponies, children, old women.

Var. *b.* the Leopard.

F. leopardus, *Hodgs.* F. pardus, *Temm.*	F. longicaudata, *Val.*
Bibla of the . . . BAURI.	Beebeea bagh, . . MAHR.
Kerkal, ... CAN.	Ghur-hay, . . . SIMLA.
Gor-bacha, . . . DEKH.	Dheer-hay, . . . ,,
Bor-bacha, . . . ,,	Lakkar bagha, . . ,,

This is smaller and stouter, fur longer and looser, and spots more crowded. It varies much in size, some not bigger than a large tiger cat. It is very fearless, taking sheep, goats, monkeys, peafowl, etc., prowling around villages, and seizing dogs even in tents and houses. It is more abundant in the forest tracts of Malabar, the Wynad, Gumsur, and the Himalaya.

Var. *c.* Felis melas, *Perron*, F. perniger, *Hodgs.*

This is a well-marked race of a uniform dull black colour, the spots showing in particular lights, always found in forests or forest country, sparingly throughout all India, Assam, Malay Peninsula. This is supposed by some to be a black variety of the Felis pardus, and both varieties are said to have been found in the same den.

Felis jubata, the hunting cheeta or hunting leopard, is common, though not plentiful, throughout Southern India. They can be quite tamed, and handled with freedom. It is the pard of the ancients.

Felis cristata, a fossil tiger thus named was discovered by Sir P. T. Cautley in the Siwalik Hills.

Felis catus, the Cat, Domestic Cat.

Si mi, . . BHOT., SOKPA.	Maida, ... PERS.
Billi, ... HIND.	Poni, ... TAM.
Min-khyeng, . . KAMI.	Pilli, ... TEL.

The general term cat is applied by naturalists to all the feline tribe, but a considerable variety of animals are called cats in all countries, Civet cats, Genet cats, Marten cats, Pole cats, etc.; the Lemur also is the Madagascar cat. The marsupial animals of Australia are known as wild cats. The Shirmindi billi of the people of India means the bashful cat; and the wild cats of India are a small but savage kind of lynx (Felis rufa). Domesticated cats are not alluded to in Scripture, but they are mentioned in a Sanskrit writing 2000 years old, and there are figures of them on the monuments of Egypt of a much prior age. Mummy cats have been identified with Felis chaus or marsh cats, and with F. caligulata and F. bubastes, both still found in Egypt wild and domesticated. Pallas, Temminck, and Blyth believe that the domestic cats are descendants of several wild species, which readily intermingle. F. sylvestris is wild in Scotland. F. lybica is the wild cat of Algiers; and in S. Africa F. Caffra is wild. In India are four wild species, of which F. chaus has a lynx-like tail; F. ornata or torquata occurs at Hansi, and F. manal occurs in Central Asia.

In the Isle of Man cats are tailless, and have long hind legs. The domestic creole cat of Antigua is small, with an elongated head; and that of Paraguay, also small, has a lanky body. In the Malay Archipelago, Siam, Pegu, Burma, all the domesticated cats have truncated tails, with a joint at the end. In China a breed has drooping ears. The large Angora or Persian cat is supposed to be the descendant of the Felis manal of Middle Asia; it breeds freely with Indian cats.

Whittington's nursery tale of England is

rivalled by the story of the Florentine Messer Ansaldo degli Ormanni, in a letter of 'Conte Lorenzo Magalotti' in the 'Scelta di Lettere Familiari,' published by Nardini, Lond. 1802, p. 139; his two cats, due bellissimi gatti, un maschio una feminina, soon relieved the king of an island (Canaria) on which he had been cast by a violent tempest, from the plague of mice, and he was recompensed 'con richissimi doni.'—*Earl*, p. 333; *Darwin's Animals and Plants; Ouseley's Travels*, i. p. 171; *Jour. As. Soc. of Beng.* 1856, p. 441.

Felis uncia, *Schr.*, the Ounce.

F. uncioides, *Hodgs.*	F. irbis, *Ehrenb.*
F. pardus, *Pallas.*	
Sah, ... BHOT.	Pah-le, ... LEPCH.
Snow leopard, . . ENG.	Burrel hay, . . . SIMLA.
Thur-wag, . KANAWAR.	Iker, ... TIBET.

The snow leopard is found in the higher parts of the Himalaya, from 9000 to 18,000 feet, according to the season. Its ground colour is of a pale yellowish grey; head, cheeks, and back of neck with small irregular black spots. It kills the wild and domestic sheep. Length, head and body 4½ feet, tail 3 feet.

Felis diardi, *Desm.*, Clouded Leopard.

F. macroceles, *Temm.*	F. macroceloides, *Hodgs.*
F. nebulosa, *Griff.*	
Zik, ... BHOT.	Tung-mar, . . . LEP.
Lam-chittia of the KHAS.	

A handsome, powerful leopard of the S.E. Himalaya, from 5000 to 10,000 feet elevation; also in Nepal, Sikkim, Burma, Malay Peninsula, Sumatra, Java, Borneo. Very destructive to sheep, goats, pigs, and dogs. Usual ground colour, pale greenish brown.

Felis viverrina, *Bennett*, Large Tiger Cat.

F. viverriceps, *Hodgs.*	F. Himalayana, *Jardine.*
F. cælidogaster, *Temm.*	F. Bengalensis, *Buch Ham.*
Bagh-dasha, . . BENG.	Mach baghrul, . BENG.

Travancore, Malabar, Ceylon, throughout Bengal up to the S.E. Himalaya Terai, Burma, Nepal, China, and Malayana. It is remarkably beautiful.

Leopardus Japonensis, *Gray*, of Japan, and L. brachyurus, *Swinhoe*, of Formosa.

Felis marmorata, *Martin*, Marbled Tiger Cat.

F. Charltoni, *Gray.*	F. Ogilbii, *Hodgs.*
F. Duvancelli, *Hodgs.*	F. leopardus dosul, *Hodgs.*
F. diardi, *Jerdon.*	

This prettily-marked wild cat has been found in the Sikkim Himalaya.

Felis Bengalensis, *Desm.*, the Leopard Cat.

F. Sumatrana, *Horsf.*	F. undulata, *Schinz.*
F. Javanensis, ,,	Chaus servalinus, *Gray.*
F. Nipalensis, *Hodgs.*	Leopardus Chinensis, *Ell.*
F. pardichrous, ,,	L. Reevesii, *Ell.*
F. minuta, *Temm.*	

A very variable species, found throughout Ceylon, all India south-eastwards to Java. It is untameable. It is the Wagati of the Mahratta; lives in hollow trees, and destroys hares, mouse deer, etc.

Felis Jerdoni, *Blyth*, the Lesser Leopard Cat of the Peninsula of India, very similar to F. Bengalensis.

Felis aurata, *Temm.*, the Bay Cat.

F. Moormensis, *Hodgs.*	F. Temminckii, *Vigors.*
F. nigrescens, ,,	Moormi cat, *Hodgs.*

Inhabits the central region of Nepal and Sikkim.

Felis rubiginosa, *Is. Geoff.*, Rusty Spotted Cat. Namali pilli, TAM. Of the Karnatic, near Madras and Nellore. Colour greenish grey, with a faint rufous tinge; breeds with domestic cat.

Felis planiceps, *Vigors*, of the Malay Peninsula.

2d. *The Lynxine Group.*

Felis torquata, *F. Cuv.*, Spotted Wild Cat.

F. ornata, *Gray.*	Leopardus inconspicuus, *Gray.*
F. servalina, *Jardine.*	
F. Huttoni, *Blyth.*	

The ground colour is cat-grey, with numerous small black roundish spots. Length 2 feet, tail 1 foot. Central India, common at Hissar; feeds on the jerboa rat.

Felis chaus, *Gulden*, Common Jungle Cat.

F. affinis, *Gray.*	F. Jacquemonti, *Is. G.*
F. kutas, *Pearson.*	Chaus lybicus, *Gray.*
F. erythrotes, *Hodgs.*	
Ban-beral, . . . BENG.	Mota lahn manjur, MAHR.
Mant bek, . . . CAN.	Bhaoga, ... ,,
Katas, Jangli billi, HIND.	Jinka pilli, . . . TEL.
Cherra puli, . MALEAL.	Kada bek, Billa bek, WAD.

Common all over India, and up to 8000 feet, and throughout Africa; breeds with domestic cat.

Felis caracal, *Schr.*, the Red Lynx. Caracal melanotis, *Gray*, is found throughout Africa, in Arabia, Persia, Tibet, in many parts of Central and Western India, not in the Himalaya or Bengal. Feeds on peafowl, hares, etc., and is trained to kill hares, peafowl, kites, crows, cranes.

Felis Isabellina, *Blyth*, is the Lynx of Tibet, and F. manul, *Pallas* (F. nigripectus, *Hodgs.*), is also of Tibet. F. megalotis, *Temm.*, is of Timor.

Felis jubata, *Schreb.*, the Hunting Leopard.

F. guttata, *Hermann.*	F. venatica, *F. Smith.*
Kendua bagh, . . BENG.	Chita, Yuz, Laggar, HIND.
Chircha, Sivungi, . CAN.	Chita puli, . . . TEL.

This was the pard, panther, and leopardus of the ancients. Length, head and body about 4½ feet, tail 2½ feet, height 2½ to 2¾ feet. It is found throughout Africa, in S.W. Asia, Syria, Mesopotamia, in Sind, Rajputana, Kandesh, Central and Southern India. It attacks antelope, gazelle, and nilgai. It is trained to hunt deer, and is carried hooded on a cart till near the herd, where it is unhooded and slipped. It then slips down, and, if near the antelope, springs forward with a velocity perhaps exceeding that any other quadruped possesses. It singles out the biggest buck of the herd, holds it by the throat till disabled. If it fail, it walks about angrily.—*Jardine, Mammals; Elliot; Blyth.*

FELL, CAPTAIN, I.N., surveyed the Coromandel coast and the northern parts of the coast of the Tenasserim Provinces.

FELLAH, Fallāh, in Egypt, a cultivator, a farmer; but applied to an Egyptian is deemed derogative.

FELLEK. PERS. A stout pole 6 or 8 feet long, with two rope nooses in the centre, used for the bastinado (zarab). The sufferer is laid on the back, his feet are inserted in the nooses, and retained immoveable in the air by a man at each end of the pole; and two men, armed with pliable sticks, called chob, beat the soles of the culprit's feet. The Persians call it Chob khurdan, to eat stick.

FELSPAR, a mineral entering largely into the composition of hypogene rocks; granite is composed of felspar, quartz, and mica. It forms nearly two-thirds of granite rocks; it contains potass, an alkaline substance with a strong attraction for moisture or water. After a shower or a heavy night's dew, the moisture is taken up by the felspar, and conveyed into the substance of the rock, a portion of the potass being dissolved

out. After a time the remaining constituents of the felspar, viz. the silica and alumina, become crumbly, and gradually fall into powder, called kaolin or porcelain earth, or are washed into clay and soil.

FELT. Labād, ARAB. Namdah, PERS. Felts are extensively manufactured throughout Southern Asia; those of Kandahar have many beautiful patterns. The best felt is from sheep's wool; the commoner kinds from a mixture of wool and goat's hair picked and cleaned. The 'un' or 'oon' is spread out evenly on a large mat made of guinea grass stalks, which is then rolled backwards and forwards, and pressed until all unite. They are used as carpets, cushions, bedding, horse clothing, and by nomades for warm lining for their hair tents, and vary in price per piece from 1 or 2 to 50 or 60 rupees. Patterns are formed by beating in or felting wools of different colours, and a not unpleasing effect is produced.—*Bellew; MacGregor*, p. 47.

FELUJAH. On the Euphrates, about 70 miles below Hit, is the modern castle of Felujah, situated 29¾ miles W. 2° N. of Baghdad. The average width in this part of the river decreases a little, being only about 250 yards, with an ordinary depth of 20 feet; and there is a current of less than 2½ miles per hour in the flood season, when the river forms many islands, without wood. Above Felujah, at 5¾ miles S. 60° W. from it, the derivation called the Saklawiyah takes place. This stream crosses Mesopotamia by a tortuous eastern course on the north side of Akar-Kuf, and enters the Tigris at a point 5 miles below Baghdad; but until altered by Daoud Pasha to avoid the danger of inundations, it joined the Tigris a little above the city. The distance from river to river (by the course of the Euphrates steamer in passing, under Lieut. Lynch, in 1838) is about 45 miles. See Karej.

FENG-SHUY. CHIN. The geomantic influences of the locality.

FENNEL SEED, Nigella sativa.

Zadianuj, Razianuj, ARAB.	Mayuri, . GUJ., HIND.
Nan-nan-ya-wet, BURM.	Adas, . . JAV., MALAY.
Siau-hwui-hiang, CHIN.	Badian? Siah-dana, PERS.
Sonf, ... DUKH.	Madhurika, . . SANSK.
Fenouil, ... FR.	Dewadureo, . . SINGH.
Wurriali, . GUJ., HIND.	Perun-siragam, . . TAM.
Kala jira, ,, ,,	Pedda jillakara, . . TEL.

A variety is cultivated in the S.E. of Asia, and the natives regard its black aromatic seeds as stomachic, carminative, and as a condiment. Indeed, they were formerly used as a pepper. The seeds put amongst linen are supposed to keep away insects. They yield by expression a dark-coloured fragrant oil. The Hebrew word, which in Isaiah is rendered fitches, designates this plant; but not that in Ezekiel, where the original word for fitches signifies spelt, a species of wheat.—*Mason; Ainslie; Madras Exh. J. Rep.*

FENUGREEK SEED, Trigonella fœnum-græcum.

Helbeth, . . . ARAB.	Shemlit, . . . PERS.
Menta-soppu, . . CAN.	Alforvas, . . . PORT.
Mentia, ... ,,	Oolowa, ... SINGH.
Fenugrek, ... FR.	Vendium, . . . TAM.
Methi, ... HIND.	Mentuloo, ... TEL.

Cultivated in India. Flowers small and white. Seeds deemed tonic and carminative; used as a condiment and in curries. An oil is extracted from them.—*Voigt*, p. 209.

FERALIA of the Romans is the Sraddha of the Hindus.—*W.*

FERGUSSON, JAMES, Architect, C.I.E., D.C.L., LL.D., F.R.S., F.R.G.S. and M.R.A.S., was born at Ayr, in Scotland, in 1808, and was for a short time a partner in a mercantile firm in Calcutta. During the years 1836–1842 he travelled through India, investigating the history, forms, and architectural antiquities, examined the eastern caves at Cuttack and Mahaballipur, also those of Ajunta, Ellora, Karli, Kenheri, Elephanta, and others; and he has published the result of his researches into the origin of the architectural and sculptured remains of India, in volumes of the highest value to the ancient history of that country:—Illustrations of the Rock-cut Temples of India, 1845; Picturesque Illustrations of Ancient Architecture in Hindustan, 1847; Essay on the Ancient Topography of Jerusalem, 1847; Historical Inquiry into the True Principles of Art; Handbook of Architecture, 1855; On a Proposed New System of Fortification, 1849; Palaces of Nineveh and Persepolis Restored, 1851; History of the Modern Styles of Architecture, 1862, 1874; History of Ancient and Indian Architecture, 3 vols., 1865, 1874, 1876; Tree and Serpent Worship, 1868 and 1873; Illustrated Handbook for India, 1855, 1859; Rude Stone Monuments, 1872; Holy Sepulchre, 1865, 1871; Study of Indian Architecture, 1867; Temples of the Jews, 1878; Cave Temples of India, jointly with Mr. Burgess, 1880. In 1859 he was appointed one of the Royal Commissioners to inquire into the defences of Great Britain. 7th April 1871, the Royal Institute of British Architects presented him with the Royal Gold Medal, as the author who had distinguished himself by his architectural researches.

FERHAD, so conspicuous in Persian romance, contemporary with Khusru Parvez, or Chosroes (at the close of the 6th century), and that monarch's rival in the affections of fair Shirin, was a native of Kurdistan. He may be almost always recognised by the tishah or pickaxe, with which, for the sake of his mistress, he fractured or excavated enormous rocks, and, according to tradition, reduced the rugged face of Mount Besitun into those extraordinary sculptures for which it is still remarkable. With his tishah, says the poet Nizami, he rendered the hardest stone, as it were, soft like wax.—*Ouseley's Travels*, i. p. 234.

FERIDUN, B.C. 700? a hero of Persia, whose legend is related by Firdusi in the Shahnama. Feridun is fabled to have been the son of Abtīn and Firānek, and to have been born in the reign of Zohak. Zohak, being warned by wise men that Feridun would overthrow his kingdom, sought to destroy the child. Feridun's father was killed, but the mother fled to India with the child, who was there brought up by a hermit. When sixteen years of age, Feridun learned from his mother the secret of his birth, and determined on revenge. He overthrew the king, and nailed him to a rock. Feridun, in this Iranian legend, is identical with Thraetaona, the Trita of the Veda. He is fabled to have killed the tyrant Zohak on the Demavend mountain of the Alborz, south of the Caspian, as Trita slew the demon Vritra.—*Bunsen*, p. 348.

FERINGI. HIND., PERS. A term employed by Mahomedans of India to designate Europeans. It is used derogatorily, but ought not to be so,

being derived from Fering, Europe, as Danai-i-Fering wa Dowlat-i-Hind, the wisdom of Europe and pomp of India. Peling is the Tibetan corruption of the word Firingi, itself a corruption of Frank, the oriental word for European.

FERISHTA, the literary title of Muhammad Kasim, styled Hindu Shah, also Ferishta, author of the Tarikh-i-Ferishta, a work considered superior to all the other general histories of India. He was born at Astarabad, on the shores of the Caspian, A.D. 1570, according to General Briggs, but according to M. Jules Mohl, A.D. 1550. His father, Ghulam Ali Hindu Shah, left his native country and came to Ahmadnaggur while Ferishta was a lad, then ruled over by the Nizam Shahi. Briggs supposes his death to have occurred A.D. 1612, when only 41 years of age. He seems to have accompanied Chand Sultan to Bijapur, where he lived under the Adal Shahi kings, and wrote the book on which several have been founded, viz. The History of Hindustan from the Earliest Times to the Death of Akbar, which was translated by A. Dow, 3 vols. 4to, London 1768; also The History of Dekhan from the First Mahomedan Conquests, and the History of Bengal to 1780, which was translated from the Persian by Dr. J. Scott in 1794; The History of the Rise of the Mahomedan Powers in India till A.D. 1612, translated from the Persian by Jo. Briggs, 4 vols. 8vo, London 1829. He also wrote many novels. His death is also supposed to have occurred in a period of famine while still only forty years of age. His work was translated by General Briggs of the Madras army, but the manuscript was burned when the Poona Residency was destroyed by Baji Rao, and had again to be re-translated by General Briggs.

FERNS, the Fougère of the French and Félce of the Italians. Flowerless plants, the Filicales of Lindley and Filices of other authors, belonging to the Acrogenæ. The species present infinite variety, in the form and division of their elegant leaves or fronds, the arrangement of the veins, and the form and general character of the clusters (sori) of minute fruit capsules, which are disposed upon the under surface or margin of the fronds. The rhizomes of the common brake (Pteris aquilina, *L.*) furnish a farinaceous food in times of scarcity. The male shield-fern, etc., are employed in medicine as anthelmintics, but Europeans in India largely cultivate exotic species as plants. In the table-lands they are met with, and in the hills and mountains of India they are abundant. The Dipteris Horsfieldii of Johne is the noblest of all ferns. Captain Beddome in 1863 issued a volume on the Ferns of Southern India, containing 84 genera. Species of the following occur in India:

Polypodiaceæ.	1 autrophyum.	1 trichomanes.
14 polypodium.	1 meniscium.	*Osmundaceæ.*
2 hemionitis.	1 tœnitis.	7 lygodium.
1 notholæna.	1 allantodia.	1 schizœa.
4 aspidium.	1 cheilanthus.	*Daneaceæ.*
4 asplenium.	1 vittaria.	3 Daneæ.
8 pteris.	1 blechnum.	2 marattia.
1 Lindsæa.	*Gleicheniaceæ.*	1 Kaulfussia.
2 adiantum.	1 ceratopteris.	*Ophioglossaceæ.*
1 lomaria.	1 gleichenia.	4 ophioglossum.
1 sphæropteris.	1 hymenophyllum.	1 helminthostachys.
5 davallia.		
2 acrostichum.		

Fern Root, Kieuh, CHIN. Species of Nephrodium and Pteris are common in China, and are included under this name. A kind of arrowroot is prepared from the rhizomes, which are also eaten, after proper washing and cooking.

Fern Spores, Hai-kiu-sha, CHIN. This fern plant grows in Hu-nan Sze-chuen, and Che-kiang, in China, where the name of the spores means golden sea-sand. It is an exceedingly light, fine, reddish-brown powder, which burns almost as readily as lycopodium.—*Smith.*

FEROHZAD BAKHTYAR, the 29th and last but one of the Sassanian kings, A.D. 631. Under his successor, Yezdegird, the kingdom fell to the Mahomedans, A.D. 632.

FERONIA ELEPHANTUM. *Roxb.*

Cratæva vallanga, *Kon.*	Anisifolius Rumphii.
Kat bel, ... BENG.	Kupittha, . . . SANSK.
H'man, ... BURM.	Ma-koit, ... SIAM.
Bilva-titha, . . . CAN.	Dewul, ... SINGH.
Kavita-vriksea, . . ,,	Vela, Villa, . . . TAM.
Elephant apple tree, ENG.	Vilam, Pitta vula, . ,,
Wood ,, ,, ,,	Vellanga, ... ,,
Koit ka jhar, . . HIND.	Velaga, Kapitthamu, TEL.
Bhuin-koit, Kawtha, ,,	Parupu velaga, . . ,,
Bhu kupittham, SANSK.	Nela, Puli, . . . ,,

The large, tall, wood-apple tree, one of the Aurantiaceæ or orange tribe, is widely diffused in India. Its wood is white, hard, and durable. A specimen which was tried bore 360 lbs. In Vizagapatam it is much used in house-building, but said not to be very durable. It could possibly be creosoted, so as to withstand exposure. Its spheroidal fruit when ripe contains a dark brown, agreeable subacid pulp. When an incision is made in the trunk, a transparent oily fluid exudes, which is used by painters for mixing their colours. Both leaves and flowers have a strong odour of anise, and the young leaves are given in the bowel complaints of children as a stomachic stimulant. It yields a large quantity of a clear white gum, much resembling gum-arabic in its sensible properties, and forms the well-known East India gum-arabic; and, from its ready solubility without residue, it gives the best mucilage for making black ink. The rather acid pulp contained within the hard shell of the fruit is eaten with sugar, but is not much prized.—*Ainslie; Roxb.; Rohde; M. E. J. R.; Gibson's Report; O'Sh.; Wight.*

FEROZ. PERS. Victory. Hence Ferozabad, Ferozpur, Ferozshahr, as names of towns; Feroz and Ferozshah, names of persons and kings.

FEROZ KOHI, a tribe of the Aimak, a small number of people, about 8000, dwelling on the steep hill N.E. of Kale No, and from their inaccessible position afflict their whole neighbourhood with their robbing and plundering. Kale No, on the summit of the mountain, and the fortified places of Darzi, Kutch, and Chaksaran, are considered similar to the whole nests of the Bakhtiari and Luri in the environs of Isfahan. They have a resemblance to the Hazara, but their forehead, chin, complexion, and figure are less Turanian. They are decidedly Iranian. They take their name, the Feroz Kohi, after the city of that name, about 63 miles from Teheran. Timur settled them by force in Mazenderan, but they soon returned to their own country. They have a few cattle, and they sow a little, and plunder the caravans travelling on the Maimani road, or make inroads on the scattered tents of the Jamshidi.—*Vambery.*

FEROZPUR, in lat. 30° 57′ 1″ N., long. 74° 38′ 4″ E., in the Panjab, on the left bank of the Sutlej. The mean height of the station is 1120 feet.

FEROZ SHAH, in the neighbourhood of Ferozpur, in the Panjab. A battle was fought here on the 21st and 22d December 1845, between the British and the Sikh.

FEROZ TAGHALAQ SHAH, king of Dehli, was grandfather of Sultan Mahmud, whom Timur conquered. It was this king (A.D. 1351–1388, A.H. 752–790) who removed the lat or pillar, according to one account, from near Khizrabad, immediately west of the Jumna, at the foot of the Siwalik Hills, to Dehli, and erected it in the centre of his palace. This column is alluded to by Chand as 'telling the fame of the Chohan,' but he says it was 'placed at Nigumbode,' a place of pilgrimage on the Jumna, a few miles below Dehli, whence it must have been removed to its present singular position. The name of Beesildeo (Visaladeva) heads the inscription on the pillar. The pillar is now known as one of the Dehli Lat, also the Golden Lat, so called from the gilt kalasa, pinnacle or ball, which Feroz Shah placed on its summit. This monolith, like the kindred pillar at Allahabad, was in the first instance exclusively devoted to the exhibition of a counterpart text of the edicts of Asoka, but succeeding generations have taken advantage of the ready prepared monument to supplement a record of their own prowess. The other stone pillar at Dehli was brought from Mirat. His long reign was distinguished by the erection of many mosques, serai, colleges, hospitals, public baths, wells, aqueducts, and reservoirs for irrigation. He excavated a fine canal, running from the river Jumna through the province of Dehli to the Kaggar river, which subsequently fell into disuse; but 200 miles of it were restored by the British in the middle of the 19th century. The public works executed in his reign were 50 dams across rivers, and 30 reservoirs to promote irrigation, 40 mosques, 30 colleges, 100 caravansaris, 100 hospitals, 100 public baths, 150 bridges, besides many other buildings.—*Tod's Rajasthan*, ii. p. 452; *Orme.* See Lat.

FERQUEH, amongst the Afghans, means a tribe. It is probably from the Arabic Farq, separation. Farqah, a tribe or community.

FERREOLA BUXIFOLIA. *Roxb.* iii. p. 790.

Maba buxifolia, *Pers.*

Illumbilli maram, . TAM. | Eroombala maram, TAM.

This plant grows among the Circar mountains to the size of a small tree, but in the low countries it is only a shrub. The wood is dark-coloured, remarkably hard and durable; when its size will admit, it is employed for such uses as require the most durable, heavy wood. Its small red fruit, containing one seed when ripe, is pleasant to the taste, and is well known over India.—*Roxb.; Ainslie; Mr. Rohde's MSS.; Voigt.*

FERRY. The ferries at rivers in the S. of Asia are crossed by means very various. On the Tigris, Euphrates, the Upper Indus and its affluents, the practice of 3000 years still continues, for Xenophon's ten thousand were ferried over on inflated skins, and three slabs in the British Museum show the representation of the king of Assyria crossing the Euphrates in this mode, which, on the rivers named, still continues. Canoes are of common use on the ferries; two pieces of the bole of a palmyra tree, scooped out and blocked with clay at the end, and fastened together, are used in the Circars, but the wicker and leather coracle traverses most of the rivers in the Peninsula of India. The ferry-men on the Kistna river in the Peninsula are the Koli race, stalwart men. The Kili-Katr or Maddakpur race are also Kabl-gira or ferrymen.

FERULA ASAFŒTIDA. *Linn.* Asafœtida.

Narthex asafœtida, *Falc.*

Hiltit, Anjadan, . ARAB. | Hingiseh, ... HIND.
Samagh-ul-mahrus, „ | Yang, . . . KASHM.
Juwifeh, ... „ | Inguva, Hingu-patri, TEL.
Anguza, Hing, . . HIND.

This plant grows in all the mountainous countries in the north, the south, and the east of Persia, between Persia and Tibet, and in Lar, Khorasan, Afghanistan, up to India. It grows in the neighbourhood of Herat, mountains of Daristan and Baluchistan, and on the Hindu Kush at 7000 feet. Dr. Cleghorn says the asafœtida plant occurs in Pangi, and in the localities given for daphne and desmodium (as yielding material for making paper in district jails). Dr. Stewart got this plant in Khagan (Jhelum basin) at about 6000 feet; and Dr. Cleghorn, he says, mentions specimens of it as being brought to him on the Upper Chenab at over 8000 feet, but is not known there. This plant has been conjectured to have produced the Lasser of the ancients (see Astrantia), which, however, is now ascribed to a Thapsia. The gum-resin asafœtida is obtained by slicing the roots. A milky juice exudes, which dries rapidly into a fetid, pasty, bitter, and pungent mass. The odour of asafœtida has gained for the gum-resin the epithet of the devil's dung; the taste is bitter, acrid, and very durable. Asafœtida occurs in commerce in shapeless masses of waxy consistence, with small transparent, brittle, and white tears. It is used in medicine, and by all classes of Hindus as a condiment with their food.—*Stewart; Cleghorn, Panj. Rep.; Powell.*

FERULA GALBANIFERA. *Nees and Eberm.* Coasts of the Mediterranean, the Caucasus, etc.; yields copiously a secretion which dries into a gum-resin, supposed by some to be a galbanum. Professor Don states that galbanum is yielded by quite a different genus, called by him Galbanum officinale.—*Eng. Cyc.; Hogg*, p. 388; *Von Mueller.*

FERULA ORIENTALIS.—? *O'Sh.*

F. ammonifera, *Fee.* | Feshook, . . . ARAB.

It grows in Asia Minor, Greece, and Morocco; supposed a source of gum ammoniacum.—*O'Sh.* 364.

FERULA PERSICA. *W.* F. Sagapenum, *Fee.*

Sugbinuj, . . . ARAB. | Sugafiun, . GR., PERS.
Ee-sus of . . BOMBAY. | Kundel, ... HIND.

A native of Persia; stem about two feet high. According to some authorities, it produces sagapenum. Nees von Esenbeck and Lindley considered it as one of many plants from which asafœtida is procured. Sagapenum is found in masses. Its odour resembles that of garlic and asafœtida; its taste is hot, nauseous, and rather bitter. It is sometimes adulterated with bdellium, gunda-birosa, and other similar gum-resins or turpentines. It is collected in the same manner as asafœtida; sells at 4 rupees the pound. The medical uses of sagapenum are the same as those of asafœtida, but it is considered less energetic, and is but little employed.—*O'Sh.* p. 363.

FESTIVALS of the Hindus, of the Mahomedans, Burmese, and of the Chinese, are connected with their religions. At the Hindu Amavas, or festival of the new moon, Hindus eat only one meal. It is a monthly mortuary service, at which prayers are offered up for their parents, grand

and great-grand-parents. In the new moons of January, July, and August, they make offerings to the manes, of sweet food. The Thivasam is an anniversary commemoration of their parent, grand or great-grand-parent. The Mahalya Putcham of the month of August is a mortuary service. Avani Avattam is a half-yearly service. With Mahomedans, the new year festival of the Maharram, and those of the Ramzan and Bakreed are their chief. The Chinese new year falls on the 15th of Aquarius, their feast of lanterns on the first full moon of the new year.

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Nepal has treaties with India as an independent kingdom, but it is tributary to China. The titles of the late Maharaja Jung Bahadur were Thong-lin-pimma Kokang-vang-syan, Commander of the Army, the Valorous, Perfect in Everything, Master of the Military Affairs, Maharaja (name) Jung Bahadur. The titles used in Nepal are, however, mostly of Hindu origin, as Adiraj, Maharaj, Kunwar, Rawal, Rawat, Sah, Bahadur.

The *Nowanagar* chief is styled Maharaja Jam Sahib Sivasthan Nowanagar.

Oodeypur is ruled by a Suryabansi Rajput, His Highness Maharana Sujjun Singh, born 9th June 1858. They are mentioned in A.D. 720, and are deemed Hindus of the highest rank.

The *Parsee* race is chiefly dwelling in parts of the Bombay districts; they were refugees from Persia in the fourteenth century. Her Majesty created Jamsetji Jijibhoi a baronet of the United Kingdom. The Rustomji Cowasji family claim as a titular appellation, Davar, said to mean in the Zend or Pehlavi, a chief or judge. That family has also assumed the designation of Modi, meaning provision supplier. Indeed, except their constant use of the Hindi term Jee added to a name of Persian origin, the Parsees are proud of the trades by which they acquired wealth, and in Bombay are the Bottlewala.

Patiala is a Sidhu Sikh chieftaincy. It has an area of 5412 square miles, with a population of 1,650,000, and 44 lakhs of revenue. The ruler is styled Farzand-i-Khas-i-Daolat-i-Anglizia, Mansur[illegible]man, Amir-ul-umra, Maharaja, Dhiraj, Rajes[illegible]i Maharaja Rajgan Mahandar Bahadur.

Pu[illegible]s an independent chief, His Excellency [illegible]ondaman Bahadur, of the highly predato[illegible]race; indeed, their tribal name means [illegible]; they devotedly served the ritish i[illegible] of the 18th century in the thern[illegible]e Peninsula, and this small tory [illegible] them. His Excellency's rial b[illegible]a lion, a feline animal not in th[illegible] India.

[illegible]itles in use are Babi, Maha-

[illegible] 37 miles from Bellary, is [illegible] independent Mahratta chieftain of the [illegible]amily, who is styled Siva Shanmukha [illegible]ra, Mamlakat Madar, Senapati, Raja

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Sin[illegible]in, is an independent ruler, c[illegible] present (1883) sovereign's t[illegible]dia. His many titles may be g[illegible]e following form:—

Mukhtar-ul-[illegible]bsolu[illegible]xecutive authority of the coun[illegible]

Azim-ul-Iqtadar, The Mighty in [illegible]ower.

Rafi-us-Shan, The High in Pomp.

Wala Shikoh, The Exalted in Splendour.

and great-grand-parents. In the new moons of January, July, and August, they make offerings to the manes, of sweet food. The Thivasam is an anniversary commemoration of their parent, grand or great-grand-parent. The Mahalya Putcham of the month of August is a mortuary service. Avani Avattam is a half-yearly service. With Mahomedans, the new year festival of the Maharram, and those of the Ramzan and Bakreed are their chief. The Chinese new year falls on the 15th of Aquarius, their feast of lanterns on the first full moon of the new year.

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The *Banaganapilly* ruler is a Mahomedan Syud, and is styled Nawab of Banaganapilly, Khan Bahadur.

The *Bengal* Subahdar is not ruling. In 1763, Jafar Ali Khan was placed by Clive on the musnud as Subahdar of Bengal, Behar, and Orissa; and in 1880 the holder of the titular dignity was the eighth in succession, and styled Nawab Mantazam-ul-Mulk, Mohsan-u-Dowlah, Faridun Jah (name), Khan Bahadur, Nasrat Jang.

In Bengal there are many great Hindu landed proprietors, as the Raja of Benares, the Raja of Bardwan; and numerous chieftains with territorial possessions, as in Munipur, and amongst the Garo and Khassya, and in Assam on the east, and in the west amongst the Santal, Kol, etc.

In Calcutta, the capital of Bengal, there are many families with titular appellations, some of them patronymic, some of Mahomedan and some of Hindu origin, such as Deb; Sri-sri-Raja Deb-Bhao Ballanda; Kumar; Rai, Raja, Rani, Maharaja, Maharani, Rai Bahadur, Bahadur, Raja Bahadur, Maharaja Bahadur; Malik, Nawab. A Hindu lady, a great patron of learning, has recently been created a Maharani.

The *Bhadauria* family of the Agra district often rendered good service to the British; and Lord Lake bestowed on them the pargana of Atair as an altamgha jaghir, but it was subsequently resumed.

Bhownaggar rulers are styled Thakur, and have the title of Rawul.

Bhopal is ruled by a lady of the Mahomedan faith, Shah Jahan Begum, G.C.S.I., Begum of Bhopal. The titular designations of the Bhopal chiefs are, Myan, Rao, Rawut, Raja, Maharaja, Bahadur, Nawab, and Thakur.

Bhurtpur, in Hindustan, has a Hindu family of the Jat race, the ancient Getæ. Their title is Brijandar Siwai Bahadur, Bahadur Jung, Maharaja of Bhurtpur. The Jat are an earnest, brave race.

Bikanir, in Rajputana, is ruled over by a Rahtor Rajput, styled Maharaja of Bikanir.

Bobali, a great landed estate in the Northern Circars, is held by a Hindu, styled Raja Sahib Mihrban Dostan, Raja (name) Bobali Rana Garu.

The *Bundi* ruler is styled Maharao Raja of Bundi.

In the *Canarese*-speaking country, the chiefs are largely of Mahratta origin. Jamnepa Kara means a public benefactor.

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Kavatnagar, a great zamindari near Madras, held by a family who rose from obscurity in the 17th century, known in history as Bomraz.

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The *Mysore* kingdom is ruled by a Hindu sovereign, under the partition treaty of 1799, framed after the fall of Seringapatam. The present ruler, Chamrajendra Wadiar, born 1862, was adopted by his predecessor, was installed 23d September 1868, and placed in charge in March 1881. He is styled Maharaja Chamrajendra Wadiar Bahadur Raja of Mysore.

Nepal has treaties with India as an independent kingdom, but it is tributary to China. The titles of the late Maharaja Jung Bahadur were Thonglin-pimma Kokang-vang-syan, Commander of the Army, the Valorous, Perfect in Everything, Master of the Military Affairs, Maharaja (name) Jung Bahadur. The titles used in Nepal are, however, mostly of Hindu origin, as Adiraj, Maharaj, Kunwar, Rawal, Rawat, Sah, Bahadur.

The *Nowanagar* chief is styled Maharaja Jam Sahib Sivasthan Nowanagar.

Oodeypur is ruled by a Suryabansi Rajput, His Highness Maharana Sujjun Singh, born 9th June 1858. They are mentioned in A.D. 720, and are deemed Hindus of the highest rank.

The *Parsee* race is chiefly dwelling in parts of the Bombay districts; they were refugees from Persia in the fourteenth century. Her Majesty created Jamsetji Jijibhoi a baronet of the United Kingdom. The Rustomji Cowasji family claim as a titular appellation, Davar, said to mean in the Zend or Pehlavi, a chief or judge. That family has also assumed the designation of Modi, meaning provision supplier. Indeed, except their constant use of the Hindi term Jee added to a name of Persian origin, the Parsees are proud of the trades by which they acquired wealth, and in Bombay are the Bottlewala.

Patiala is a Sidhu Sikh chieftaincy. It has an area of 5412 square miles, with a population of 1,650,000, and 44 lakhs of revenue. The ruler is styled Farzand-i-Khas-i-Daolat-i-Anglizia, Mansur Zaman, Amir-ul-umra, Maharaja, Dhiraj, Rajeshur, Sri Maharaja Rajgan Mahandar Bahadur.

Puducottah has an independent chief, His Excellency the Raja Tondaman Bahadur, of the highly predatory Kollari race; indeed, their tribal name means thief. But they devotedly served the British in the wars of the 18th century in the southern part of the Peninsula, and this small territory remains to them. His Excellency's armorial bearings is a lion, a feline animal not known in that part of India.

In *Rewa Kanta* the titles in use are Babi, Maharana, Maharawul.

Sandur, in a valley 37 miles from Bellary, is ruled by an independent Mahratta chieftain of the Ghorpara family, who is styled Siva Shanmukha Rao, Ghorpara, Mamlakat Madar, Senapati, Raja of Sandur.

Sind, now British territory, has chiefs with titles both from Hindu and Mahomedan sources. Many of the former are tribal, as Numra, Jat, Kalmati, Jokia, Soda, Talpur, Kulhora, Jam, Rao, Thakur, Wadero; also Arbab, Agha, Makhdum, Malik, Rana, Khan, Bahadur.

Sindia, of Mahratta origin, is an independent ruler, capital Gwalior. The present (1883) sovereign's name is Jyaji Rao Sindia. His many titles may be given in diglot, in the following form:—

Mukhtar-ul-Mulk, The absolute executive authority of the country.
Azim-ul-Iqtadar, The Mighty in Power.
Rafi-us-Shan, The High in Pomp.
Wala Shikoh, The Exalted in Splendour.

Muhtasham-i-Daoran, The Magnificent One of the period.
Umdat-ul-Umra, The Cream of the Nobles.
Maharaj Dhiraj, The Great Chief.
Ali Jah, The Chief par excellence.
Hissam-us-Saltanat, The High in Dignity.
Maharaja Jyaji Rao Sindhia, Bahadur, Sri Nath, The Great Chief Jyaji Rao Sindhia, The Valiant, The Lord.
Mansur-i-Zaman, The Conqueror of the Age.
Fadvi Hazrat, Malikah Muazzamah Rafi-u-Darjah, Inglistan, G.C.S.I., Vassal of Her Majesty the Honoured and Exalted Queen of England, Grand Commander of the Most Exalted Order of the Star of India.

Travancore is ruled by a Hindu sovereign, whose family and most of whose subjects follow the law of maternal inheritance. The regal insignia is a chank shell; and the titles of the Maharaja are Sri Padmanabhadasa, Vanji Bala Rama Varma, Kula Shekara, Kiritapati, Manne Sultan, Maharaj Raja Rama, Raja Bahadur Shamshir Jung, G.C.S.I., Maharaja of Travancore.

Vencatagiri is a great zamindari near Madras. The proprietor's titles are Raja Mashafaq, Mihrban, Karmfarma-i-Mukhlasan, Raje Velugoti Kumara Zachama Naidu Bahadur, C.S.I., Panj Hazar Mansabdar.

The *Vizianagram* Maharaja is of Rajput descent, and a great landed proprietor or zamindar in the Northern Circars. The grandfather of the present holder never submitted to the British, and died in the wilds of the zamindari. His son, a mere child, who died in 1880, was brought into British territory and placed in possession of the estates. The titles of the family are chiefly of Persian and Arabic words, with vowels added to give Telugu terminations, Maharaja Sahiba Mihrban Mashapaku, Kadrdan, Karmfarma-i-Mukhlasan Maharaja Mirza, His Highness (name) Sri Vizia Rama Gajapat Raju Manya Sultan Bahadur, K.C.S.I.

The *Zamorin* of *Calicut* is the inheritor of a title famed at the time of the arrival of the Portuguese, but whose ancestors lost their position in the subsequent strife with those Europeans and with the Mysore State. In 1766, the Zamorin, being beleaguered by Hyder Ali, he set fire to his palace, and voluntarily perished in the flames. His title, Raja Poomthurakoo Koonalakonatiri, does not contain the term by which the ruler is known to Europeans, and which is supposed to be a lingual variation from Samundar, the ocean. Since 1766, the Zamorins have been tributary, first to Mysore, and since 1799 to the British.

FEY-YUE-LING, a gigantic mountain on the frontier of the central empire of China, rising like an advanced post of the mountains of Tibet. It rises almost perpendicularly, and presents to the eyes of the traveller many peaks. During the whole year it is covered with snow, and surrounded by clouds that reach to its very foot. The road is frightful, and passes over rocks and chasms; it is one of the most difficult in all China, and no place of rest can be found on it.—*Huc, Chinese Empire*, i. pp. 2–16.

FEZ, a red cap worn by many of the Turks of Europe, Egypt, and W. Asia, also by many Greeks. The fortunes of the fez make a curious chapter in the unwritten history of clothes. It is now a symbol or a survival of Islam and of oriental manners. The great reforming Sultan Mahmud put down the turban, as he put down the janissaries. He made all civil and military officials adopt the fez, while the turban only survived as a head-dress to be worn in the seclusion of the haram, or as an ornament carved in stone above the graves of the faithful. The very ulema were compelled in 1837 to renounce the turban for the fez. It was like stripping a bishop of his apron, or compelling the higher clergy to attire themselves in trousers. The ulema revolted on Mahmud's death, and returned to the turban. They would not wear the head-dress of the Gabar, for the red fez is originally the coiffure of the Greeks and Albanians.

FIBROUS MATERIALS. Fibres are either cellular in their structure, like the cotton, Bombax cotton, madar fibres, or they consist of woody tissue or fibre, like the lotus fibre, flax, hemp, jute, sunn, etc. But the cellular fibres are not the product of stem or leaves, but of the seed-vessels, etc. Plants whose stems and leaves are simply formed of cells or vessels yield no fibres. On the outbreak of the war with Russia in 1855, the attention of British manufacturers was directed towards the probable effect which the stoppage of the Russian trade would produce upon the supply of flax and hemp, the greater portion of which had been derived from that empire. Their importations of flax from all parts, in 1853, had amounted to 94,169 tons, and Russia alone contributed 63,399 tons towards that quantity; and out of 63,142 tons of hemp imported during the same year, 41,819 tons were obtained from Russia alone. The total value of these importations, computed upon the average rate of the year, amounted in round numbers to £3,500,000 sterling. Under these circumstances, attention was forcibly directed towards India as a possible source of supply, and the result was that Indian fibres were proved to possess all the necessary intrinsic properties, while in point of flexibility and strength some of them are infinitely superior to Russian produce. Very much was then done by Dr. John Forbes Royle, Dr. Alexander Hunter, the British Government, and the Governments of India, to extend our knowledge of the fibrous and textile materials of South-Eastern Asia, and the result was to make generally known that each district of India and of the south and east of Asia has its own particular fibres, all largely utilized by the people, and amongst the most deserving of attention may be enumerated the following:—

Abelmoschus esculentus.
A. ficulneus.
Abroma augustum.
Abutilon Indicum.
A. polyandrum.
A. tomentosum.
Acacia leucophlæa.
A. Arabica.
Agave Americana.
A. cantala.
A. diacantha.
A. viridis.
A. vivipara.
A. yuccæfolia.
Ailantus Malabaricus.
Aletris nervosa.
Aloe Indica.
A. perfoliata.
Ananas sativus.
Andropogon involucrum.
A. schœnanthus.
A. muricatus.
Arenga saccharifera.
Antiaris saccidora.
Areca vestiaria.
Artocarpus, several species.
Arundo donax.
Bambusa arundinacea.
Bauhinia racemosa.
B. diphylla.
B. Vahlii.
B. tomentosa.
B. scandens.
Boehmeria nivea.
B. tenacissima.
Borassus flabelliformis.
Bromelia, several species.
Broussonetia papyrifera.
Butea frondosa.
B. superba.
Callicarpa cana.
C. lanata.
Calotropis gigantea.
C. Hamiltonii.
C. procera.
Cannabis sativa.
Carex Indica.
Careya arborea.

FIBROUS MATERIALS.

Caryota urens.
Chamærops humilis.
C. Ritchiana.
Cordia obliqua.
Cocos nucifera.
Corchorus olitorius.
C. capsularis.
C. fuscus.
Corypha, several species.
Crotalaria Burhia.
C. juncea, sunn.
C. tenuifolia.
Cyperus textilis.
C. tegetum.
Dæmia extensa.
Daphne bholua.
D. cannabinus.
D. Gardneri.
Decaschistia crotonifolia.
Desmodium argenteum.
D. tiliæfolium.
Eriolæna Candollii.
Eriodendron anfractuosum.
Eriophorum cannabinum.
E. comosum.
Erythrina Indica.
Ficus Mysorensis.
F. religiosa.
F. racemosa.
F. Roxburghii.
F. venosa.
F. Indica.
F. oppositifolia.
Fourcroya gigantea.
GirardiniaLeschenaultiana
Gossypium Indicum.
G. acuminatum.
G. herbaceum.
Grewia Asiatica.
G. tiliæfolia.
G. rotundifolia.
G. didyma.
G. oppositifolia.
Guazuma tomentosa.
G. ulmifolia.
Hibiscus cannabinus.
H. fragrans.
H. furcatus.
H. macrophyllus.
H. sabdariffa.
H. striatus.
H. vesicarius.
H. rosa Sinensis.
H. vitifolius.
H. lampas.
Isora corylifolia.
Juncus, *sp.*
Lodoicea Seychellarum.
Linum usitatissimum.
Maranta dichotoma.
Marsdenia Roylei.
M. tenacissima.
Mimosa Intsia.
Musa paradisiaca.
M. sapientum.
M. textilis.
Myssiessya hypoleuca.
Nelumbium speciosum.
Orthanthera viminea.
Pandanus odoratissimus.
Papyrus pangorei.
Paritium macrophyllum.
P. tiliaceum.
Philadelphus, *sp.*
Phœnix acaulis.
P. dactylifera.
P. sylvestris.
Rhapis Cochin-Chinensis.
R. flabelliformis.
Saccharum sara.
S. munja.
S. officinarum.
Sanseviera Zeylanica.
Salmalia Malabarica.
Sesbania aculeata.
S. cannabina.
Sida Asiatica.
S. graveolens.
S. Indica.
S. rhomboidea.
S. rhombifolia.
S. tiliæfolia.
S. periplocifolia.
S. populifolia.
Strychnos potatorum.
Similax ovalifolia.
Sterculia guttuta.
S. ornata.
S. villosa.
Terminalia alata.
T. belerica.
Trigonella fœnum-græcum.
Triumfetta angulata.
T. lobata.
Tylophora asthmatica.
Typha angustifolia.
T. elephantina.
Ulmus campestris.
Urena lobata.
U. sinuata.
Urtica, several species.
U. heterophylla.
Vernonia anthelmintica.
Wikstræmia salicifolia.
Yucca angustifolia.
Y. gloriosa.
Y. aloifolia.

Dr. Royle, from the experiments he had made on all kinds of fibre, was able to state that dealers in Britain can have a cheaper and better supply of fine and course fibre from India, for ropemakers and fine spinners, than it is possible for them to get from any other country. He made the Himalayan hemp so soft, fine, and white, that it could not only take the place of St. Petersburg flax, but it could be used in place of Dutch flax; and twenty years' practical knowledge enabled him to say that it was capable of being spun into 60-shilling wrap yarn.

A further result of the inquiries then instituted, has been a yearly increase in the quantities of fibrous materials exported from British India to Europe and America, but chiefly to the United Kingdom. The more important of these is cotton, jute, coir, and the several commercial products shipped as hemp. The exports from India have been as under :—

Year.	Coir and Manufactures (not Cordage).		Cordage and Rope (excluding Jute).		Cotton, raw.		Hemp, raw.		Jute, raw, Gunny Bags, Cloths, Rope and Twine, etc.
	Quantity, Cwt.	Value, Rs.	Quantity, Cwt.	Value, Rs.	Quantity, Cwt.	Value, Rs.	Quantity, Cwt.	Value, Rs.	Value, Rs.
1874–75	152,745	13,72,803	...	...	5,600,086	15,25,73,416	80,050	6,66,539	3,48,55,221
1875–76	111,110	10,09,401	30,216	3,33,673	5,009,788	13,27,89,635	75,878	6,28,604	3,29,45,209
1876–77	176,086	18,98,845	24,193	2,65,603	4,557,915	11,74,61,836	85,207	7,58,856	3,35,61,242
1877–78	141,016	15,15,884	46,087	3,65,790	3,459,077	9,38,35,340	55,312	5,76,911	4,28,92,407
1878–79	189,782	18,77,268	32,812	3,55,377	2,966,060	7,91,30,458	45,628	4,62,334	4,89,88,604
1879–80	132,697	11,71,802	20,959	2,77,480	3,949,701	11,14,91,778	42,202	4,03,676	5,56,53,944

The abundance of fibrous materials in S.E. Asia may be illustrated by mentioning that while they are exported from India to the value of twenty to thirty millions sterling annually, the little of any kinds that are brought to India is almost all re-exported.

Southern India is abundantly productive of fibrous materials for every description of textile manufacture, from the coarsest packing cloth, to the finest cambric, lawn, or muslin. It would be impossible to say how far the cultivation of fibrous plants might be carried, and what would be the demand for them at Madras, if properly prepared for the market; but there is no doubt that a slovenly mode of preparing these materials has hitherto tended greatly to interfere with their sale in the European market.

In *Bengal* there are several plants adapted for the manufacture of textile fabrics. A species of Urtica, of whose fibres the much-admired grass-cloth of China is made, is cultivated in Rungpur, and, as rheea, is grown in Assam and Cachar. The pine-apple plant, too, from which a beautiful fabric is manufactured in Manilla, is indigenous in Sylhet and Assam, and is extensively cultivated about Dacca. The fibres of both plants are used by the natives for making fishing lines and nets; but up to 1851 no attempt had been made in Bengal to weave them into fine cloths. The same remark, perhaps, applies to munga (Sanseviera Zeylanica), the fibres of which are commonly used to make bowstrings. Calotropis gigantea possesses a fine silky fibre; and some varieties of the plantain tree, as the Musa textilis, yield fibres which, like the abaca hemp of Manilla, are capable of being converted into strong thread or cord, such as the Dacca spinners sometimes use for the bows with which they tease cotton. The people of Rungpur make cloths of the fibres of pat; and there can be little doubt that, if encouragement were given to them and other spinners and weavers in Bengal, they would, with the skill which they possess in these arts, also succeed in converting other materials into fabrics.

In the *Tenasserim Provinces* ropes are frequently made from the barks of Paritium macrophyllum, P. tiliaceum, Hibiscus macrophyllus, Sterculia guttata, and Sterculia ornata.

In *China* the staple summer crops are those which yield textile fibres. Jute is grown to a very large extent, and is used in the manufacture of sacks and bags for holding rice and other grains. A

gigantic species of hemp (Cannabis), growing from ten to fifteen feet in height, is also a staple summer crop. This is chiefly used in making ropes and string of various sizes; such articles being in great demand for tracking the boats up rivers and in the canals of the country.

Boehmeria nivea yields the well-known rheea fibre. In strength it exceeds the best hemp, and in fineness it rivals the superior kinds of flax. Its culture is well known to the natives of Assam, and in the districts of Rungpur and Dinajpur, being called kunkhoora. It is known in Burma, and is the pan of the Shans, the ramee of the Malayas and of Java, and the caloee of Sumatra. Its culture succeeded in Tenasserim, and is followed in Siam, as in other eastern countries and islands. It is identical with the highly valued article of commerce known by the name of China grass, the Chu-ma of the Chinese, and from which the famed grass-cloth of China is manufactured. Manure is useful and moisture essential to quick growth, as well as shade and some protection from storms, in order to allow it to grow to the height of eight feet, from which a six-foot fibre may be separated. Hence it is most common and succeeds best in the districts along the foot of the hills. It is grown from the separated roots, and may be cut down several times in the year, so that four or five crops may easily be obtained during the year, and the aggregate produce of an acre of ground be about twelve maunds. The different crops vary in strength and fineness, the earlier being the stronger and the latter finer. The culture is perfectly understood, and it is susceptible of easy and rapid extension. The expense seems to be about five rupees a maund. Various attempts have been made to bring it into demand as an article of commerce. Dr. Roxburgh obtained four plants from Bencoolen in the year 1803, and wrote that it was one of the strongest fibres he had met with. In 1811, Dr. Buchanan sent three bales of the fibres to Messrs. Sharp of Mark Lane, who reported that a thread spun of this fibre bore 252 pounds, whereas the weight required to be borne by Russian hemp of the same size, in His Majesty's dockyard, was only 84 pounds. The Society of Arts, in the year 1814, awarded a medal to Captain J. Cotton of the East India Company's service, for the introduction of this fibre, and medals and honourable mentions were awarded to several exhibitors from India and Java, at the Exhibition of 1851, for specimens of sailcloth, ropes, cables, finer kinds of cloth, and tablecloths; and it is used by the natives of the countries which have been mentioned for making nets and fishing lines; also stout cloth and some of finer fabric.

A plant, known to the people as Ban Rheea, or wild rheea, is very common in all parts of the Assam province in most of the forests. By proper management any quantity of young shoots can be obtained, and as the divided roots afford numerous shoots, and the plant can be propagated by slips as well as by seed, its cultivation for its fibre might be carried on with facility. It is cultivated largely by the hill tribes on the north-west of Yun-nan, and by the Singpho and Dhounnea of the north-east frontier to a small extent only for a coarse cloth, but chiefly for nets. It is the Leepeeah of Nepal. Thompson & Co., rope-makers, of Calcutta, said of it that it is all that can be desired for either canvas or lines, and only requires to be known to be generally used for that purpose. It was valued as being worth about £35 a ton in England. When made into a five-inch rope at Messrs. Huddart's works, it absorbed 1·7 of tar, and did not break until it bore nearly 9 tons weight.

Clean samples of the following fibres were taken, of equal weights and firmly tied at their ends, so as to be of equal lengths, and their strength tried in the India House Military Stores, 16th December 1853.

Petersburg hemp broke with	160 lbs.
Jubbulpur hemp, from Mr. Williams,	190 ,,
Wuckoo-nar fibre, Travancore,	175 ,,
Mudar or yercum fibre, common all over India,	190 ,,
China grass, Boehmeria nivea,	250 ,,
Rheea fibre, the same from Assam,	320 ,,
Wild rheea, Boehmeria species, from Assam,	343 ,,
Kote Kangra hemp, (no breakage at)	400 ,,

Dr. Royle gives the following tested strength of certain fibres :—

Wuckoo fibre, small cord, broke at	86 lbs.
Petersburg hemp cord,	170 ,,
Wild rheea cord, same size as Russian,	190 ,,
Rheea fibre cord, one thread larger,	230 ,,
Pound line of wild rheea,	510 ,,
Six-thread cord of Petersburg hemp,	505 ,,
Six-thread ratline of rheea, tarred,	525 ,,
Six-thread ratline of wild rheea, tarred,	530 ,,
Nine-thread ratline of wild rheea, tarred,	860 ,,
Twelve-thread ratline of wild rheea, tarred,	1120 ,,
One-inch rope of wild rheea,	1350 ,,
One-inch rope of wild rheea, tarred,	1900 ,,
One-and-a-half-inch rope of wild rheea, tarred,	1900 ,,
Two-inch cord of Russian hemp,	1800 ,,
Two-inch rope of rheea fibre, tarred,	2800 ,,
Twelve-thread rope of plantain, made in India,	864 ,,
Twelve-thread rope of pine-apple, made in Ind.,	924 ,,
Two-inch cord of Russian hemp,	1800 ,,
Two-inch rope of dhunchee fibre, made in Ind.,	1850 ,,
Two-inch rope of agave, usually called aloe, made in India,	1900 ,,

Planting and Cleaning.—When plants are grown to produce fibres, they ought to be sown thick, to induce them to grow tall and slender and without branches, so that the straight stems may yield a greater length of fibre; and it may be laid down as a general rule that the softness or clearness of a fibre forms a good criterion of its strength, and *vice versa*.

As a general rule, every day's steeping of a fibre takes from its strength, and imparts more or less colour. Therefore, with plants having bark and woody fibres, the fibre can be purest extracted by beating them, at first, well with a wooden mallet, in order to loosen and allow the removal of the bark from the stalk, as it is generally on the inner surface of the bark that the fibres suitable for cordage usually occur. When the bark has been brought into a pulpy state, it should be well washed in clean water, to remove as much of the sap as possible, as this is the part in which the putrefactive process first begins. The leaves, stalks, or barks of plants should be cut when in full vigour, and in their bright green colour; when old, dried, or decayed, they yield coarse and stiff fibre. Only so much should be cut at a time as can be cleaned within two days, and the plants when cut should not be exposed to the sun, as the sap dries up, and the process of cleaning them is made more tedious. The sooner the sap, pulp, and impurities can be removed from the fibre, the cleaner and stronger will it be. If

a plant be well crushed or beaten soon after it is cut, it may be immersed in water for a night, and a good deal of the injurious part of the sap will be removed. These remarks are particularly applicable to the coir fibre. With the agave, yucca, fourcroya, and sanseviera, beat or crush the pulp with a mallet or crushing cylinder, or a brake, and scrape away the pulp and wash the fibres. In cleaning the fibres of pulpy plants, the plants should first be bruised or crushed, and the juice which exudes may be kept to be converted into a coarse kind of vinegar required in another process. For this part of the process the common sugar mill of India, with two perpendicular rollers and a channel to convey the juice into some convenient vessel, answers well, and the cost does not exceed ten rupees. Where this small sum cannot be afforded, and labour is abundant, the plant may be well beaten with wooden mallets on planks, until all the pulp is loosened. When it has assumed a pulpy consistence, the plant should be seized at both ends and well twisted on itself in various directions to squeeze out the sap. It should then be well washed in plenty of water, untwisted, and scraped on a board, in small handfuls at a time, with a blunt straight knife, or a long piece of hoop iron fastened into a wooden handle. When all impurities are thus removed, the fibres may be soaked for an hour or two in clean water, and then hung up in the shade to dry, the latter being a point of much importance, as exposure to the sun at first is apt to discolour them. By this simple process, fibres of great length, of a silky appearance, and of a good colour, can readily be prepared. The scrapings should be well washed, and set aside in the shade to dry as tow for packing, or as a material for making paper. This process is applicable to all fleshy or pulpy plants, such as those known as aloe plants, the agave and yucca, sanseviera and plantain. Prices have been obtained in England for fibres cleaned in this manner, double those offered for fibres sent at the same time, but which had been cleaned by the ordinary rotting process.

In order to save labour, the usual practice has been to steep the plants till the sap and vegetable juices are thoroughly decomposed, as the fibre can then in most instances be easily beaten or washed out; but this method, though applicable to a certain extent in cold climates, where decomposition takes place slowly, is found in India to be very injurious to the fibre, and to be almost inapplicable in warm climates, where fermentation often passes into putrefaction within three days, and the decomposed sap acquires acid and other properties, which not only deprive the fibres of their strength, but discolour them in such a way as to render them quite unfit for manufacturing purposes. Most vegetable substances contain, besides the fibrous tissue, sap, cellular tissue, and a little colouring matter. The sap consists usually of water, gum, fecula, and alkali, with occasionally tannin. When plants are dead or dried up, they pass into a red or brown, usually streaked with deep yellow and grey. It is often possible to detect a regular succession of colours in the different parts of the same plant, and a few very useful lessons may be drawn from them,—1st, That the pale yellow or greenish parts of a plant contain fresh, tender fibres; 2d, that the deep green parts of a plant contain fibres in full vigour; and 3d, that red or brown parts indicate that the fibre is past its prime and beginning to decay. In the latter case, the fibre becomes stiff, harsh, and often brittle. If plants be cut and exposed to the air or steeped in water, the same succession of colours may be observed while they are drying or passing into decomposition, and these form a criterion by which the value of the fibre may be detected.

The above remarks are applicable to the cleaning of nearly all plants. Some special observations regarding particular classes may be given.

The Palms—Cocoanut Coir.—The coir fibre from the husk of the ripe cocoanut is greatly improved in quality and appearance by beating, washing, and soaking. The old method of steeping in salt water for eighteen months or two years is quite unnecessary, and produces a harsher and dirtier coir. The tannin which this substance contains prevents the fibre from rotting; but most of the coir of commerce is a dusty, harsh produce, while clean, and samples are suited to a superior class of manufactures, as fine mats and furniture brushes. Palm leaves are employed for thatching and making fans; they do not undergo any preparation. Leaf-stalks of the palms are harsh, stiff, and brittle, but if beaten and washed they become softer and whiter; if carefully split and drawn like wire through perforated steel plates, a neat, clean, and durable basket-work might be made from them.

Leaves of the Screw Pine make good matting. Some neat kinds of basket-work have been made from this substance; it has also been tried for paper, and yields it of good quality, light and strong. Experiments are required to separate the green parts of the pulp from the white short fibre.

Rushes, Grasses, and Sedges.—It is uncertain whether differences depend upon the treatment of the grass and the modes of splitting it, or on the different qualities of the plants employed. The Palghat and Cochin mats have long been considered the finest in the south of India.

Liliaceous Plants include the different varieties of aloe, agave, yucca, fourcroya, and sanseviera. They are all hardy, require but little care for their cultivation, are comparatively easily cleaned, and yield good white fibres of considerable length. There are large exports of aloe fibre from the western coast, and the cultivation of these plants might easily be extended in India (see Report in Records of Military Board on Aloe Ropes supplied to the Arsenal from the years 1797 till 1805). The aloe fibre contains a thick, viscid, milky juice, which can only be removed by hard beating or crushing. It is probable that this juice gives the aloe fibre its tendency to rot when much exposed to moisture.

Jute.—Corchorus capsularis, C. olitorius, and Hibiscus cannabinus, are all three indifferently grown and sold as jute. The whole of the recorded evidence of Bengal jute growers, brokers, and merchants may be summed up in the following sentences:—Jute cultivation is easier and more profitable than rice. The Bogi, Corchorus capsularis, is generally preferred to the Desi, Corchorus olitorius, and to the Mesta, Hibiscus cannabinus. The latter is, however, pronounced to be of good gloss and colour, though coarse, but to be exported as true jute. The fibre from

the plants cut just when in flower is fine, glossy, and separates quickly from the bark. It is heavier, coarser, and discoloured, and requires more steeping when they are left standing till the seed is formed. The clearer the water in which the stalks are steeped, the finer the fibre. It is weakened, and the colour spoiled, if immersion is incomplete, or if less than 2½ to 3 feet of water is used; if over-steeping is permitted, or if it is dried in damp, cloudy weather. Under-steeping makes it woody. Stagnant water rots the bark soonest, but at the expense of the fibre; running water does not rot it quickly enough; and slack water in any running stream is best of all. The plants thrive best in good medium loam. Weeding is necessary; if the land is properly manured, it can be cropped with it year after year.

Rheea.—The difficulties met with in cleaning the rheea fibre induced the British Indian Government to offer a reward for a suitable machine; but Lord Mayo's efforts in this direction did not meet with the success that was anticipated, for of the 32 machines tendered in August 1872, only one, by Mr. Greig of Edinburgh, was submitted for trial, and though found to be unequal to the allotted task, the Government awarded a sum of £150 to the inventor as compensation for the trouble and expense he had incurred, and in consideration of some points of excellence in the design. Its costliness, the establishment needed to superintend its working, and the power required to drive it, were prohibitive. The cost of clearing a ton of fibre by Mr. Greig's machine was put down at Rs. 138-2.

Dr. J. Leon Loubeiran, of the Ecole de Pharmacie of Paris, writing in 1873, mentions a machine which, if worked by two horses, could turn out 600 to 900 kilogrammes of fibre in a day; and if worked by hand, in ten working hours could clean 20 to 29 kilogrammes of fibre.

Abelmoschus. Several species of this genus of the Malvaceæ yield fibres. The reticulated fibre of *A. ficulneus* is made into paper, and used in the manufacture of gunny bags.

Abelmoschus esculentus furnishes an excellent fibre for the papermakers, and it is exported to a small extent as a ropemaking material. It has a fine gloss, which it retains even when brown and rotten; a bundle was found by Dr. Roxburgh to bear a weight of from 79 to 95 lbs.

The fibre of the *Abelmoschus moschatus* broke with a weight of 107 lbs.

An excellent white fibre from the *Abelmoschus tetraphyllus* was exhibited by Mr. Jaffrey at the Madras Exhibition of 1857.

Abelmoschus strictus abounds in long, glossy, white, fine, and strong fibres.

The fibres of the *Abroma augustum*, another of the Malvaceæ, are of great beauty, strength, toughness, and fineness; and as it grows all over the East, and as far as the Philippines, and so rapidly as to yield two, three, and even four cuttings annually, all fit for peeling, it is deserving of more than common attention. The bark is steeped in water for a week or more, according to the heat of the weather, and requires no further cleaning. The fibre is said to be three times greater and one-tenth stronger than that of sunn. A cord of the abroma bore a weight of 74 lbs., while that of sunn only 68 lbs. The fibres do not become weakened by exposure to wet, and the plant can be cultivated as an annual.

Abutilon Indicum, another malvaceous plant, yields a rather strong fibre fit for the manufacture of ropes. The plants are gathered and freed of their leaves and twigs, and dried for two days in the sun. They are then tied in bundles, and placed under water for about ten days; the bark and other foreign matter are removed by repeated washing, and the fibres are placed in the sun to dry.

Fibres of a long silky character, fit for making ropes, are obtained from the *Abutilon polyandrum*, and a fibre is also yielded by the *A. tomentosum*. There are several other species.

Agave Americana, or blue and green leaved aloe, grows wild, and yields a long, white, and strong fibre, of which more might be made. It is variously known as Valaiti pat, Kathale, Rakas pattah, and Rakshasi matalu, and is used for ordinary purposes by merely stripping the leaves for immediate use, or soaking them for a time till they are sufficiently soft for maceration. This primitive method rots and stains the fibre, and lessens its value; but by pressing the fresh-cut leaves under strong rollers, and separating and drying the fibre with care and skill, its appearance and strength would be so much improved, that it would command a high price in the London market. The propagation is extremely simple, may be easily extended; and the fibre has been shown to be equal to the best sunn, jute, or Russian hemp, and far superior to the latter for log lines. The expressed juice, when mixed with mortar and applied to walls or floors, is an effectual remedy for white ants, but the smell is abominable.

The leaves of *Alestris nervosus*, *Roxb.*, are used for making cordage; they are steeped in water for fifteen days, in order to rot useless parts, and then beaten to separate the fibres.

Aloe Indica, A. littoralis, A. perfoliata, and A. vulgaris, and the American aloe, or Agave Americana, yield fibres of great value. In the year 1882, the Government of India largely recommended their extended culture.

The gomuti palm, *Arenga saccharifera*, of very extensive culture in the Indian islands, furnishes a fibrous matter at the roots of its fronds, much resembling black horse-hair, of finer texture and greater strength than the husk of the cocoanut. This substance, known to Eastern seamen as 'black rope,' is much used for cables and running rigging, and invites greater attention from manufacturers.

From the *Bamboo* is made all the paper of China; the consumption for all purposes of 370 millions of a much-reading and much-printing population—even that imported for engravings into Britain, under the name of India paper—is thus derived.

The paper mulberry, the *Broussonetia papyrifera*, which furnished the ancient clothing of the South Sea Islanders, and from which the Javanese manufacture a cheap paper, of toughness and durability approaching to parchment, is of value.

Bast is the liber or cellular tissue, consisting of tough elongated vessels, which can often be separated and converted into fibrous material, useful for cordage and matting. That best known to Europe is a product of Russia, and obtained from the lime or linden tree, the Tilia Europea, and converted into mats and shoes. A large and interesting class of fibrous substances, which have hitherto attracted but little attention in S.E. Asia, is the barks of trees, many of which yield a strong and ready substitute for rope, and, from the quantity of tannin which some of them contain, they resist moisture, and retain their strength for a long time. With a little care, and the employment of simple machinery, excellent ropes, mats, and baskets might be prepared from some of these substances, and they would probably find a ready sale for agricultural and commercial purposes. The Indian substitutes for bast, while they rank among the easiest grown and most extensively distributed of all its forest trees, usually suffer more from the axe of the woodman and the flames lighted by the cultivator of the jungle, etc., than almost any other class of trees. In places in Southern India where they were once abundant, trees are now rare. In forests under the Western Ghats, far to the southward, they are still to be found in considerable numbers, but in such places the population is too scattered and migratory to take up the manufacture steadily and on an extensive scale. Provided they get a supply for making nets to catch the elk, or fetters for the tame elephant, they generally seek no more. For the latter purpose they frequently use the bark of some of the Sterculia trees.

Bauhinia diphylla, called Authee nar, Yepy, and Apa, has a strong, coarse brown bark, of which the natives make temporary ropes for securing thatch, matting, or fences. The barks of several other Bauhinias are used for the same purposes. Ara nar is the bark of the Bauhinia parvifolia, of which matches for native guns are made. This class also includes the barks of the banian, Ficus Indica, or Ala nar; of the pipal, Ficus religiosa, or Arasa nar; of the Ficus racemosa, Atti nar; of the Ficus oppositifolia, Bodda nar; Ficus, *sp.* (?) Cullethy nar; of the bark of the Ficus tomentosa, also the barks of several species of acacia, as the babul (Acacia Arabica), or Karoovalum nar; the white acacia, or Oday nar (Acacia leucophlæa); Velvaila nar, Wrightia tinctoria; and a number of other plants not yet identified.

The trailing roots, twigs, tendrils, and drops of a number of plants are used for the same purposes.

The basts of the trans-Gangetic countries are very numerous. The Theng-ban-sha, the Pa-tha-yon-sha, the Sha-phyoo, the Ngan-tsoung-sha, Sha-nee, and Ee-gyw-ot-sha, are the better known basts of Arakan; and there the Ece-gyw-ot-sha strips to 5 to 6 feet in length, composed of several layers, of which one side is smooth and compact, and the layers on the other side thin but cancellar, all having a considerable degree of toughness.

The basts of Akyab and Burma are Heng-kyo-sha, Dam-sha, Tha-not-sha, Wa-pree-loo-sha, and Sha-goung, all used in preparing cordage for boats, nets, etc.; wholesale market price, 2 rupees 8 annas per maund, and all are of the inner bark of large trees.

The Sha-nee, Sha-phru, and Theng-ban-sha of Akyab are most plentiful, and are used in preparing cordage for boats, nets, etc., and their wholesale market price is 1 rupee 12 annas per maund.

The Guand-young-sha of Akyab is used for cables and strong nets, the wholesale price being 3 rupees 4 annas per maund; and all these fibres are much used by the inhabitants of that province.

Three basts, extensively used in Burma for making ropes, are called That-poot-net-sha, Sha-laib-way, and Sha-nee. These three basts appear to be the inner barks of various species of Sterculia and allied plants, which abound in the districts. They are strong and enduring in their nature, and some of them have been tested with satisfactory results.

The *Cacha codie*, TAM., are the stems of a creeper used for tying bundles and other purposes instead of twine.

The *Mandrong* rushes of Province Wellesley grow spontaneously in the rice fields after the crop has been gathered, overspreading them like a second crop. Their fibre is strong, and is locally used in the manufacture of rice and sugar bags, mats, etc.; experiment may prove it to be adapted for the manufacture of paper.

The *Mang-kwang* (Pandanus, *sp.*) is used for matting in Province Wellesley.

The *Glam* tree bark is from the Melaleuca viridiflora, Malacca.

The *Talee trap* (Artocarpus, *sp.*) is used at Hassang for fishing-nets.

The *Talee taras* is of Singapore, and there is a bark used as twine in Siam.

The *Bark-cloth* of Keda, in the Malay Peninsula, is manufactured by the Semang, an eastern Negro tribe; and that of the Celebes (Kaili) is made from the bark of the paper mulberry. Mr. Jaffrey, at the Madras Exhibition of 1857, exhibited a very powerful new bast from the Eriodendron anfractuosum.

A bast or nar from the *Acacia robusta*, so common on the Neilgherries, has been used for all purposes to which Russian bast is applied in gardens in Europe. The material is strong, tough, and durable, also pliable when wetted. This bast could be procured cheaply and in large quantities, as when the trees are cut down the roots throw up numerous young shoots to the height of from 6 to 12 feet in one year. The bark of this tree is also a powerful tan.

The beautiful fabric, *China grass-cloth*, is made in the Canton Province, and largely exported to Europe and America. The plant which is supposed to produce this, the Boehmeria nivea, is abundantly grown in the province of Kiang-si. Fabrics of various degrees of fineness are made from this fibre, but none so fine as that made about Canton; it is also spun into thread for sewing purposes, and is found to be very strong and durable. There are two very distinct varieties of this plant common in Che-kiang,—one the cultivated, the other the wild. The cultivated variety has larger leaves than the other; on the upper side they are of a lighter green, and on the under they are much more downy. The stems also are lighter in colour, and the whole plant has a silky feel about it which the wild one wants. The wild variety grows plentifully on sloping banks, on city walls, and other old and ruinous buildings. It is not prized by the natives, who say its fibre is not so fine, and more broken and confused in its structure, than the other kind. The cultivated kind yields three crops a year.

The preparation of the fibre is tedious, and is what causes the difficulty of sending it at a cheaper rate into market. Dr. MacGowan of Ningpo states that in China the last cutting is made in September, and from it the finest cloth is made, the first being inferior, coarse and hard. On being cut, the leaves are carefully taken off on the spot; the stalks taken to the house and soaked in water for an hour. In cold weather the water should be tepid. After this the plant is broken in the middle, by which the fibrous portion is loosened and raised from the stalk. Into the interstice thus made the operator thrusts the finger nails, and separates the fibre from the centre to one extremity and then to the other. The stripping process is very easy. The next process is scraping the hemp, to facilitate which the fibre is first soaked in water. The strips of hemp are drawn over the blade of a small knife or scraper from within outwards, and, being pressed upon by the thumb, the fibrous portion of one surface, and the mucilaginous part of the other, are thus taken off. The hemp is then wiped dry, and the whitest selected for fine cloth. It it afterwards bleached.

The directions for peeling the Chu-ma or Tchou-ma, in China, as translated from the Chinese, are given as follows:—'When the stems are all got in, they are split longitudinally with knives of iron or of bamboo. The bark is first removed, then the lower layer (which is white, and covered with a shrivelled pellicle, which comes off by itself) is scraped off with a knife. The interior fibres are then seen; they are to be removed and softened in boiling water. If the Tchou-ma be peeled in winter, the stems must be previously steeped in tepid water, in order that they may be the more easily split. The first layer of Tchou-ma is coarse and hard, and is only good for making common materials; the second is a little more supple and fine; the third, which is the best, is used for making extremely fine light articles.' Major Hannay writes:—'When the stalks have become brown for about 6 inches above the roots, the top is seized with the left hand, and the leaves are stripped off by passing the right hand to the ground, over which the stalk is cut. The outer bark has first to be scraped off with a blunt-edged knife, when the exposed fibre, still attached to the woody part of the stalk, is placed in the hot sun to dry. On the third morning, after being exposed to the dew for several hours, the fibre is drawn off. This is done by breaking the woody stalk right through towards the thicker end, and then separating the fibre therefrom, drawing it off slowly towards the small end, and repeating the process as often as necessary, though much of the fibre remains, and may be taken off at a second breaking.' (The fibres now require to be carefully washed.—*Henley.*) 'The hanks of fibre are then separately twisted at the upper end, and tied up in bundles. When the threads are required for spinning, they are prepared by drawing the single hanks several times with a blunt-edged slip of bamboo held in the right hand, when they are easily opened out to the required fineness with the fingers and thumb nails. This is certainly a rude and tedious process.'

Fibres of Sida tiliæfolia and Dolichos bulbosus furnish cloth of coarser sorts than China grass.

Callicarpa cana yields the aroosha fibre of Chittagong. Mr. Sconce had some of the fibres of this plant prepared, first by cutting the stems, which grew 3 or 4 feet high, and then steeping. The inner bark was then easily stripped off. This was afterwards heckled, and a portion of the fibre spun into thread, but it does not appear of much value in a country where so many others abound. Captain Thompson reported that a

line made from the fibre, forwarded from Chittagong, broke at once, without stretching, with only 127 lbs., though only the finest and largest of the material was made into this line. A line of Russian hemp of the same size will sustain with ease 400 lbs.; so that this fibre is much too weak for either sailcloth or cordage. It, however, possesses all the free and kindly nature of flax, and even smells like flax. It is easily worked, with little or no waste.—*Royle, Fib. Pl.* p. 310.

Calotropis, a genus of the Asclepiaceæ, has three species, gigantea, herbacea, and procera, which furnish valuable fibres, all of similar character. The plants grow quite wild in all kinds of lone places, and only rare attempts to cultivate them have ever been made. This is the more remarkable, because the people all know the exceeding strength of the cord made from their fibres.

Dr. Wight says of the fibres he tried, that the yercum plant, C. gigantea, yields by far the strongest fibre; it is a most common plant, and may yet become a valuable article of export, if a less costly mode of obtaining it, without injuring its quality, can be found. One variety has cream-coloured, and the other rosy purple flowers, both, however, yielding indifferently the same excellent fibre. It is called popularly the gigantic swallow-wort; Madar, Ak, or Akund, in Hindustani; Yercum or Yeriku in Tamil; and Nella jelledoo in Telugu. Its fibre, which is strong, white, and fine, resembles Belgian flax, and if skilfully prepared, is reported to be well calculated for prime warp yarns, and capable of being spun into the finest thread, and to be worth £100 per ton for such purposes. The following is the result of experiments of the strength of fibres, showing their breaking weights :—

Coir, ...	224 lbs.
Pooley mungee (Hibiscus cannabinus), .	290 ,,
Marool (Sanseviera Zeylanica), . .	316 ,,
Cotton (Gossypium herbaceum), . .	346 ,,
Cutthalay nar (Agave Americana), . .	362 ,,
Janapa (Crotalaria juncea), Sunn, Hindi,	407 ,,
Yercum (Calotropis gigantea), . . .	552 ,,

It finds a habitat, spontaneously, where nothing else will grow, indifferent alike to drought or hungry soil, the seeds being wafted about in their silk cotton envelope, which, by the way, has been spun into fine cloth. The fibre is used locally for string, cordage, tiger traps, ordinary nets, and durable fishing lines, and for all purposes where strength and endurance are required. The plant is used more for medicinal purposes, and for the manurial properties of its leaves when ploughed into paddy lands, than for its excellent fibre. It is a perennial shrub. The seeds in its large green pod are enveloped in a silky white fibre, which has been mixed with silk and cotton in fabrics. The charcoal of its roots is prized in the manufacture of gunpowder. Its leaves, buds, bark, and milky juice are employed in native medicine, for their emetic, diaphoretic, and purgative properties; and the inspissated juice resembles caoutchouc, but is a conductor of electricity. It yields an ardent spirit. It is the Bar spirit of the Western Ghats of India, and, according to Barth, the Giya of the African.

Cotton is largely grown in India, is almost the sole fibrous product fabricated into cloths for ordinary clothing, much of it being exported raw to Europe and America, to be returned in the form of twist and yarn, piece-goods, etc. About half of it is sent to Great Britain, the bulk of the other half going to France, Austria, and Italy.

1874-75, . .	5,600,086 cwt.	Rs. 15,25,73,416
1875-76, . .	5,009,788 ,,	13,27,89,635
1876-77, . .	4,557,915 ,,	11,74,61,836
1877-78, . .	3,459,077 ,,	9,38,35,340
1878-79, . .	2,966,060 ,,	7,91,30,458
1879-80, . .	3,949,701 ,,	11,14,91,778

It is largely grown in the tracts 1500 to 3000 feet above the sea. The E. I. Company made great efforts to improve the staple, and to introduce new varieties, and the produce of Dharwar, Hingunghat, Nagpur, Berar, and Kandesh. Cotton ropes and cotton canvas are largely made from it.

Coir is the commercial name for the fibre of the cocoanut, Cocos nucifera. It is very extensively used throughout the south of Asia. Towards the middle of the 19th century, in Malabar and Ceylon, every available spot within the influence of the sea-breeze was being devoted to the growth of the cocoanut. Along the western coast of the Madras Provinces, the wavy downs near the sea-borders, which had hitherto produced only a stunted and worthless crop of grass, were everywhere levelled, broken up, and manured, so as to form the beds of future plantations.

Crotalaria juncea is a plant of the order Fabaceæ. It is extensively cultivated in many parts of India, and to the east of India, for the sake of its fibres. These form one of the hemps of commerce, sometimes as Madras hemp, also Indian hemp, also sunn hemp; amongst the Tamil people as Wuckoo nar or Janapa nar, in Telugu as Shanamoo. It is cultivated in Rajamundry as a second crop on wet lands with profit to the ryot, and is planted in November and plucked in March. It is of importance in the great agricultural districts to the east of the Godavery, in Malabar, Canara, Darwar, Mysore, in all the great grain countries to the south, and in Kandesh. There is a common belief that a cow in calf, if tied with a rope of sunn, will miscarry. In Gujerat it is often sown for a green manure, being ploughed into the land just after the flower has appeared. Also in the collectorate of Broach, it is somewhat extensively cultivated on those broken lands and edges of ravines, which decline from the level of the Khannun or black soil to the Myhee river. In cleared patches of the different forests which skirt and lie at the foot of the Ghats, it is regularly cultivated as a rotation crop.

The plant is pulled up by the roots, and, after the seeds are beaten out, the stems are immersed in running water for four or five days, and the fibres are then separated by the fingers. They are strong, and made into cordage, ropes, canvas, gunny bags, paper, and into excellent twine for nets. The fibres are much stronger if left in salt water; and if carefully prepared yield foss and hemp of excellent quality, and in its cleanest condition always sells in Britain at £45 to £50 the ton for twine or common purposes. When prepared with the patent liquid, they compare with the best flax, and sell at £80 the ton. In India its price ranges from Rs. 30 to 140 the ton. Another species or variety, C. tenuifolia, the Jubbulpur hemp, yields a strong fibre equal to Russian or Polish hemp.

Flax.—Linum usitatissimum is grown in every part of India, sometimes extensively, but almost exclusively for its seeds. It is often sown as an edging crop to wheat and other grain, because it is not eaten by cattle in the green state. The reason given for its being sown in both long and cross drills, is that the plant, being weakly, requires close sowing to guard it against the action of the weather.

In Vizagapatam it is cultivated chiefly as an oil-seed, which is also the case to some extent in Cuddapah, where, as well as in the Godavery district, it is used for feeding cattle. In Vizagapatam, however, the use of its fibre in the manufacture of fabrics is not unknown, as the collector states that the Gudabah females (a hill tribe) are clothed with a coarse linen of their own making. Beyond Galikondah there are plains 3000 feet above the sea, very similar to the Mysore country, where it could be grown to any extent.

In Bellary, South Arcot, and Tinnevelly, gunnies are manufactured from its fibres.

In Tanjore it is prized for the excellent manure which its leaves and roots supply.

In South Canara its fibres are used for making fishing nets and lines, and probably the same use is made of it in the adjoining district of North Canara.

Flax grown on the Neilgherries was forwarded to England, where it was valued at £28 per ton, or nearly equal to the best Russian flax. But the profit derived from it is only 4 rupees per acre, which is less than that obtained by the cultivation of other products.

The most promising substitutes for flax appear to be the pine-apple, yercum, palay, ootrum, and kooringa. Several of these grow abundantly in Southern India.

The imports of flax into Britain range near to 100,000 tons, valued about £40 the ton, from Russia, Germany, Holland, and Belgium.

Hemp, in India, is a commercial term applied to the fibres of several plants,—to rheea fibre of the Boehmeria nivea, to that of the true hemp, Cannabis sativa, to the fibres of a species of Crotalaria, C. tenuifolia being known as Jubbulpur hemp; Madras hemp is the sunn fibre of

Crotalaria juncea; brown and other hemps are species of Hibiscus; Manilla hemp is from the Musa textilis. In China there are three plants which produce a fibre made into cloth, known under this name, viz. the Cannabis sativa, or hemp, at Canton, the Boehmeria (Urtica) nivea, a species of nettle grown about Suchan, and the Sida tiliæfolia near Tien-tsin-fu (Williams' Middle Kingdom, p. 106). The nettle hemp is cultivated in the provinces north of the Meiling, but the plant also grows in Foh-kien. The grass-cloth made from it is not so much used for common dresses as cotton and silk. This has been noticed under the word Boehmeria.

In cultivating sunn, hemp, or flax, the seeds should be sown thickly together, in order that they may shoot up into long wand-like plants, which will yield much longer fibres, and be much less branched than if sown wide and freely exposed.

Hemp.—The Himalayan districts of Kamaon, Garhwal, and Kote Kangra abound in true hemp of the finest quality, cultivated both on account of its fibre and for the different preparations of bhang. The fibre is sold among themselves for 2 rupees for 82 lbs., or about 5s. a cwt. Hemp sent by D. F. Macleod, Esq., as the produce of Kote Kangra, was highly approved of in England. The culture seems to be very well understood in many parts of the hills, as they carefully prepare and usually manure the ground, thin the plants to within 3 or 5 inches, and cut the male plant, phoolbhanga, which flowers but has no seed, a month or six weeks before the female plant, goolanga or ghoolbhanga, which has seed, the latter being cut about the end of September. Kote Kangra hemp is strong. It is at the same time liked for its colour and texture, and would be certain to be employed for all the purposes for which the best hemp is required, if it could be procured. It is grown throughout Southern Asia, to obtain its intoxicating resin or charras, and its leaves for bhang. In several places the Musalman population are just as great consumers of the intoxicating hemp product as the Hindus. In Sind the extent to which it is used by all classes is frightful. In China, a gigantic species of hemp (Cannabis), growing from 10 to 15 feet in height, is also a staple summer crop. This is chiefly used in making ropes and string of various sizes, such articles being in demand for tracking the boats up rivers and in the canals of the country.

Hibiscus cannabinus, or Dekhani hemp, is grown during the rainy season for local requirements, as much for its edible leaves as for its fibre. It is an annual of from 3 to 3½ months' duration, at the end of which time it is fit to be plucked up for the steeping process, necessary for the extraction of the fibre. It is of good colour, from 7 to 9 feet long, fine to the touch, and with a silky gloss. The best selected fibre would, for rope and cordage, equal in appearance that made from Manilla hemp, so much in request for yachting purposes; the second and third kinds would come in for coarser descriptions of the above manufactures; while the refuse, including cuttings, rejections, and the root-ends, would find a ready market among the papermakers. The fibre is known in Bengal as Mesta pat or Koshta, and Walaiti sunn; is considered equal to sunn hemp; is exported in small quantities, and manufactured into coarse sacking or gunny, and into ropes, twine, and nets; and latterly, in Mysore, into a superior, closely woven matting, which looks and wears well. Generally the crop is grown only as a secondary consideration in drills among the ragi in Mysore, and similarly among the jowari in the Northern Circars, though in and about Rajamundry it is said to be in some instances cultivated as a special crop by itself.

The plants are ordinarily cut after the formation of the seed, and left to dry in the sun for a day or two, when they are steeped in stagnant water, till the bark is sufficiently rotted to allow of the easy extraction of the fibre, which is sun-dried for use or export. The ordinary process is to beat the softened bark on a stone, by which unequal pounding much of it adheres to the fibre, which is further discoloured by careless sun-drying. Long steeping in stagnant water is another blot in its preparation. It should be cut just as it is in flower, and left in swathes or bundles for from twenty-four to thirty-six hours to dry partially in the sun, when they should be steeped in running water just sufficiently long to admit of the ready separation of the fibre, which should be thoroughly washed and dried under shade, as exposure to the sun's rays causes it to deteriorate in colour, touch, and strength, and London brokers judge much by sight and touch. The time that the bundles should remain immersed has to be regulated by those skilled in the matter, with great judgment and frequent inspections, for if the process of fermentation is carried even a little too far, the fibre is spoiled.

Under the name of Poondi, it is cultivated extensively at Nuddea, Hoogly, Farridpur, Bakarganj, and elsewhere, as a variety of jute, and is called bastard jute, but is as fit for papermaking as true jute. It is sold as and along with jute, and is employed in Bengal for all the purposes of jute. Paper is largely made from it at Dacca, Mymensing, Dinajpur, and Noakhally, where it is prepared by being boiled with lime.

Hibiscus sabdariffa yields a similar fibre, also called mestapat or pulachi. The Roselle is grown at Puri and Bhagulpur, and the Bendikai largely at Hoogly, and 24 Parganas, Nuddea, Murshidabad, Koch-Bahar, and Puri, and less so in many other districts, the fibre being exported as jute. In Travancore the Hibiscus tiliaceus is cultivated, but it is not an annual, and therefore yields a less remunerative crop. The Hibiscus plants will continue to be chiefly confined to the agricultural population of its native places. H. furcatus of the Ghats and Bengal yields abundance of strong white flaxy fibres, but, being very prickly, is unfit for handling.

The *Juncaceæ* or rush tribe, Juncus Indicus and others, are employed for making the bottoms of chairs and mats. J. effusus of Japan is cultivated to be made into floor mats. In China a species of Juncus is a great crop. Its stems are woven into beautiful mats, used by the natives for sleeping upon, for covering the floors of rooms, and for many other useful purposes. This is cultivated in water, somewhat like the rice-plant, and is therefore always planted in the lowest parts of the valleys; the harvest of this crop is in the beginning of July, and hundreds of the natives are then employed in drying it. The river's banks, uncultivated land, the dry gravelly bed of the river, and every other available spot, is taken up with this operation. At grey dawn of morning the sheaves or bundles are taken out of temporary sheds, erected for the purpose of keeping off the rain and dew, and shaken thinly over the surface of the ground. In the afternoon, before the sun has sunk very low in the horizon, it is gathered up again into sheaves, and placed under cover for the night. And so the process of winnowing goes on day by day until the whole of the moisture is dried out of the reeds. They are then bound up firmly in round bundles, and either sold in the markets of the country, or taken to Ningpo and other towns where the manufacture of mats is carried on, on a large scale.

The true *Jute* of Indian commerce is the fibres of Corchorus capsularis and C. olitorius. It has been an export from India to Great Britain since the year 1833, but is now exported to the extent of about 300,000 tons, value up to nearly four millions sterling. Between 1874–75 and 1879–80, the value of all the exports of raw jute, gunny bags, gunny cloths, rope and twine, was—

1874–75,	Rs. 3,48,55,221	1877–78, .	Rs. 4,28,92,407
1875–76, . .	3,29,45,209	1878–79, . .	4,89,88,604
1876–77, . .	3,35,61,242	1879–80, . .	5,56,53,944

The sowing is in April and May, and in July and August the plants are from 3 to 12 feet high, are cut down, made into bundles, which are placed in shallow water. When the bark separates, and the stalk and fibres become softened, they are taken up and untied; they are then broken off two feet from the bottom, the bark is held in both hands, and the stalk removed. The fibres are then dried in the sun, and are cleaned for the market. They are soft and silky, and much care is needed during the steeping to prevent undue decomposition. All the sacking of India is made from it, and it is largely exported from Bengal to the Dutch and Spanish possessions in Asia, to America and to Australia. The raw fibre of the jute, with a little wool, has been manufactured into good, useful, and substantial carpeting, which can be sold at the very moderate price of 8½d. a yard. At an industrial exhibition held at Dundee, there was at one end of a case the harsh, woody-looking jute stalks, and through each stage, of fibre to yarn and fine

thread; in a second case were arranged coarse and fine gunny bags, packing cloths, coarse and fine towelling, different descriptions of plain and coloured paddings, pocketings and linings, crumb and other cloths, ladies' chignons, and brilliant-looking rugs and carpets, that for design and colour were said not to compare unfavourably with those made from wool. The American imports of Goni (gunny) sacking and the raw material have decreased since they have practically ascertained their ability to raise the plant in the southern districts, which, under their more careful culture, will of course improve. In China the staple summer crops are those which yield textile fibres. Jute is grown in China to a very large extent, and is used in the manufacture of sacks and bags for holding rice and other grains. It is stated that the celebrated China hemp, called Lookina or green hemp, which, according to Messrs. Jardine Skinner & Co., is grown in the Hankow districts for conversion into grass-cloth, is nothing but jute, of which plant they say the description and particulars exactly compare with the Chinese hemp, and that, in addition to its culture, the Chinese import it.

The *Musa* genus of plants, the plantain or banana tribe, is well known from two of its species, M. paradisiaca and M. textilis. Of all the substitutes for hemp, probably the most important is that obtainable from the banana or musa; the stem of all of the species produces a fibre of some utility. Very little attention has ever been paid to the cleaning of its fibres, though the most conspicuous amongst the Indian fibrous plants. It is everywhere cultivated in the plains of India for its fruit. It bears fruit only once, and is then cut down and left to rot upon the ground. There will be no difficulty in obtaining from this plant alone a quantity of fibre of admitted valuable quality, applicable to the manufacture of every species of cloth or other article usually made from flax or hemp, and of equal quality, and it can be used with no less facility and advantage in the manufacture of paper. It yields an excellent substitute for hemp or linen thread. On cutting down the stem, remove old, stained, or withered leaves, and strip off the different layers. Lay a leaf-stalk on a long flat board with the inner side uppermost, scrape off the pulp with a blunt piece of hoop iron or old spoon; turn it, and treat the outer side similarly. When a bundle is obtained of these partially cleaned fibres, wash it briskly in a large quantity of water, rubbing and shaking it to get rid quickly of all the sap and pulp; spread them out in thin layers or hang them in the wind to dry, but exposure to the sun's says imparts a brownish-yellow tinge.

Musa textilis is the well-known abaca of the Philippine Islands. The fruit is harsh, small, and uneatable when allowed to ripen, but in practice the ripening is prevented, for the flower is nipped off, and that increases the strength of the fibre. It has been immemorially cultivated, and contributes largely to the clothing of the four millions of inhabitants of the Philippines, besides being largely exported in the raw state. It is made into cordage in the country, and cloth of a very fine quality and of great durability. In Great Britain it is only known in the raw state, under the name of Manilla hemp; and Great Britain in 1877, 1878, and 1879 was receiving about 18,000 tons, value £490,000, or £27 a ton. The cost of this article at the port of Manilla is about £14 a ton; it is the coarsest fibres only that are exported, all the finer being retained for cloth, which as yet has not been made except in the Philippines. The fine grass-cloth, ships' cordage and ropes used in the South Sea whale fisheries, are made from this substance. The outer stalks of the stem leaves yield the thickest and strongest fibres. Musa textilis is propagated by transplanting the suckers that spring up about the roots of the old plants. The abaca is generally planted in the cacao gardens, to shelter the shrubs from the heat of the sun; and it seems to be only in Albay, Leyte, and on the north coast of Mindanao that it is cultivated expressly as an article of commerce, the production of sugar absorbing the attention of planters in districts more adjacent to the capital. The filaments are detached from the stem by a very simple process, which closely resembles the mode of preparing hemp in Europe. The Musa textilis is said to grow on the Ghats from Cape Comorin northward; but on the northern slopes of the Ghats the plant does not reach a height fitted to afford a fibre of more than two feet in length. Its strength is well known to the Ghat people, who employ it occasionally for domestic purposes in ropemaking, as well as use the stem for food. This may possibly be the Musa superba of the Dindigul valleys, at high elevations on the Travancore mountains, and wild on the Neilgherries at 7000 feet. It evidently requires a rich volcanic soil; it would probably succeed in the Moluccas and in the islands east of Java.

Nelumbium speciosum, the lotus, yields a useful fibre from its stalk.

In the Red Sea, cables are used formed of the coating of the branches of the date tree, *Phœnix dactylifera*. At Oopada, the same material is used mixed with a proportion of fibre of the kaldera bush, the Pandanus odoratissimus. The leaf-stalks are made into baskets. The leaves of the *wild date tree*, Phœnix sylvestris, and of the P. farinifera are made into mats, and the leaf-stalk into ropes, for draw-ropes for wells.

The *Neilgherry nettle*, Urtica heterophylla, is a very ferocious-looking plant, the least touch producing a most acute though quickly subsiding pain. Its bark abounds in a fine white, glossy, silk-like, strong fibre. The Todawar race separate this flax by boiling the plant, and spin it into their coarse thread. If well prepared and procurable in quantity, it is fitted to compete with flax for the manufacture of even very fine textile fabrics. Mr. M'Iver alludes to the superior quality of the fibre of the Neilgherry nettle, as commanding the high price of £45 to £50 per ton in the rough state, and well worth the encouragement of Government for its cultivation.

The leaves of the abundant *pine-apple plant*, Ananassa sativa, are largely used in the Malay Peninsula and in the islands of the Archipelago, to furnish different sorts of pine-apple fibre, from the coarse material used for cordage to the finest thread for weaving cloth. Fibre of the pine-apple is the Pina of the inhabitants of the Philippines, who manufacture from it their finest fabrics. The Chinese in the European settlements of the Indian Archipelago prepare the fibre in considerable quantity, exporting it to China, where it is in great esteem for thread, and for weaving fine textures. The process of extracting and bleaching the fibres is exceedingly simple, and the first step is to remove the fleshy or succulent side of the leaf. A Chinese, astride on a narrow stool, extends on it, in front of him, a pine-apple leaf, one end of which is kept firm, being placed beneath a small bundle of cloth, on which he sits. He then with a kind of two-handled plane made of bamboo removes the succulent matter. Another man receives the leaves as they are planed, and with his thumb nail loosens and gathers the fibres about the middle of the leaf, which enables him by one effort to detach the whole of them from the outer skin. The fibres are next steeped in water for some time, after which they are washed in order to free them from the matter that still adheres and binds them together. They are now laid out to dry and bleach on rude frames of split bamboo. The process of steeping, washing, and exposing to the sun is repeated for some days, until the fibres are considered to be properly bleached. Without further preparation, they are sent into town for exportation to China.

Sanseviera Zeylanica, the bowstring hemp, is a plant of the Peninsula of India and of Bengal. The leaves are three or four feet long. They are steeped in water for several days, to decompose the pulpy part, but they are apt to become discoloured by this process. A better plan is to beat the leaf and place it on a board, and remove the pulp by scraping with a rough stick or iron till all the pulp be removed. 100 lbs. of the leaves yield 27 lbs. of clean fibre. Royle wrote that the fibre, though as fine and soft as human hair, possessed extraordinary strength and tenacity, and when prepared in hanks bore so strict a resemblance to raw silk, that the difference could not be easily distinguished when the two were exhibited side by side. It is known by the name of bowstring hemp, Marool, Moorva, and Chaga or Saga, in the different dialects, and is used for ropes, twine, thread, bowstrings, and in Trichinopoly for paper, and it has been spun into cloth of the finest quality. It is grown to some small extent in parts of the Peninsula, and more largely at Noakhally, Shahabad, Hazaribagh, and Singbhum.

FICUS, a genus of plants belonging to the natural order Urticaceæ. The number of species is great, and they are all either tropical or inhabitants of warm countries. Some are small plants, others are among the largest trees of the forest; others of them yield a useful caoutchouc; several of them yield fibrous materials used for cordage, for half stuff and papermaking; and the banyan tree and the pipal tree, F. Indica and F. religiosa, are highly ornamental plants. Several throw out aerial roots from their branches, which grow into the ground, and again throw out branches. F. carica, the fig tree, is cultivated in many parts of India. F. Benjaminoides, the Tenasserim banyan tree, drops aerial roots like the Indian fig tree, grows amidst mangroves and near tidal streams. The root of F. excelsa, *Vahl.*, of Peninsular India and the Moluccas is given in decoction as a purgative. A soft grey timber is obtained from the F. gooleeria, *Roxb.*, which grows in Hindustan and Chutia Nagpur. F. heterophylla, *Roxb.*, Wal-ahatoo, SINGH., is common in Ceylon in damp shady places. F. infectoria, *Willde.*, is of Ceylon and India, and its bark is chewed with betel in lieu of the areca nut. F. laccifera, *Roxb.*, Nooga-gass, SINGH., is not uncommon in the central province of Ceylon. F. lanceolata, *Roxb.* Thapan, BURM., of Pegu, yields a soft, useless wood. F. lucida, *Ait.*, the Kapootoo-bo-gass of Ceylon, occurs in the drier parts of that island. F. nitida, *Thunb.*, which grows in the south of China and in many parts of India, is a valuable ornamental tree and good for shade. Some of the species possess in their milky secretion a highly acrid principle, which explains the specific name of F. toxicaria of Sumatra, and F. dæmona of Tanjore. One species, Kulli kae, CAN., generally a climber, abounds in Canara and Sunda, in the country from Bilgy to the Ghats; its juice peculiarly abundant and viscid, and used as a bird-lime; well merits a further examination. Another species, Thub-boo, BURM., a Tavoy tree, is used in house carpentry. A further species, the Baee dhimeree of Ganjam and Gumsur, extreme height 30 feet, is burnt for firewood, being tolerably common; the leaves are used for food platters; the fruit is eaten. — *Wight; Gibson; Captain Macdonald; Thwaites*; *Voigt.*

FICUS ASPERRIMA. *Roxb.*

F. ampelos, *Burm.* | F. politoria, *Moon.*
See-wana maddeya, SINGH. | Karasa, Tella baranki, TE.
Pindi chettu, . . . TEL.

A large tree, a native of the Peninsula of India and of Ceylon up to 2000 feet elevation. The trunk is remarkably short, but very thick, and sometimes so completely covered with small very leafy branchlets as to be entirely hidden. The leaves are used to polish ivory, horn, etc., and in Ceylon are in general use amongst native cabinet-makers as a substitute for fine sand-paper, similarly to those of the Trophis aspera.—*Roxb.; Thw.*

FICUS CARICA. *Linn.*

Doomoor, ... BENG. | Anjir, ... HIND.
Fagu, Phagwara, CHENAB. | Jamir, ... RAVI.
Wu-hwa-kwo, . . CHIN.

The fig tree is cultivated in many parts of the East Indies, as high as 5000 feet on the Ravi. It reaches 7 feet in girth occasionally. It is common about Kandahar, mostly wild? The white fruit is generally kept for home use, and the black exported. Twenty maunds of the fruit are annually imported from Afghanistan *via* Peshawur. Grows plentifully in China. Two main varieties are recognised, viz. that which produces two crops a year, and that which yields one crop. The former includes the grey or purple fig, which is the best, also the white fig and the golden fig, the latter being the finest in appearance but not in quality. The main variety, which bears only one crop a year, supplies the greatest quantity of figs for drying. The ordinary drying is effected in the sun. With the two-crop variety, the first crop grows on wood of the preceding year, the second crop is on wood of the current year.—*St.*

FICUS CINERASCENS. *Thw.* Wal-gona-gass, SINGH. A large tree of the warmer parts of Ceylon.—*Thw.* p. 266.

FICUS CITRIFOLIA. *Lam.*

F. Mysorensis, *Roth.* | Urostigma Mysor., *Mig.*
Katu alu, . . . MALEAL. | Boonooga-gass, . . SINGH.

Grows in Ceylon and on the western side of India. Parts are employed in medicine.

FICUS CORDIFOLIA. *Willde.*

Urostigma Mysorense, *Mig.*

Badha, Pilkhan, . BEAS. | Ny-oung-gyat, . . BURM.
Nga thin-gyee, . . BURM. | Kumbal, Pulaleh, RAVI.

A tree of Moulmein and the Tenasserim Provinces, and of the Panjab Siwalik tract up to the Ravi. In Tenasserim this tree usually supplies the place of the pipal in the public places, and in the neighbourhood of religious edifices. It approaches nearest to F. religiosa, yet is easily distinguished from it by the leaves being narrower in proportion to the length, with much shorter points, and the fruit being perfectly round, and not, as in religiosa, vertically compressed. Fruit edible. It yields a strong wood, fit for any ordinary purpose.—*Mason, Cal. Cat.; Stewart; Gamble.*

FICUS CUNIA. *Buch.* F. conglomerata, *Roxb.*

Kath gular, . . CHENAB. | Karndol, ... RAVI.
Trumbal, . . . ,, | Kuri, ... SUTLEJ.

A tree of the Konkans, Rajmahal, Oudh, Nepal, Taong Dong, and Moulmein, occasional in the Panjab Siwalik tract up to the Chenab. The fruit is not eatable, but in parts of India is used in medicine, and in the Peninsula the rough harsh leaves are said to be employed for polishing wood-work.—*Dr. J. Stewart, P. Plants*, p. 212.

FICUS DÆMONUM. *Kon.* Yæ-kha-oung, BURM. A tree of Tanjore and Burma.

FICUS DISTICHA. *Blume.* Common in the central province of Ceylon at 3000 to 5000 feet. —*Thw.* p. 266.

FICUS ELASTICA. *Roxb.*

Kusnir, ... BENG. | Indian rubber tree, . ENG.
Elastic fig tree, . ENG. | Kasnir, ... SYLHET.
Caoutchouc tree, . ,,

The Indian caoutchouc tree inhabits Assam, Khassya, British Burma, the Pundua and the Juntipur mountains, which bound the province of Sylhet on the north, where it grows to the size of a European sycamore. It is chiefly found in the chasms of rocks and over the declivities of mountains, among decomposed rocky and vegetable matter. It produces when wounded a great abundance of milk, which yields about one-third of its weight of caoutchouc. It grows with great rapidity. A tree is described as being 25 feet high, with the trunk a foot in diameter, when only four years old. Another to 112 feet, with 100 aerial roots, in 32 years. Its juice is used by

the natives of Sylhet to smear the inside of split rattan baskets, which are thus rendered water-tight. Old trees yield a richer juice than young ones. The milk is extracted by incisions made across the bark, down to the wood, at a distance of about a foot from each other, all round the trunk or branch, up to the top of the tree, and the higher the more abundant is the fluid said to be. After one operation the tree requires a fortnight's rest, when it may be again repeated. When the juice is exposed to the air, it separates spontaneously into a firm elastic substance, and a fetid whey-like coloured liquid. Fifty ounces of pure milky juice taken from trees in August yielded exactly 15½ ounces of clean washed caoutchouc of the finest quality, perfectly soluble in the essential oil of cajaput. This tree abounds in Assam, but the Outer Himalaya at Punkabari is its western limit. It penetrates amongst the mountains as far as the Tista valley in Sikkim, but is of small size. It may be distinguished from a distance of several miles by its immense and dense lofty crown. Dr. Griffiths gives the dimensions of one of the largest as follows:—Circumference of main trunk, 74 feet; ditto of main trunk and supports, 120 feet; ditto of area covered by the branches, 610 feet; estimated height, 100 feet. The geographical range of the tree, so far as has been hitherto ascertained, may be stated to be between lat. 25° 10′ and 27° 20′ N., and long. 90° 40′ and 95° 30′ E. Throughout this space it is found in the densely wooded tracts so prevalent along the bases of the hills, and perhaps on their faces, up to an average elevation of 2250 feet. Since 1873 it has been largely cultivated in Assam and Burma.—*F. von Mueller; The Universal Review; Roxb.; Hooker, Him. Jour.*

FICUS EXCELSA. *Vahl.* Ati meralu, MALEAL. Grows in the Moluccas and in Southern India. Its root is given as a purgative, in decoction.—*Voigt.*

FICUS GLOMERATA. *Roxb.*

Jujuya doomoor, . BENG.	Perena teregram, . MAL.
Ya-tha-pan, . . BURM.	Rumbal, Palah, . PANJ.
Kulla kith mara, . CAN.	Atteekka-gass, . . SINGH.
Oombur, ... DUKH.	Atti maram, . . TAM.
Glomerous fig tree, ENG.	Medi chettu, Atti ch., TEL.
Gooler, ... HIND.	Bodda chettu, Paidi ch., ,,

A large tree; thrives best near a watercourse or on the banks of rivers; fruit like the common fig, and grows in clusters along the branches; flavour insipid, but eaten by the poor. In Ceylon it is common on the banks of rivers up to an elevation of 2000 feet; grows also in the Peninsula of India, the Konkans, Nepal, all over Oudh, at Taong Dong, and Moulmein. Some of the lac of commerce is gathered from this tree. Wood is considered sacred, and is burnt when libations are offered. In the Panjab it is said to be only useful for fuel. A medicinal extract is obtained from the root.—*Cal. Cat.; Thw.; Stewart; Powell.*

FICUS GOOLEREEA. *Roxb.* Dumbar, HIND.? A small tree of Chutia Nagpur and Hindustan, with a soft, grey timber.—*Roxb.; Cal. Cat.; Voigt.*

FICUS INDICA. *Linn.* Banyan tree.

F. Bengalensis, *Linn.*	Urostigma Bengal., *Mig.*
But, Bat, Bar, . . BENG.	Maha nooga-gass, . SINGH.
Pa-nyoung, . . . BURM.	Kiripelle, . . . ,,
Ahlada mara, . . CAN.	Ala maram, . . TAM.
Arbor de rais, . . PORT.	Marri chettu, . . TEL.
Vata vriksha, . . SANSK.	

The Indian fig tree grows in most parts of India and Ceylon. Its fruit, the figs, grow in pairs, and when ripe are about the size and colour of a middle-sized red cherry. If the seeds drop into the axils of the leaves of the palmyra tree, the roots grow downwards, embracing the palmyra trunk in their descent. By degrees they envelope every part except the top, whence, in very old trees, the leaves and head of the palmyra are seen emerging from the trunk of the banyan tree, as if they grew from it. Hindus regard such unions with reverence, and call them a holy marriage instituted by Providence. Some of the banyan trees cover an immense space even when comparatively young. In the Botanical Gardens at Calcutta, when Dr. Falconer ascertained the age of the great banyan tree, which is still the pride and ornament of the garden, people were alive who remembered well its site being occupied in 1782 by a date palm, out of whose crown the banyan sprouted, and beneath which a devotee sat. The editor, in 1834, paced at noon the outer shadow of its branches, and the circumference was near 360 paces. Dr. Hooker, writing after that, mentions that this tree was 80 feet high, and threw an area 300 feet in diameter into a dark, cool shade. The editor paced it again, at noon, in 1863, and the circumference was still 100 paces. Large banyans are common in India, but few are so symmetrical in shape and height as that in the Calcutta Gardens. Dr. Roxburgh had seen such trees full 500 yards round the circumference of the branches, and 100 feet high, the principal trunk being more than 25 feet to the branches, and 8 or 9 feet diameter. Marsden mentions a remarkable banyan tree near Manjee, 20 miles west of Patna in Bengal, diameter 360 to 375 feet, circumference of shadow at noon 1116 feet, circumference of the several stems, in number fifty or sixty, 921 feet. Under this tree sat a naked devotee, who had occupied that situation for 25 years; but he did not continue there the whole year through, for his vow obliged him to lie, during the four cold months, up to his neck in the waters of the river Ganges. One of them has long been famed at Allahabad, and which is still represented by a withered stem in the underground cave at Patala puri. There was no doubt a very ancient and venerable fig tree at Allahabad, perhaps for some centuries, for it is alluded to in various vocabularies, as Midini, etc.; it is also described in the Kasi-khanda and Kurma Purana. The first notice, however, is in the Ramayana (b. 11, sec. 41 and 42), of Rama with his wife and brother resting under the shade of it after crossing the Jumna, so that not only was the tree then in the open air, but it was on the opposite side of the river to that on which it is now traditionally venerated.

A remarkably large banyan tree grew on an island in the river Nerbadda, ten miles from the city of Broach, in the province of Gujerat, and was described by Colonel Sykes. It was called the Kabir Bar, a name said to have been given to it in honour of a saint, but possibly from the Arabic adjective kabir, great. It was supposed to be that which Nearchus described. Forbes in his Oriental Memoirs mentions its circumference as of 2000 feet; and its overhanging branches, which had not thrown down aerial roots, stretched over a much larger area. The tree had as many as 320 large trunks and over 3000 smaller ones, and was capable of giving shelter to 7000 men.

High floods, one particularly in 1820, have since carried away the banks of the island on which it grew, and with it a portion of the tree. Indian armies, when in that neighbourhood, have encamped around it; and at stated seasons Hindu festivals are held there, to which thousands of votaries repair. The banyan tree is alluded to in Paradise Lost as that when Adam and Eve

'Both together went
Into the thickest wood: when soon they choose
The fig-tree; not that kind for fruit renowned,
But such as, at this day, to Indians known
In Malabar and Dekhan, spreads her arms,
Branching so broad and long, that in the ground
The bended twigs take root, and daughters grow
About the mother tree, a pillared shade,
High overarched and echoing walls between.
There, oft, the Indian herdsman, shunning heat,
Shelters in cool, and tends his pasturing herds
At loopholes cut through thickest shade: these leaves
They gathered, broad as Amazonian targe,
And, with what skill they had, together sewed,
To gird their waist.'

The banyan tree, however, is not, as Milton sang, remarkable for the broadness of its leaf, though the branches spread to a great extent, dropping their roots here and there, which, so soon as they reach the ground, rapidly increase in size till they become as large as, and similar to, the parent trunk. As the banyan tree gets old, it breaks up into separate masses, the original trunk decaying, and the props becoming separate trunks of the different portions. The banyan hardly ever vegetates on the ground; but its figs are eaten by birds, and the seeds deposited in the crowns of palms, where they grow, sending down roots that embrace and eventually kill the palm, which decays away; the drops or aerial roots yield a heavy hard timber, and, when well prepared by water seasoning, oiling, etc., are valued for tent poles, spars of small vessels, etc. The wood of the trunk is not employed in India, but Mr. Rohde had used planks, sawn from large drops, after they had been seasoned in water, with advantage; for knife-boards it is excellent. In Ceylon, Mr. Mendis says, it is used for common furniture and house buildings. A white glutinous juice is extracted by incision, from which bird-lime is prepared; and it is applied to the mouth to relieve toothache. It is also considered a valuable application to the soles of the feet when cracked and inflamed. The bark is supposed by the Hindus to be a powerful tonic. The leaves are pinned together to form platters, off which Brahmans and Hindus eat. Much lac is often to be collected from this tree.—*Uttara Rama Cheritra*, note, p. 302; *Hooker's Him. Journ.; Marsden; Thw.; Mr. Rhode; Heber, Journ.* i. p. 68.

FICUS LACCIFERA. *Roxb.*

Urostigma laccifera, *Miq.* | Nooga gass, . . . SINGH.

A tree of Ceylon and of Burma; it yields caoutchouc.—*Roxb.* p. iii. 545.

FICUS NITIDA. *Thunb.*

Ficus Benjaminea, *Roxb.*	Urostigma retusum, *Mig.*
F. pallida, *Wall.*	U. nitidum, ,,
F. retusa, *Linn.*	U. pisiferum, ,,
Chinese banyan, . ENG.	Billa juvvi, Erra juvvi, TEL.
Iti alu, . . . MALEAL.	Emmodugu, ... ,,
Emmenta, Hemanto, TEL.	Nandireka, ... ,,

Common in the central province of Ceylon up to an elevation of 5000 feet; grows in the Peninsula of India, in Lower Nepal, the Khassya Hills, Penang, and China; the bark of the root and leaves are used in medicine. It is a great favourite with the priests of China, being valuable for ornamental purposes and shade.—*Thw.; Fortune, Tea Dist.* p. 6; *Wanderings*, p. 381; *W. Ic.*

FICUS OPPOSITIFOLIA. *Roxb.*

Degar, ... BEAS.	Dhura of . . KANGRA.
Kaku doomoor, . BENG.	Daduri, Rumbal, . RAVI.

A small tree of all India. Its seeds are sown by birds, causing much destruction to houses and walls.—*Roxb.* iii. 561.

FICUS RELIGIOSA. *Linn.* Pipal tree.

Urostigma religiosum, *Gasp.*

Medah, Vudah, . ARAB.	Bo-gass, . . . SINGH.
Ashwuth, . . . BENG.	Arasa maram, . . TAM.
Ranghitmara, . . CAN.	Raya manu, . . . TEL.
Ani-pipal, . . DUKH.	Re, Ravi, Ragi, . . . ,,
Pipal, ... HIND.	Aswaththamu, . . . ,,
Ari-alu, . . . MALEAL.	Kallaravia, ... ,,

This large, handsome tree grows in most of the countries of the S.E. of Asia. It is frequently to be met with near pagodas, houses, and other buildings. One at Gyaine, South Behar, is said to have been that beneath which Sakya was reposing when his views as to his duties became clear to him, and if so, is more than 2400 years old. It is also held in veneration by the Hindus, because the god Vishnu is fabled to have been born under its branches. In the Somavati festival, the Mahratta women circumambulate a pipal tree, and place offerings on it, when the new moon falls on a Monday. The pipal tree is preferable for avenues to the banyan. The leaves are heart-shaped, long, pointed, wavy at the edge, not unlike those of some poplars; and as the footstalks are long and slender, the leaves vibrate in the air like those of the aspen tree (Populus trimula). Silk-worms prefer the leaves next to those of the mulberry. The roots are destructive to buildings, for if once they establish themselves amongst the crevices, there is no getting rid of them. Pipal bark is deemed a good tonic; the lac insects also flourish on this tree. The Chinese remove the cellular tissue or green matter of the leaves, and, covering the skeleton with a coat of varnish or gelatine, paint figures of birds, flowers, etc., on its surface. It is the most sacred of trees with the Buddhists, who say it was under this tree that Gautama slept, and dreamed that his bed was the vast earth, and the Himalaya mountains his pillow, while his left arm reached to the Eastern Ocean, his right to the Western Ocean, and his feet to the great South Sea. This dream he interpreted to mean that he would soon become a Buddha. A branch of the tree was sent to Ceylon by Asoka, and it flourishes there as the Bo Tree.—*Malcom's Trs.; Mason; O'Sh.; Riddell.*

FICUS ROXBURGHII. *Wall.* F. macrophylla, *R.*

Timbul, ... PANJ. | Trummel, Tirmul, PANJ.

This small tree is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 5000 feet; also grows in Australia. Fruit edible, flavour pleasant; sold in bazar of Simla.—*Cleghorn, P. Rep.; Backhouse, Visit, etc.; Stewart.*

FICUS RUBESCENS. *Vahl.*

F. heterophylla, *Lam.*	F. aquatica, *Koen.*
Guri shiora, . . BENG.	Buroni chettu, . . TEL.
Valli teregam, MALEAL.	

Grows on the coasts of Peninsular India, and the root bark is used in medicine.

FICUS STIPULATA. *Moon.* F. diversiformis, *Mig.*

Man-tu-lo, . . .	CHIN.	Ngai-yuh, . .	FORMOSAN.
Muh-man-tu, . . .	,,		

Very common in Ceylon up to 2000 feet. Its dry, tasteless fruits are used in China for fomenting hæmorrhoids. F. pumila has the same Chinese name.—*Thw.; Smith.*

FICUS T'SIELA. *Roxb.*

Eichie wood, . . .	ENG.	Ichi maram, ? . . .	TAM.
Datira, ...	MAHR.	Juvvi, Pedda-jovi, .	TEL.
T'siela, . . .	MALEAL.		

A large and very handsome tree, generally planted by the roadsides for the sake of its shade, and from its not sending down aerial roots.

FICUS VENOSA. *Ait.*

Ficus infectoria, *Willde.*		Urost. ægeirophyllum, *Mig.*	
Urostigma t'jakela, *Mig.*		Urost. Ceylonense, *Mig.*	
Urost. infectorium, *Mig.*			
Bassari mara, . . .	CAN.	Kall alim, ? . . .	TAM.
Kirri palla gass, .	SINGH.	Juvvi, ...	TEL.

Grows in Ceylon, the Peninsula of India, and the Panjab. Its bark is used as a substitute for betel-nut, to chew with the betel leaf; its leaves are given as fodder to elephants. The root is used as a red dye.

FICUS VIRGATA. *Roxb.* F. Caricoides, *Roxb.*

Dhudi, ...	BEAS.	Kirmri, . .	KASHMIR.
Phagoru, Phog, .	CHENAB.	Jamir, ...	RAVI.
Thapur Fagu, .	,,	Khabare, .	SALT RANGE.
Faguri bari, . . .	DOAB.	Kak, Kok, Phedu,	SUTLEJ.
Kuwari, Puwari, .	HIND.	Inzar, . . .	TR.-INDUS.
Phag, Phawari, .	JHELUM.		

This grows in Hindustan and Bengal. It is wild occasionally in waste places in the plains, Cis and Trans Indus, and is not uncommon in the Himalaya to 6000 feet. It not unfrequently reaches five or six feet, and Dr. Stewart noted one of more than ten in girth. The fruit is eaten by the natives, and at 5000 feet in the hills he found it excellent, though it is generally poor. Wood used for fuel and agricultural purposes.—*Stewart.*

FIDA. ARAB., PERS., HIND. A sacrifice. Fidai, a martyr, one who sacrifices himself; a secret conspirator. See Kurban; Fidvi.

FIERASFER. A species of this genus of crabs, about six inches long, dwells, as a parasite, within the great sea-cucumber. There are several species. The one which lives in the body of the holothuria, in its digestive tube, has a long compressed body, entirely covered with small scales; they are found in the same, along with Palæmons and Pinnetheres. It eats a portion of all that enters. Hartwig says it enters the mouth, tears the sides, and quarters itself between the stomach and the outer skin.

FIGS.

Tin, Teen, . . .	ARAB.	Figos, ...	PORT.
Vygen, ...	DUT.	Udumbara, . .	SANSK.
Figues, ...	FR.	Rata attika, . .	SINGH.
Feigen, ...	GER.	Higos, ...	SP.
Anjir, . .	HIND., PERS.	Simai-atti pallam, .	TAM.
Fichi, ...	IT.	Me'di-pandu, . . .	TEL.
Fici, Caricæ, . . .	LAT.	Injir, ...	TURK.

The Ficus carica grows all over Spain, the Mediterranean, Italy, France, Greece, and India, and its fruit, the figs, can be had in every part of India. In Afghanistan there are two kinds, one a black fruit, which are dried and strung together and exported; the other, called Sada, are locally consumed. See Ficus carica.

FIJI, a group of islands belonging to Great Britain in the South Seas, about 1800 miles from Sydney. They extend from lat. 15° 30′ to 20° 30′ S. The group of 180 reef-bound islands occupy an area of 40,000 square miles. Only 40 of them are inhabited, and the population in 1863 was estimated at 200,000. The people, till the middle of the 19th century, were fierce savages and cannibals. They were then largely converted to Christianity. In 1851, 50 bodies were cooked and eaten at Nameng. In many wars, undertaken more to gratify revenge than from a desire for conquest, the slaughter of their enemies, and the obtaining the bodies for food, were objects supposed to be as honourably obtained by stratagem and every species of treachery, as by personal strength or courage. Indeed, the extent to which the thirst for blood prevailed, would be incredible, but for the undeniable testimony of many reliable witnesses. Canoes launched over the living bodies of slaves as rollers, houses built on similar foundations, the immediate massacre of all unfortunates in whom were detected the fatal sign of shipwreck, 'salt water in the eyes,'—were practices sanctioned by their religion, the omission of which at the proper season for their performance, was sure to call down the indignation of the gods, and the punishment of the too merciful offenders, and burying alive of parents who had become burdensome to their children, and even of sickly sons by the hands of their own fathers, were events of almost daily occurrence. They discouraged early marriages, and the chastity of the young women was carefully guarded. Some at least of a chief's wives were always strangled on the death of their husband, to accompany him to the other world, and no reluctance was ever shown by women to submit to the sacrifice; nor did young women consider the age of a man as any objection to their marriage, although fully aware that they must probably follow him to the tomb long before the natural termination of their own lives. The name and nature of their future abode differed in many of the islands, but the greater number spoke of Bulu as the place of departed spirits. They prepared and drank kava in the same manner and on the same occasions as the Polynesians. They call it Angona or Yangona, and the use of it was taught them by the Tongans.—*Capt. Elphinstone Erskine, Islands of the Western Pacific*, p. 263.

FILARIA MEDINENSIS, *Linn.* Guinea worm. This is often about 3 feet long, and is very troublesome when it occurs about the sinews of the feet and leg. A species of Filaria inhabits the pearl oyster, and Dr. Kelaart thinks it causes the formation of the pearl.

FILE-FISH, or Leather Jacket, the genus Balistes of the South Seas.

FILFIL. ARAB., PERS. Pepper; hence—

Filfil-Ahmar, cayenne pepper.

Filfil-Aswad, black pepper, Piper nigrum.

Filfil-Burree, wild pepper, fruits of Vitex trifolia, agnus-castus, and negundo.—*Irvine.*

Filfil-i-Daraz, long pepper, Piper longum.

Filfil-Gird, Piper nigrum.

Filfil-i-Siah, black pepper.

Filfil-i-Surkh, cayenne pepper, red pepper.

Filfil-Mueh, pepper root.

Filfil-ul-Jibbel, Capparis Sinaica.

FILFOT of Buddhists is the swastika or mystic cross.

FILICIUM DECIPIENS. *W. A. Prod.* p. 172.

Rhus decipiens, *W. A.*		Pehimbia, . . .	SINGH.

This very elegant fern-leaved tree grows in Ceylon, throughout the Western Ghat forests of the Madras Presidency, and is very abundant in the moist forests of the Animallays up to 4000 to 4500 feet elevation. The timber is strong, and valuable for building purposes; it flowers in December and January, and ripens its fruit in March. It has been introduced into gardens.—*Beddome.*

FILIGREE, a style of delicate wirework used for ornamenting gold and silver, introduced by the Italians, who call it Filigrana, a word compounded of Filum, a thread or wire, and Granum, a grain or bead; this is in allusion to the early practice of ornamenting the wirework with small beads. Wire used for this purpose is seldom drawn round, but flat or angular. The display of filigree work in the Great Exhibition of 1851 was very wonderful for delicacy of workmanship and fantastic beauty. The chief exhibitors were from Sardinia, Turkey, the Ionian Islands, and Malta, but the native silversmiths of Cuttack have long been noted for the fineness, neatness, and lightness of their filigree work. This kind of work is executed for the most part, under supervision, by mere boys, whose nimbler fingers and keener eyesight are supposed to enable them to bring out and put together the minute patterns with more distinctness and accuracy than their elders can; comparative cheapness is perhaps another reason for their employment. The ruling rates for this filigree work are from 2 to 2½ rupees; that is to say, taking the first rate, 2 rupees or 4s. is charged for every rupee weight of finished silver work, namely, 1 rupee for workmanship, and 1 rupee as the price of the silver. The filigree work in gold of Dehli and other places is famed. Next to muslins and embroidered fabrics, filigree work is that for which Dacca is most celebrated; but the art is also practised in great perfection at Cuttack, and in Sumatra and China. The articles usually made at Dacca are lady's ornaments, such as bracelets, ear-rings, brooches, chains, necklaces, etc., and attar-dans and small boxes for natives. The design best adapted for displaying the delicate work of filigree is that of a leaf. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of forceps for intertwisting it. The drawing of silver and gold (*i.e.* silver covered with gold) wire, used as thread in embroidery, is extensively carried on in several places, and Benares is celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as Goolabatoon, for the embroidery of muslins and silks; Goshoo, for caps and covering the handles of chowries; Sulmah, for turbans, slippers, and hookah snakes; and Boolun, for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurangzeb, a quantity of this article was made yearly for the court at Dehli. A hundred sticks covered with it, and plain gold and silver badla to the amount of £2000 in value, appear among items composing the Mulboos khas nuzr, or present of royal clothing annually sent to the emperor. The Trichinopoly filigree work is as light and elegant as that of Malta or Genoa.

Among the manifold and various manufactures of China, the gold and silver tinsel cloths of Pekin stand deservedly in high estimation; their chief value arises from the peculiar property which they possess of never tarnishing or becoming discoloured. The gold and silver filigree work of the Chinese equals any ever produced by ancient Venetian masters, and their chasing in silver is unrivalled. The art of enamelling on silver is also brought to great perfection in China, and specimens surpass any ever produced at Genoa.—*Sirr's China and the Chinese*, i. 387, ii. pp. 1-4; *Dr. Taylor.*

FINANCIAL members of the Government of India have been—James Wilson, 29th November 1859; Samuel Laing, Sir Charles E. Trevelyan, W. N. Massey, Sir Richard Temple, John Forbes, David Inglis, Sir William Muir, and Sir John Strachey, 23d December 1876, removed 1880, and Major Baring, 1881.

FINCH, a name for several genera of birds. The bull-finches are of the genus Pyrrhula, P. erythraca, P. erythrocephala, P. Nipalensis, P. aurantiaca, and also of the genus Pyrrhoplectes, P. epauletta. The rose-finches, of the genera Propyrrhula, P. subhemachala, Carpodacus rubicilla, C. erythrinus, Propasser rodopeplus, P. thura, P. rhodochlamys, P. rhodochrous, P. pulcherrimus, P. frontalis, P. Murrayi, P. Nipalensis, and P. punicea, with Callacanthis Burtoni, and the gold-finch of the Himalaya, Carduelis caniceps; also Metoponia pusilla, with species of Fringilla montifringilla and Fringillauda nemoricola. The Himalayan gold-finch (Carduelis caniceps) at first sight bears a striking resemblance to the European species, but differs in wanting the black on the head. The pretty little red-fronted finch (Metoponia pusilla, *Pall.*) is a tenant of waste places, and usually seen singly or in small flocks, feeding on the seeds of a species of wormwood, on which gold-finches, house-sparrows, and one or other of the roseate grosbeaks also feed. This finch is easily recognised by its small size, a red spot on the forehead, and yellowish-brown on the upper parts; the females and young are darker in plumage. Its song is sweet and melodious, and in consequence it is in great request as a cage bird in the Panjab, to which it is brought from Afghanistan.

FINGER-NAILS are allowed by Buddhist devotees of China to grow to a great length.

FINJAN. ARAB. A cup without handles.

FINN, a race occupying Finnland in the north of Europe, supposed to be of the same stock with the Turkoman, the Chude, the Laplander, and the Magyar of Hungary. Rask was of opinion that the language of the Lap, the Finn, and Basque of Europe, and of the Cuchuwari, Kohati, Toda, Gond, and Lar of India, also the Brahui and the Japanese, were of one stock.

It is generally supposed that the original seat of the Finnic tribes was in the Ural mountains, and their languages have been therefore called Uralic. From this centre they spread east and west and southward in ancient times, even to the Black Sea, where Finnic tribes, together with Mongolic and Turkic, were probably known to the Greeks under the comprehensive and convenient name of Scythians. On the evidence of language, the Finnic stock is divided into four branches, the Chudic, Bulgaric, Permic, and Ugric.

The *Chudic* branch comprises the Finnic of the Baltic coasts. The name is derived from Chud (Tchud), originally applied by the Russians to the Finnic nations in the north-west of Russia. Afterwards it took a more general sense, and was used almost synonymously with Scythian for all the tribes of Central and Northern Asia. The Finns properly so called, or, as they call themselves, Suomalainen, *i.e.* inhabitants of fens, are settled in the provinces of Finland (formerly belonging to Sweden, but since 1809 annexed to Russia), and in parts of the governments of Archangel and Olonetz. Their number is stated at 1,521,515. The Finns are the most advanced of their whole family, and are, the Magyars excepted, the only Finnic race that can claim a station among the civilised and civilising nations of the world. Karelian and Tavastian are dialectical varieties of Finnish. The Esth or Esthonians, neighbours to the Finn, speak a language closely allied to the Finnish. It is divided into the dialects of Dorpat (in Livonia) and Reval. Except some popular songs, it is almost without literature. Esthonia, together with Livonia and Kurland, forms the three Baltic provinces of Russia. The population on the islands of the Gulf of Finland is mostly Esthonian. In the higher ranks of society Esthonian is hardly understood, and never spoken. Besides the Finn and Esthonian, the Livonian and the Lapp must be reckoned also amongst the same family. Their number, however, is small. The population of Livonia consists chiefly of Esths, Letts, Russians, and Germans. The Lapp inhabit the most northern part of Europe. They belong to Sweden and Russia.

The *Bulgaric* branch comprises the Tcheremissians and Mordvinians, scattered in disconnected colonies along the Volga, and surrounded by Russian and Tartaric dialects. The general name given to these tribes, Bulgaric, is not borrowed from Bulgaria on the Danube; Bulgaria, on the contrary, received its name (replacing Moesia) from the Finnic armies by whom it was conquered in the 7th century. Bulgarian tribes advanced from the Volga to the Don, and, after remaining for a time under the sovereignty of the Avars on the Don and Dneiper, they advanced to the Danube in 635, and founded the Bulgarian kingdom.

The third, or *Permic* branch, comprises the idioms of the Votiakes, the Sirianes, and the Permians, three dialects of one language. Perm was the ancient name for the country between long. 61° 76′ E., and lat. 55° 55′ N. The Permic tribes were driven westward by their eastern neighbours, the Voguls, and thus pressed upon their western neighbours, the Bulgar of the Volga. The Vostiaks are found between the rivers Vyatka and Kama. Northwards follow the Sirianes, inhabiting the country on the Upper Kama, while the eastern portion is held by the Permians. These are surrounded on the south by the Tartars of Orenburg and the Bashkir, on the north by the Samoyedes, and on the east by Voguls, who pressed on them from the Ural.

These Voguls, together with Hungarians and Ostiaks, form the fourth and last branch of the Finnic family, the *Ugric*. It was in 462, after the dismemberment of Attila's Hunnic empire, that these Ugric tribes approached Europe. They were then called Onagur, Saragur, and Urog; and in later times they occur in Russian chronicles as Ugry. They are the ancestors of the Hungarians, and should not be confounded with the Uigur, an ancient Turkic tribe.

FINOKI. JAP. A cypress tree of Japan, which yields a light whitish wood of a good substance, and does not absorb water.—*Thunb.*

FIR. Sung-shu, CHIN. The fir tree is met with on most of the hills of China, and its wood is used in carpentry and for fuel.—*Smith.*

FIRDUSI, author of the Shah Namah, a Persian poem, was born at Rizvan, near Taos, about A.D. 940, and died there 1020. He wrote it at the request of Mahmud of Ghazni, but, disappointed of the promised reward of 30,000 drachmas, he returned to Toos, his native city, and there died. A little way from the gate of the entrance of Toos there stands a dome ornamented with lacquered tiles, so small as seemingly to form a part of some private house. The dome covers the dust of this celebrated poet, who, after the treatment he received from Mahmud, retired there to die (Fraser's Khorasan, p. 519). Mahmud was not, however, a niggard in his rewards of the learned, and had sent the money after Firdusi, but he had died before it arrived. The Shah Namah relates to three heroes, Jamshid, Faridun, and Garshasp, as the earliest representatives of the generations of mankind. In his satirical description of Mahmud's court at Ghazni, he says he has had enough of plunging after plunging into it, and would fain rest awhile from ducking into a sea without bottom and shore, in which he has fished long but has not found any pearl. Firdusi is the first of the epic poets of Persia, and few countries can boast of a greater genius. His chief work, the Shah Namah, or Book of Kings, contains, mixed with allegory and fable, almost all the Persians know of their ancient history. It contains 120,000 verses.

FIRE.

Nar,	ARAB.	Ignis,	LAT.
Mee,	BURM.	Api,	MALAY.
Feu,	FR.	Fuego,	SP.
Feur,	GER.	Narapu,	TAM.
Ag, Agn,	HIND.	Nepu,	TEL.
Fuoco,	IT.	Atish,	PERS., TURK.

Fire is frequently mentioned in the writings of ancient and of some modern nations as an object to be worshipped or reverenced. Perhaps the chief culture enjoined in the Vedas is that of Agni, the god of Fire, and that of the Sun; and with the ancient Persians, as with the Parsees of the present day, the worship of these two objects formed the principal religious duty. Fire is preserved in Hindu, in Parsee, and in Buddhist temples, and seems to be the inextinguishable fire alluded to in Leviticus vi. 13, as their lamps are kept perpetually burning, according to the injunction to the Hebrew Levites, 'The fire shall ever be burning upon the altar; it shall never go out.'

The three fires of the Hindu ritualistic worship are the Garhapatya, or perpetual fire, maintained by a householder; the Ahavaniya, or consecrated fire, taken from the preceding, and prepared for receiving oblations; and the Dakshinagni fire, taken from either of the former, and placed towards the south.

An Agnihotra Brahman preserves the fire which was kindled at the time of his investiture with

the poita, and never suffers it to go out, using the same fire at his wedding, and in all his burnt-offerings, till at length, after his death, his body s burnt with it. The sacred fire kindled by Montezuma was preserved at Pecos down to our own times. The Natches of N. America preserved a sacred fire, and believed that frightful calamities would ensue if ever the fire were extinguished at both temples at once. Even among Christians of the present day, according to Mr. Robertson, on the eve of the Greek Easter-day, the ceremony of receiving the αγως-πυς or holy fire is performed in the chapel at Jerusalem. The fire bursts from the sepulchre, and the pilgrims of the Greek communion light their torches at it, believing that they receive it from heaven. The lamps and candles which some Christian sects keep in their churches are remnants of the ancient and modern culture of fire. The Athenians had a perpetual fire kept by widows; among the Romans it was kept by virgins. The Greeks had one in the temple of Apollo. The Chaldeans adored fire; and when it went out, it was a presage of all sorts of misfortunes to the state.

In the Hebrew books, the Supreme is mentioned as having appeared in fire or encompassed with this element, as when he showed himself in the burning bush, and descended on Mount Sinai in the midst of flames, thunder, and lightning (Exodus iii. 2, xix. 18). Fire is also a symbol of the deity (Deuteronomy iv. 24). In this awful manner he showed himself to Isaiah (ch. vi. 4); to Ezekiel (ch. i. 4). The Psalmist describes the chariot of God as composed of flames (Psalm xviii. 12-14). And the second coming of Christ is represented as in the midst of consuming fire (2 Thessalonians i. 8; see also Daniel vii. 10). The wrath of God is compared to fire (Psalm xviii. 8); and so are those effects of his displeasure, famine, war, and pestilence (Psalm lxvi. 12; Jer. xxi. 12). To this element the Lord is compared (Malachi iii. 2), referring to his judgment upon the wicked who are consumed like the dross of metals, and to the effects of his grace refining the righteous like pure gold. The influences of the Holy Ghost are also compared to fire (Matthew iii. 11), in reference to the tongues or flames of fire that rested on the heads of the apostles (Acts ii. 3), and to the work of regeneration on the human soul, illuminating, quickening, purifying, and inflaming with gratitude, love, and zeal. The angels of God are represented under the emblem of fire (Psalm civ. 4); and a column of flame directed the marches of the Israelitish camp during the night seasons in the wilderness (Exodus xiii. 21). Fire anciently fell from heaven to consume the victims sacrificed to the Lord, and this was an indication of his regard and approbation. And this is thought to be the manner in which Jehovah signified his acceptance of Abel's sacrifice. Fire also fell upon the offering made by Moses (Leviticus ix. 24), on those of Manoah (Judges xiii. 19, 20), on Solomon's (2 Chronicles vii. 1), and on Elijah's (1 Kings xviii. 38). The fire which descended from heaven, first upon the the altar constructed by Moses in the tabernacle, and again on that erected by Solomon at its consecration, was constantly fed and preserved by the priests, and was regarded as celestial or hallowed fire, first kindled by the Lord himself, to instruct mankind that the origin of all spiritual good is from above, and that we are not to warm ourselves with the sparks of our own kindling.

What kind of fire is meant by the 'strange fire' of Leviticus x. 1, Numbers iii. 4, xxvi. 61 (see also Leviticus xvi. 12, ix. 11, 24, and Exodus xxx. 9), is doubtful; but a Brahman should maintain three fires (Vikrama and Uravasi, Introduction, i. p. 190), two mentioned in a sakta of the Rig Veda and the Apastamba Sutra, are the Sabhya and Avasathya, the precise purport of which names is not known to the pandits, nor explained in the Bashya. The literal sense would be the fire of the assembly and the fire of the village, as if a sacrificial fire was sometimes maintained in common.

The subdivision of one fire into the three fires of the Hindu ritualistic worship is ascribed by the Mahabharata, and the rest to Pururavas. The commentator on the former specifies them as the Garhapatya, Dakshina, and Ahavaniya, which Sir William Jones (Manu. ii. p. 231) renders nuptial, ceremonial, and sacrificial fires; or rather—(1) household, that which is perpetually maintained by a householder; (2) a fire for sacrifices, placed to the south of the rest; and (3) a consecrated fire for oblations,—forming the Tretagni, or triad of sacred fires, in opposition to the Laukika, or merely temporal ones.

It may be that the taking of fire from other than the established place was called 'strange.' The fire used by Hindus for the funeral pile ought to be obtained from the sacred fire, but it is at present the common practice of the Hindus of ordinary rank in the Western Provinces of India to procure fire from an out-caste to light the funeral pile. On the eastern side of India, the fire used in the household sacrifices of their homes is obtained from the hearth fire. That used in their incremation is from the lamp lit in the ceremonial when a person is moribund; but the lamps of the temples are lit only by Brahmans, and taking fire from other than the altar would be 'strange.' A Hindu, as indeed also a Mahomedan, does not 'blow' out a lamp with his breath, the Hindu believing that a deity intervenes. In the whole of Central and Southern Asia, and with Hindus, Parsees, and Mahomedans, to blow out a light is considered very wrong.

On the east side of the fortress of Gwalior, where myriads of warriors have fattened the soil, phosphorescent lights at one time often appeared. They are termed Shahāba by the Rajputs, perhaps from the Arabic shahāb, a meteor. Colonel Tod dared as bold a Rajput as ever lived to approach them; but he replied, men he would encounter, but not the spirits of those erst slain in battle. Such fires the northern nations believed to issue from the tombs of their heroes, and to guard their ashes; they called them Hauga Elldr, or 'the sepulchral fires,' and they were supposed more especially to surround tombs which contained hidden treasures. When the intrepid Scandinavian maiden observes that she is not afraid of the flame burning her, she is bolder than that bold Rajput, for Sri-Kishen, who, as above related, was shocked at the bare idea of going near the sepulchral lights, was one of three non-commissioned officers who afterwards led thirty-two firelocks to the attack and defeat of 1500 Pindaris. At present the Kasak or Kirghiz do

not spit on a fire; and in Khiva, Khokand, in many other parts of Africa and Asia and Europe, the custom continues of dancing round fire. Everywhere with the Hindus there is believed to be a fire which does not burn a person, attributed to Siva the Mahadeva, written also Seo or Siu; and annually, in the Dekhan, the fire-worship of Mahadeva is performed, in which the devotees run or jump through great fires, attributing their escape to the interposition of that Hindu deity. In the North Arcot district of the Madras Presidency, a fire festival custom prevails annually, in which the people walk through fire, but accidents occur, ending in death.

Abul Ghazi relates that he allowed his wives before their confinements to pour grease on to the fire, to guess from the splutterings of the flame whether they would have boys or girls. This superstition is still practised in Central Asia, and finds its counterpart in the melting of wax or lead by European girls on New Year's eve, to see from the shapes into which it runs whether they will be married in the course of the year (Vambery, Bokhara, p. 283). So the Kirghiz, though professing Mahomedanism, threw grease on their fires. They and the people of Wakhan and Badakhshan dislike blowing out a light. Spiegel asserts, in an article which appeared in the Ausland under the title Das östliche Turkestan, that in the 7th century after Christ, Turkish tribes in the north of the Tien-shan were fire-worshippers.

Fire is produced from several woods by friction. In India, from the Isora corylifolia; in New Zealand, by friction of the woods of the Myhoe or Melicytus ramiflorus, of the Aralia polygama or Pate, and of the Kaikomako trees. The wood used to provide fire in Tahiti is that of the Hibiscus tiliaceus, which is also used for shoulder-poles and outriggers for steadying a canoe. Its blunt point is rubbed in a groove till the dust takes fire. Fire is kindled in the Sandwich Islands by twirling a sharp-pointed bit of wood over a small slab. The Aleutians manage the upright stick with a string in the manner of a gimlet or borer. They also rub sulphur on two stones, and strike fire from them over moss strewed with sulphur (Kotzebue's Voyage, iii. p. 259, in Jam. Ed. Journ. vi.). The Guacho of the Pampas takes an elastic stick about 18 inches long, and presses one end against the breast, the other in a hole in the piece of wood, and then rapidly turns the curved point like a carpenter's centre-bit.—*Wilson's Hindu Theatre; The Toy Cart; Art*, p. 112; *G. Bennett*, p. 418; *Colebrooke on the Religious Ceremonies of the Hindus, Asiatic Res.* xxi. p. 241; *Sonnerat's Voyage*, pp. 77, 78; *Story of Nala*, p. 102; *Robinson's Travels, Palestine and Syria*, i. p. 282.

FIREBACKS, species of the Gallus partridge.

FIRE-CLAY. Sang-i-dalam, HIND. A kind of clay, very common in many parts of India, from which bricks can be made that resist the action of great heat.

FIREFLY, little luminous insects, species of Lampyris and Elater. The lower part of the body has some apparatus for emitting a bright phosphorescent light. Usually it is emitted in flashes at intervals of a second, and it is interesting to guess where the creature in its flight will next show itself. But occasionally the light is continuous.

'As fade the upper skies,
Each thicket opes ten thousand eyes,—
Before, beside us, and above,
The firefly lights his lamp of love,
Retreating, chasing, sinking, soaring,
The darkness of the copse exploring.'

Fulgora candelaria is the Chinese firefly. F. lanternaria is another. The Elater beetles have over 70 species in tropical America. E. noctilucus occurs in India.—*Heber*, i. p. 247. See Ægiceras; Insects; Lampyrides.

FIREPLACES, in the eastern and southern parts of Asia, are usually the hearths alluded to in Jeremiah xxxvi. 22: 'There was a fire on the hearth burning before him.' Hindu houses have neither chimneys nor fireplaces. In the cold weather, the rich burn wood in brass or earthen pans, placed in any part of the room; the indigent burn sticks on the floor. The hearth or fireplace is commonly taken to mean the livelihood, or means of supporting a family. If the family be scattered into, say, three parties, the expression would be, 'I have three fireplaces burning.' Speaking of a family ruined and dispersed, the Persians say, 'Oojak-ishan koor shood,' Their fireplace is darkened; and the people of India say, 'Ghar men charāgh nahīn,' The house is without a lamp; also 'Chūlay men āg nahīn,' There is no fire on the hearth.

FIRE TEMPLE, the name usually applied to the places of worship of the Parsee religionists. Their Hormusjee Wadia fire temple in Bombay was established about A.D. 1839; the Nowsaree, A.D. 1763; the Surat, in A.D. 1822; the Oodwara, A.D. 873—it is the oldest. An annual service is held in a morning of the beginning of November. In the evening the Parsee streets in the Bombay Fort and the Bazar Gate street are illuminated, and flags and evergreens adorn the principal entrances.

FIREWOOD.

Bois de chauffage, . FR.	Lakri, ... HIND.
Brennholz, . . . GER.	Lena para el fuego, . SP.

Firewood is the chief fuel used in the E. Indies, and the less valuable trees of each locality are cut. On the east coast of the Peninsula the fuel woods used are—

Canthium parviflorum.	Randia dumetorum.
Hymenodyction excelsum.	Anisonema multiflora.
Acacia speciosa.	Cassia auriculata.
Gmelina Asiatica.	Phyllanthus, *sp.*
Peltandra.	Acacia leucophlæa.
Vatica laccifera.	Maba buxifolia.
Grewia rotundifolia.	Dichrostachys cinerea.

The fuel trees at Simla are chiefly—

Quercus incana.	Pinus excelsa.
Rhododendron arboreum.	Cedrus deodara.
Andromeda ovalifolia.	

with other jungle trees and stout underwood. At Kussowlee and Kanawar, the contractors supply principally 'chir' (Pinus longifolia), which grows wild on the adjoining hill-sides, and splits easily. The only forbidden wood is 'behul' (Grewia oppositifolia), which emits an offensive smell in burning. The villagers use as fuel the withered stems of Euphorbia pentagona and thorny bushes.

In the Panjab, the woods used are—

Alsine, *sp.*	Hippophae rhamnoides.
Artemisia sacrorum.	Juniperus communis.
Calligonum polygonoides.	Juniperus excelsus.
Caragana pygmæa.	Periploca aphylla.
Crozophora tinctoria.	Rhazya stricta.
Ephedra Gerardiana.	Rosa Webbiana.
Eurotia ceratoides.	Tanacetum tomentosum.

Near the Panjab railway lines, Phulai (Acacia modesta) furnishes a hard wood, which is perhaps the best fuel given by any wild tree. It is only found in quantity near Amritsar and Jullundur. Jhand or kandi (Prosopis spicigera) covers very large areas in the central tract near Lahore, and grows more partially over many parts to the south. Its wood is open-grained and softish, and is very subject to the attacks of white ants; but it furnishes a fair fuel, and has been the chief source of supply for the locomotives in the Panjab. Next to it, as to quantity of fuel furnished, come the tamarisks, furas, lei, pilchi, etc. (Tamarix orientalis and T. Indica), which, from some miles south of Lahore, cover hundreds of square miles of the low land. A kikar or sissoo tree, under tolerably favourable circumstances, attains a girth of about 30 inches in ten years, and gives about 4 maunds (328 lbs.) of dry fuel. 200 trees yielding 800 maunds (65,600 lbs.) of dry fuel might be grown on an acre in ten years. Various species of Salsolaceæ abound in the more saline dry parts of the Doabs of the Panjab. West of the Beas, Karil, the Capparis aphylla, a considerable shrub, is a common brick fuel in many places in the Panjab; as also is the jal, wan, or pilu, Salvadora oleoides over-abundant south of Lahore. Along some of the rivers in the south the bahn (Populus Euphratica) is not uncommon, but its wood is very light. The smaller tamarisk, T. Indica, becomes fit for felling in eight or ten years. For the fuel of the Indus steamboats on the Delta, the mangrove is used.

FIREWORKS.

Feux de artifice, . . FR.	Marchun, Rabok, MALAY.
Feurwerke, . . . GER.	Fuoco artifiziale.
Atishbazee, GUJ., HIND.	Fuegos artificiales.

In Eastern countries the people have superb displays of pyrotechnic skill. The fireworks are of various forms, represent animate and inanimate things, such as trees, tigers, ships, elephants, men, sea-fights, eclipses of the sun and moon. They are manufactured in the principal cities. Green fire is produced by green baryta, chloride of potash, and sulphur; red fire from strontia, chloride of potash, sulphur, and charcoal; blue fire from chloride of potash and sulphur. Fireworks imported into India in the years 1874-5 to 1879–80 ranged in value about 3 to 5 lakhs. The natives of India are passionately fond of fireworks, and at marriages and other important festivals they gratify their taste.

FIROZAH, Turkis, or the turquoise. Firozarang, turquoise blue. This mineral is found at Khojend, in Mawar-u-Nahr or Transoxiana, at Shebavek, in Kirman, and in a mountain of Azerbijan, where the mine was discovered before Ahmad bin Abd al Aziz composed his Treatise on Gems. He describes the mine at Nishapur as most celebrated from early ages for that particular kind of turquoise entitled Abu Ishaki, which, says he, averts evil from those who wear it, conciliates the favour of princes, augments wealth, preserves the sight, ensures victory over an adversary, and banishes all unpleasant dreams. The ancient sages, when first they beheld a new moon, immediately after fixed their eyes, says he, on the firozah.—*Ouseley's Travels*, i. p. 211.

FIROZ KOHI, an Aimak tribe from the town of that name, 63 miles from Teheran. They are of Persian origin, and their forefathers fought Timur bravely when that conqueror subjugated their country. After they were driven by him into the mountains south of Mazenderan, they there defended themselves most desperately; but they were eventually defeated and carried by him into Herat.—*Ferrier, Journ.* p. 196. See Aimak.

FIROZPUR, a town and military cantonment in the Firozpur district of the Panjab, situated in lat. 30° 56′ 42″ N., and long. 74° 38′ 24″ E. The revenue district is between lat. 30° 8′ and 31° 11′ N., and between long. 74° 3′ 30″ and 75° 27′ E.; area (1878), 2739 square miles; population in 1868, 549,253. The Dogra and Bhatti form the leading Rajput tribes, and bear the reputation of being lazy and thriftless.—*Imp. Gaz.*

FIROZ SHAH, emperor of Dehli. He wrote an account of the occurrences of his reign, and called it Futuhat-i-Firoz Shahi.

FIROZ-u-DIN TAGHALAQ ascended the throne of Dehli A.D. 1351, and died at the age of ninety, on the 23d October 1388. He was just and liberal-minded, erected many (700) public works, some of which still remain, amongst others an irrigation canal from the point in the Jumna where it leaves the mountains, by Karnāl to Hansi and Hissar. It reaches to the river Gagar, and in former times was connected with the Sutlej, the nearest river in the Panjab. The British restored 200 miles of it to beyond Hissar. Ferishta relates that he obtained acquittances from the relatives of all who had suffered from the violence of his uncle, Muhammad Taghalaq (A.D. 1325–51), and deposited the sealed acquittance in his uncle's tomb. —*Elph. India*, p. 356; *Tr. of a Hind.* ii. p. 216.

FISHES of the South and East of Asia.

Samkat, . . . ARAB.	Pisces, ... LAT.
An-gna, ... BURM.	Ikan, ... MALAY.
Fisk, ... DAN., SW.	Mahi, ... PERS.
Visschen, ... DUT.	Rybi, ... POLISH.
Poisson, ... FR.	Piexes, ... PORT.
Fisch, ... GER.	Rub, ... RUS.
Ichthus, ... GR.	Pescados, . . . SP.
Dag, ... HEB.	Min, ... TAM.
Match'hi, Matchli, HIND.	Chapu, ... TEL.
Pesce, ... IT.	

During the 18th and 19th centuries, this branch of the natural history of the East Indies has received the attention of many learned zoologists. Bloch, in 1785, published his splendid work on Auslandische Fische. This and his Ichthyologie, and the continuation of the latter by Schneider, contain many Indian forms, as does Lacépedes Histoire des Poissons, 1798–1803. In 1803 there appeared Dr. Patrick Russell's book in two volumes, containing descriptions and figures of 200 fishes collected at Vizagapatam on the coast of Coromandel. In 1822, in a 4to volume, Dr. Hamilton gave an account of 269 fishes found in the river Ganges and its branches, with a volume of plates. The voluminous work by Baron Cuvier and M. Valenciennes, Histoire Naturelle des Poissons, published in Paris in 1828 and following years, was of great value to science. A beautiful volume of much importance, the Fauna Japonica, was published in 1847 by MM. Ph. Fr. de Siebold, C. J. Temminck, H. Schlegel, and W. de Haan, Lugduni Batavorum 1847. In 1841 there was issued at Berlin the Systematische Beschreibung der Plagiostomen by Dr. J. Müller and Dr. J. Henle, which included many of the genera and species of the seas in the S. and E. of Asia. Dr. M'Clelland of the Bengal Army, in 1842, in the

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Calcutta Journal of Natural History, described the fresh-water fishes which Dr. Griffiths had collected; and subsequently, in 1843, he described a collection made at Chusan and Ningpo. In 1834 Mr. J. W. Bennett published a Selection of Rare and Curious Fishes found on the Coast of Ceylon. Drs. Ruppell in 1828 and Peters in 1868 described the fishes of the Red Sea and those found southwards to Mozambique; and the fishes near the Cape were described by Dr. Smith. Dr. Day, in 1865, published his Fishes of Malabar, the new species in which were lodged in the British Museum. The fishes of China and Japan were described by Sir John Richardson in the Report of the British Association in 1845. Dr. M'Clelland published a memoir on the Indian Cyprinidæ in the As. Res. xix. p. 217. Colonel Sykes wrote on the Fishes of the Dekhan in the Transactions of the Zoological Society in 1841. Fische aus Caschmir were described by MM. von Hugel and Heckel in 1838. Dr. Kelaart of Ceylon paid much attention to the ichthyology of the island. Dr. Theodore Cantor in 1850 furnished, in the Bengal Asiatic Society's Journal, a minute account of 292 fishes of the Malay Archipelago. From 1845 to 1860 Dr. P. Bleeker, in numerous contributions on the fishes of the Eastern Archipelago, added greatly to the stock of knowledge of the seas of the region from Penang to Japan. Mr. E. Blyth, long the Curator of the Bengal Asiatic Society's Museum, from time to time published in the Bengal Asiatic Society Journal, notices of fish; and T. C. Jerdon, a medical officer of the Madras army, in the Madras Literary Society's Journal, gave several contributions on the fresh-water and on the salt-water fishes of the Peninsula. Dr. A. Günther, in addition to all that he had written in the Proceedings of the Zoological Society and other journals, in the years 1859 to 1870 brought out eight volumes of a catalogue of the fishes in the collection of the British Museum; and in 1866, conjointly with Lieut.-Colonel L. Playfair, published an illustrated volume on the Fishes of Zanzibar, the Seychelles, and Chagos Islands. Dr. Klunzinger, in 1870–1871, published a detailed account of the Fische des Rothen Meeres. Later still, Dr. Day has written (1875–77) an invaluable work on the Fishes of India, Ceylon, and Burma, with many monographs and numerous reports on the sea and fresh-water fishes and fisheries of India. The scientific arrangement of this branch of Natural History is as follows:—

SUB-CLASS, TELEOSTEI. ORDER, Acanthopterygii.

Fam. Percidæ. *Gen.* lates, serranus, grammistes, diploprion, genyoroge, mesoprion, myriodon, ambassis, apogon, apogonichthys, cheilodipterus, dules.
Fam.; Pristipomatidæ. *Gen.* therapon, pristipoma, diagramma, lobotes, datnioides, gerres, scolopsis, dentex, smaris, cæsio.
Fam. Squamipennes. *Gen.* chætodon, toxotes, chelmo, hœniochus, holacanthus, scatophagus, ephippus, drepane.
Fam. Nandidæ. *Gen.* plesiops, badis, nandus, catopra.
Fam. Mullidæ. *Gen.* upeneoides, mulloides, upeneus.
Fam. Sparidæ. *Gen.* crenidens, sargus, lethrinus, sphærodon, pagrus, chrysophrys, pimelepterus.
Fam. Cirrhitidæ. *Gen.* cirrhites, cirrhitichthys.
Fam. Scorpænidæ. *Gen.* scorpæna, sebastes, pterois, apistus, amphiprionichthys.
Fam. Teuthididæ. *Gen.* teuthis.
Fam. Berycidæ. *Gen.* myripristis, holocentrum.
Fam. Kurtidæ. *Gen.* kurtus, pempheris.
Fam. Polynemidæ. *Gen.* polynemus.
Fam. Sciænidæ. *Gen.* umbrina, sciæna, otolithus, sciænoides.
Fam. Xiphiidæ. *Gen.* histiophorus.
Fam. Trichiuridæ. *Gen.* trichiurus.
Fam. Acanthuridæ. *Gen.* acanthurus, naseus.
Fam. Carangidæ. *Gen.* caranx, seriola, seriolichthys, naucrates, chorinemus, trachynotus, psettus, platax, psenes, equula, gazza, lactarius.
Fam. Stromateidæ. *Gen.* stromateus.
Fam. Coryphænidæ. *Gen.* coryphæna, mene.
Fam. Nomeidæ. *Gen.* cubiceps.
Fam. Scombridæ. *Gen.* scomber, thynnus, cybium elacate, echeneis.
Fam. Uranoscopidæ. *Gen.* uranoscopus, ichthyscopus.
Fam. Trachinidæ. *Gen.* percis, sillago.
Fam. Pseudochromides. *Gen.* opisthognathus, pseudoplesiops.
Fam. Batrachidæ. *Gen.* batrachus.
Fam. Pediculati. *Gen.* antennarius.
Fam. Cottidæ. *Gen.* synancidium, synanceia, minous, pelor, chorismodactylus, polycaulis, platycephalus.
Fam. Cataphracti. *Gen.* dactylopterus, pegasus.
Fam. Gobiidæ. *Gen.* gobius, apocryptichthys, sicydium, gobiodon, periophthalmus, boleophthalmus, eleotris, amblyopus, trypauchen.
Fam. Callionymidæ. *Gen.* callionymus.
Fam. Cepolidæ. *Gen.* cepola.
Fam. Blenniidæ. *Gen.* blennius, salarias, andamia, petroscirtes, tripterigium, xiphasia.
Fam. Sphyrenidæ. *Gen.* sphyrena.
Fam. Atherinidæ. *Gen.* atherina.
Fam. Mugilidæ. *Gen.* mugil.
Fam. Aulostomatidæ. *Gen.* fistularia.
Fam. Centriscidæ. *Gen.* amphisile.
Fam. Trachypteridæ. *Gen.* regalecus.
Fam. Pomacentridæ. *Gen.* amphiprion, premnas, dascyllus, pomacentrus, glyphidodon, heliastes.
Fam. Labridæ. *Gen.* labrichthys, labroides, cheilinus, epibulus, anampses, hemigymnus, stethojulis, platyglossus, novacula, julis, gomphosus, coris, cymolutes, pseudodax, callyodon, pseudoscarus, chœrops, cossyphus, cheilio, scarichthys.
Fam. Labyrinthici. *Gen.* anabas, polyacanthus, osphromenus, trichogaster.
Fam. Ophiocephalidæ. *Gen.* ophiocephalus, channa.
Fam. Rhynchobdellidæ. *Gen.* rhynchobdella, mastacembelus.
Fam. Chromides. *Gen.* etroplus.

ORDER, Anacanthini. SUB-ORDER, Anacanthini-Gadoidei.

Fam. Gadidæ. *Gen.* bregmaceros.
Fam. Ophiidæ. *Gen.* brotula, Bleekeria.

SUB-ORDER, Anacanthini-Pleuronectoidei.

Fam. Pleuronectidæ. *Gen.* psettodes, pseudorhombus, platophrys, heterosomata, solea, achirus, synaptura, plagusia, cynoglossus.

ORDER, Physostomi.

Fam. Siluridæ.

Sub-Fam. Silurinæ. *Gen.* macrones, arius, batrachocephalus, ketengus, osteogeniosus, plotosus, akysis, erethistes, rita, pangasius, pseudeutropius, callichrous, wallago, olyra, silurus, chaca.
Sub-Fam. Amblycepinæ. *Gen.* clarias, saccobranchus, silundia, ailia, ailiichthys, eutropiichthys, sisor, gagata, hemipimelodus, bagarius, pseudecheneis, glyptosternum, amblyceps, exostoma.

Fam. Cyprinidæ.

Sub-Fam. Cyprininæ. *Gen.* psylorhynchus, Mayoa, discognathus, oreinus, schizothorax, labeo, osteochilus, cirrhina, scaphiodon, carassius, semiplotus, catla, mola, barbus, nuria, aspidoparia, rohtee, barilius, danio, perilampus, chela.
Sub-Fam. Homalopterinæ. *Gen.* homaloptera.
Sub-Fam. Cobitidinæ. *Gen.* apua, acanthophthalmus, acanthopsis, cobitis, lepidocephalichthys, botia, Jerdonia, nemacheilus, misgurnus.
Fam. Cyprinodontidæ. *Gen.* cyprinodon, haplochilus.
Fam. Scopelidæ. *Gen.* saurus, saurida, harpodon.
Fam. Scombresocidæ. *Gen.* belone, hemiramphus, exocetus.
Fam. Pseudoclupeidæ. *Gen.* chanos, elops.

Fam. Clupeidæ. *Gen.* chirocentrus, clupea, coilia, chatoëssus, dussumieria, engraulis, opistopterus, pellona, raconda, spratelloides, corica, megalops.
Fam. Notopteridæ. *Gen.* notopterus.
Fam. Symbranchidæ. *Gen.* monopterus, amphipnous, symbranchus.
Fam. Muræniдæ. *Gen.* muræneosox, murænichthys, ophichthys, anguilla, moringua, muræna, gymnomuræna.

ORDER, Lophobranchii.

Fam. Syngnathidæ. *Gen.* syngnathus, nerophis, gastrotokeus, acentronura, ichthyocampus, doryichthys, hippocampus.

ORDER, Plectognathi.

Fam. Gymnodontidæ. *Gen.* xenopterus, tetrodon, triodon, diodon.
Fam. Sclerodermi. *Gen.* triacanthus, balistes, monacanthus, ostracion.

SUB-CLASS, CHONDROPTERYGII.

ORDER, Plagiostoma. SUB-ORDER, Selachoidei, or Sharks.

Fam. Carchariidæ. *Gen.* carcharias, galeocerdo, zygæna, mustelus.
Fam. Scylliidæ. *Gen.* scyllium, stegostoma, chyloscyllium.

SUB-ORDER, Batoidei, or Rays.

Fam. Pristidæ. *Gen.* pristis.
Fam. Rhinobatidæ. *Gen.* rhynchobatus, rhinobatus.
Fam. Torpedinidæ. *Gen.* narcine, astrape.
Fam. Rajidæ. *Gen.* platyrhina.
Fam. Trygonidæ. *Gen.* trygon, urogymnus, pteroplatea.
Fam. Meliobatidæ. *Gen.* meliobatis, ætobatis, rhinoptera, dicerobatis.

From the continuity of the waters from the Red Sea and east coast of Africa, through the Indian Ocean and Bay of Bengal, into the seas of the Archipelago, around Australia and into the Pacific and Polynesia, it is probable that many of the fishes which are now only known as inhabiting a particular sea, will be found throughout that line of ocean, and that the great natural barriers will be found to be Cape Horn and the Cape of Good Hope on the south, to pass either of which capes would throw the fish of the tropical seas into cold regions.

The fishes chiefly used as food in the fresh waters of India, belong to the order Physostomi, especially in its siluroid, cyprinoid, and herring families, as also those classed in the spiny-rayed or Acanthopterygii order. Mahomedans in Sind eat siluroids; but in general the siluroid, or scaleless fishes, as sharks, skates, rays, eels, are not eaten by Mahomedans or Jews. They are very foul feeders. All the spiny-rayed or acanthopterygian fishes found in India are good for food. Of the siluroid fishes, the Magur or Singi (Saccobranchus), and many others, and the carps (Cyprinidæ), are all useful for food. The herring family (Clupeidæ) are all good, and eels are reckoned wholesome, though natives of India refuse them.

The Andamaners eat the tetrodons, and the Burmese eat the large yellow Xenopterus naritus; others of these genera are deemed poisonous.

The fecundity of fishes is very various. In a hilsa fish, 1,023,645 eggs have been counted; in a migratory barbel, 410,500 eggs. The monogamous non-migratory fish appear to breed frequently, and they protect their offspring. In the Cirrhina reba, *H. B.*, a polygamous non-migratory carp, Dr. Day found 41,500 eggs; and in a siluroid, Callichrous canio, *H. B.*, 47,444; whilst a monogamous walking-fish or ophiocephalus had only 4700. The striated walking-fish breeds twice a year, in December and June. The male constructs a nest with its tail amongst the vegetation, and by biting off the ends of the weeds that grow in the water. Here the eggs are deposited, the male keeping guard; but should he be killed or captured, the place is taken by his partner. The parents are very fierce at this time, and defend their offspring with great courage.

Dr. Day tells us of vast shoals of some forms of fishes approaching the shores or shallows of the Indian coasts at certain seasons, mostly for breeding purposes, and these are often destitute of means of defence, becoming food for their stronger neighbours, or are captured by man for consumption. He arranges the Indian fishes, in their economic relations, into three classes,—*First*, the more strictly predaceous forms, which are more or less *migratory* in their habits, generally in order to follow and prey upon their weaker neighbours; some of these congregate in shoals, while others lead more solitary lives. *Secondly*, *non-migratory* fishes, some of which are likewise predaceous. These usually reside along the shores and backwaters, being almost confined to the littoral zone, although a few may extend their range into brackish waters on the one hand, or into the deep sea on the other. *Thirdly*, those which are more preyed upon than predaceous, consisting of such as live in large assemblages, being gregarious in their habits, and others which lead a more solitary existence.

Among the first, or *predaceous division* of marine fishes, are some gregarious forms, but such are scarcely so numerous or well fitted for destroying their neighbours as those which are more solitary in their habits. Their best-known representatives are found in the spiny-rayed or acanthopterygian order, or else among the cartilaginous or chondropterygian fishes. Some attain to a great size. Thus, Dr. Cantor alludes to a sea perch (Serranus) exceeding 130 lbs.; and Dr. Russell to another, which was 7 feet long, 5 feet in girth, and upwards of 300 lbs. in weight. Nearly allied are the Lutiani or Mesoprions, which, although of somewhat inferior size, excel them in usefulness to man, owing to their being more numerous and coming closer in-shore. The fishes of both genera are generally excellent as food, especially when not too large, and are much employed as such, either fresh, salted, or sun-dried. Among the Sparidæ we find the Pagrus spinifer and several species of Chrysophrys, abundant in places near the shores of India, especially during the cold months, and held in great esteem. In the family of Polynemidæ are some most valuable fishes, all being good as food, and two affording isinglass. Some of these have been known to exceed 300 lbs. in weight, especially in estuaries, where they are not uncommon. The justly celebrated mango-fish of the Bay of Bengal arrives during the S.W. monsoon, about June, and continues through the cold season. It ascends large rivers (from the Mahanadi and Ganges to those of Burma and the eastwards) for the purpose of spawning, and is of great repute for its excellent flavour. Natives term it Tapasi, changed by Europeans into Tupsee-mutchee, the original name being derived from certain ascetics. A similarity has been drawn between their unkempt hair and the long tendrils which in this fish spring from the base of the pectoral fins, and exceed in length that

of the body. The Maigres, Sciænidæ, absent from the Red Sea, become abundant off the coasts of Sind and through the Indian Ocean. Some attain to 5 feet or more in length, but are sought after rather for the isinglass their air-bladders afford than for their flesh as food, the latter being dry and insipid. The sword-fishes (Xiphiidæ) are likewise numerous at times off the Coromandel coast during the cold weather, and their flesh is esteemed by the natives, although not brought to the table of Europeans. The horse-mackerels, or Carangidæ, are among the most important sea forms to the natives, by whom they are highly esteemed as food. They are very abundant along the Coromandel coast, less so down that of Malabar, where the herrings take their place to a great extent. Some attain to a large size, and on the coasts of British India are never found to be poisonous, as is reputed to be the case elsewhere. Caranx Rottleri reaches 5 feet or more in length, but some species never pass 5 or 6 inches. These fishes are gregarious, and not so fitted for predaceous habits as some of those already referred to, while the same remarks likewise apply to the next few genera. The closely allied species of Chorinemus and Trachynotus afford a considerable amount of food to man, but, owing to their being dry and insipid, are generally salted or sun-dried. Pomfrets (Stromateidæ) are justly esteemed by both Europeans and natives, and they are abundantly distributed throughout the Indian Ocean. Coming in-shore in large shoals about June, they disappear as suddenly as they come, some forms entirely departing about September. It is a curious circumstance that in all the adult forms the ventral fins are absent; in the young of the black species they are very long, but become absorbed as age advances. The mackerel family are exceedingly important, and the common Scomber microlepidotus is very abundant along the western coast of India throughout the cold season, and is extensively salted and sun-dried, but, owing to its rapidly tainting, it is rarely brought to the tables of Europeans; it is not nearly so common along the east coast of Madras and Bay of Bengal, but is found at the Andamans. In India its usual length is about 10 inches, but in certain localities it attains to a foot. Some other forms, which grow to a larger size, and are more predaceous than the common mackerel, likewise arrive during the cold season, when they prey extensively on the numerous herrings and other small fish. Among these large species are the tunny and the pelamys; these are terrors to the shoals of sardines, which appear to afford them desirable food. The seer fishes (Cybium) are held in great esteem by Europeans, and when of a medium size, are among the most delicate for the table. They are quite as predaceous as the tunnies, and attain to three feet and more in length. The voracious and dangerous Sphyrænæ, termed sharks in some places, and barracuda in the West Indies, grow to several feet, and all forms are used by the natives as food.

The marine siluroid, sheat, or cat-fishes, which cannot be considered migratory, are known by the long feelers round their mouths and absence of scales, and are of considerable economic value; although not esteemed if eaten fresh, still, numbers are salted for export, while their air-bladders are collected for the isinglass which they afford.

Siluroids are mostly found in muddy waters; they are common from Bombay down the western coast, and likewise from the mouth of the river Kistna along the muddy coasts of Bengal and Burma, becoming very abundant in the Malay Archipelago. Among what may be termed the scaled siluroids, a few are excellent eating, but the only one which is found in very large numbers is the bummalo or Bombay duck (Harpodon nehereus). Numerous at Bombay, it is rare all down the Malabar coast, but on the Coromandel side of India a few are taken at Madras; and as we proceed towards Vizagapatam they augment in numbers, and are common along the entire coast of Bengal and Burma, ascending large rivers, but not above tidal influence. Owing to their almost gelatinous character, they are easily sun-dried or salted.

The Chondropterygii, or sharks, rays, and skates, play an important part in Indian sea fisheries. Sharks are found along the whole seaboard, but their carrying off human beings is an uncommon occurrence. In some years they are more numerous than in others, and this is due to the presence or absence of shoals of smaller fish, as sardines. They are captured both for the purpose of extracting oil from their livers, as well as for their flesh, as those of a medium size are cut up, salted, and sold to the poor. Their fins, likewise, are exported to China, where, due to the gelatine contained in them, they are in demand for the purpose of making soups. Rays and skates exist in enormous numbers in the Indian seas, where they attain to a great size. The first appear to be gregarious, and may suddenly arrive, to the dismay of the owner of an oyster bed, as they rarely change their quarters so long as any molluscs are obtainable. Saw-fishes are taken for the same purpose as are sharks.

Of the *non-migratory* forms, some of which are predaceous, there are many in the Indian seas, and some are more directly serviceable to man. Although some of these are small, still they make up by numbers for their deficiency in weight, besides being more readily sun-dried, or salted with brine. The little Ambassis, consisting of small fishes rarely exceeding six inches in length, with the closely-allied Apogons, equally small, are similarly employed as food. The Pristipomas attain to a larger size,—2 feet or more in length,—are more commonly eaten even while fresh, and some species are very numerous. Along the Coromandel coast, species of Synagris are extensively eaten, while the genera Equula and Gerres furnish an immense amount of food, which is consumed by the poor either when fresh or salted. The Mullidæ, so esteemed in some parts of Europe and rejected in others, furnish many Indian forms. They are, however, not esteemed; neither are the beautiful and large Lethrini, nor the more flattened Teuthididæ. The gobies of the sea do not attain to a large size, but are of value owing to their abundance. The spineless Anacanthini, or flat fishes, are by no means uncommon, the largest examples being found off the coast of Sind. The very young of the Indian species, similarly with those in Europe, have an eye on either side of the head, a subject which has been so elaborately examined by Steenstrup in 1864, Mr. Malm in 1868, Dr. Day and others, in order to ascertain how it is that with advancing age both eyes are found on the coloured

side, and the skull appears to be asymmetrical. These fishes are not much esteemed as food by the natives.

Lastly, *those which are more preyed upon than predaceous*, come in large shoals, and are not only of great importance to man, but are the means of inducing larger fish to come nearer in-shore for the purpose of following the assemblages of their weaker neighbours,—mullets (Mugilidæ), of which the seas of India possess about 24 species, some of which ascend tidal rivers or frequent the estuaries. As a rule they are esteemed for food when fresh, both by Europeans and natives, except in Canara, where they are objected to on the grounds that their heads resemble those of snakes. Mullets are extensively salted, and also sun-dried. Some attain a considerable size, while their roes are salted, and considered great delicacies. The pretty little sandsmelts (Atherina), having a burnished silvery band, are taken in enormous numbers; but as they rarely exceed three inches in length, they are commonly sun-dried and exported. The Indian whiting (Sillago) arrives in large assemblages, and is esteemed as a light and wholesome food. The halfbeak (Hemiramphus) is very common, especially during the cold season, while the roes are largely collected along the Malabar coast. But it is among the herring family that we find some of the most important of those fishes which not only afford food to man, but to their larger and stronger relatives. As a rule, they abound more on the Malabar than on the Coromandel coast. The oil-sardine comes in vast numbers, more especially to the western coast, but is uncertain in its movements; occasionally being absent for many consecutive seasons, it returns in enormous numbers. The same may be said of the numerous forms of anchovies, and the great varieties of other genera of the herring family.

There are fishes in Asia which respire atmospheric air direct. They possess respiratory organs in the form of an accessory respiratory sac, distinct from gills, and they are essentially amphibious. The genera of Indian fishes (excluding Chanos) which possess respiratory organs, having a lung-like function, and which are distinct from the gills, are, amongst the acanthopterygians, species of Anabas, Polyacanthus, Osphromenus, and Trichogaster; also species of the Ophiocephalidæ and the genera Clarias and Saccobranchus among the Siluridæ. Of the family Symbranchidæ, is the Cuchia eel (Amphipnous cuchia). The Ophiocephalidæ are very predatory, and their favourite lurking-place is amongst the grass at the margin of a tank. These amphibious fishes, and also the spined eels, Rhynchobdellidæ, retire into the mud of tanks as the water dries up.

In January 1869, in Orissa, Dr. Day dug up in a tank, two feet below the mud, two Ophiocephalus punctatus and three Rhynchobdella aculeata. The Amphipnous cuchia, or amphibious eel, has also been dug out of blue clay. They have blow-holes in the mud, as seals have in the ice. Mr. Bonynge says (America, p. 165) he had seen the natives in the N.E. of India dig fish out of the earth; the fish is called Zamīn ki mutchee (earth-fish), of about 5 to 7 inches in length, flat, and black in colour, flesh hard, and in flavour somewhat like an eel. Tennant tells us (Sketches, p. 354) that in Ceylon, where the country is flat, and small tanks are extremely numerous, the natives are accustomed in the hot season to dig in the mud for fish. Mr. Whiting, the chief civil officer of the Eastern Province, informed him that, on two occasions, he was present accidentally when the villagers were so engaged, once at the tank of Malliativoe, within a few miles of Kottiar, near the Bay of Trincomalee, and again at a tank between Ellendetorre and Armitivoe, on the bank of the Vergel river. The clay was firm but moist, and as the men flung out lumps of it with a spade, it fell to pieces, disclosing fish from 9 to 12 inches long, full grown and healthy, which jumped on the bank when exposed to the sunlight. The Lepidosiren of Africa and S. America is placed midway between the reptiles and fishes, and has gills and true lungs. It has the habit on the approach of drought of burying itself several feet deep into the mud of the ponds in which it usually dwells. It does not appear to possess the power of travelling.

Fishes do travel,—not eels alone, which in all countries can move rapidly over moist land. Theophrastus (De Piscibus), the contemporary of Aristotle, is the first who mentions fishes found in the Euphrates, which in the dry seasons leave the vacant channels and crawl over the ground in search of water, moving along by means of their fins and tail. The travelling powers of the Ophiocephalus amphibeus of Burma are known. The Ophiocephalus striatus, which occurs in the Indian Peninsula, attains a length of upwards of 3 feet. O. gachua grows to one foot long, and Dr. Day believes that they breathe air direct from the atmosphere. Dr. Bowring (Siam, i. p. 10), in ascending and descending the Meinam river, to and from Bankok, was amused with the sight of fish leaving the river, gliding over the wet banks, and losing themselves among the trees of the jungle. Bishop Pallegoix (Siam, i. 144) says fish will wander more than a league from the water. Some years ago, he says, a great drought had dried up all the ponds in the neighbourhood of Ayuthia; during the night torrents of rain fell. Next day, going for a walk into the country, he was surprised at seeing the ponds almost full, and a quantity of fish leaping about! 'Whence have these fish come?' he inquired of a labourer; 'yesterday there was not one.' He replied, 'They were come under favour of the rain.' In 1831, when fish were uncommonly cheap, the bishop placed 50 cwt. in his ponds, but in less than a month nine-tenths escaped during a rain that fell in the night. There are three species of this wandering fish, called Plaxon, Pla-duk, Pla-mo. The first is voracious, and about the size of a carp; salted and dried, it can be preserved for a year. It is very abundant, is exported to China, Singapore, and Java, and is a particularly wholesome and health-giving fish. Ophiocephalidæ have a great vitality. In China they are kept alive at the markets, and slices are said to be cut off their bodies as required by customers.

Near the rocks of the Ceylon coast are multitudes of the Salarias alticus, which possesses the faculty of darting along the surface of the water, and running up the wet stones and across the sand with the utmost ease and rapidity. Mr. Gosse (p. 122) mentions having seen a species of Antennarium running quickly to and fro on the surface of the great beds of floating sea-weed in the Gulf

Stream, progressing by means of its pectoral and ventral fins, quite out of water. The Hydrargyræ of Carolina leave the drying pools and seek the nearest water, in a straight line, though at a considerable distance. The hassar of Essequibo is the Doras costata. When the water is leaving the pools in which they commonly reside, the yarrow (a species of Esox, *Linn.*), as well as a species of the hassar, bury themselves in the mud, while all the other fish perish for want of their natural element, or are picked up by rapacious birds. The flat-head hassar, on the contrary, simultaneously quit the place, and march overland in search of water, travelling for a whole night in its search. They can live for many hours out of the water, even when exposed to the sun's rays. They project themselves forward on their bony arms by the elastic spring of their tail; their progress is nearly as fast as a man can walk. Sir R. Schomburgh tells us that the hassar are occasionally met with in such numbers in their travels, that the negroes fill baskets with them. If they fail in finding water, they are said to burrow in the soft mud, and pass the dry season in torpidity like the lepidosiren.

The travelling fish of India (Ophiocephalus), possessing an amphibious respiration, is capable of traversing from one pond to another, as necessity or fancy dictates. Jugglers carry them about in order to assist in their performances; while so great is their vitality, that the saleswomen cut portions off them while still alive, for disposal to purchasers, who will only give a decreased price when life ceases to exist. Their mode of continuing their kind is likewise very interesting: they live in pairs, occasionally in the holes made by crabs or birds situated on the banks of rivers, while the forms which reside in tanks construct nests of the grasses growing there. Biting some off and entwining others, they construct a domicile wherein their eggs are deposited, while they protect their young until they are able to shift for themselves.

In Ceylon, the fish most frequently seen travelling is a perch called by the Singhalese Kavaya or Kawhyya, and by the Tamil, Pannei-eri, or Sennal. It is the Anabas scandens, *Cuvier*. It grows to about 6 inches in length, the head round and covered with scales, and the edges of the gill-covers strongly denticulated. Aided by the apparatus in its head, this little creature issues boldly from its native pools, and addresses itself to its toilsome march, generally at night or in the early morning, whilst the grass is still damp with the dew; but in its distress it is sometimes compelled to move by day; and Mr. E. L. Layard on one occasion encountered a number of them travelling along a dusty road under the midday sun. Mr. Layard (Ann. Nat. Hist. Mag. 1853) says it is most tenacious of life. Dr. Hamilton Buchanan says he had known boatmen on the Ganges keep them for five or six days in an earthen pot without water, and daily to use what they wanted, finding them as lively and fresh as when caught.

Mr. Morris, Government agent, Trincomalee, writing to Sir J. E. Tennant on this subject in 1856, mentioned that when inspecting the bund of a large tank at Nade-cadua, he found numbers of fish struggling upwards through the grass in the rills formed by the trickling of the rain.

There was scarcely water enough to cover them, but nevertheless they made rapid progress up the bank, and his followers collected about two bushels of them at a distanee of 40 yards from the tank. They were forcing their way up the knoll. They were chub, the same as are found in the mud after the tanks dry up. Subsequently, in July 1857, Mr. Morris mentioned that as the tanks dry up the fish congregate in the little pools, till at last you find them in thousands in the moistest parts of the beds, rolling in the blue mud, which is at that time about the consistence of thick gruel. As the moisture further evaporates from the surface, they are left uncovered, and they crawl away in search of fresh pools. In one place he saw hundreds diverging in every direction from the tank they had just abandoned to a distance of 50 or 60 yards, and still travelling onwards. His impression was that this migration takes place at night, or before sunrise, for it was only early in the morning that he had seen them progressing. All in the act of migration had their gills expanded.

Many fish die rapidly in turbid water, and they strive to escape from it. On the 2d August 1878, fish left the Ganges at Mirzapur for the dry land, but huge quantities of rohu, tengra, eels, hilsa, skates, piyasi, saoli, bachwa, and other fish died in the river. The smallest quantity of water, however, suffices to enable the multitudes of small fishes to climb high away from the tanks of India to the high ground, when the water of the tank has become loaded with soil washed down by heavy rain.

Fish-rain.—Dr. Buist, writing in the Bombay Times in 1856, mentioned that in 1824 fishes fell at Meerut on the men of Her Majesty's 14th Regiment, then out at drill, and were caught in numbers. In July 1826, live fish were seen to fall on the grass at Moradabad during a storm. They were the common cyprinus, so prevalent in Indian waters. On the 19th of February 1830, at noon, a heavy fall of fish occurred at the Nokulhatta factory in the Dacca zillah; depositions on the subject were obtained from nine different parties. The fish were all dead; most of them were large, some were fresh, others were rotten and mutilated. They were seen at first in the sky like a flock of birds, descending rapidly to the ground; there was rain drizzling, but no storm. On the 16th and 17th of May 1853, a fall of fish occurred in the zillah of Futtehpur, about 3 miles north of the Jumna, after a violent storm of wind and rain. The fish were from 1½ lbs. to 3 lbs. in weight, and of the same species as those found in the tanks in the neighbourhood. They were all dead and dry. A fall of fish occurred at Allahabad during a storm in May 1835; they were species of the chowla, and were found dead and dry after the storm had passed over the district. On the 20th of September 1839, after a smart shower of rain, a quantity of live fish, about 3 inches in length, and all of the same kind, fell in the Sunderbuns, about 20 miles south of Calcutta. The fish did not fall here and there irregularly over the ground, but in a continuous straight line, not more than a span in breadth. During a tremendous deluge of rain at Kattyawar, on the 25th of July 1850, the ground around Rajkot was found literally covered with fish; some of them were found on the tops of haystacks, where probably they had been

drifted by the storm. In the course of 24 successive hours, 27 inches of rain fell, 35 fell in 26 hours, 7 inches within one hour and a half, being the heaviest fall on record. At Poona, on the 3d of August 1852, after a very heavy fall of rain, multitudes of fish were caught on the ground in the cantonments, full half a mile from the nearest stream. Sir J. E. Tennant, when driving in the cinnamon gardens near the fort of Colombo, saw a violent but partial shower. On coming to the spot, he found a multitude of small silvery fish, from 1½ to 2 inches in length, leaping on the gravel of the high road, numbers of which he collected and brought away; and Mr. Whiting, civil servant of Ceylon, mentioned to Sir J. E. Tennant that he had been often told by the natives at Trincomalee that it sometimes rained fishes at that side of Ceylon.—*Tennant's Sketches,* pp. 342-4; *Gosse, Romance of Nat. Hist.*, 1861.

Tame Fish.—In the neighbourhood of Tavoy are two small currentless basins in the Pagaya river, at the foot of pagoda-crowned precipices, 100 to 200 feet high. The fish, a species of barbel (Barbus Mortonius), are held sacred to the pagodas by the Buddhists, and come in shoals for rice thrown to them by passers-by, as fearless of man as of the barking deer that drink their waters. Mr. Hodgson mentions a similar tameness amongst the large gold-fish at Japan, which almost rose from their natural element to gasp and gasp, with open mouths, at the bread, biscuit, or cake which his little girl was half afraid to offer them (Hodgson's Nagasaki, p. 75). Dr. Oldham also tells us that in the middle of the Irawadi, about 30 miles above the town of Tsengoo, and opposite the small village of Thika-dan, on nearing the island, the headman in the boat shouted out Tet-tet! tet-tet! saying he was calling the fish. The boat was soon surrounded with about fifty large fish, some three or four feet long, a kind of blunt-nosed, broad-mouthed dog-fish. In one group, which he studied more than others, there were ten. These were at one side of the boat; nearly half their bodies protruded vertically from the water, their mouths all gaping wide. The boatmen were feeding them with some of the rice prepared for their own dinners, by throwing little pellets down the throats of the fish. Each fish, as it got something to eat, sank, and, having swallowed the portion, came back to the boat-side for more. The men continued occasionally their cry of Tet-tet-tet! and, putting their hands over the gunwale of the boat, stroked down the fish on the back precisely as they would stroke a dog. This was kept up for nearly half an hour, moving the boat slightly about, and invariably the fish came at call, and were fed as before. The only effect which the stroking down or patting on the back seemed to have, was to cause them to gape still wider for their food. The fish are found in the deep pool formed at the back of the island, by the two currents meeting round its sides, and the phoungyes are in the habit of feeding them daily. It is regarded by the Burmans as quite a sight, which the people come from great distances to see, as well as to visit the pagoda, which is very ancient and much venerated. During an annual March festival, it is not unusual for the visitors to take the fish into their boats, and gild their backs with gold-leaf, as they do in the ordinary way to pagodas; and Mr. Oldham observed remains of the gilding visible on one of the fish. He wished to take one of the fish away, but refrained, as the people seem to regard the act as sacrilege (Mr. Oldham, in Yule's Embassy).

Sacred Fish.—The Hindu races, who worship, in addition to the works of their own hands, so many varied products, and so large a number of mammals and reptiles, do not, seemingly, worship fish. In their religion the Matsya Avatara is the fish incarnation of Vishnu, in which he preserves a man named Menu, with the seeds of all things, in an ark during the deluge. It is the Aryan Hindu tradition of the flood of Noah. A tank or pond with all its contents, may, however, with the Hindus be devoted to a deity; and Colonel Tod mentions that when, one day, he had thrown his net into a lake, which abounded with a variety of fish, his pastime was interrupted by a message from the regent, Selim Singh, 'to tell Captain Tod that Kotah and all around it are at his disposal, but these fish belong to Kaniya.' On which, of course, he immediately desisted, and the fish were returned to the safeguard of the deity. In such sacred tanks fish will feed from the hand; and in the Mahanadi, where it is 3 miles broad, he tells us (Travels, p. 9) fish will follow for miles for a little burnt rice. The amphibious snake-head fish (Ophiocephalus amphibeus) occurs in the fresh waters of Burma, but the natives regard them with superstitious awe, and do not eat them. They have a legend that they were formerly men, changed into fish for their sins; and the Pwo Karen of Tavoy say that if people eat them they will be transformed into lions. The boura chang, a fish of Bhutan, another Ophiocephalus, is believed by the natives to fall from heaven, from the circumstance of its being found after rain far from the water.

Flat-fishes, when very young, swim in a similar way to other fishes, with their dorsal fins above, their anal fin below them, and possessing an eye on either side of the head. As they grow older, this erect position becomes lost, their sides become their upper and lower surfaces, and both eyes are on the superior or coloured side of the body. The adult, when at rest or swimming, usually keeps near the bottom of the water, and progresses by means of a sort of undulating motion of the whole body, and of the unpaired fins. The bodies of these fish are broad, flat, and margined in almost their entire extent by the dorsal, caudal, and anal fins; while not only the muscles, but the skin, the gills, gill-covers, and even the pectoral fin-rays, are less developed on the blind than on the coloured side,—the mouth also being, as it were, bent round to this eyeless side, towards which the anterior part of the face seems to be twisted. It had been known from a very early age that these fishes, when first emerging from the ova, and while in a pellucid condition, have an eye on either side of the head; that by degrees the eye, on what eventually will be the eyeless side, becomes depressed, while at the same time a dark spot appears on the opposite side of the head, so that the fish almost seems to possess three eyes. Double fishes have been observed in flounders, turbot, plaice, soles, etc., and they are seen to swim vertically, and to be more frequently found nearer the surface of the water than those which progress in a normal manner. These double flat-fishes are held in

greater estimation for the table than others which have an uncoloured as well as a coloured side. There are albinos, uncoloured or nearly white on both sides, but still retaining their normal form, but in some which have been carefully examined, no sexual parts could be detected.

Fish is largely partaken of by the Hindu women of Bengal, whilst unmarried or married, but a widow never partakes of it, and the 11th or ekadasi of the increasing moon is a day of close fast to a widow.

The *names of fish* have been given by people from their outward forms and habits, as bird fish; parrot, porcupine, scorpion, frog, and toad fish; pilot fish; rudder, fan, or sail, and sailor fish; angler fish and archer fish; sucking fish, doctor fish; gilt-head, black, blue, and yellow fish; glass eel, gold and silver fish, file and pipe fish, sword fish, saw fish, flying fish; climbing, walking fish; devil fish, sea dragon, and sun fish; transparent sole, luminous shark, pretty fish, albicore, bonito, tunny. The gold fish of China is a species of carp, Carassius auratus. The leather jacket or file fish is a species of the genus Balistes of the South Seas, Andamans, etc. The fan fish, called also sail fish, is said to raise the dorsal fin like a fan, and employ it as a sail. Its dorsal fin is 3½ to 4 feet long, and the fan fish 10 to 14 feet long. Its colour when in the water is a beautiful purple and green, with silvery belly, and displaying a rich variety of brilliant colours. The angler fish, the fishing frog, and the sea-devil are species of the family Lophiadæ, but are not of Asia; the fighting fish of Siam is the Macropodius pugnax, and the glass eel is a species of the Leptocephalidæ.

Fish-hatching.—In China the hatching of fish is extensively practised. The sale of spawn for this purpose forms an important branch of trade in China. The fisherman collects with care, on the margin and surface of water, all the gelatinous matters that contain spawn of fish, which is then placed in an egg-shell, which has been fresh emptied, through a small hole; the hole is then stopped, and the shell is placed under a sitting fowl. In a few days the Chinese break the shell n warm water (warmed by the sun), where they are hatched; the young fish are then kept in water until they are large enough to be placed in a pond. This plan in some measure counteracts the great destruction of spawn by trawl-nets, which have caused the extinction of many fisheries. Dr. Francis Day, a Madras medical officer, made great efforts to introduce ova of exotic fish into India, and made recommendations for the protection of young fry. A few drops of a weak solution of permanganate of lime, added night and morning, sweetens water, and supplies oxygen, and thus diminishes the mortality in fish-hatching.

Luminous Fishes.—The abdominal surface of sharks is said to be luminous, but due to the presence of small invertebrata; and shoals of fish are said frequently to emit flashes of light, perceptible even at great depths. The sand-launce, at night, has a silvery brilliancy, and the cod and other fish after death emit a phosphorescent light. Certain pelagic or deep-sea fishes, as Argyropelecus, Sternoptyx, Ichthyococcus, Maurolicus, Gonostoma, Chauliodus, Stomias, etc., possess luminous organs of a circular form, some being as impressions, others as slight prominences of the skin. In Britain, the pearl-sides (Maurolicus borealis, *Yarrell*) is one of these fishes.

Weapons.—Sheat fishes or siluroids are generally well armed. They have mostly strong dorsal and pectoral spines, often serrated, with which they can inflict dangerous lacerated wounds. In the marine and estuary forms the armature is invariably spinal. Species of Polyacanthus inflict punctured wounds; and the serrated spines on the tails of the skates cause lacerated wounds. The siluroid Thalassophryne has a distinct poison gland; while the Synanceia verrucosa has a tube at each of its dorsal spines, and a poison gland at its base. The wounds are very venomous.

Alausa toli, Cuv. and Val., inhabits the sea of Penang, Malayan Peninsula, Singapore, Borneo, Java, Sumatra, Pondicherry, river Cauvery, and Bombay. Total length, 1 foot 9 inches. Like A. ilisha in Bengal, the A. toli is, by the English of the Straits Settlements, denominated shad or sable-fish, and is equally valued for its flavour. Both are, however, somewhat oily, very rich, and bony. A. toli is remarkable as forming in the Indian Archipelago a distinct and important branch of fishery, principally for the sake of its roe. It is the kind of shad to which Mr. Crawfurd refers as frequenting the great river Siak in Sumatra, and of which the dried roe, of enormous size, constitutes an article of commerce (Crawfurd, Hist. Ind. Archipel. iii. p. 440; Royle on the Production of Isinglass, p. 76). Mr. Moor, in Notices of the Indian Archipelago, etc., says (p. 29), at Bukit Batu (opposite to and a little to the southward of Malacca), a place on the main of Sumatra within the strait formed by the island of Banka, exists an extensive fishery of the trubu fish. The fish itself is sufficiently known in all the neighbouring seas, but found with a roe only here (that is to say in shoals, for it is plentiful at Penang, Malacca, and Singapore), which makes it certain that it repairs to this favoured place for the purpose of spawning. The trubu, about a cubit long, is taken in 3 and 4 fathoms water on a mud bank. About 300 boats are engaged at all seasons in the fishery, with the exception of four days during dead neap tides. The roes are an article of trade seaways, and the dry fishes are sent into the interior of Sumatra. The raja of Siak draws a revenue from this fishery of 72,000 guilders yearly, receiving a certain duty upon the quantity taken. From the rate and amount of this duty, it is ascertained that the quantity of fish caught yearly amounts to between fourteen and fifteen millions. In the Malayan markets the roe is called Telur ikan, the fish-roe. Like the preparation of fermented fish and shell-fish, Balachan, it is largely used by the Malays and Chinese to season and make their food palatable, and it is no less a favourite relish with Europeans in Sumatra. The fresh roe is thoroughly salted, and next partially dried, so as to retain a slight moisture, in which state it is by hundreds closely placed in casks, and thus exported. In the Malayan settlements the price is from 3 to 4 Spanish dollars per hundred. The dealers there export considerable quantities to China, after having taken the precaution to re-pack the roes between layers of salt, and to sprinkle them with arrack. To dress them, they are soaked for about half an hour in water, and then fried. As the roe appears in commerce, it is of an elongated flat shape, measuring from 6 to 8 inches in length, about 2 in breadth, and ¾ of an inch in depth, of

a deep amber colour. The single eggs are larger than those of A. ilisha.

The *Arius* genus of fishes, of the Indian, Malay, and Javanese seas, furnish isinglass. A. arius, *Buchanan Hamilton*, inhabits the Gangetic estuaries near Pondicherry, and the estuaries near Penang, the Malay Peninsula, and Singapore. It is 22 inches long, forms an article of food, and more than any other of the Siluridæ contributes to the isinglass of Indian commerce.

Arius militaris, *Linn.*, 18 inches long, inhabits the Coromandel and Malabar coasts, the Ganges, Irawadi, and the seas and estuaries of the Malay Peninsula. Its air-vessel is preserved as isinglass.

A marine siluroid fish, one of the *Ariinæ*, noted for the males carrying the eggs in their mouths until the young are hatched ; consequently during this period they have to abstain from all food.

The bodies of the genus Chanda (Chandi, HIND., silver) are more or less diaphonous.

Batrachus grunniens, *Linn.* The natives of India attribute poisonous qualities to these fishes, and reject them even as manure. The creaking sound they emit has been noted by Buchanan. They are capable of living a considerable time out of their element.

Chelmon rostratus looks for an insect on the foliage overhanging its pool, and suddenly shoots on it from below a drop of water, which brings the insect down. The Javanese keep them for their amusement. Surgeon James Mitchell, R.N., mentions having seen some archer fish kept in a pond at Java in 1822. In the pond was a pole with cross bits of wood, on which were placed beetles, and the fish discharged from their mouths a small jet of water with such precision as to force them from the twig into the water. These fish were about 5 or 6 inches long, with blackish stripes. Chætodon prætextatus, *Cantor*, like other species of this and the neighbouring genera, expires immediately when removed from its element. It appears to be allied to C. reticulatus and C. lunula, *Cuv. and Val.* The gaudiest fish live among the coral reefs, such as species of the Chætodon, the Balistinæ, and Glyphisodon. The Mesoprion annularis of the Indian Ocean feeds on crustacea, and is distinguished for the beauty of its colours and the symmetry of its form.

Clupeonia perforata, *Cantor*, inhabits the sea of Penang, Malayan Peninsula, Singapore, and Sumatra. Total length, 5⅝ inches. They are of delicate flavour, and pass in the Settlements of the Straits as sardines, in imitation of which they are sometimes preserved in oil. It has a resemblance to Alausa argyrochloris, *Cuv. et Val.* (vol. xx. p. 440). The general form, the yellow dorsal fin with a small black spot, give it a certain resemblance to Meletta venenosa, *Cuv. et Val.* (vol. xx. p. 377). Mr. Lewis says that during his official residence at Bencoolen in 1822, great numbers of what were supposed to be this identical species, presented the unusual appearance of having red eyes. Many natives, after having eaten these fishes, were suddenly attacked with violent vomiting, which in cases where remedies were not immediately applied, was known within an hour to terminate fatally. At the same time, such of these fishes with the ordinary silvery eyes were as formerly eaten with impunity. This phenomenon recurred at Bencoolen during the seasons of 1823 and 1825, but not of 1824. It was surmised that the poisonous fishes had fed on a gelatinous substance which at that season exudes from the beautifully coloured coral reefs on that part of the coast of Sumatra. It is, however, more probable that the poisonous fishes were shoals of Meletta venenosa, an inhabitant of the Seychelles and the neighbouring seas, which happened in those seasons to visit Sumatra. M. Valenciennes describes this fish as being poisonous, and producing effects as noted above. In the Straits of Malacca, Clupeonia perforata has never been known to produce bad effects.

Cybium species are the seer fish, largely used as food.

Dussumieria acuta, *Cuv. and Val.* xx. p. 467, pl. 606, is the Tamban bulat of the Malays. Single individuals occur at Penang at all seasons, but numbers from June to September. It is highly valued for its delicate flavour, and passes commonly as a sardine. The latter denomination it shares, however, with Clupeonia perforata, with which it is also confounded by the Malays under the common name of Ikan tamban. Both species have been prepared as *sardines à huile*.

Echeneis naucrates, *Linn.*, occurs at Malacca. The Malays consider this fish to be powerful manure for fruit trees.

Engraulis Brownii, *Gmelin*, inhabits the sea and estuaries of the Malayan Peninsula and islands, China Sea, New Zealand, Madura, Java, Sumatra, Bombay, Coromandel, Bay of Bengal, Gangetic estuaries, Isle of France, Australia, New York, Havana, Jamaica, Vera Cruz, Martinique, Barbadoes, St. Christopher, Rio Janeiro. Total length, 6 inches. In Java, Sumatra, and the Straits of Malacca, large quantities are preserved both for local consumption and exportation to China and India. The delicious *red fish* condiment (Ikan-merah of the Malays), or Malacca fish, used as a relish, is prepared at Bencoolen as follows :—After the heads have been removed, the fishes (those of middling size are preferred) are cleansed, salted (in the proportion of one to eight parts of fish), and deposited in flat glazed earthen vessels. In the latter they are for three days submitted to pressure by means of stones placed on thin boards or dried plantain leaves. The fishes are next freed from salt, and saturated with vinegar of cocoa palm toddy, after which are added powdered ginger and black pepper (the latter mostly entire), and some brandy and powdered red rice. After having been kept for three days, a little more vinegar is added before placing the fishes in well-closed jars or bottles. They should be kept four or five months before being used. The expense of a quart bottle of the condiment is about 30 cents, the selling price one Spanish dollar. The Chinese settlers in the Straits prepare a similar red condiment with slices of Polynemus Indicus and P. tetradactylus, and also prawns.

Red rice is the variety of Oryza sativa called glutinosa (Pulut or Bras sepulut of the Malays), steeped in an infusion of cochineal. In the Straits Settlements red rice is imported from China, and sells at the rate of 10 cents of a dollar per pound.

Equula insidiatrix, *Bloch*, and *Equula longimana*, *Cantor*, also *Gazza equulæformis*, *Ruppell*, are very abundant in the Straits of Malacca at all seasons, and quantities, both fresh and dried, are consumed by the natives.

Guorami, a fish of the Mauritius, is esteemed of more delicate flavour than the salmon or turbot.

FISHES.

Harpodon nehereus, the bummalo or Bombay duck, and *Saurus nehereus* of *B. H.*, has the upper part of its head, back, and sides light grey or dust-coloured, semi-transparent like gelatine, with minute star-like black and brownish dots; the anterior part of the abdomen is pale silvery bluish, rest whitish; cheeks and opercles pale silvery bluish, dotted like the body; fins transparent, coloured like the body, but more closely dotted, so as to appear pale blackish. It inhabits the sea of the Malayan Peninsula and islands, Chusan, Woosung, Canton, Madura, Java, Sumatra, Tenasserim, mouths of the Ganges, Vizagapatam, Bay of Bengal, Bombay, Malabar. The total length is 11 inches. The fish is of most voracious habits, gorging itself with its own species, and other fishes of nearly its own size, and with crustacea (shrimps). It is frequently taken with the stomach and the jaws expanded with prey. It is very short-lived, more so than either S. trachinus or S. myops, and the whole body becomes at certain seasons brilliantly phosphorescent. In the Straits of Malacca it is at all times very numerous, although less so than it is at the Sandheads or in the mouths of the Ganges. Although very rich, it is a great delicacy immediately after it is taken. Salted and dried, it is also highly valued, and in this state it occurs in commerce under the denomination of Bombay ducks, the Bummalo of Bengal, and the Bamiah of Bombay, large quantities of which are annually exported from Bombay and the Malabar coast to all parts of India and to London.

Hemiramphus Russelli, Cuv. and Val., is the Toda pendek of the Malays (pendek, short). The Malays thus denominate all the species of Hemiramphus, to distinguish them from those of Belone (toda) of the Malays. At Penang, H. Russelli is numerous at all seasons, and larger individuals occur at irregular intervals. They appear at European tables under the appellation of guard fish.

Hippocampus mannulus and *H. comes* of the Penang seas, when drying assume the figure of a horse head, and are known to all as the sea-horse. Their movements are most graceful, while by means of a noise somewhat resembling a cough, they appear to be able to communicate one with another.

Macropodus pugnax, Cantor, occurs numerously at the foot of hills at Penang. Like the rest of the family, it is capable of living for some time out of water. The Siamese keep them in jars with water, where the larvæ of mosquitoes is their food, and denominate them Pla kat (Pla, fish; Kat, a fighter). The real fish, however, the exhibition of whose combats is a popular amusement with the Siamese, appears to be a variety of the present species, produced by artificial means, like the varieties of the golden carp of China, and Dr. Cantor names it Macropodus pugnax, *var.* (pl. ii. fig. 4), Pla kat of the Siamese. When the fish is in a state of quiet with the fins at rest, the dull colours present nothing remarkable. But if two are brought within sight of each other, or if one see its own image in a looking-glass, the little creature becomes suddenly excited, the raised fins and the whole body shine with metallic colours of dazzling beauty, while the projected gill membrane, waving like a black frill round the throat, adds something grotesque to the general appearance. In this state it makes repeated darts at its real or reflected antagonist. But both, when taken out of each other's sight, instantly become quiet. This description was drawn up in 1840 at Singapore, where a gentleman had been presented with several by the king of Siam. They were kept singly in glasses with water, fed with larvæ of mosquitoes, and had thus lived for many months. The Siamese are as infatuated with the combats of these fishes, as Malays are with their cock-fights, and stake considerable sums, and sometimes their own persons and their families. The licence of exhibiting fish fights is farmed, and affords a considerable annual revenue to the king of Siam.

The *Osphromenus olfax* and *Trichopodus trichopterus, Pallas*, are likewise very pugnacious amongst themselves.

The *Magura* fish in the Columbo lake is said to grunt under water when disturbed; and Bishop Pallegoix, in his account of Siam, speaks of a fish resembling a sole, but of brilliant colouring with black spots, which the natives call dogs' tongues. It attaches itself to boats, and gives out a very sonorous and harmonious sound (Tenn. ii. p. 470). Dr. Jerdon says, 'I have every reason to believe that this is the so-called sable fish of Trichinopoly, which ascends the Cauvery during the freshes for the purpose of spawning, and is caught for the sake of its roe, which is highly esteemed.' It is called Oolan-min at Madras.

Plagusia potous, Cuvier, the Ikan ledah of the Malays, is of excellent flavour, and, like Plagusia trulla, passes at European tables under the denomination of sole. The species are all distinguished for their tenacity of life. The fishermen at Penang assert that some species of Plagusia shoal at certain seasons.

Plotosus anguillaris and *P. albilabris* both occur in the seas of the Malay Peninsula. At Penang, the latter species is less numerous than the former. Both are eaten by the poorer class of natives. The wounds of both are equally dreaded.

Polynemus longifilis, Cuv., P. paradiseus, *Linn.*, and P. risua, are the mango fish, or tapasi, tapasi mutchi, noticed at page 1109.

Raconda Russelliana, Gray. At Penang, individuals from 4 to 6 inches in length are numerous at all seasons, although less so than they are at the Sandheads and the mouth of the Ganges. The Bengal fishermen denominate the species Potassah-Fessah or Phasah, a generic term, particularly applied to Engraulis phasah, *Buchan.*, and E. telarah, *Buch.* It is a heavy swimmer, and, like the rest of the Clupeidæ, expires immediately on leaving its element. It is chiefly consumed in a dried state.

Scatophagus argus, Linn., is eaten by the natives, though many reject it on account of its reputed disgusting habits. In several which were examined in the estuaries of the Ganges and at Penang, the stomach contained remains of small fishes and crustacea. According to Bennett, it is in Ceylon angled for on hooks baited with a kind of seaweed (Pendah), of which this fish appears to be particularly fond.

Stromateus niger, the black pomfret of India, is taken abundantly along the coasts of India, and is largely dried for export to the interior. It is

at all seasons taken in abundance in the Straits of Malacca, where, however, it is considered inferior to Stromateus Sinensis, the white pomfret. In a dried state it is largely exported inland, and thus it appears in the bazars of Hindustan, which are chiefly supplied from Bombay. S. Sinensis is the *pample blanche* of Pondicherry. It is justly renowned for its flavour, but it requires to be used when freshly taken. In the Straits and on the Coromandel coast it is abundant at all seasons. At the Sandheads in the Bay of Bengal (21° N. lat.), it occurs, but less numerously. Stromateus argenteus, *Bloch.*, in the Straits Settlements, as well as at Madras, is likewise denominated the white pomfret. In abundance and excellence it vies with S. Sinensis. Stromateus cinereus, *Bloch.*, is abundant at Penang, but probably from its inferior size it is considered somewhat inferior in quality. At the Sandheads it occurs rarely. The various pomfrets are valued by Europeans as food.

Toxotes jaculator, *Pallas*, or archer fish, appears to be the variety described by MM. Cuvier and Valenciennes, from a drawing in Col. Farquhar's possession. The food of several examined consisted of remains of crustacea. In the Straits of Malacca this fish occurs in all seasons, but not numerously. It is eaten by the Malays.

Tetrodon species have the power of inflating the abdomen, and in this state, when taken or handled, they emit a grating sound. They are also remarkable for tenacity of life, which they are capable of sustaining for several hours after having been taken out of their element. They have a peculiar disagreeable odour, resembling that of the Gobioidæ, which continues for several years in specimens preserved in spirits of wine. In the Malayan countries they are considered poisonous, and are even objected to as manure.

Of the *Torpedinidæ*, several genera and species occur, viz. Narcine Indica, Astrape dipterygia, Temera Hardwickii, and Cysteocercus temeræ. Dr. Cantor says large individuals of Narcine are at Penang of rare occurrence, but younger, from 3 to 6 inches in length, are taken at all seasons. In or out of water they may be handled with impunity. Several species of fishes introduced in a jar filled with sea-water, and containing a large Narcine, showed no consequences from the contact, nor did they appear to avoid the torpedo. The food of this and the other Malayan Torpedinidæ consists of crustacea and testacea.

Teuthis, *Linn.* All the species of this genus are edible, though supposed by the Malays of the Straits to be highly poisonous. They are not eaten by them, but set aside among offal of fish to be used as manure.

Trichopodus trichopterus, *Pallas*, like the rest of the family, is capable of sustaining life out of water, particularly if kept in wetted fresh leaves, or occasionally sprinkled with water. At Penang it is numerous in streamlets and ponds, where it is eaten by the poorest classes. The exquisite beauty of the metallic iridescent colours makes these fishes acquisitions in garden tanks. Like Osphromenus olfax, they are very pugnacious among themselves. Both at Penang and at Malacca the Osphromenus olfax (*Commerson*) has been successfully naturalized, though in the former place it is not numerous, but confined to a few ponds. They become tame, so as to appear on the approach of their feeder, and will rise to flies, beetles, and certain flowers, particularly a large hibiscus. About 1830, several were imported, and placed in a tank in the Calcutta Botanical Gardens, where they appeared to thrive; and 300 were introduced into the Madras Presidency, and are said to be doing well. A second species of Trichopodus has been discovered by Dr. Campbell, superintendent of Darjiling, in the rivers at the Sikkim passes in the northern frontier of Bengal.

Warm-water Fishes. — In the hot springs of Kannea, in the vicinity of Trincomalee, the water flows at a temperature varying at different seasons from 85° to 115°. In the stream formed by these wells, M. Raynaud found and forwarded to Cuvier two fishes which he took from the water at a time when his thermometer indicated a temperature of 37° Reaumur, equal to 115° of Fahrenheit. The one was an apogon, the other an ambassis; and to each, from the heat of its habitat, he assigned the specific name of Thermalis. A loach, Cobitis thermalis, and a carp, Nuria thermoicos, were also found in the hot springs of Kannea, at a heat 40° Cent., 114° Fahrenheit, and a roach, Leuciscus thermalis, when the thermometer indicated 50° Cent., 122° Fahrenheit. Fish have been taken from a hot spring at Puri when the thermometer stood at 112° Fahrenheit, and as they belonged to a carnivorous genus, they must have found prey living in the same high temperature (Journ. Asiatic Soc. of Beng. vi. p. 465). Fishes have been observed in a hot spring at Manilla, which raises the thermometer to 187°, and in another in Barbary, the usual temperature of which is 172°; and Humboldt and Bonpland, when travelling in South America, saw fishes thrown up alive from a volcano, in water that raised the temperature to 210°, being two degrees below the boiling point.—*Patterson's Zoology*, part ii. p. 211; *Yarrell's Brit. Fish.* i. p. 16, *in Tennant's Sk. Nat. Hist. of Ceylon*, p. 359; *Cantor in B. As. S. J.; Low's Penang; G. Bennett; Day, Fresh-water Fishes; Bonynge's America; Tod, Rajasthan; Pallegoix; Dr. Hancock, in Jam. Ed. Journ.* 1828–9; *Gosse, Rom. Nat. Hist.* 1861; *Bowring's Siam*, i. 10; *Sir John Richardson; Pennant's Hindustan; Buist; Bombay Times.*

FISHERIES of Eastern and Southern Asia. The numbers of fish in the seas of India are vast, but the harvest is comparatively untouched; an enormous amount of food remains uncaptured, while famines devastate the contiguous shores. The fisheries of India ought to provide food for multitudes of its people, employing them in fishing, in the ship and boat building, in netting, curing, and transporting them. The heat of the climate early leads to putrefactive changes, and salt is very costly, and consequently the smaller fishes, as ambassis, equula, the Bombay duck (Harpodon nehereus), many of the herring family, and the immature of other fishes, are largely sun-dried, while the larger fishes are cut into slices and also dried in the sun. Wherever, along the southern coasts, salt can be obtained at a cheap rate, there fisheries are largely established, and the fishermen well-to-do.

In Sind, where the duty on salt had been 1s. the maund (of 82⅔ lbs.), the value of the dried and salted fish exported was as under in the five years ending—

1857–58,	.	£8,472	6	0	1867–68,	.	£18,725	2	0
1862–63,	.	13,068	8	0	1872–73,	.	22,944	18	0

In the Bombay Presidency the imports of fish steadily decreased with the increasing duty on salt. For curing fish, about one part of salt is needed to three of fish; but where earth-salt is used, about 2½ parts of the earth to one of fish. Wherever salt can be cheaply procured, fisheries flourish, and salt fish is cheap, and largely exported. Species of the genera Lutianus or Mesoprion, though not of large size, come close in-shore, and are largely used, fresh, salted, or sun-dried. The same remark is applicable to Pagrus spinifer and species of Chrysophrys, of the family Sparidæ, abundant in the cold months, and held in great esteem. The Polynemidæ are all good, and some species attain to 300 lbs. in weight. The mango fish ascends large rivers, as the Ganges, Mahanadi, and Irawadi, and others to the east, in June, for the purpose of spawning, and continues there till the beginning of the following year. It is known as the tapasi mutchi, from the long tendrils that spring from its pectoral fins, and which exceed the length of the body. The maigres, species of the Sciænidæ, are abundant off the Sind coast, and throughout the Indian Ocean. Some of them exceed 5 feet in length. They are somewhat insipid as food, but are valuable for their air-bladders, which are made into isinglass.

The sword-fish (Xiphiidæ) are numerous, and are eaten by natives; but to the people the horse-mackerels (Carangidæ) are, from their abundance, the most important of the sea fish. Some attain a large size. These fishes are gregarious.

Species of Chorinemus and Trachynotus afford a considerable amount of food; they are generally salted and dried.

Pomfrets (Stromateidæ) are abundantly distributed throughout the Indian Ocean.

The mackerel family are important, particularly the Scomber microlepidotus, of all the seas around India, in the cold season. It taints rapidly, and is therefore extensively salted and sun-dried. It is commonly about 10 or 12 inches long. Some others of the mackerel family prey extensively on the numerous herrings and other small fish. Amongst these are the tunny and pelamys, which are terrors to the shoals of sardines.

The seer fish (Cybium, *sp.*) are held in great esteem by Europeans, and when of a medium size are the most delicate for the table. They attain to upwards of 3 feet in length, and are quite as predaceous as the tunnies.

The voracious and dangerous Sphyrænæ, termed sharks in some places, are the Barracuda of the West Indies. They grow to several feet in length, and all of the species are used by the natives of India as food.

The siluroid, sheat, or cat-fishes are known by the long feelers round their mouths, and the absence of scales. Numbers are salted for export, aud their air-bladders are collected for the isinglass they afford. They are common in the muddy waters around the Indian, Burmese, and Malay coasts, and are very abundant in the Archipelago. One of the scaled siluroids is the bummalo or Bombay duck (Harpodon nehereus). They are always glutinous, and are easily sun-dried or salted. They are in varying abundance round the coasts.

The Chondropterygii, or sharks, rays, and skates, are found along the whole seaboard, following at

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seasons the shoals of small fish or sardines. They are eaten; their fins are largely exported to China, and oil is extracted from their livers.

Rays and skates exist in enormous numbers in the Indian Seas, where they attain to a great size. They are supposed to be gregarious.

Saw-fishes are taken, and are eaten.

The little Ambassis and closely allied Apogon are valuable from their numbers.

The Pristopomas attain to upwards of two feet. Some species are very numerous, and are eaten fresh and salted.

Species of Synagris are extensively eaten; and species of Equula and Gerres furnish an immense amount of food, both fresh and salted, but, like the beautiful Lethrinæ and the flat-formed Teuthididæ, they are little esteemed.

The Gobies of the sea are not large, but are very abundant.

The spineless Anacanthini, or flat fishes, are not esteemed as food.

The mullets (Mugilidæ) in the Indian Seas are about 24 species, frequenting the estuaries and entering the tidal rivers, and are esteemed as food, except in Kanara, where their snake-like heads prevent the people using them. They are extensively sun-dried and salted, and their salted roes are considered great delicacies.

The pretty little sand-smelts (Atherina) are sun-dried and exported. They have a burnished silvery band, and are taken in enormous numbers.

The Indian whiting (Sillago acuta) arrives on the Indian coasts in large numbers, and are esteemed as a light and wholesome food.

The half-beak (Hemiramphus) is very common, especially in the cold season, and is largely eaten.

The abundant herring family furnish largely food to man and to predaceous fishes. The oil-sardine comes in vast numbers, but irregularly, sometimes after several seasons; and the same may be said of the anchovies and the many others of the herring family.

Maury remarks that the places which are most favoured with good fish markets are the shores of North America, the E. coast of China, with the W. coasts of Europe and South America, and all of these are washed by cold waters, and their markets abound with the most excellent fish. The fisheries of Newfoundland and New England, over which nations have wrangled for centuries, are in the cold water from Davis' Strait. The fisheries of Japan and Eastern China, which almost, if not quite, rival these, are situated also in the cold water. Neither India nor the east coasts of Africa and south of America, where the warm waters are, have been famed for their fish, though 6000 to 8000 fishing vessels of all sizes, American, British, Dutch, and French, are engaged in the New England and Newfoundland fisheries. The sperm whale is eagerly pursued in the Indian and Southern Ocean, and in the Pacific. An immense number of log-books have been discussed at the National Observatory, with the view of detecting the parts of the ocean on which whales are to be found at the different seasons of the year. Charts showing the results have been published, and they form a part of the series of Maury's Wind and Current Charts. Of all the industrial pursuits of the sea, the whale fishery is the most valuable. The sperm whale is a warm-water mammal. The right whale delights in cold water. The fishery of the sperm

whale is largely followed in the Pacific, and in all the South Sea ocean between Africa and America, but wholly by fishers from Europe and America.

The pearl fisheries alone, in the Persian Gulf, employ a great collection of ships; and the pearl fisheries of China and Ceylon are also valuable. In Ceylon about 10,000 canoes and boats are similarly employed. In the east and south of Asia, the people engaged in fishing by stake-nets, bag-nets, and hooks, in boats and in ships, are very numerous, and much of the food of their nations ought to be obtained from the seas and rivers; but the salt monopoly of British India places obstacles in the traffic of salted fish, and the wholesale destruction of fish in their migration to their breeding streamlets, with the minute size of the meshes of the nets used at all seasons, treble the selling prices of fish in the Indian markets. The usual price, there, of fish, is about the same as that of mutton.

Much ingenuity is shown. Tamed otters are trained to aid in fishing; in China, cormorants are trained to catch fish, which they bring to the boatmen. The fishermen of the Indus, when the river is in flood, float themselves down on an open-mouthed earthen jar, and, letting down a three-cornered net, catch the hilsa fish as they pass up the stream.

There are no seas in the world more abounding in esculent fish than those of the Asiatic Archipelago, and a few of them are of excellent flavour. Fish constitutes the chief animal aliment of all the inhabitants, and everywhere of those of the sea-coast who are by profession fishermen. Among the best fisheries are those of the eastern coast of the Malay Peninsula, those of the entire Straits of Malacca, of the northern coast of Java, and of all the coasts of Borneo and Celebes, with those of the Philippine Islands. The taking of the mother-of-pearl oyster, the pearl-oyster in a few places, of the holothuria or trepang, and of the shell tortoise, form valuable branches of the Malayan fisheries.

On the *Bombay* side there are many large boats, with crews of 12 men each, constantly employed in the shark fishery at Kurachee. The value of the fins sent to Bombay varies from Rs. 13,000 to Rs. 18,000 a year, each boat earning perhaps Rs. 1000 annually, or Rs. 100 per man. From this falls to be deducted the cost of material and other charges. Shark-fins form a large part of their profits; they sell in China at about 32 dollars per pikul, or £6 per cwt. In the Macassar market the ordinary selling price is from 15 to 16 dollars, or from £2, 10s. to £3 per cwt. This trade was noticed by Dr. Royle (On the Production of Isinglass, 1842). It affords on some occasions to Bombay alone, taking fish-maws and shark-fins together, as much as 3 lakhs of rupees, and furnishes the chief means of support to at least 3000 fishermen, or, including their families, to probably not less than 15,000 human beings. One boat will sometimes capture at a draught as many as a hundred sharks of different sizes; but sometimes they will be a week, sometimes a month, without securing a single fish. The great basking shark, or mhor, is always harpooned; it is found floating or asleep near the surface of the water, and is then struck with a harpoon 8 feet long. The fish once struck is allowed to run till tired, and is then pulled in and beaten with clubs till stunned. A large hook is now hooked into its eyes or nostrils, or wherever it can be got most easily attached, and by this the shark is towed in-shore; several boats are requisite for towing. The mhor is often 40, sometimes 60 feet in length; the mouth is occasionally 4 feet wide. All other varieties of shark are caught in nets in something like the way in which herrings are caught in Europe. The net is made of strong English whip-cord, the mesh about 6 inches; they are generally 6 feet wide, and are from 600 to 800 fathoms, from three-quarters to nearly a mile in length. On the one side are floats of wood, about 4 feet in length, at intervals of 6 feet; on the other, pieces of stone. The nets are sunk in deep water from 80 to 150 feet, well out at sea; they are put in one day and taken out the next, so that they are down two or three times a week, according to the state of the weather and success of the fishing. The lesser sharks are occasionally found dead,—the larger ones much exhausted. On being taken home, the fins are cut off and dried on the sands in the sun; the flesh is cut up in long stripes and salted for food, and the liver is taken out and crushed down for oil. The head, backbone, and entrails are left on the shore to rot, or thrown into the sea, where numberless little sharks are generally on the watch to eat up the remains of their kindred. The fishermen themselves are only concerned in the capture of the sharks; so soon as they are landed they are purchased by Bania merchants, on whose account all the other operations are conducted. The Bania collect the fins in large quantities, and transmit them to agents in Bombay, by whom they are sold for shipment to China. Not only are the fins of all the ordinary varieties of shark prepared for the market, but those also of the saw-fish, of the dog-fish, and of some varieties of ray or skate. The dog-fish in India has a head very like that of its European congener, from which it differs in all other respects most remarkably. Its skin is of a tawny yellowish-brown, shading from dark brown on the back to dirty yellow on the belly; it is beautifully covered all over with spots, of the shape and size of those of the leopard, similarly arranged. The largest fishery at any given port is probably that of Kurachee, which affords nearly one-tenth of the whole, but the shark fishery is conducted all along the Bombay coast.

There are three great fishing villages in Bombay Island, at Worlee, Sewree, and Mahim. Their fishing boats are worth about Rs. 350 each, and canoes from Rs. 40 to 60 each. A patamar employs from 15 to 20 men, a fishing boat from 10 to 15, a canoe from 3 to 4. *Canoes* are chiefly employed in the coast fishing, in attending the men on the mud-banks, and in landing cargo when there is no depth of water sufficient for larger vessels. They are hollowed out of a single log, and are very serviceable, handsome-looking, well-finished craft. They are propelled either by paddles or sails; when the latter are employed, an out-rigger is resorted to; they will bear a surprising stretch of canvas, and make their way rapidly through the water.

The Bombay *fishing boat* is one of the swiftest and most elegant sea-going vessels of that coast, and can beat the best of the English yachts. See Boats, p. 395.

On the western shores of India, nets of various forms and sizes are almost solely employed. The most important is the stake-net fishing in the Arabian Sea, and stakes are often to be found 30 and 40 miles out at sea,—wherever, indeed, a bank within half a day's sail of land presents itself; the fishermen are quite enterprising enough to extend their operations to any distance, but there is no use in their going further off than they can return with their fish to the market fresh. The fishing stakes vary from 50 to 150 feet in length; they are built up of successive pieces of wood, the lower being frequently the long straight trunk of the cocoanut or palmyra tree. As many as five or six pieces of wood, from 8 to 10 inches in diameter, are used in the construction of a single stake. They are scarfed across each other, the scarfing being from 3 to 5 feet; the pieces are fastened together by strong rectangular fillets of wood. Two or three boats are employed in towing the stake out to sea. Its point is made wedge-shaped; there is a hole near the point of the wedge, through which a rope is passed. The two ends of the rope are made fast to boats anchored at a considerable distance off; other boats now proceed and haul up the upper end of the stake till the point is found to descend by its own weight. When it has once caught hold of the mud, the rope is released from its lower end, and the boats to which it was attached are employed in steadying the top in the direction of the run of the tide. At high water, two boats are made fast, one on each side, to the top of the stake, which is forced by their weight 10 or 12 feet into the mud. Stakes are thus put in successively, often to the extent of some miles at intervals of 20 feet from each other. Betwixt each pair is extended a long purse-net, the circumference of the mouth of which is about 60 feet, so that when attached to the stakes it exhibits an aperture 20 feet across, and 10 feet perpendicularly, the upper edge being a little above high water. The purse is from 100 to 170 feet in length, terminating in a point. The meshes gradually diminish in size from the mouth to the further extremity, being about 6 inches at the former, and three-fourths of an inch at the latter. The fish are carried into this by the tide, and entrapped; boats are always in waiting at high and low water, to secure the capture and reverse the nets. Also, in the creeks and shoals, lines of stakes and nets, often several miles in length, are run along where the sludge is exposed at low water. The upper edge of these is considerably under high-water mark, and the fish are in consequence entrapped by them on the retirement of the tide; breaks are left at intervals to secure their admission. Close along shore, fishing grounds, about half an acre in area or so, and in a semicircular form, are built. An aperture is left in the extremity of each of these, into which a net is placed as the tide begins to recede, and a considerable capture of the lesser-sized fish secured. Such are the fixed implements of the Bombay fisherman.

Of the moveable implements, the most frequent is a conical net, of which the lower lip is loaded with pieces of lead and turned up inwards. The material of which it is made is fine twine, and the meshes small. It is from 8 to 12 feet in diameter, and is only used in-shore. The fisherman holds it by the top, while he gives it a quick twirl, something betwixt that given to the American lasso and common quoit. Throwing it to the distance of some yards, it spreads fully out as it reaches the water; when pulled down and collapsing by means of the lead, it closes at the mouth as it approaches the bottom. The fisherman now approaches and pulls it up by the apex, when the fish are found enwrapped in it. Though this net sometimes attains a weight of 60 pounds, the dexterity with which it is thrown is wonderful. There are various spoon-nets and purse-nets of different shapes and sizes, and a bag of muslin on a hoop about 3 feet in diameter, this last being employed to catch the young prawns and smallest-sized fish, that would escape through any mesh however fine. There is also a long trail-net with which the fishermen wade neck deep through the water, but the mode of using it does not appear to be in any way peculiar or interesting. The mud-banks and shoals in the creeks abound in eels, sometimes reaching the length of 2 or 3 feet. The fishermen wade through the mud till they detect these by the bubbling up or disturbance of the water. They then strike them with a harpoon or spear, with a fine bamboo shaft 8 or 10 feet in length. Having pinned them against the ground, they draw them out with a hook about the same size as the spear, also on a shaft. They are very dexterous in catching the little fish or crabs which lurk under the stones close by the shore, with their hands. The crabs when caught are immediately stripped of their claws, and so prevented from getting away. Of these there are a wonderful variety on the Bombay shores, many of them of the greatest beauty.

The Bombay fisherman's mooring anchor is generally of stone, from 4 to 5 feet in length, four-sided and pyramidal, the apex cut off. At base it is from 6 to 8 inches square, and from 4 to 6 at top. Through the top is a hole, through which a cable or hawser passes. Near the base are two holes at right angles to each other. Through these pieces of wood are thrust, corresponding to the prongs or flukes of the anchor. The whole weighs from 80 to 150 lbs., according to the size of the vessel, and answers very well the purposes intended.

The Bombay fishermen are a strong-made race of men, and are the only labourers in India amongst whom a great degree of obesity is observed. They are much given to the use of intoxicating drinks. A set of boats and nets belong to a dozen or so of fishermen, one often advancing the capital required to be contributed by the others; the capture is divided amongst them on their reaching the shore, and is immediately taken charge of and carried to market by the women, who carry their baskets on their heads. The men, when so employed, carry theirs in baskets swung at the opposite ends of a bamboo across the shoulders. The women who carry the fish to market are commonly followed by ten or a dozen crows, who constantly watch for anything that may escape, every now and then making a dash at the basket itself.

Southern India.—On the sea-coasts of the S. of India, Muræna maculata, *B. Ham.*, Ophiocephalus striatus, *Bloch.*, O. marulius, *Buch.*, O. gachna, *Buch.*, Wallago (Silurus) attu, *Bloch.*, W. Malabarici, *Cuv. et Val.*, Hemibagrus (Bagrus) punctatus, *Jerdon*, Hypselobagrus (Silurus) cavasius, *Buch.*,

E. insidiatrix, *Bloch.*, Atherina Forskalii, *Ruppell*, and species of Ambassis, Polynemus, Hemiramphus, and Chætodon are dried and largely exported to the interior. Of the better known salt-water fishes of a wider geographical distribution, such, for instance, as are valued as articles of food, at the three distant points, Calcutta, Madras, and Bombay, the market of the first is the least rich in varieties, in consequence of its greater distance from the sea. The abundance of the supply, however, makes up for what it wants in variety, and the large demand for fish affords a livelihood to great numbers of fishermen, who every night spread their nets in the river and in the salt-water lake. The Lates nobilis, different species of Polynemus, and the Mugil corsula, daily cover the tables of Europeans, who will more readily recognise these fishes under the names of the begti or cockup, sudjeh, tapsi (mango fish), and the Indian mullet. At the Sandheads are to be found some of those delicious fishes which are more familiar to the residents of Madras and Bombay,—for instance, the Indian soles, the roll-fish, and above all the black and white pomfrets and the bummalo or Bombay duck. Of these, the Indian mullet is the most widely distributed, being common in the Straits of Malacca, the Bay of Bengal, the Persian Gulf, the Red Sea, and also at the Cape of Good Hope.

The Sunderbuns sea fishery is carried on to a very small extent, chiefly because the distance to Calcutta is too great to allow of the carriage of fish in a fresh state. The only class of fishermen who have sea-built boats inhabit villages situated near the entrance of the Hoogly. Their chief and most profitable employment consists in attending with their boats on the shipping entering and leaving the river, for which they receive 16 rupees per diem. Whenever this employment fails, they resort to work with their nets, which they drag during high water along the coasts of the Sunderbuns. Two or three times are, generally speaking, sufficient to load a boat with fishes and shell-fish, a truly prodigious quantity being brought up in a few hauls. The larger portion of the fish are gutted and sun-dried. The Polynemus suliah or saccolih enters the mouths of the Ganges in shoals. The kharrah, or Indian mackerel, a species of Scomber, is rather uncommon in that estuary; but from the Burmese coast great numbers in a dried state are annually imported into Bengal. The cartilaginous fishes abound in numbers and species, and are remarkable for their wide geographical distribution. The sharks enter the rivers to a considerable distance from the sea, and shark skin is used by the native workmen for polishing wood and ivory, while the shark fins are largely exported to China.

The bazars in Calcutta are always stocked with an ample supply of dry fish, which is consumed partly by the European and native shipping of that port, and partly by the poorer classes of Bengal and the Upper Provinces. Cargoes of this article are annually imported by the Burmese and Arabs. These dried fishes consist chiefly of the bummalo, which sells in Calcutta at the rate of four or five rupees a hundred, in Indian mullet, the sudjeh, the begti, and the kharrah or Indian mackerel. The demand for dried fish exists along the coasts of the Peninsula. At Bombay large quantities of the bummalo are consumed and exported. At the mouths of the Indus the fishery is extensive; and some fish sounds are there procured from a Sciæna, but they may also be those of other fish, as the fish maws are very different in form from the isinglass sent from Bengal. Dr. M'Clelland in his paper called attention to the very important subject of increasing the supply of fish in the interior of India. Wherever there are any large pieces of water for the purpose of irrigation, as in the Peninsula of India, these he conceived might support quantities of fish, if proper kinds were selected, and pains taken to destroy the injurious animals, in the season when the water is sufficiently low for the purpose. He also suggested that at the different sanatoria which have been established in the mountains, it would be desirable and easily practicable to form rivaria, which would at all times yield a supply of fish. This might be done by damming up a portion of some of the valleys through which the mountain streams pass.

On the *Madras* side, where a boisterous surf beats for ever on the shore, the fishers use the catamaran and fishing lines, but nets are also largely used; and when shoals visit the coast, great bag-nets several hundred yards long are thrown from masula boats. The catamaran of Ceylon and the Coromandel coast carries two and three fishermen, and, with a sail set, they take advantage of the land and sea breezes to fish several miles from land, returning home about sunset. Every river is exhaustingly searched by the nets of the land fishermen.

Further India.—The great Irawadi river, and the seas in which the Mergui and E. Archipelagos are enclosed, abound in fish, and the Malays shoot their great stake nettings far into the ocean. The shallows between Penang and Province Wellesley are covered with such nets. The wealth of these eastern rivers and seas is boundless.

The fishermen supplying the markets of Penang and Singapore are principally natives of China. Their fishing boats vary from one to three tons burden; they are of a slight make, and calculated to ply at but short distances from the shore. They are pulled by oars, and seldom carry sails. The nets are made of twine, tanned with mangrove bark. The bamboo fishing-stakes are clumsy contrivances. That they answer well enough in fine weather, is more owing to the riches of the sea and their sheltered position, than to the ingenuity of the contrivance, or the durability of the materials. In nautical skill the Chinese fishermen of the Straits Settlements are far behind the Malays. The fishmongers are natives of China, but they form a class far superior to the fishermen. Their trade comprises the branches of fresh fish, dried fish, isinglass (fish maws), fish roes, red fish, sardines, sharks' fins, balachan, fish manure, and trepang. The fishermen dispose of their boat-loads to the fishmongers, who assort the different kinds in heaps, over which sea-water is continually poured, and from these the daily customers are supplied. Comparatively few varieties of fishes appear on the tables of Europeans, but Malays and Chinese reject but very few kinds. The daily surplus fish are cured by the fishmongers. The process commences with a partial abrasion of the scales, after which the larger fishes are opened lengthwise, and gutted. Water is repeatedly poured over the fishes, till blood and impurities have

disappeared, when they are placed in casks in flat layers, between which is thrown a quantity of salt. In this state the fishes remain from 24 to 48 hours, when they are exposed to the sun, and frequently turned, till they are thoroughly dried. The smaller kinds are not opened, nor are they all salted before drying in the sun. The little care bestowed upon the curing appears, however, to be sufficient for local consumption, and none of the settlements in the Straits export dried fish. The pikul of 133⅓ lbs. sells from 3 to 7 Spanish dollars, valued at 4s. 6d.; the catty being 1⅓ lb., of which 100 go to the pikul.

Mr. Crawfurd, after stating that the fisheries of the Indian islands form a most valuable branch of their commerce, and that a great variety of the fish caught are dried in the sun, observes that fish maws, shark fins, and trepang are sent to China in large quantity. The trepang, swala, or beche-de-mer, often called sea-slug, one of the tribe of Holothuria, is an unseemly-looking molluscous animal, which constitutes in quantity and value one of the most considerable articles of the exports of the Indian islands to China. There are fisheries of trepang in every island of the Indian Archipelago from Sumatra to New Guinea, and not less than 8000 cwt. were yearly sent to China from Macassar, the price ranging from 8 Spanish dollars per pikul to 20, and as high as 115, according to the quality. The same author states that shark fins are exported to China from every maritime country between the Arabian Gulf and the East Indian Islands. A pikul of shark fins usually sells in China as high as 32 Spanish dollars or £6, 1s. per cwt.; which high price makes it evident that they are only articles of luxury for the use of the rich. In the market of Macassar the ordinary price is about 15 Spanish dollars or £2, 16s. 8½d. per cwt. Fish maws often bring as high as 75 Spanish dollars per pikul, or £14, 3s. 6d. per cwt., in the market of Canton.

Fish Traps in the Archipelago are made of basket-work, are baited with small fry, and afterwards sunk by means of stones, their position being indicated by long bamboo fishing-buoys.—*Earl*, p. 37.

Sharks' Fins of commerce are not, however, exclusively selected from sharks (Squali), but equally from rays (Raiæ), and at Penang composed of the genera,—Stegostoma, Carcharias, Sphyrna, Pristis, Rhinobatus, Trygon, and Myliobatis. Of all fishes, sharks and rays are the most valuable to Chinese. The flesh and entrails of all, not even the electric rays (Torpedinidæ) excepted, are eaten either fresh or dried; the skin is used for polishing or converted into shagreen; gelatine is obtained from the larger fins, glue from the smaller. All except the caudal fins are cut at the root, so as to leave as little flesh as possible. The root is dipped in wetted lime (chunam), then dried in the sun, and packed promiscuously in gunny bags, each containing from one half to one pikul. According to the value in the Chinese market, the fishmongers assort the fins in two kinds, white and black. The white consist exclusively of the dorsal fins, which are on both sides of a uniform light colour, and reputed to yield more gelatine than the other fins. In China the lovers of gelatinous soups pay from 30 to 40 Spanish dollars per pikul of white fins. The pectoral, ventral, and anal fins pass under the denomination of black fins. The colour, however, varies according to the species from buff to grey or brown, and most of them are of two different colours, the upper surface being dark, the lower light. The black fins, for obvious reasons the most numerous, are supposed to yield a comparatively small quantity of gelatine, and sell in China at from 15 to 20 Spanish dollars per pikul.

In *China*, at least one-tenth of the river and seaside population derive their food from the water, and much ingenuity is shown. *Nets* are woven of hempen thread, and boiled in a solution of gambier (Uncaria gambier) to preserve them from rotting. The *fishing smacks* which swarm along the coast go out in pairs, partly that the crews may afford mutual relief and protection, but chiefly to join in dragging the net fastened to their boats. In the shallows of rivers, rows of heavy poles are driven down, and nets secured to them, which are examined and changed at every tide. Those who attend these *stake-nets*, moreover, attach to their boats scoops or *drag-nets*, so loaded that they will sink and gather the sole, ray, and other fish feeding near the bottom. *Lifting nets*, 20 feet square, are suspended from poles elevated and depressed by a hawser worked by a windlass on shore; the nets are baited with the whites of eggs spread on the meshes. *Cormorants* are trained in great numbers in the eastern provinces to capture fish, and are sometimes under such good order that they will disperse at a given signal, and return with their prey without the precaution of a neck-ring. A single boatman can easily oversee twelve or fifteen of these birds; and although hundreds may be out upon the water, each one knows its own master. If one seize a fish too heavy for it alone, another comes to his assistance, and the two carry it aboard. The birds themselves are fed on bean-curd, and eels or fish. They lay eggs when three years old, which are often hatched under barnyard hens, and the chickens fed with eels' blood and hash. They do not fish during the summer months. The price of a pair varies from five to eight dollars. Shell-fish and molluscs, both fresh and salt, are abundant in the Chinese market. Mussels are caught in small cylindrical *basket traps*, attached to a single rope, and floated with the tide near the bottom. Oysters of a good quality are common along the coast; and a species of Mactra, or sand clam, is fished up near Macao. The Pearl River affords two or three fresh-water shell-fish, of the genus Mytilus, which are obtained by dredging. The prawns, shrimps, crabs, crawfish, and other kinds of crustacea met with are not less abundant than palatable; one species of crawfish, as large, but not taking the place of the lobster, called lang hai or dragon crab, cuttle-fish of three or four kinds, and the large king crab (Polyphemus), are all eaten by the Chinese, though not relished by others. On the Chinese coast, several species of Serranus (as Plectropoma susuki, Serranus shihpan, etc.), generally called shippan by the natives and garoupa by foreigners, are common about Macao, and considered the most delicate-flavoured of any in the markets. Another common and delicious fish is the Polynemus tetradactylus or bynni carp, usually called salmon by foreigners, and isinglass is prepared from its skin. The pomfret or stan-gyu of the Chinese

(Stromateus argenteus) is a good pan fish, but not so delicate as the sole fish, many species of which abound in the shallows of the Bogue. Two or three species of mackerel, the Sciæna lucida, an Ophiocephalus, the mullet, the white rice fish, and a kind of shad, complete the list of good table fish found in the markets of Canton.

The Chinese fish-catcher is to be seen, perfectly naked, half-walking, half-swimming. His feet warn him that a fish is at hand, and they feel for it amongst the mud at the bottom of the pond. The next moment the fisherman is under water, and he remains so long that you think something has happened to him. A few seconds more and he appears, rubbing his face and eyes with one hand, and in the other triumphantly holding up the fish which he has just captured. It is immediately placed safely in his basket, and the work goes on as before. The surface of the water is struck and splashed, in order to frighten the fish which are swimming amongst the feet of the Chinamen. Being frightened, they dive immediately to the bottom amongst the mud, where they are felt by the feet, and soon taken by these expert divers.

Fishing boats of China are under strict regulations, and all are licensed. Casting-nets are used by the poorer class of fishermen. They also use a *dip-net*. Anchoring the boat, the net is lowered, and the fisherman has large cork balls, to each of which several baits are attached. These are thrown beyond the net, and as they float towards the boat are followed by multitudes of fish, and the net is raised to capture them. They use, also, drag-nets between two ships. A small boat, painted white, is kept with its gunwale low in the water of the Canton river, into which the fishes leap on being disturbed. The night fishing of the Chinese is carried on in long narrow boats called pa-pak-teng. On one side there is a long white board, a foot broad, running fore and aft, and inclining towards the water. Amidships, a stone, which is made fast to the boat by means of a cord, is lowered into the water, the boat is paddled by a man in the stern, and the stone in the water causes a rushing noise which alarms the fish, and, seeing the reflection on the white board, they jump towards it, and nine times out of ten overleap it and fall into the boat.

Large quantities of fish are reared artificially in China, at Tai-shek, Lee-chun, Sai-chu-shan, Kow-hong, Kum-chok, and other places. In March and April the spring tides bring great quantities of fish up the rivers. The spawners deposit their ova among the long grasses or reeds growing on the banks, and in a few days the fish are hatched, are captured by nets, and placed in well-boats, where they are fed with paste made of wheaten flour, bean flour, and the yolks of eggs. When they grow large they are placed in artificial ponds of shallow water, with rockeries and the banana and vine trellis work, the foo-lin tree and water-lilies, for shade and shelter. Sometimes stone walls enclose the ponds on all but the north side, which is left open. Pigeons are not kept where fish are thus reared, and the willow tree is not cultivated. The fish are fed with grass twice daily during summer. The Bulletin Universal for 1839 mentions that in some parts of China the spawn so taken is carefully placed in an empty egg-shell, and the hole closed; the egg is then replaced in the nest, and, after the hen has sat a few days upon it, reopened, and the spawn placed in vessels of water warmed by the sun, where it soon hatches.

Of other two productions of the eastern seas, naked cephalopods are not only eaten fresh by the Chinese, but one species, a loligo, forms in its dried state a considerable article of traffic. The preparation consists in removing the ink-bag without laying open the mantle. After all impurities have been removed by water, the mollusc is submitted to a slight pressure, and ultimately exposed to the sun. Small bundles of one catty weight are tied up with slips of rattan, and enclosed in cases holding ten catties and upwards. The pikul sells at the rate of 14 to 16 Spanish dollars. Chinese fishermen, when they take one of those huge rhizostoma which abound on the coast, rub the animal with pulverized alum to give a degree of coherence to the gelatinous mass.

Fish Manure.—The smallest fishes and all offal are employed in the spice plantations by the Chinese gardeners and agriculturists of Penang, who consider the fluid in which fishes have been salted very useful manure in cocoanut plantations.

In *Borneo*, in the enclosures of stakes, drag-nets, casting-nets, traps, placed so as to swing to each tide, and hook and line are largely used; prawns, shrimps, and small fish are taken with hand-nets in the fine season. The quantity of fish taken by these various contrivances is enormous. They are salted and dried, and sent into the interior of the country. The river fish in general are not so much esteemed as those taken at sea, though they also are frequently caught, principally by means of hooks and lines attached to the light wood called plye, cut into the shape of birds. These may frequently be seen floating down with the tide, to each of which is attached at the neck a strong line supporting a baited hook. The proprietor is generally not far off, and on the float bobbing under water soon seizes it. A fine fish, called in Borneo, Ikan malang, is the one most frequently caught in this manner. Several light, porous woods, such as Gyrocarpus Jacquini, Salmalia Malabarica, and the fruit of the baobab, are used as floats for fishing-nets.

In *Formosa* fishermen use a sunken dip-net, into which surrounding boats drive the fish by beating the water with long poles. Where dip-nets are used, live fish are held by cords to serve as decoys.

High Asia.—No trout or salmon inhabit any of the rivers that debouch into the Indian Ocean. This widely-distributed natural order of fish (Salmonidæ) is, however, found in the Oxus, and in all the rivers of Central Asia that flow north and west; and the Salmo orientalis, *M'Celland* (Calcutta Jour. Nat. Hist. iii. p. 283), was caught by Mr. Griffith (Journals, p. 403) in the Bamian river north of the Hindu Kush, which flows into the Oxus, whose waters are separated by one narrow mountain ridge from those of the feeders of the Indus. The Central Himalayan rivers often rise in Tibet from lakes full of fish, but have none (at least during the rains) in that rapid part of their course from 10,000 to 14,000 feet of elevation; below that, fish abound, but, it is believed, invariably of different species from those found at the sources of the same rivers. The nature of the tropical ocean into which all the Himalayan rivers

debouch, is no doubt the proximate cause of the absence of Salmonidæ. Sir John Richardson (Fishes of China Seas, etc., in Brit. Ass. Rep. etc.) says that no species of the order has been found in the Chinese or Eastern Asiatic seas.

Raw dried split fish are abundantly cured (without salt) in Tibet; they are caught in the Yaru and great lakes of Ramchoo, Dobtah, and Yarbru, and are chiefly carp and allied fish, which attain a large size.—*Low's Sarawak; Cal. Journ. Nat. Hist.; Crawfurd; Dr. Buist in Bombay Times; Sir J. Richardson in Rep. B. Ass.; Williams' Middle Kingdom; Hooker's Him. Journ.; Fortune's Residence; Fortune's Wanderings; Dr. F. Day in M. Med: Journ., On the Migratory Fishes of Asia, On the Obliquity of the Eyes in Flat Fishes, On the Colours of Fishes, On Indian Fresh-water Fishes, On the Sea and on the Fresh-water Fishes and Fisheries of India; Gray's Chin.; Montgomery; Cantor; Beng. As. S. J.*

FISHERMEN. On all the sea-coasts of the south and east of Asia, and on the great rivers, the people are fishers. There is something remarkable in the circumstance of the fisher races being amongst the earliest and most eager converts to Christianity in India, so much so as to render it questionable whether it be only an accidental coincidence, or the result of some permanent and predisposing cause. Along the coasts at Madras many became Christians early; indeed, from the southern outskirt of the town at St. Thomé to its northern village of Ennore, nearly all the fishermen are Christians of the Romish persuasion. The Koli tribe of fishers in Bombay are nearly all Christians, though they have occasionally wavered. The Parawa, or fishermen of Cape Comorin, were the earliest proselytes of St. Francis Xavier, and they have still a pride in alluding to the fact that they were the first, as they have since been the most faithful and abiding, of his converts. It was by the fishermen of Manaar that he was invited to Ceylon in 1544; and notwithstanding the martyrdom inflicted by the raja of Jaffna, and the persecution with which they were visited by the Dutch, that district and the adjacent boundary of the Wanny has to the present day been one of the strongholds of the Roman Catholics in Ceylon. It is amongst the Parawa or fisher caste of the Singhalese that the Roman Catholics have at all times been most successful in their efforts to Christianize.

The Zamorin, in 1513, sent a deputation to Portugal, and his ambassador, who turned Christian, was knighted under the name of 'John of the Cross' by John III. On his return to India, he was banished from the Zamorin's court as a renegade. In 1532 he joined the fishermen, and headed a deputation of 85 of them to Cochin, soliciting the assistance of the Portuguese against the Mahomedans. The whole of the embassy are said to have become converts to Christianity. A Portuguese fleet was sent to their relief, and 20,000 are reported to have immediately consented to be baptized. Ten years subsequently, Xavier instituted a church for these people.

The fishermen race along the Bombay coasts are divided into four great castes, — Wayttree, Son-koli, Dongur-koli, Thankur-koli, over each of which a headman or jemadar presides. One great jemadar or chief rules supreme in the craft over all these fisher castes.

The sea fishermen in most parts of the coasts of India assert that in olden times they were divided into those who captured fish in the deep sea, and others who fished from the shore and in the backwaters and creeks; but in several parts of India, more especially in the Madras Presidency, they have customs of a patriarchal nature, but which are more strictly observed on the Coromandel than on the western coast. In Sind there are four divisions of the fishermen caste, each being under its own chief, who is hereditary, and his business is to settle caste disputes and other trifling matters, also to conduct the religious ceremonies connected with marriages and deaths. In the Bombay and Madras Presidencies headmen to the fishing castes likewise exist; in some localities they are hereditary, in others elective; or should there be no headman, matters are laid before certain wealthy individuals of their own caste, whose decision is final. In places where the fishermen are Christians, the priest appears to be appealed to in order to settle disputes.

Among the fishermen of the Peninsula there exist priestly chiefs, two of whom are to be found on the eastern coast, one at Madras, and the other at Cuddalore, the territory of the former stretching up the Coromandel coast, while that of the latter reaches towards Cape Comorin. A third is found in South Canara, where he exercises spiritual control over a large district. These chiefs' offices are hereditary; they receive fees and fines from those of their caste living within their jurisdiction, and they are the final referees in all cases of caste or family disputes. A class of more petty chiefs or hereditary headmen only hold sway each over a few villages; their duties are the same, and some of their fees seem to have to be transmitted to their superior. On one of these headmen dying without heirs, a new one is elected by the people of the caste. Lastly, the fishermen have the elective headman, who is chosen by the residents of a single hamlet; his duties are to decide disputes, to be present at marriages and religious ceremonies, often to fix the work and assist in certain Government duties; his emoluments appear to be very trifling.

Along the western coast of the Madras Presidency, with its untaxed salt earth, these people prosper; but all up the Coromandel coast, except where there are large towns, we find them reported to be decreasing in numbers, due to cholera or other diseases, emigration, or accepting service as lascars in coasting vessels.

The fishermen in Sind, in 1875, paid a tax of 10s. a ton yearly on their fishing boats. These people are well off. In Gujerat the fishermen are poor, and the precarious living they make often induces them to accept service as sailors, labourers, or anything that ensures them a steady competence. They are in the utmost misery, not due to their own laziness, but as a result of British legislation imposing prohibitory duties on salt, and causing an enormous loss of food to the inhabitants at large. In the Janjira district the fishermen supply themselves with boats and nets; six or ten club together to obtain a boat and net, dividing the produce; here they have decreased in numbers. At Broach and Kaira they have diminished. In Ratnagherry they are said to have increased.

In the Tinnevelly collectorate the fishermen as

a rule are very poor. They work by a system of advances made by traders, a few of whom reside in each fishing village, and supply all the requisites for fishing, as well as the boats, taking one-third of the captures as their share. In the Nellore district the inhabitants of the different villages prevent fishermen from other localities plying their occupation within what they believe to be their limits. At Cannanore the owners of fishing boats and nets supply them to the fishers. A like plan obtains at Tellicherry, where the fishermen have framed rules for their own guidance, one of which is the right of the first discoverer, among a lot fishing together, to a shoal of fish; he is allowed to capture them without hindrance from the others, even though at the time when the fish were discovered he was not prepared to launch his net. At Ootipadaram the native official estimated the daily earnings at threepence, taking all the year round, and excluding costs; and at Munjery at from three-halfpence to ninepence; while at Tenkarei their earnings were computed at from threepence to one shilling a day.

Without tracing out the condition of these people in each district on the coast, it will be sufficient to say that they are poor and miserable, but not so badly off as in the Bengal maritime districts, where they appear to be quite poverty-stricken.

The chief cause of this impoverished state is undoubtedly the hampering in their avocation, occasioned by the salt monopoly, which restricts their traffic to the sale of fresh fish, sufficient merely for local consumption. In India, also, on the sea-coast, it is aggravated by the caste customs preventing the fishing races taking to other avocations. Passing on to Burma with its cheap salt and freedom from caste, we find the fishermen well off.—*Tennant's Christianity in Ceylon; Day's Fisheries; Bombay Times*, 1850.

FISH HOOKS.

Hameçons, ...	Fr.	Panching, . . .	Malay.
Fischangeln, . . .	Ger.	Galamu, ...	Tel.
Gal, ...	Hind.	Anzuelo, ...	Sp.
Kail, Kai, . . .	Malay.		

Fish hooks are used in all countries, but in the S. and E. of Asia, nets, traps, and stakes are the generally adopted modes for catching fish.

FISH INSECTS are species of Lepisma, pretty little silvery creatures, found in brooks. L. niveofasciata, *Templeton*, and L. niger, *Templeton*, occur in Ceylon and Malabar. The genus was called Lepisma by Fabricus, from its fish-like scales. It has six legs, filiform antennæ, and the abdomen terminated by three elongated setæ, two of which are placed nearly at right angles to the central one. Linnæus states that the European species was brought in sugar ships from America. The chelifer found in Ceylon has been brought thither from Europe.—*Tenn. Sk. Nat. Hist. of Ceyl.* p. 476.

FISH MAWS, Fish Sounds, Air-bladder, Swim.

Singally, Sozilly, .	Beng.	Sozili (small),	Guj., Hind.
Loo-pa loo-pa, .	Chin.	Palogpong ikan, .	Malay.
Poota (large),	Guj., Hind.	Ari, Ari ikan, . .	,,

Are terms applied in oriental commerce to the air-bladder, sound, or swim of fishes. It is an article of luxury with the Chinese, and forms an important article of export from all the S.E. coasts of Asia. Small quantities of the superior kind are occasionally sent to England, from which it is supposed isinglass is made. There are two kinds of fish maws in Bombay, the poota and sozili, the difference consisting merely in the size,—the latter being about one-fourth the size of the former. They are of yellowish tinge, and are cured by stretching them in the sun. If they become damp, they soon decay and are then worthless. They are brought to China in junks from the Indian islands. At Singapore and in China the price is from 35 to 70 dols. per pikul, and, together with birds' nests, beche-de-mer, and sharks' fins, are consumed by the Chinese for their supposed strengthening and restorative properties. That the fish maws are isinglass, appears to have been the discovery of an anonymous correspondent in Parbury's Oriental Herald for January 1839. The fishes from which isinglass is obtained at Penang are,—Lates heptadactylus, Ikan siyakup; Polynemus Indicus, Ikan kurow; Otolithus biauritus, Ikan salampae; O. ruber, O. argenteus, O. maculatus, all called Jarang gigi; Johnius diacanthus, Ikan tambareh; Lobotes erate, Ikan batu; Arius truncatus, A. arius, A. militaris, all called Ikan saludu. Their export from British India, from 1857-58 to 1860-61, ranged up to 1,002,624, value Rs. 99,620; and in recent years was:—

	Lbs.	Rs.		Lbs.	Rs.
1875-76,	876,624	2,51,603	1878-79,	1,238,728	3,75,569
1876-77,	966,658	3,40,792	1879-80,	1,145,968	3,60,620
1877-78,	1,082,681	3,86,490			

The air-bladders of fishes that swim near the surface are small, and are wholly absent in those which, like the flat fishes (Pleuronectidæ), live near the bottom.

FISH OIL manufacture is carried on all along the western coast of India. The great source of supply is the shark and the skate. The livers of these are cut out, and thrown into a vat or old canoe or other receptacle, and trodden on with the feet till the oil is expressed. It is then drawn off, and stowed away. The oil from the variety of skate called Wagli by the natives of the Bombay coast, seems to have a strong resemblance to cod-liver oil. On the Malabar coast, especially off Vingorla, the seas literally swarm with a variety of the sardine; a coarse, ill-smelling kind of oil, which sells for from six to twelve annas a maund, is manufactured from these. The natives employ it for smearing their boats. The liver of the white shark is that generally used. The mode of preparing the best cod-liver oil is equally applicable to fish liver. The proper season for preparing cod-liver oil is early in January, when the livers are plump, firm, large, white, and full of oil. The livers are sometimes found diseased, and such as are specifically lighter than water should be rejected. Good livers should cut smooth, and not tear; when cut, none of the substance should flow out in a half-liquid state. The quantity of oil produced by livers depends much upon the time of the year. In the beginning of January 1000 livers were found by experiment to yield 37 imperial gallons, and at the end of February an equal number only gave 23 gallons of oil. In the beginning of January 1000 livers of average size weighed 900 lbs., whilst in the last day of March the same number weighed only 575 lbs. The oil at these different seasons was equally pale, and the livers equally white, although much smaller and more flabby in the latter season. To prepare the oil, wash the livers very carefully,

first removing the gall-bladders which adhere to them, and infuse them in rain or other water free from salt. Place them over the fire, and never allow the heat to exceed 120° or 130°. On this head especial care must be taken; a higher degree of heat, although yielding a larger product, communicates a rank, fishy taste and smell, and heightens the colour of the oil, thereby rendering it disgusting to the patient.—*M. E. J. R. of* 1855.

FISH ROE.

Matchi ke unde, . DUKH.	Chapa janna, . . TEL.
Min chenney, . . TAM.	Trubu, . . . MALAY.

Fish roe is sold in every bazar of the S. and E. of Asia, and the fish roe of Siam is a great article of trade.

Fish Roes, *Red Fish*, and *Sardines* are Malay condiments, and the species of fish used in their preparation are Alausa toli (Ikan truboh), Engraulis Brownii (Bunga ayer or badah), Dussumieria acuta (Tamban-bulat), and Clupeonia perforata (Tamban-nepes or batuh). *Balachan* or gna-pi is a condiment prepared from small fishes of all descriptions, and shell-fish. The ingredients are placed in a pit to undergo fermentation, and afterwards dried, pounded, and preserved with spices. With the Malays, Siamese, Burmese, and Cochin-Chinese, balachan has become a necessary of life, as it serves to season the daily food of these nations.

FISH SKINS, Piel de pescado, SP., are used occasionally in India for covering scabbards. The Goldi, on taking a large fish, remove the skin and beat it with a mallet to remove the scales and until the thick, oily corium becomes supple. In a dress of this kind they defy snow, mist, and rain.—*Latham's Nationalities of Europe*, i. p. 271.

FITCH. Ralph Fitch, a London merchant, travelled through India and Burma about 1583-91, in the reign of Queen Elizabeth, along with another London merchant named Newberry, and accompanied by a jeweller named Leedes and an artist named Storie or Storey, all at the charge of Sir Edward Osborne and Mr. Richard Staper, two rich London citizens. They travelled through Syria to the Persian Gulf, and there the Portuguese imprisoned and sent them to Goa as interlopers. Storie adopted the Romish faith, and settled at Goa, marrying a half-caste; but the others were ultimately released, and travelled to Golconda, and through Berar and Rajputana to Agra, where Akbar was ruling. Thence Newberry returned, *via* Lahore, Afghanistan, and Persia, to England. Leedes appears to have settled at Agra in Akbar's service, and Fitch sailed in a fleet of 31 boats down the Jumna and Ganges, passing Allahabad, Benares, Patna, and Gour, to the Bay of Bengal, visiting also Koch-Bahar, thence to Orissa, and finally, in November 1586, to Burma, in a small Portuguese vessel. He returned to England in April 1591. With the extensive information regarding the wealth of the countries they had visited, the general current of enterprise ran so vehemently towards India, that in 1589 some London merchants applied to their Government for the royal permission to send three ships and the same number of pinnaces on a voyage to that country. This was granted towards the end of 1600, and they formed amongst themselves a chartered association, under the style and title of the Governor and Company of Merchants trading to the East Indies, which was the origin of the East India Company. Their first factories were formed at Surat, Ahmadabad, Cambay, and Gogo.—*Fytche's Burmah.*

FITZCLARENCE, LIEUT.-COLONEL, author of Journal of a Route across India through Egypt to England, in 1817 and 1818, 4to, London 1819.

FITZGERALD, CAPTAIN, with three troops of Bengal cavalry, successfully charged the Mahrattas at the battle of Kamptee in 1817 against Apa Sahib. He had been ordered not to advance against the enemy, but, seeing his small party being hemmed in, he sent asking permission, but was forbidden to charge at the peril of his commission. 'By heaven, we'll charge him!' he exclaimed. The Hindu troopers, taking a handful of earth from their syces, threw it over their heads, the Mahomedan troopers shouted their usual war-cry, 'Deen! Deen!' For the faith! For the faith! and, spurring on, they captured two guns, which they turned on the enemy and mowed them down in heaps. This successful charge turned the tide of battle.

FIUMARA. IT. In Italy, a hill watercourse, which rolls a torrent after rain, and is either partially or wholly dry during the drought season. It corresponds to the Indian nullah.—*Burt.*, *Mecca.*

FIVE, Panch, HIND., is a number of frequent occurrence amongst Hindus. Panch-salar or Kansali, the five artisans; Pancha-janya and Pancha-kshiti in the Veda, five families, according to Lassen; Panchayat, a jury of five. The punch liquor and Punch of Punch and Judy are said to be from Panch, five. The five items of punch were arrack, sugar, water, rose-water, and limes; the five of Punch and Judy are Punch, Judy, the dog, the constable, and the devil. The English word five comes from the Greek πέντε, Panjah, the upraised hand. Ten is one upraised hand and one reversed, and, with digits prefixed or suffixed, up to 49 are indicated. The almanacs of the Hindus include Panch-anga, five sections, viz. the lunar day, the solar day, the lunar asterism, the conjunctions and transits of the planets, eclipses and the karana or subdivisions of the lunar day. Five mountains are sacred to the Jains, viz. Abu, Girnar, Palitana, and Tallija in Saurashtra, and Sakur in the east.

FLACOURTIACEÆ, a natural order of plants. 18 species of the genera Flacourtia and Phoberos occur in the S. and E. of Asia. F. obcordata is a shrub of Chittagong and Sylhet, F. rotundifolia of the Peninsula, and F. Campbelliana of Sumatra.

FLACOURTIA CATAPHRACTA. *Roxb.*

Talisputri, . . . HIND.	Talishapatri, . TAM., TEL.
Paniala, Panijala, . ,,	

A tree of Assam, Monghir, and Nepal, grown as a fruit-tree in gardens at Kotah, and affords a popular medicine in Behar. The small leaves and shoots resemble rhubarb in flavour, and are used as a gentle astringent in the dose of half a drachm in powder. An infusion of the bark in cold water is also employed as a remedy in hoarseness. The young shoots and leaves are considered astringent and stomachic. The berries are edible.—*Roxb.*

FLACOURTIA INERMIS. *Roxb.* Lovi lovi, SINGH. Grows in Ceylon, in both the Peninsulas of India, in Sylhet, and in the Moluccas. It has minute greenish flowers. In the Moluccas it is extensively cultivated for the sake of its fruit, which makes excellent tarts, though too sour to be eaten raw.—*Roxb.; Voigt.*

FLACOURTIA MONTANA. *Graham.* Ram tambut, Uttuck, MAHR. A tree common in forests above and below the Bombay Ghats, but does not extend inland. The wood is rather strong and close-grained, but the girth is never such as to render it sufficient for general purposes of carpentry or building.—*Dr. Gibson.*

FLACOURTIA SAPIDA. *Roxb.*

F. Ramontchi. *L'H.*

Booinch, ... BENG.	Oogoorassa, . . . SINGH.
Bowchee of . . BOMBAY.	Swadoo kuntuka, . SANSK.
Bincha, ... DUKH.	Pedda kanaregu, . . TEL.
Kuke, ... HIND.	Pedda canrew, . . ,,
Kangu of . . . RAVI.	Nakka neredu, . . ,,

A small-sized tree or large shrub, growing to an elevation of 1500 to 3000 feet in the central province of Ceylon, also in Peninsular India, and on the Godavery, in Ganjam and Gumsur, also in Bengal and northwards to Dehra Doon. It yields a very hard, close-grained wood, which does not warp, and is worthy of attention. This wood is burned by Hindus when libations are offered for a person who has died on an inauspicious day. It is found as a large shrub along the lower hills of the N.W. Himalaya, sometimes to 3500 feet, in the Salt Range, and on the skirts of the Suliman Range, etc. The timber is there occasionally employed for ploughs, but is too small for most purposes. The fruit about Calcutta grows to the size of a common plum; it resembles a gooseberry, the skin thin and shining, and of a purple appearance. It contains from 10 to 12 seeds, is both palatable and wholesome, and well worthy of more general cultivation.

FLACOURTIA SEPIARIA. *Roxb.*

Juthe karande, . DUKH.	Canrew, Sottakla, TAM.
Khutai, Dajkar, . HIND.	Sambla, ... SANSK.
Sherawani, Yargal, . IT.	Kanaregu, ... TEL.
Kuru moelli, . MALEAL.	

This shrub grows in Ceylon and all over India, up to the Salt and Suliman Ranges. It has strong spines, preventing cattle browsing the leaves. Its fruit is small, hard, and insipid.—*Thw.; Stewart.*

FLAGELLARIA INDICA. *Roxb.*

Bun-chunda, . . BENG.	Har charrul, . . HIND.
Myouk kyeing, . BURM.	Poindee pootee, . . TEL.
Panambu-valli, . . CAN.	

A long, straggling, scandent perennial plant, a native of forests; flowers during the beginning of the rains in June. Is easily recognised by the tendril it puts forth at the end of its leaves.—*Mason; Roxb. Fl. Ind.* ii. p. 154.

FLAME OF THE FOREST is Ixora coccinea, *Linn.* Flame tree or fire tree of Australia, King George's Sound, is the Nuytsia floribunda. The flame tree of Illawarra in Australia is the Brachychiton acerifolium, which grows to 60 or 70 feet, and has large racemes of bright red-coloured flowers. Its wood is soft and spongy, and its bark is made into nets and fishing lines.—*G. Bennett,* p. 354.

FLAMINGO, or Raj-hans, the Phœnicopterus roseus of Pallas, a splendid bird, found in most parts of India. The Singhalese have been led, from their colour and their military order, to designate them the English soldier birds.

FLANNEL. Looi, HIND. This woollen article is wholly imported into India; there is no similar woollen stuff manufactured in S. and E. of Asia, the nearest fabric being the Rampur chadr. It is not much used by Asiatics.

FLATA LIMBATA. *Hutton.* An insect of the Himalaya, closely related to the Pæciloptera. Captain Hutton says it produces a wax said to dissolve readily in water. In the attempt to melt it on the fire without water or oil, the wax merely burned and consumed away, till it became converted into a hard and baked substance.—*Science Papers,* p. 62; *Nature,* 5th Sept. 1878.

FLAX.

Mushina, ... BENG.	Lino, ... IT., SP.
Llin, ... CYMRIC.	Linum, ... LAT.
Vlasch, ... DUT.	Atish; Tisi; Alisi, PANJ.
Lin, . ANGLO-SAXON, FR.	Kutan, ... PERS.
Flachs, ... GER.	Len, . . . POL., RUS.
Lein, ... GOTH.	Linho, ... PORT.
Linou, ... GR.	Lon, ... RUS.
Pishtah, ... HEB.	Atasi, ... SANSK.
Alsi; Atis, . . . HIND.	Lint, ... SCOTCH.

The flax plant, Linum usitatissimum, is grown in India for the seed and for a little fibre; except in a few localities, it may be said to be not raised in any part of India for external commerce. This seems a change from the former state of agriculture, for flax is mentioned by Strabo as one of the staples of the N.W. part of India. Linen cloth was used to envelope the dead by the ancient Egyptians, among whom flax was cultivated from remote antiquity. It was grown also by the Jews, who obtained it from Egypt. The Northern Provinces of India have been producing for years past enormous quantities of linseed, which is shipped to the United Kingdom, and to the United States of America. The quantity annually exported does not fall short of two million quarters. The stalk or straw of all this seed is veritable flax, yet no commercial use is made of it. Attempts have been made more than once to prepare the flax of British India for manufacture, but without success.

Great Britain, in the years 1877-1879, was receiving annually about 110,000 tons of flax, valued about £4,000,000, two-thirds of it coming from Russia, dressed, undressed, and as tow or codilla; and in 1870, 1½ million quarters of seed were imported.

A small quantity of Riga seeds, which had been imported experimentally by Dr. Jameson, was distributed amongst the peasants, with instructions as to the mode of cultivation. An agent of great practical experience was deputed to examine and report upon the qualifications of different districts for the growth of flax, and a staff of natives were trained by him to act as scutchers. In 1856, two tons of flax, produced under his superintendence in the district of Goojranwalla, were sent to England, and were sold for £92, 2s. 2d., realizing a net profit of 47 per cent. In 1857, 8 cwt. of flax, grown at Jeddura, a tract of country in the Kangra district, bordering on the river Beas, were sent to Britain, and were valued at from £55 to £60 a ton. In consequence of the success of these experiments, an association, called the Indian Flax Company, was established in Belfast, and an agent was sent out to buy up flax produce. In 1863 he made the district of Sealkote his head-quarters, but, owing to various circumstances, their operations were brought to a close. Up to this, flax had always been sown in the Panjab as a field crop, but raised only for its oil-seed, and as the plants are only 18 to 24 inches high, they are useless for textile purposes. Flax is prepared by steeping the plant, stripping off the bark, and

then beating so as to separate the fibres, from which linen and cambric are prepared,—cambric differing from linen in fineness, and in being made from the fibre of plants which have been more thickly sown. Linen cloth is a good conductor of heat, and is cool, but is chilly when the body is exposed to cold or is perspiring.

The Burmese are acquainted with linen from their books, in which it is frequently mentioned. The lake or tank near king Wathandria's hermitage is described as being covered with water-lilies, that appear like garments made of thread of flax bark; and linen garments are mentioned among those which priests are permitted to wear.

Flax Manufactures, comprising twist and yarn, piece-goods, sewing thread, canvas, bags, sacs, etc., were imported into India in the years 1874-5 to 1879-80, of annual value up to 12 and 13 lakhs of rupees, the highest value of the canvas being Rs. 7,94,978, and that of the piece-goods Rs. 4,96,546.

Flax Seed, linseed.

Hu-ma-tsze,	CHIN.	Sieme, Iniane,	POL.
Lynzaad,	DUT.	Linhaca,	PORT.
Graine de lin,	FR.	Semja lenja,	RUS.
Lein saat,	GER.	Linaza,	SP.
Linseme,	IT.		

The seed is in India produced for its oil, and is largely exported.—*Stewart; Powell; M'Culloch; Royle.* See Linseed.

FLEA.

Paros,	HEB.	Ec,	TAM.
Pisu,	HIND.	Eegalu,	TEL.
Pulex hominis,	LAT.		

This insect, which was one of the plagues that fell on Egypt, is very common in all the S.E. of Asia, and at certain seasons in some parts of the Peninsula they occur in great numbers. The natives of India say they breed in the rocky ground. At Ahmadnaggur, Nasik, Secunderabad, and Bangalore, in some years they are innumerable, but their bite is insignificant.

FLEABANE, PURPLE.

Kali-ziri,	DUKH., GUJ.	Caattu siragam,	TAM.
Buckchi,	HIND.	Adivi jilakara,	TEL.
Kana-iraka,	SANSK.		

A small dark-coloured and extremely bitter seed, procurable in all Indian bazars, considered powerfully anthelmintic, and also used as an ingredient of a compound powder prescribed in snake-bites by native practitioners. An infusion of seed is also given for coughs, and against flatulency. The Inula pulicaria, or fleabane, a common roadside plant in Britain, strewed or burned in any place, destroys gnats and fleas, and the same properties are attributed to the common oxeye daisy of Britain. Flies, fleas, and mosquitoes avoid rooms in which branches of pennyroyal have been suspended. Vernonia cinerea, *Less.*, is the ash-coloured fleabane.—*Ainslie.*

FLESH-EATING PLANTS. The insectivorous plants described are the common sun-dew (Drosera rotundifolia), the Venus fly-trap (Dionæa muscipula), an aquatic plant growing in Queensland, and known as the Aldrovanda vesiculosa, which feeds upon water beetles; the Drosophyllum Lusitanicum, which the villagers in some parts of Portugal hang up in their cottages as a living fly-catcher; the Pinguicula vulgaris, which flourishes in North Wales, and several varieties of the Utricularia; the Saracenia purpurea, and the Darlingtonia of N. America.

FLINDERSIA AUSTRALIS. This tree is a native of Australia, and its wood is said to be not inferior to mahogany. F. Amboinensis is a native of the islands of Hitu and Ceram. The spiny part of the fruit is formed into rasps. It was on this account called by Rumphius, Arbor radulifera.

FLINT.

Ho-shih,	CHIN.	Selice,	IT.
Pierre à fusil,	FR.	Batu-api,	MALAY.
Feuerstein,	GER.	Pedernol,	SP.
Hala-mish,	HEB.	Chakimuki,	TAM., TEL.
Chakmak,	HIND.	Chakmak-tashi,	TURK.

This mineral is composed almost entirely of silica. It is almost all imported from Britain, being exceedingly rare in India. It is used, when calcined and ground, in pottery; also for gun-flints, for which purpose the yellowish-grey flints are preferred. In India the chalcedonic quartzes are used instead of flint.—*Waterstone.*

FLOATING ISLANDS occur in the lake of Kashmir. One occurs in Lake Derwentwater in England.

FLOATS are much used for rafting timber, and they are formed of many vegetable substances. Saccharum sara reeds are much employed, also the bamboo and the fruit of the baobab.

FLOODS.

Seil,	ARAB.	Riflusso,	IT.
Inondation,	FR.	Diluvio,	SP.
Fluth,	GER.		

Of these, the traditions of nations mention several. One Hellenic tradition is known as the flood of Deucalion, son of Prometheus, who built the ark, which rested on Parnassus in Thessaly. A similar legend of Asia Minor was connected with the deluge of Iconium, and was localized at Olympus, the highest peak of Western Asia. Missionaries in China have attributed the inundations alluded to as occurring in the reign of Yu, the founder of the first Chinese dynasty, B.C. 2207, to the flood of Noah. The flood of Noah is supposed to have occurred in the year of the world 1656, that is, about B.C. 2328 or 2344. The Aryan Hindu traditions of this great flood are distinct, but involved in their mythical religion. Their Matsya or fish avatar is a history of that event disguised in oriental fiction. One account is given in the Satapatha Brahmana of the Rig Veda; another tradition is in the Mahabharata, where Brahma is the actor; a third in the Bhagavata Purana, and a fourth in the Matsya Purana, both of them indicating Vishnu. Disastrous river and sea floods are of very frequent occurrence in India and China. Even the ordinary rain floods are eminently disastrous. A correspondent of the Englishman mentions that, when returning on one occasion from Kishengarh, he found the whole country under water. He got into a fishing dingy, and was rowed straight across country, nothing to be seen out of water but the villages, which looked like islands in a sea; the very parapets of the bridges in the road under water, and but for the trees at the roadside, nothing could indicate that such a thing was there. All the crops gone.

Hebrew flood in Samaritan text,	B.C. 3044
Brahmanical flood,	3101
Chinese flood,	3082

952 A.D. At Baghdad, half the city inundated from overflow of the Euphrates.

959. At Baghdad, nearly three-fourths of the city inundated from overflow of the Euphrates.

968. Persian Gulf, severe eruption following earthquakes, several cities destroyed, and new islands formed.
1076. Baghdad overflowed by inundation of the river.
1088. Tigris again overflowed, and did much damage.
1276. Baghdad again inundated, after appearance of red flame.
1291 and 1304. Damascus inundated by overflow of streams.
1642. The city of Kai-fong besieged by rebels, and embankments destroyed and city inundated, during which 300,000 persons perished.
1763. Burhanpur overflown by the river Tapti from heavy rains, a quarter of the city inundated, and one-tenth of the houses destroyed.
1768. Heavy floods in Behar and Bengal, and in 1769 and 1770 rain scanty.
1770. Great flood in Eastern Bengal.
1773. Great destruction in Calcutta from rain and floods.
1784. Some of the N.W. Provinces suffered greatly from floods after a great drought.
1787-88. Floods in Behar and N.W. Provinces, said to have caused loss of 150,000 souls and 100,000 head of cattle. Rain of 1787 began early, and continued late, particularly in Bengal, Jessore, Nuddea, and Behar. About 1st October a tremendous storm of rain and wind swept over W. of Bengal, followed by a cyclone which moved across almost all Bengal, and the crops largely destroyed. In Rangpur, in 1787-88, the excessive rains in the Himalayas, followed by wet weather in the district, caused the Tista to overflow into the Ghaghat, and this river swept over the district; whole villages entirely disappeared, and multitudes of people and cattle perished; and on the 2d November, just as the rice was getting into ear, a cyclone with torrents of rain occurred. One-sixth of the population of Rangpur were lost, and in the Panga pargana half the population was gone. In the same year, 60,000 of the inhabitants fell victims to famine following on floods.
1800. In China, great floods.
1818, August. Floods occurred on the coast of Canara and Malabar.
1831-32. A flood occurred in the delta of the Ganges on October 8, 1831, when 50,000 lives were lost; near Balasore 17,474 people drowned; in 1832, 2000 in the same neighbourhood.—*As. Jl.* 1833.
1832. At Coringa a great and very destructive inundation.—*Beng. As. Soc. Journal*, 1834, xiv. p. 259.
1833, November. At Canton, excessive rain, and 10,000 houses swept away, and 18,000 persons drowned.
1837. On the Tapti at Surat, on August 6, 1837, 500 houses were said to have been destroyed, the loss estimated at betwixt 30 and 40 lakhs of rupees (£300,000 to £400,000); and a lakh and a half (£15,000) was subscribed at Bombay to supply the sufferers with grain.
1838?-39? The Ganges once rose 45 feet above the usual level; swept away Burree Bund, and laid a town four feet under water; and an account of it appeared in the Agra Ukhbar, August 30, 1839.—*As. Jl.* 1839. Inundations at Hussingabad were mentioned in As. Jl., April 1839, and a description of that at Agra in the As. Jl. 1838.
1839, December. A hurricane sea-wave, or wave caused by an earthquake, rose 8 feet above the level of Coringa village; the inundation covered 30 miles of country, and above 7000 people were drowned. £100,000 worth of property destroyed on shore; at sea 70 vessels were lost, with about 700 lives.
1841. The Indus seemed to have been for some time ponded back, when a terrific flood swept over Attock and all the country around. Dr. Falconer gave an account of it in Bl. As. Trans. 1843, x., and Dr. Jameson, ibid. xii. It occurred from the giving way of a glacier. The body of a woman dressed in sheep-skins was thrown ashore at Attock, and supposed to be a Tibetan; 10,000 lives were said to have been lost (As. Jl. 1841, xxxv. 196, 264). Captain Abbott gave an account of it from lips of natives in the Bl. As. Trans. 1841, x. p. 230. From hundreds of villages and towns, including Khyrabad and Attock, thousands of human beings and cattle were swept away. In the Hazara country, artillery guns with many hundreds of infantry and cavalry were lost; a whole camp with troops and followers was carried down the river.
1845. Great floods in China, deluging the shores of the Yellow Sea, submerging whole provinces.
1849. Dr. Buist gave an account of that of 1849 in Edin. Phil. Jl. 1851; Bl. As. Trans. 1851.
1856. Prome nearly destroyed by overflow of the Irawadi.
1866. In Puri, during the 32 years ending in 1866, there were 24 years of excessive rains, but in 1866 floods swept over nearly all the Puri districts; in one pargana more than 12 square miles of solid land were suddenly turned into a sea from 7 to 9 feet deep, and thousands of families floated about in canoes on bamboo rafts, and on trees, and many perished. In 1769-70, 1777, 1788, 1866, 1874, and 1877, there have been famines in parts of Bengal; but the famine of 1866 was felt in the Twenty-four Parganas, in Nadiya, Hugli, Dacca, and Murshidabad; and Orissa was devastated. The numbers who perished will never be accurately known. The estimate has been about one-fourth of the entire population.
1867. A great sea-wave in a cyclone broke along the coast at Masulipatam, and caused enormous loss of life and property.
1871. Near Prome great floods.
1872. In Kandesh and Nasik, great floods, attributed to the destruction of the forests.
1875. In Burma, heavier floods than in 1871.
1875. In N.W. Provinces, disastrous floods, causing loss of life and destruction of property.
1875-76. The river Tons and the Jumna rose, and the waters of the Jumna entered Allahabad. On the subsidence of the floods, it was found that 772 villages had been destroyed or damaged, 181 lives lost, 1949 head of cattle and 826 sheep and swine drowned, and the total damage estimated at nearly 14 lakhs of rupees.
1876. In northern provinces of China great floods.
1876. In October 1876, a tidal wave, consequent on a hurricane, inundated Bengal; lives lost estimated at 200,000, and great destruction of property.
1878. For four months up to March, in Ceylon, a succession of floods.

—*Edye in Lond. As. Trans.* 1835, ii. p. 342; *Dr. Buist's Catalogue.*

FLORA of the South and East of Asia has been largely described by some of the most eminent of the botanists of the world, whose names will be seen under the article Botany. But the most complete recent view given of the plants of this South-Eastern region is by Drs. (Sir) J. D. Hooker and T. Thomson in their Flora Indica. There is a striking resemblance between the vegetation of tropical Africa and tropical Asia; but India contains representatives of every natural family on the globe, a very few small American, Australian, and S. African orders being the chief exceptions. Many North African or Arabian forms, such as Peganum, Harmala, Fagonia cretica, Balanites Ægyptiaca, Acacia Arabica, Alhaji, Grangea, Calotropis, and Salvadora Persica extend through the drier parts of India; and others, Cleome, Balsamodendron, Astragalus hamatus, Cucumis colocynthis, Berthelotia, Anticharis Arabica, etc., have a less extensive range. In the humid parts of tropical India, as in the impenetrable green jungles of the equable and rainy Malayan Peninsula, of Eastern Bengal, the west coast of the Madras Presidency, and of Ceylon, the flora contrast strongly with that of the drier parts of the intertropical zone, and still more so with the loosely timbered districts of Central India and of the base of the Western Himalaya. Many tropical genera and families, as most palms, Cycas, Dipterocarpeæ, except Vatica, Aurantiaceæ, Conna-

raceæ, Meliaceæ, Myrtaceæ, Rubiaceæ, Ebenaceæ, and many more, which are sensitive to cold, are comparatively local when found beyond the tropics. Many Leguminosæ (viz. Bauhinia, Acacia, Erythrina, Butea, Dalbergia, and Milletia), Bombax, Vatica, Nauclea, Combretaceæ, Verbenaceæ, Lagerstrœmia, Grislea, Jasmineæ, and Bignonia Indica, are indifferent to the cold of winter provided they experience a great summer heat; and they advance far beyond the tropics, and lend a more or less tropical aspect to the flora even of the base of the North-Western Himalaya, in lat. 35° N. On the other hand, the perennially humid forests are uniformly characterized by the prevalence of ferns; and at elevations below 5000 to 7000 feet, by the immense number of epiphytal Orchideæ, Orontiaceæ, and Scitamineæ. They contain a far greater amount of species than the drier forests, and are further characterized by Zingiberaceæ, Xylerideæ, palms, Pandaneæ, Dracæna, Piper, Chloranthus, Urticaceæ, especially Artocarpeæ, and Fici, Araliaceæ, Apocyneæ, shrubby Rubiaceæ, Aurantaceæ, Garciniaceæ, Anonaceæ, nutmegs, and Dipterocarpeæ. The bulk of the flora of the perennially humid regions of India, as of the whole Malayan Peninsula, the Upper Assam valley, the Khassya mountains, the forests at the base of the Himalaya from the Brahmaputra to Nepal, of the Malabar coast and of Ceylon, are of one type, which includes a very large proportion of the Indian genera.

In India the number of peculiar families largely represented in it is very limited; the Aurantiaceæ, Dipteraceæ, Balsamineæ, Ebenaceæ, Jasmineæ, and Cyrtandraceæ are the only orders which are largely developed in India, and sparingly elsewhere, and of these few contain one hundred Indian species. The total number of Indian species are estimated at 12,000 to 15,000. The species are much scattered. It is believed that nowhere in India could more than 2000 flowering plants be found in a radius of ten miles; and there is in India an almost complete absence of absolutely local plants. The plains of India are everywhere poor in species; and such as abound in individuals are usually of a weedy character. Indeed, there are few other countries in which the vegetation of the more accessible parts presents so little beauty or such short seasons of bloom. The great number of 222 British plants extend into India. Many North African and Arabian forms occur. Several Australian species are found in the Malayan Peninsula. Many of the Himalaya, Neilgherries, Khassya, and Ceylon species are found in the Malay Peninsula and in Java. Gaultheria nummularia extends from the N.W. Himalaya to the Java mountains; and common to India and Java are Sedgwickia cerasifolia, *Griff.*, Marlea, Cardiopteris lobata, several oaks and chestnuts, Antidesmeæ, a willow, and Myrica. The Chinese type is abundant in the temperate region of the Himalaya, and plants of N. America west of the Rocky Mountains also occur. An immense proportion of annual plants, which vegetate during the last rainy seasons in the plains and ascend the lofty mountains, are uniformly distributed throughout India. Of these the most conspicuous are Gramineæ, Cyperaceæ, a vast number of small Leguminosæ and Scrophularinæ, Compositæ, some Labiatæ, Amaranthaceæ, Convolvulaceæ, and Acanthaceæ.

Belts of Vegetation.—The flora of the Himalaya mountains, including that of the most northern parts of China, shows an almost complete identity with the genera found covering the elevated belt of the Himalaya. If we commence with the bases of these mountains, and pass successively through the several belts, and (analogous to what takes place between the parallels of latitude of 40° to 45°) experience the rapid decrease of mean temperatures and the quick succession of vegetable productions, we first find a vegetation similar to that of the southern provinces of India. The agricultural products consist of rice, millet, amaranth, an esculent arum, ginger, turmeric, a little cotton, and sugar at the season, succeeded by wheat, barley, and buckwheat in the cold-weather months. Along with plantains, oleander, and some of the orange tribe, we meet also with some species which were long considered peculiar to China, as Marlea begonifolia and Houttuynia cordata, with species of Chloranthus, Incarvillea, and Hiptage. On ascending, we pass through different gradations of vegetation, until, reaching the regions of the oaks and rhododendrons, which is immediately succeeded by that of pines, we meet another mild region, with a flora which must approximate to that of the mountains of the central provinces of China, for here we find the Chinese genera Abelia and Eurya, with Stauntonia, Kadsura, Hovenia, etc., and it is in the midst of similar vegetation that the tea-plant is everywhere found. Dr. Royle notices the similarity of products of the Chinese tea districts and the Himalaya. He says, as the camphor, varnish, wood-oil, and tallow trees constitute a part of the natural riches of China, so we have in the Himalayas and at their foot, Camphora glandulifera, containing solid grains of camphor in its wood. Melanorrhæa usitata, *Wall.*, yields abundance of excellent varnish; besides Rhus vernicifera, the varnish tree of Japan, which is common in the Himalaya. Wood-oil is yielded by several species of Dipterocarpus; oil is obtained from apricot seeds, and from Prinsepia utilis in China, as it is in the Himalaya; and paper of the Daphne cannabina is also a product common to both, as also the butter of Bassia butyracea, which abounds at Almora.

The winter months of the colder northern countries have a corresponding cold season in India, during which ex-tropical cereals, wheat, barley, and more rarely oats, with various kinds of pulse, are cultivated; and many wild plants appear, very many Cyperaceæ, grasses, and such aquatics as Myriophyllum, Potamogeton, Vallisneria, Zannichellia, Lemna, and others. The mountainous regions of Afghanistan are rich in Himalayan forms, and contain an immense number of European and Persian plants, which find their eastern limits within the British Himalaya; and many plants are found in those mountainous regions common to Europe and the Himalaya. Nepal, Bhutan, East Tibet, and the Khassya mountains present a flora which has much in common, and in a geographico-botanical point of view is one of the most important regions in India, if not in all Asia. In the Himalaya, the genera Rhododendron, Monotropa, Pedicularis, Corydalis, Nepeta, Carex, Spiræa, Primula, Cerasus, Lonicera, Viburnum, and Saussurea attain their maximum of development. The majority of the Afghan and Tibetan plants are also on the one hand natives respectively of

the Caspian steppes and N. Persia, and of Siberia on the other.

On the Himalaya and on the isolated mountain ranges of the Peninsula of India, on the heights of Ceylon, and on the volcanic cones of Java, many plants occur, either identically the same or representing each other, and at the same time representing plants of Europe not found in the intervening hot lowlands. A list of the genera collected on the loftier peaks of Java raises a picture of a collection made on a hill in Europe. Still more striking is the fact that Southern Australian forms are clearly represented by plants growing on the summits of the mountains of Borneo. Some of these Australian forms extend along the heights of the Peninsula of Malacca, and are thinly scattered on the one hand over India, and on the other as far north as Japan. Along the Himalaya, at points 900 miles apart, glaciers have left the marks of their former low descent; and in Sikkim Dr. Hooker saw maize growing in gigantic ancient morasses. Plants on the Himalaya and Neilgherries, Ceylon, and the Khassya mountains, and in the Malay Peninsula, and the moister and more equal parts of India, are identical with those of Java. The genus Calamus, Orchids, Araceæ, Zingiberaceæ, and ferns are especially abundant; the genus Grammatophyllum, the wonderful Nepenthaceæ, or pitcher plants, of which solitary species occur in Madagascar, Ceylon, the Seychelles, Celebes, and the Moluccas.—*Powell; Darwin, Origin of Species*, 3d ed. p. 403; *Wallace*, i. p. 138; *Hook. and Thomson, Fl. Ind.*

FLORA COCHIN-CHINENSIS, a botanical work by Fra Loureiro.

FLORES, called also Endie or Mangerye, an extensive island of the Archipelago, 201 miles long from E. to W., and from 42 to 45 miles broad. Flores Head is in about lat. 8° 44′ S. and long. 122° 50′ E. It is so named from the Portuguese word Flor, a flower. Flores Island is the fifth in a line E. from Java due S. of Celebes, and of volcanic formation, and affords the first example of a race of men seemingly intermediate between the Malay and Papuan, but partaking far more of the physical form of the former than of the latter. The complexion is a good deal darker than that of the Malay, the nose flatter, the mouth wider, and the lips thicker. The hair is not lank as in the Malay, but buckles, without frizzling as in the Papuan. The stature is the same as that of the Malay, that is, short and squab. Bugis settlers in the island told Mr. Crawfurd that Flores is inhabited by six different nations, speaking as many different languages, the Ende, the Mangarai, the Kio, the Roka, the Konga, and the Galeteng,—names all derived from the principal places of their residence. The coast is occupied by the Malay or brown race; but in the interior is a people with frizzled hair, and a similar frizzled hair people live in the mountainous parts of Solor, Pintar, Lombata, and Ombay. Captain Keppel gives the following translation from a Dutch journal:—'On the island of Flores there lives a race, called on the south coast Rakka, who not only devour their enemies, but with whom custom requires that the son shall cut the body of his deceased father in pieces, and sell the flesh to the inhabitants at the high price of its weight in gold. This flesh is greedily eaten by the people as a great delicacy. If the father was heavy and of great size, the son considers himself particularly fortunate. The population of Endore, on the same island, is also very greedy of human flesh. But these cannibals confine themselves to the heart, which with incredible dexterity they extract from the body, by giving a blow under the left shoulder-blade. It is then cut into very small pieces, eaten completely raw by the bystanders who belong to the same race.' Captain Keppel adds, 'I am not able to corroborate this.' Galeteng is a locality in the island of Flores, occupied by a race so called.—*Horsburgh; Bikmore; Keppel's Ind. Arch.* ii. 149; *Crawfurd.*

FLORICANS are birds of the tribe Pressirostres, family Otididæ, bustards and floricans, which occur in many parts of India, and to the N.W. towards Afghanistan. They are, like the bustard, speckled, greyish-coloured birds; the males have plumes, and change their plumage in the breeding season. The little bustard of Europe is said once to have been called the Flanderkin, which may be the source of the name. The species are now arranged under the genus Sypheotides.

S. Bengalensis, *Gmel.*, Bengal Florikin.

Otis deliciosa, *Gray.*	O. Himalayana, *Vig.*
Charras, Charaj, or Charas, . . . HIND.	Dabar of . . . NEPAL.

In the breeding season, the whole head of the male, which is very fully crested, the neck, breast, and lower parts and thigh coverts, are of deep glossy black, the plumes of the breast elongated, forming a full breast tuft, and the feathers of the neck in front also lengthened; back a rich olive buff, with zigzag markings, and a black dash in the centre of each feather. It is 24 to 27 inches long. It is found throughout Lower Bengal, north of the Ganges, north-easterly to the foot of the Himalaya, into Dacca, Assam, Tiperah, Sylhet; north-westerly into the valley of the Jumna, Rajputana, the Cis-Sutlej States, and parts of the Panjab. It frequents large tracts of moderately high grass. The sexes live apart, but near each other.

S. auritus, *Lath.*, Lesser Florikin, Otis fulva, *Sykes.*

Khar titr of Bhils, Mhow.	Tan-mohr, . . . MAHR.
Kan-noul, . . . CAN.	Warragu Koli, . . TAM.
Charaz, Charas, . HIND.	Niala-nimili, . . TEL.
Chulla charz, Likh, ,,	

The Bhil name means grass partridge; and it gets its Tamil name from being usually found in fields of warragu (Paspalum frumentaceum). The lesser florikin, also called the common florikin and black florikin, is 19 to 21 inches long. In winter dress the male closely resembles the female, but has always some white on the shoulder of the wing; when in full breeding plumage, the male in its head, neck, ear-tufts, medial wing coverts, and all its lower plumage is deep black, the chin alone being white, the rest of the plumage fulvous. The different character of the plumage in the two seasons has led some to write on this bird under two names. It is found throughout India, from the extreme south to the foot of the Himalaya, and frequents long grass in preference to any other shelter.—*Jerd. Birds of India*, ii.

FLOUR OF WHEAT.

Fleur de farine, . . FR.	Flor de farine, . . PORT.
Feines mehl, . . GER.	Godhuma pishta, SANSK.
Semmel-mehl, . . ,,	Tringu-pittay, . SINGH.
Atta, Maida, . . HIND.	Godamba mavu, . TAM.
Tapung, Pulur, MALAY.	Godumapindi, . . TEL.
Lumat, ... ,,	

Meal of wheat flour. When sifted, maida is the finer part of wheaten flour, and soojie the coarser. In India, the unsorted wheaten flour, the atta, does not readily leaven into wheaten bread, for which the sifted soojie, the semolina of Italy, is solely used. The natives who use wheat use the atta or unsorted flour, and the maida where obtainable. The farina of wheat is used as food in British India. Rice-flour is somewhat in use; in the Archipelago that from the sago tree is very extensively consumed. There were samples of seven varieties of flour made from roots in Pasuruan, and called kiring, katella, jawi, sago, arrowroot, katella, blanda, temu-lawak, and temu-gedring, either used medicinally or as delicacies for invalids. See Bread; Farina; Food; Semolina; Soojie.

FLOWER BATTEN, a very hard, fine, close-grained, heavy Ceylon wood. Its surface shows a pleasing mottled pattern.

FLOWER DEW-WATER of the Chinese is the dew gathered at early morning from certain alliaceous plants, and especially from that of the sweet flag. The Mahomedan herbalists of India gather it from the stalks of the rice plant.

FLOWERS.

Zahrat, ... ARAB.	Fiore, ... IT.
Fleur, ... FR.	Flor, ... SP.
Blume, Kern, . . GER.	Pu, ... TAM., TEL.
Phul, . . HIND., PERS.	Chichek, ... TURK.

Flowers are largely used by Mahomedans, Hindus, Buddhists, and the followers of Confucius in their worship of the deity, or of their idols, and in their offerings for the dead. Flowers do not seem to have been similarly employed at any time by the Hebrew race; and in Acts xiv. 13, when the priests of Jupiter came to Paul with an ox for sacrifice and with garlands, is the only mention of them that occurs. At the time of worship, the Hindu priest places a garland of flowers upon the idol. Whether Paul and Silas were to be the objects of worship, to receive the garlands, or the oxen intended to be slaughtered, in either case the practice would be conformable to that of the Hindus. There are numerous flower shops for their sale. But though so largely used in the south and east of Asia, the Aryan Hindu does not seem to care for flowers as beautiful objects of nature. He could not sing,—

'In summer, autumn, winter, or spring,
A flower to me is the loveliest thing
That hath its birth
On this chequered earth,'

though Western poets delight to dwell on the love that Eastern races have for the natural flowers. Hindu ladies sometimes wear a little mirror, called chury, of polished metal, in a ring on the thumb, and amongst Hindus the lotus is the emblem of female beauty. In a tale, it is mentioned that Krishna, who had concealed his passion from the parents of a damsel whom he secretly visited, unfortunately chanced to find her in the midst of her relations. How great her distress! He was averse to departing without expressing his passion; words were debarred, both were embarrassed, love prompted:

'He with salute of deference due
A lotos to his forehead prest;
She raised her mirror to his view,
And turned it inward to her breast.'

The flowers of the Calotropis gigantea, Jasminum sambac, Michelia champaca, Mesua ferrea, form the ornaments with which Kama, Hindu god of love, ornaments his arrows.

'He with five flowerets tips the ruthless darts,
Which through five senses pierce enraptured hearts:
Strong Chumpa, rich in odorous gold;
Warm Amer, nursed in heavenly mould;
Dry Nag-keser, in silver smiling;
Hot Kittikam, our sense beguiling;
And last, to kindle fierce the scorching flame,
Love-shaft which gods bright Vela name.'

Clitorea ternatea is sacred to Durga; Jonesia asoca is a sacred plant. The flax plant is sacred to Siva. Baka, a kidney-shaped flower, is sacred to Vishnu. The flowers of Mimusops elengi are favourites for garlands. The Chrysanthemum Indicum has a favourite garland flower. Datura fastuosa is sacred to Siva. Christians in India largely use the flowers of the Tagetes erectum on Christmas day. Hibiscus rosa-Sinensis is sacred to Kali; Jasminium pubescens is sacred to Vishnu; Nerium odorum to Siva; Nelumbium speciosum, the Indian lotus, is sacred to Brahma, Vishnu, Siva, and their consorts, Saraswati, Lakshmi, and Parvati; Nyctanthes arbor-tristis is sacred to Siva. The Buddhists make great offerings of flowers at their temples, but these are not used by the Buddhist priest for decking the person. The Mahomedans use them largely for laying over the tombs of their departed. The beautiful purple and fragrant Bignonia chelonoides is a pagoda flower; the sweet-smelling Millingtonia hortensis, the cork tree; and the Justicia picta is a shrub admired for its beautiful, variegated green and white leaves.

'Blessed be God for flowers!—
For the bright, gentle, holy thoughts that breathe
From out their odorous beauty, like a wreath
Of sunshine on life's hours.'

—*Jaffrey; Ains.; Ward's Hindoos; Hardy, Eastern Monachism; D. L. Richardson.*

FLUGGEA, a genus of plants of the natural order Euphorbiaceæ. F. leucopyrus is a small tree of many parts of India; F. retusa grows on the banks of the Jumna; and F. virosa grows on the Jumna and westward to the Siwalik Hills and the Salt Range. F. Japonica, *C. Richard*, a liliaceous plant of China and Japan; its mucilaginous tubers can be used for food.—*F. v. Mueller.*

FLUGGEA VIROSA. *R.* Phyllanthus vir., *R.*

Girk, ... HIND.	Vanuthi, . . . SUTLEJ.
Bata of . . . . SUTLEJ.	Perei pastawane, TR.-IND.

Occurs on the Jumna, on the Siwalik, Salt Range, and Trans-Indus. The wood is close-grained and strong. Its fruit is edible by man and beast; its bark is astringent, and is used to intoxicate fish.—*Roxb.; Stewart; Voigt; O'Sh.*

FLUOR SPAR, Derbyshire Spar, Native Fluoride of Calcium, Tsze-shih-ying, CHIN., occurs in the Canton and Che-kiang provinces of China. Its powder is given in sterility and lung diseases. Found in great beauty and abundance in Derbyshire and other places.—*Smith; Mason; Waterstone; Faulkner.*

FLY. In the Hebrew Scriptures are several Hebrew words which in the English version have been translated fly, viz. Oreb, Zebub, Deburrah, Tsira, Sarabim, Bak, Cinnim. The Orov or Orab, a swarm or assemblage, is translated in Psalm cv. 31 swarm of flies, but in Exodus viii. 21, also Psalm lxxviii. 45, is supposed to allude to the mosquito. The Hebrew Zenon of Ecclesiastes x. 1 and Isaiah vii. 18 is not identified. Flies are undoubtedly very troublesome in tropical Asia at some seasons, but an infusion of quassia

sweetened with sugar placed on a plate destroys them. The eye-fly, a minute insect which comes at seasons inside houses, and clusters in myriads on any hanging thread, can be destroyed instantaneously in masses, by forming a cone of paper like that for a grocery packet, and, setting fire to its edges, bringing it under the thread where they cluster; their wings are singed as they try to escape out of the burning circle. In Italy, large bundles of a common viscous plant (Erigeron viscosum, *Linn.*) dipped in milk, hung up in the rooms, attract all the flies. Glossina morsitans, the Tsetse fly of Africa, whose bite is fatal to the horse, the bullock, and cow, is supposed to be the same as the Tsalt salya or Zimb of Abyssinia, mentioned by Bruce. See Bane; Fleabane.

FLY-CATCHERS, birds of the family Muscicapidæ and sub-families Muscicapinæ and Myiagrinæ, comprising the genera tchitrea, myiagra, leucocerca, chelidorhynx, cryptolopha, hemichelidon, alseonax, ochromela, eumyias, cyornis, muscicapula, nitidula, niltava, anthipes, siphia, and erythrosterna, birds with large gapes, which subsist on flies and small insects. Many of them have bright-coloured plumage. Tchitrea paradisi, the Husaini bulbul, has its tail feathers greatly elongated, and is a beautiful object when in flight. The red-breasts, species of cyornis, occur through all the East Indies; and the beautiful sapphire-headed fly-catcher, Muscicapula sapphira, is found in Nepal and Sikkim.

FLYING CATS, a name given to the flying mammals of the genus Galeopithecus, of the family Galeopithecidæ, and natives of Malayana. They are usually called flying lemurs. They have a membrane connecting their limbs, but they have not the power of sustaining flight. They have pectoral mammæ, and sleep with their head downwards. They are nocturnal and insectivorous.—*Jer.*

FLYING FISH. Jerad ul bahr, ARAB. The flying fish are species of the genus Exocetus, belonging to the abdominal Malacopterygii, forming part of the family Exocideæ. Their pectoral fins are very long, nearly equal to the length of the body. The fish, to escape its enemies, rises into the air, and the pectoral fins vibrate while wet, and re-vibrate as often as they pass through a crest wave, wetting the fins afresh. There are many species,—Exocetus volitans, *Linn.*, E. solitarius, E. evolans, E. exiliens, E. mesogaster, and others. The E. volitans is usually 10 or 12 inches long, but E. solitarius attains to 15 or 20 inches at greatest. They are captured by torch-light in the West Indies. At the island of St. Helena they are from 15 to 20 inches long; are used there, as in the West Indies, for food, being very sweet and of delicate flavour. E. solitarius is so named from not being seen in large flocks like the others; and it appears to have other specific differences. When watching these fishes closely, as they passed under the stern of the ship, Dr. Bennett remarked that the extension of both the pectoral and ventral fins was effected with an audible rustling noise, and only a vibratory motion was perceptible afterwards; nor was there any expansion and contraction of those organs during flight, after the first effort. Had there been any percussion of the pectoral fins, it would have been distinctly visible, owing to the proximity of the fish; indeed, to produce percussion of the fins, it would be requisite to have an elaborate muscular apparatus; and as, on dissection, such is not found, the theory of that action of the fins may be considered unsupported by facts. The fish, when keeping in a direct line of flight, proceed for a great distance; but when this is deviated from, and it turns round (which action was apparently performed by the tail, not by the pectoral fins), it only proceeds about the length of a yard, and drops into the water. The greatest length of time he had seen them fly has been 32 seconds, and their longest flight from 200 to 250 yards. The flying fish has a steady flight, resembling that of a flock of swallows; but when pursued by enemies, or frightened by the passage of a ship through the water, it loses this graceful style of volition, its flight becomes hurried, irregular, stiff, and awkward,—a kind of scrambling pace,—and it frequently drops into the water, and again renews its flight in the same unsteady manner. When a large shoal of them emerged at the same time from the sea, it was perceived that some of them dropped immediately, others passed over a distance of 20 yards and fell, while the rest continued a steady flight of 170 to 200 yards, and passed out of sight. Their long pectoral fins or wings have the rays united by a fine delicate membrane, flexible and transparent; the colour of this membrane varies; and some have the ventral fins so large as to appear to have four wings.—*Collingwood; Gatherings of a Naturalist in Australia, by G. Bennett, M.D.*, p. 15; *Captain B. Hall's Fragments.*

FLYING FOX.

Cham-guddri, . .	BENG.	Gadal; Chamgidar,	HIND.
Chidgu, ...	,,	Brin, ...	LEPCH.
Phiyu-longta, . .	BHOT.	Gabbelay, ...	TEL.
Kanka-pati, . .	CAN.	Jiburai, ...	,,

Flying fox is the name by which Europeans in India designate the frugivorous bats of the family Pteropodidæ, of the S.E. of Asia, Malayan islands, as far as Australia. The females of some have nursing pouches. The species are Pteropus Edwardsi, Pt. Leschenaultii, Pt. edulis of Java, and others; also Cynopterus marginatus, C. affinis, Pt. minimus from Tenasserim. The flying fox of Australia is Pt. poliocephalus. They roost during the day on trees, generally in large colonies, to the number of many hundreds, often, occupying a single tree. Towards sunset they fly off, sometimes to great distances, to trees that are in fruit, for the garden fruits, and those of the nim, ber, and fig trees, returning at early dawn from their hunting grounds to their roosting tree, where they wrangle to get the best places, striking with their wing claw, screaming and cackling, and circling round the tree till they can hook on. They hang with their heads down.—*Jerdon.*

FLYING GURNARD. Of these fishes two species occur, one the Dactylopterus orientalis of the Indian Ocean, the other D. volitans of the Mediterranean, Atlantic, and West Indian seas. A singularly beautiful species raises itself into the air by means of its large pectoral fins, which they are said to move in their flight. See Dactylopterus; Trigla.

FLYING HORSE, species of Pegasus.

FLYING SQUID, Loligo sagittatus.

FO, the Chinese name for a Buddha, for Sakya Muni, and proceeding Buddhas. One fo is said to have gone from India to China, B.C. 1200. See Adam's Peak; Buddha; Kwang-yin.

FODDER for cattle in India is of various plants,—the root of the hariali grass, Cynodon dactylon; the stalk of the joar, Sorghum vulgare, cut into small pieces; the straw of several grasses, Paspalum scrobiculatum, Penicillaria spicata, Panicum Italicum, P. frumentaceum, P. miliare, and Eleusine Ægyptiaca. Buffaloes are also fond of kans (Saccharum [imperata] spontaneum) and its varieties. The pasture grasses in Hurriana are celebrated for the herds of cattle which graze on them, species of Panicum, Pennisetum, Cenchrus, Chætaria, Vilfa, Dactylolenium, Chloris, Eleusine, Achrachne, Poa, Eragrostis, Andropogon, species of Saccharum and Rottbollia. A clover or lucerne, shotal, is grown; also sinji, but this principally by Europeans for their horses and other cattle. Cattle are usually fed (besides grass) on bhusa, or, as it is called in Panjabi, turi, the chopped straws of wheat and barley; besides which they get karbi, the dried stalks of joar (Sorghum vulgare); this latter when green and fresh is called charri. Chopped leaves of the ber (both Zisyphus vulgaris and Z. nummularia), called mulla, are much used, and are said to be fattening. In Shahpur and one or two other districts, turnips are grown very extensively for feeding cattle during the cold weather, and they often attain a larger size than in Europe. The markan grass, the wild sawank, phog, the seed of Calligonum polygonum, is used, and also as human food in the Panjab in times of famine. Dhaman or anjan (Pennisetum cenchroides) is considered the best grass for cattle, rapidly improving their condition and increasing their produce in milk. Jhang is a scented grass, probably Andropogon schænanthus; and the root of A. muricatum forms the khas khas used in matting tatties and screens for cooling the atmosphere. The leaves and fruit of many trees are used; and Dr. J. L. Stewart names 64 trees which furnish fodder in the Panjab.

As fodder for camels, there are Khazya stricta, *D. C.*; Salsola species—Calotropis Hamiltonii, *W.*, Euphorbia nereifolia, *L.*; Sueda species—Trianthema micrantha, Xygophyllum simplex, etc. The camel eats the Nerium odorum, but it invariably proves fatal.

The farmers of India have over long trusted to the natural grasses, and this has led to the impression that India is very deficient in green crops suitable for the food of cattle, and that, from June to October especially, there is nothing to be got but roots; and the great difficulty has been to find some crop that will yield green fodder during the months of June, July, and August.

In the vicinity of Madras, at the experimental farm at Sydapet, Mr. Robertson in 1870 reported that with care an abundance of green fodder may be maintained all the year round; that an acre of land thus laid out will amply keep two or three horses, and double that number of cattle; that, with abundance of water, hariali grass is the most profitable crop; with a tolerable supply, Sorghum saccharatum pays best; with water only from October to May, yellow cholum and cumboo will maintain an abundant and continuous supply of green and nutritious food. He says the cumboo crop afforded an abundant supply of green fodder at a time when it is usually very scarce. Under irrigation it is possible to grow yellow cholum so as to afford a supply of green fodder throughout the hot season; but there are large tracts of country to which irrigation cannot be applied, in which cumboo will yield excellent green fodder during the season when the stock-feeder finds it the most difficult to maintain the condition of his animals. Cumboo sown in the middle of June received no water other than the ordinary rainfall. Within six weeks it reached an average height of not less than eight feet, and was then cut for green fodder. The cattle eat it greedily, and fattened much more rapidly than usual on other green crops. The weight of the fodder reached the high figure of 1800 pounds per acre. It would be the easiest thing in the world so to arrange the planting of the cumboo as to obtain a constant supply of fodder at all times. On one occasion, when several advantageous circumstances met, the hariali grass at this place grew to the enormous height of eight feet. At the People's Park, Madras, three crops of excellent grass are cut each year, on areas that are not irrigated. Yellow cholum is cultivated almost everywhere as a grain crop; but at the Government farm it was cut several times for fodder, and then allowed to go on to grain. The plant grows so rapidly, that in sixty days after planting the stems will be seven feet high and about an inch and a half thick. This stem is perfectly succulent, and is eaten with avidity by cattle and sheep. Horse gram grows almost anywhere, requires a minimum of care, and gives a good dry fodder or hay. Without other help than the ordinary rain, it will give 7000 pounds of green fodder per acre,—a fodder which is very fattening, and well liked by cattle and sheep. If abundance of water be available there is nothing like hariali grass. At the Kistnampett sewage farm, an acre of land produces not far short of 100,000 pounds of green fodder in the twelve months.—*Powell; Royle, Him. Bot.* p. 421; *Mason; Williams' Middle Kingdom; Hooker's Him. Jour.* ii. p. 289; *Mr. Robertson's Report.*

FŒNICULUM DULCE, Hwai-hiang and Siau-hwin-hiang of the Chinese. In China, the stalks and leaves are eaten as a condiment.—*Smith.*

FŒNICULUM PANMORI. *D. C.*

Anethum Panmori, *Roxb.*

Razeeanuj, . . .	Arab.	Badian, ...	Pers.
Mooree, ...	Beng.	Moodorika, . . .	Sansk.
Goowa mooree, .	,,	Dewadooroo, . .	Singh.
Warealee, . . .	Guj.	Rata-enduru, . .	,,
Sonf, Mayuri, . .	Hind.	Perun siragam, .	Tam.
Panmuohri, . .	,,	Pedda gillakara, .	Tel.

Cultivated in India. Flower small, bright-yellow, February; fruit, March and April. Seeds of a pleasant, sweet, warmish taste, used for culinary and medicinal purposes, especially among the natives.—*Roxb.*; *Voigt; Beng. Disp.* p. 208.

FŒNICULUM VULGARE, fennel; Anethum fœniculum, *L.*

Sonf, ...	Hind.	Bekh-i-karafsh, . .	Pers.
Adas, ...	Jav.	Shohi kire, . . .	Tam.
Bekh-badian, . .	Pers.		

Cultivated in the plains of the Panjab as a pot herb. An essential oil is prepared in large quantities from the seeds. The odour of the entire plant is strong and persistent; that of the roots disappears on drying.—*Stewart.*

FO-HI, the Great, Brilliant (Tai Hao), in Chinese history, a king who cultivated astronomy and religion. Fo-hi is the first named sovereign of the Chinese, but the date of his reign is not ascertained. Yu, the Great, is the first monarch

of whose reality there is no doubt, and his accession occurred about 2000 years before the Christian era. Husbandry and silk-weaving were the earliest of the arts cultivated by this people: the former was introduced by Shin-nong, the immediate successor of Fo-hi, and silk-weaving by an empress; and to both of these the Chinese perform sacrifices on their annual festival days. Husbandry is still highly honoured, and annually, at a grand festival in honour of the spring, the emperor ploughs and sows a field. The Egyptians, Persians, and Greeks held games and festivals, mingled with religious ceremonies, at seed-sowing, as Hindus now do; and in England formerly the festival of Plough Monday was held, during which the plough light was set up before the image of the patron saint of the village.—*Elliot.*

FOH-KIEN, a Chinese district, lies on the coast, and is bounded on the N.E. by Che-kiang, on the N.W. by Kiang-si, and on the S.W. by Kwang-tung. Its surface is estimated about 57,000 square miles, and its population is about fifteen millions. Foh-kien is the principal black tea district of China. The renowned hills of Bohea are distant 152 miles from Fu-chu-fu, the capital of Foh-kien.—*Sirr's China and Chinese.*

FOIL. In the arts, metals are rolled and beaten out into thin leaves; and large quantities of gold, silver, tin, and brass foils are so used in India, Burma, and China for ornamental work in their temples and in ornaments. In jewellery, foils are manufactured by painting a sheet of silver foil with the required colour mixed in a transparent varnish, and placed beneath a precious stone.—*King.*

FO-KWE-KI, a Buddhist work. See Sakya.

FOLIA MALABATHRI, F. tamalapathri, and F. Indica of Dioscorides and Pliny, supposed to be Cinnamomum tamala or C. nitidum, *Nees;* also thought by some to be the leaves of piper betel.

FO-LING, a root so called by the Chinese, comes from the rhubarb region, and formerly well known in the European Materia Medica under the name Radix China.—*Yule, Cathay,* i. ccxvi.

FOLK-SONGS. The influence of Brahmanic literature does not seem to be much felt among those who have transmitted the folk-songs from generation to generation. Though many of them refer to the subject of death, there is scarcely a word about transmigration. When the ordinary Hindu is about to die, 'he looks away from ceremonial and obscene tradition unto the great God; for throughout these songs there is but one God to the mind and heart of the worshipper.' The Dasari are professional minstrels, who beg and sing in streets and villages and at the gates of pagodas, and, being all worshippers of Vishnu, invoke their one God by that name. Some of the folk-songs ridicule the distinction of caste and the pretensions of the Brahmans, and broadly state that with God there is no distinction of persons, except after the eternal laws of right and wrong. In others, life is looked upon as a mere illusion or maya. It is a time of probation; but it is so much easier to do wrong than to follow right, that in reality men may be carried farther and farther away from God. Throughout many of these there breathes an overwhelming sense of sorrow and failure that calls forth our deepest compassion. Some of the folk-songs of Southern India might be sung by Bengalis of the Bramo Samaj'h, many of the strains containing devout aspirations after goodness, wise proverbs for the regulation of life, and earnest thanksgivings to the deity for blessings received.—*Pioneer.*

FOLLIS, a copper coin, appears to be the same as the Arabic Fals, pl. Falus, formerly known in Spain as the name of a small coin, Foluz.—*Yule, Cathay,* ii. p. 481.

FOO-CHOO-FOO, in lat. 26° 7′ N., and long. 119° 15′ E., is the capital of the Chinese province of Foh-kien. It stands on the banks of the river Min, about 38 miles from the sea. It means happy district. The celebrated fingered citron is cultivated in great perfection, and the district around is the great camellia garden of China. Its ixoras and hydrangeas are also handsome. Early in spring the hill-sides were covered with a beautiful daphne with lilac flowers (Daphne Fortuni, *Lindley*), and Azalea ovata, *Lindl.;* and Buddlea Lindleyana has its long spikes of purple flowers hung in profusion from the hedges on the hill-sides, often side by side with the Glycine Sinensis. One of the most beautiful shrubs of Northern China, the Weigela rosea, was first discovered in the garden of a Chinese mandarin near the city of Ting-hae, loaded with noble rose-coloured flowers. In the hedges the beautiful spring flowering Forsythia viridissima, with several species of wild roses, Spiræa Reevesiana, clematises, Glycine Sinensis, and the lovely Azalea Sinensis.—*Fortune's Residence among the Chinese,* p. 27; *Wanderings,* p. 317.

FOOD.

Taam, Ghaza, . . ARAB.	Adhar, ... SANSK.
Nourriture, . . . FR.	Alimento, ... SP.
Khana; Khana-pina, HIND.	Choram, ... TAM.
Cibo vivanda, . . . IT.	Bhojnam, ... TEL.
Razaq; Khuraq, . PERS.	Yemek; Yezejek, TURK.

The food of man is obtained from the vegetable and animal kingdoms, but in by far the larger proportion from plants. Flesh and bone and blood, when chemically analyzed, yields the following elementary substances:—carbon, hydrogen, nitrogen, oxygen, sulphur, phosphorus, potassium, sodium, calcium, magnesium, iron, manganese, aluminum, copper, chlorine, fluorine, and silicon. These ultimate elements occur in the human body variously combined into compounds, with very different physical properties and chemical relations. Carbon, hydrogen, oxygen, and nitrogen are called organic elements, because no animal cell and no vegetable cell can grow unless the whole of these elements exist. The substances belonging to this group which enter into the food of man are cellulose, starch, sugar, and oil, *Cellulose,* forming the external membrane of the cells of all plants, is found in all food derived from the animal kingdom. Though similar in composition to starch, it differs from starch in being insoluble; but, as they feed largely on it, it must be extensively taken up into the system of herbivorous and other of the lower animals, and must be similarly adapted by the human stomach, perhaps with some difficulty, as carrots, turnips, radishes, uncooked vegetables, etc., are not readily digested. Cellulose can be converted into starch by sulphuric acid. Substances yielding *starch* enter very largely into the diet of man and of the lower animals; and with man starch is generally partaken of in the form of

flour, either of grains, of roots, and root-stocks, of the stems and in the seeds of plants. There are few or no vegetables that are eaten that do not contain starch. It is found in turnips, carrots, potatoes, cabbages, parsnips, beans, peas, wheat, barley, oats, and the rest of the cerealia, in all seeds and fruits; but, as with the sago, Portland sago, tapioca, cassava, the various arrowroots, potato starch, sago starch, etc., it is first, before being used, separated from the other vegetable elements. Starch has the property of combining with water at a temperature of 180°, and forming a gelatinous mass, in which state it seems more digestible. The carrot, turnip, parsnip, cabbage, and Jerusalem artichoke, owe their dietetic value to the starch which they contain; as also the roots of the Arum maculatum, Orchis mascula, inuline from the Inula helenium, lichen starch, found in almost all kinds of Algæ, and in the sea-weeds. One of these sea-weeds, the Plocaria tenax or Chinese moss, is known in all the Eastern seas.

Sugar can be converted into alcohol, and it exists in plants dissolved in the water which they naturally contain. It is taken into the animal system to maintain the animal heat, and persons and animals get fat on it. Cane sugar consists of carbon 12 atoms, hydrogen and oxygen each 9, and water 2 Sugar is obtained also from beet, the maple, the birch, the various palms, from the Caryota urens, Phœnix sylvestris, Ph. dactylifera, Corypha umbraculifera, Palmyra, Arenga saccharifera, cocoanut, etc.; it exists also in milk, the grape, in the fruits and other sweet parts of plants, and in the stems of all grasses. The yield of sugar from beet is 8 or 9 per cent.

The *alcohol* obtained from these by fermentation, in the form of spirits, wines, and beers, is largely used. Although resembling sugar in composition, its effects on the animal system are very different. It acts on the nervous system as a stimulant and narcotic; it is very valuable in medicine, and also of great value to people in health, exhausted by long-continued mental or bodily labour. In excess alcoholic substances are injurious; but amongst the earliest discoveries of every race has been the art of producing intoxicating stimulants. In India, boasting of an ancient civilisation, opium, hemp and its charras resin and bhang, the various palm-wines, the beers from millets, and ardent spirits from cereals and from palm-wines and sugars, have been used from time immemorial. As Mr. Cornish observes (page 15), the effect of those articles in moderation is probably rather beneficial than otherwise. Opium-eating and ganjah-smoking are both occasionally carried to excess, and the consequences, in injury to the nervous tissues of the body, are very similar to those resulting from the excessive use of ardent spirits. The moderate use of all these agents, however, appears to prevent undue waste of tissue in the body, and to render the frame less susceptible to the action of those impalpable but pestiferous poisons which are so prevalent in the soil and atmosphere of tropical countries. The craving for the use of these things undoubtedly arises out of some urgent requirement in man's nature, and the extent to which they are used in Southern and Eastern Asia is perhaps greater than in any part of Europe; in some parts certainly it is so.

Of the nutritious proteinaceous or nitrogenous articles of diet, it may be added that the substance called protein is the basis. Protein is the first element that appears in the development of the vegetable cell. It is consequently universally present in plants. It also constitutes the chief material of the tissues of animals. In the vegetable and animal kingdoms it assumes various forms, and is called albumen, fibrine, and caseine, according to its physical and animal properties. Herbivorous and graminivorous animals derive this constituent directly from the vegetable kingdom; the carnivora obtain it indirectly from the plants, through the animals that they eat. Man obtains his supply of protein from both sources.

The fat of animals, ghi or clarified butter, and the sesamum oil are almost the sole oleaginous or fatty substances used in the S. and E. of Asia for food. Pure butter is rarely used. These consist of carbon 11, hydrogen 10, and oxygen 1, and their value in the animal economy is as heat-producers, for which they are superior to sugar or starch. The oleaginous principle, however, seems also to aid in the development of the proteinaceous tissues, and to act as a kind of preparation for their growth. In disease, oils are of undoubted value.

Many tables have been published showing the chemical composition of the various substances used as food by man. Perhaps those by Dep. Inspector-General Mayer of the Madras army, Dr. Lyon Playfair, and Dr. Watson, are the most valuable.

The following table shows the composition of food in 100 parts:—

Food.	Nitrog. Flesh-forming Ingredients.	Non-azotised Heat-giving Principles.	Mineral Matter.	Carbon.
Milk,	4·50	7·90	0·60	6·94
Butcher's meat,	22·30	14·30	0·50	21·56
free from bone,	8·36	62·50	0·50	53·92
Bacon, pork,	14·00	7·00	1·00	9·15
Fish,	17·00	66·00	0·70	45·50
Flour,	14·00	68·50	2·00	40·50
Barley meal,	13·60	70·30	3·30	44·10
Oatmeal,	10·71	72·25	1·04	36·41
Indian meal,	28·22	40·08	0·00	...
Lentils,	18·12	80·25	1·03	...
Eleusine coracana,	15·53	83·67	1·26	...
Sorghum vulgare,	13·92	83·27	5·73	...
Penicillaria spicata	23·40	60·00	2·50	35·70
Peas,	5·43	84·65	0·52	36·00
Rice,	1·41	22·10	1·00	12·20
Potatoes,	1·48	11·61	0·81	5·40
Carrots,	1·64	10·00	1·62	5·20
Turnips,	2·10	17·70	0·80	8·63
Parsnips,	1·60	12·26	1·14	5·50
Mangel-wurzel,	1·75	4·05	2·20	2·65
Cabbage,	9·56	85·76	2·70	68·56
Cocoa (nibs),	0·00	100·00	0·00	42·58
Sugar,	0·00	100·00	0·00	79·00
Suet, fat, butter,	6·83	48·65	1·51	25·19
Bread,	31·02	25·30	4·90	36·80
Cheese,	0·85	9·17	0·20	4·33
Beer,				

The following table shows the relative quantities of nitrogenous matter contained in various cereals and pulses. The abundance of this element, together with substances abounding in carbonaceous or starchy matter, in 100 parts, varies in specimens from different parts of India:—

Name.	Nitrogenous Matter.	Starchy Matter.	Fatty or Oily Matter.	Moisture.	Mineral Constituents.
Gram, Cicer arietinum, . . .	18·05 to 19·32	61·70 to 62·20	4·56 to 4·95	10·8 to 12·24	3·05 to 3·12
Arhar, Cajanus Indicus, . . .	19·83 ,, 20·38	61·90 ,, 64·32	1·32 ,, 1·86	10·77 ,, 12·80	1·52 ,, 2·89
Mattar, Pisum sativum, . . .	21·80 ,, 25·20	58·38 ,, 62·19	1·10 ,, 1·12	12·60 ,, 12·70	2·29 ,, 2·53
Lentils, masur, Ervum lens, .	24·57 ,, 26·18	59·34 ,, 59·96	1·00 ,, 1·92	10·72 ,, 12·70	1·20 ,, 2·37
Khessari, Lathyrus sativus, . .	31·50	54·26	0·95	10·70	3·19
Lablab vulgaris, ...	22·45 ,, 24·55	60·52 ,, 60·81	0·81 ,, 2·15	10·81 ,, 12·02	2·86 ,, 3·02
Rawan, Dolichos Sinensis, . .	24·00	59·02	1·41	12·44	3·13
Kulthi, Dolichos uniflorus, . .	23·03 ,, 23·47	61·02 ,, 61·85	0·76 ,, 0·87	11·30 ,, 11·50	2·86 ,, 3·34
Guwar, Cyamopsis psoraloides, .	29·80	53·89	1·40	11·75	3·16
Bhut, Soja hispida, ...	37·74 ,, 41·54	29·54 ,, 31·08	12·31 ,, 18·90	7·96 ,, 8·12	4·00 ,, 4·32
Urd, Phaseolus radiatus, . . .	22·48	62·15	1·46	11·00	2·91
Mung, Phaseolus mungo, . .	23·54 ,, 24·70	59·38 ,, 60·36	1·11 ,, 1·48	9·20	3·26
Moth, Phaseolus aconitifolius, .	23·80	60·78	0·64	11·22	3·56
Black sahuca bean, ...	41·54	30·82	12·31	10·4	4·93

The following lists of cereal grains and pulses give the names of the principal food-plants cultivated in the Madras Presidency :—

Hordeum hex., barley; Jow.
Triticum æst., wheat; Gihoon, Godoomay.
Eleusine coracana, ragi; Natchnee ragi, Kavaru.
Oryza sativa, rice; Chawl, Arisi.
Setaria Italica, Italian millet; Kala-kangnee, Tenney.
S. Germanica, German millet; Kora-kang.
Panicum miliaceum, common millet; Sawee cheena warree, Varugoo.
Penicillaria spicata, spiked millet; Bajri, Cumboo.
Sorghum vul., great millet; Jowari, Cholum.
Zea mays, Indian corn; Mukka jowari, Boota, Muka cholum.

Pulses and Millets for Man or Beast.

Medicago sat., lucerne.
Trigonella fœnum græc., fenugreek; Maitee ki bajee, Vendium.
Psoralea corylifolia, hazel-leaved psoralea; Bawurcheen, Karpooga arisi.
Cicer ariet., Bengal gram; Channa, Cadalei.
Ervum lens, lentil; Massur, Massurpurpoo.
Pisum sativ., common pea; Buttani, Puttani.
Phaseolus vul., French bean; Bakla.
P. lunatus, Duffan bean.
P. radiatus, green gram; Hari, Moong, Putcha payroo.
P. mungo, moong or monash, green gram; Mash, Oolandoo.
Dolichos uniflorus, Madras gram; Kulti, Kollu.
D. Sinensis; Suffed lobeh.
Lablab vulgaris, Bullar; Saim ki-puttee, Motchay cottay.
L. vulgaris, *var.*; Suffed, Vellay mochay.
Psophocarpus tetragonolobus, winged pea; Pankke mutur.
Canavalia gladiata, sword bean; Lal kudsumbah, Segapu, Thumbetten.
Cajanus Indicus, pigeon-pea; Tur dhal, Tovarai, Purpoo.
,, *var.*, dholl, Lal-toor, Segapu tovarai.
,, ,, Pad-ka-toor, Malay tovarai.

Esculent Vegetables.

Allium cepa, the onion.
Amarantus polygamus, greens; vegetables.
A. atropurpureus, purple vegetable.
Andropogon esculentum, or lemon grass.
Arachis hypogæa, the earth nut.
Arum furfaraceum, scaly yam.
Batatas edulis, sweet potato.
Capsicum purpureum, red pepper.
C. minimum, small or bird's-eye pepper.
Cucumis usitata, large cucumber.
C. sativus, common cucumber.
C. citrullis, or water melon.
Dioscorea purpurea, purple yam.
D. glabra, the smooth yam.
D. rubella, the red yam.
D. anguina, the snake yam.
Dolichos catjang, long or French bean.
D. lablab, the Indian bean.
Hedysarum tuberosum, the Batraj bean.
Hibiscus sabdariffa, red sorrel or roselle.
H. longifolius, variety for do.
Jatropha manihot, the cassava yam.
Luffa pentandra, five-cornered gourd.
L. decandra, ten-cornered gourd.
Lagenaria vulgaris, cuddoo or bottle-gourd.
L. pipo, the pumpkin.
L. melo-pipo, or squash.
Momordica charantia, or small gourd.
Ocimum vilosum, mint.
Raphanus sativus, or radish.
Solanum melongena, brinjal.
S. lycopersica, tomato or love-apple.
Trichosanthes anguina, the snake gourd.

With a rapidly-increasing population in all parts of the world, the production of food is an object of the first importance to all classes; and the vegetable substances from which man derives his principal sustenance, necessarily occupy the main attention of the cultivator, while the products form most important staples of domestic and foreign commerce. The breadstuffs of commerce consist of the nutritious cereal grains, the tuberous rooted plants, and the farinæ yielded by trees. Amongst these are wheat, barley, oats, rice, maize, millet, Guinea corn, the sago of palms, of the plantain and banana, the bread-fruit tree, the edible root-crops and starch-producing plants, which are a somewhat extensive class, the chief of which, however, are the common potato, yams, coco or eddo, sweet potato, the bitter and sweet cassava or manioc, the arrow-root, sago, and other plants yielding starch in more or less purity. Wheat, maize, and rice form very important articles of commerce, and are largely cultivated for local consumption and export, a portion being consumed in the arts, as starch for stiffening linens, etc., and for other purposes not coming under the term of food. The kind of bread in common use in a country depends partly on the taste of the inhabitants, but more on the sort of grain suitable for its soil. The Chinese use little bread, and that little is generally of wheat-flour. In the Panjab, wheat, barley, and millets are consumed in nearly equal proportions; in Berar, Bombay, and Mysore, eighty-two per cent. of the food-growing area is sown with millets; in Bengal, Assam, and Burma, rice is the chief product; in Madras, one-third rice and two-thirds millet. Cakes of wheat-flour prepared on the girdle are a common article of diet amongst the races of Northern and Central India. Further south, on the table-lands of the Peninsula, the natives of India use unleavened cakes made of the great millet, Sorghum vulgare, the spiked millet, Penicillaria spicata; and the very poor of the people use the hard ragi, Eleusine coracana, in the form of cakes or porridge. Barley is occasionally used to the westward. Cakes made of the flour of the Indian corn, the Zea mays, are scarcely used in India. They are rather less

FOOD.

nutritious than those made from wheat, but more fattening, in consequence of the greater quantity of oil contained in it. Along the seaboard, however, of all the south-east of Asia, in the deltas and valleys of the great rivers, the Indus, the Ganges, the Brahmaputra, in all Bengal, all Burma, in the delta and valley of the Irawadi, in all the seaboard and near the great rivers of China, rice is the longed-for article of diet, boiled and eaten alone, or with a little animal food, or with condiments made into curry or chatni; or it is made into the cakes which are sold through the bazars under the familiar name of 'appa' or hoppers. In the interior of India, on the table-lands, other grains and pulses are used, such as wheat, the various millets, and Indian corn; and in Northern India, the pulses, chick-pea, the lentil, and dhals are all in extensive use. But well-to-do people prefer rice, which is more and more used as increasing prosperity enables them to obtain it, and the people speak of using it once or twice a day or week, to indicate their larger or smaller means. The facility with which it can be cooked, the little cost of cooking it, and its lightness in digestion, are its great recommendations, the cleaning, grinding, and cooking of the harder grains costing much time and money. Rice flour is scarcely ever made into fermented bread, although it is said to be occasionally mixed with wheat flour for that purpose. The superiority of wheat to all other farinaceous plants in the manufacture of bread is very great. Its essential constituents are starch, also called farina or fecula, gluten, and a little sugar and albumen. It is occasionally adulterated with alum, which is added to whiten the flour, and to enable it to retain a larger quantity of water. Salt is also employed in the adulteration of wheaten bread, to whiten the flour, and enable it to hold more water, and carbonate of magnesia is fraudulently used to obtain the same result. In Eastern and Southern Asia, the ordinary wood bread, the well-known sago, is made from the starch granules contained in the piths of several species of palms. In the Archipelago, sago flour and prepared sago are largely used as an article of diet, alike for the robust labourer and for the invalid, and in a prepared form is extensively exported for the use of the sick and the nursery. Amongst the Arabs, burghoul consists of wheat boiled with leaven, and then dried in the sun. The dried wheat is preserved for a year, and boiled with butter and oil. Leavened bread is called Khubz khamīr, and unleavened bread Khubz fatīr.

The seeds of all the Gramineæ, those of the darnel alone excepted, are capable by cultivation of becoming alimentary. The value of grains, generally speaking, is directly as the size of the caryopsis, and inversely as the thickness of the pericarp. When the grain abounds in perisperm, it is heavy; when the envelope is thick, the grain is, on the contrary, light. Thus—

100 of wheat, 450 grains.	100 of rye, 260 grains.
100 of barley, 335 ,,	100 of oats, 250 ,,

As Dr. Royle has forcibly pointed out, the slightest enlargement in the size of a grain, or the least increase in the productiveness of an ear of corn, when extended into the agriculture of a country, will infinitely increase its resources and revenues.

The chemical composition of the grain influences materially the quality of the resulting bread. If the gluten be absent, no fermentation takes place in the dough; if the gluten be in excess, the bread is heavy and acid. Wheat flour may be considered the type of all that is suitable for alimentary purposes, and in the degree of deviation from this standard consists the inferiority of the other grains. It is very largely used by the races occupying Hindustan, Rajputana, the N.W. Provinces of India, in the Panjab and in Afghanistan, but almost wholly in the form of unleavened cakes or chapatti, prepared on the girdle; for most of the Hindu people of India, as a rule, are prohibited by their religion or prejudices from partaking of food prepared by others, many of them even of food of which others have seen the preparation; and as the stricter Mahomedans object to use leavened bread, from the use of the toddies or fermented palm-wines as a leaven, unfermented bread, or porridge of flour and water, with perhaps the addition of salt, are alone employed. As a leaven for bread, the substances employed are yeast in Europe, and the palm-wines or toddies in Eastern and Southern Asia; and the substitutes for these are sesqui-carbonate of ammonia, carbonate of soda and hydrochloric acid, or carbonate of soda and tartaric acid.

Several calculations have been made to ascertain the available supply of food for India. Sir Arthur Cotton estimates that two acres of rice land will feed seven people for a year; and Mr. Fischer, the manager of the Shevagunga estate, considers that a family of five will consume under 6 lbs. of grain per diem.

It is estimated that in the Madras Presidency, 15 millions of acres of dry land, and 5½ millions of wet land, are devoted to the production of food-grains; also that an acre of the best rice land will yield from 1080 Madras measures in the southern districts, to 1200 measures in Godavery and Kurnool, *i.e.* from 30 to 33 cwt.; and the worst rice land in those two districts varies from 300 to 533 measures, *i.e.* from 8 to 14 cwt. Probably, therefore, 20 cwt. of paddy or rice in the husk, or 10 cwt. of cleaned rice, may be taken as a good average of produce of irrigated land; and 190 measures, or about 5 cwt., that of dry land, whether it be devoted to Eleusine coracana or ragi, Penicillaria spicata or cumboo, and Sorghum vulgare or cholum, or any other of the unirrigated crops which form the food staple of the poorer classes. One acre of wet land will thus produce as much food as two acres of dry land; and 55 million cwt. of rice, and 75 million cwt. of dry grains, was the estimated amount of produce in the Madras Presidency, when it had a population of 26,539,052 souls. This allows about 5 cwt. per soul per annum. Mr. Dalyell estimated the annual yield at 129 million cwt., or 1½ lbs. daily for each person; whereas he considers that a family of five can subsist on 7 lbs. per day, and three acres of superior land supposing one acre to be irrigated, or four acres of unirrigated land, would support such a family for a year. The Madras Presidency, with a long seaboard, both imports and exports largely food articles, the exports exceeding the imports five or six times, and perhaps one-third of the population occasionally use animal substances, as additions to their vegetable diet.

Animals of every class — quadrupeds, birds, fishes, reptiles, insects, and their larvæ—are used

by man as food, and are acknowledged to contain a very large amount of alimentary substances, and these are classed as the nutritious proteinaceous or nitrogenous articles of diet. There are few living creatures in the south and east of Asia, which some one or other of its multitudinous races do not use as food,—the horse, the bullock, the tiger, and all the cat tribe; the dog, birds of all kinds, birds of prey excepted; almost every fish, frogs, snakes, ants, beetles, and their larvæ; crustacea and molluscs of every kind; and the bodies of animals that have been killed or have died, are all utilized. The Hindu Brahman and Rajput and Vaisya, as a rule, will not eat animal food, and no Hindu can eat the cow without ceasing to be of the four Hindu castes; but all Sudra Hindus eat sheep, goats, fowls, mutton, fish; and the servile races eat nearly all quadrupeds, many birds and reptiles, amongst them field rats and frogs. The majority of northern Brahmans may and do eat animal food, generally mutton or fish, though priests, while officiating as such, perhaps do not. For although most Hindu priests are Brahmans, all Brahmans are not priests; as amongst the Jews the tribe of Levi furnished the priesthood, so among Hindus it is largely furnished from that of Brahmans.

Flesh or fish of any kind is, however, but little eaten by any race or caste in India, owing to their inability to buy it. Even Mahomedans, who may eat all but the pig, only use these in small quantities as a relish with their mainly vegetable diet. Rajput and the hunter and wild races are keen sportsmen, and eat what they can kill in the chase, even the flesh of the wild pig; and all sects and all classes of Hindus and Mahomedans make use of milk, curds, and ghi. Scrupulous Hindus will not eat fowls or their eggs. The animal food of which the greatest number would partake is fish, but, as already explained (Fishermen, p. 1125), from this the salt monopoly debars them, though the seas and rivers teem with this form of animal life. From the climate and the gelatinous character of the fish, to be cheaply supplied they need to be quickly cured, and fishermen to effect this take brine with them in their trips. The consumption of fish is merely limited by the cost of the supply. In Canara, too, neither sheep nor oxen are reared, and fish alone are available. The Famine Report scarcely alludes to the available fish supply. But, in para. 69 of their Report, the Famine Commissioners show that the seasons of drought in India have always been followed by scarcity or famine:—

1769. Drought in Bengal.
1770. *Famine* in Bengal.
1782. Drought in Bombay and Madras.
1783. Drought in Upper India.
1783. *Famine* in Madras; *scarcity* in Bombay.
1784. *Famine* in Upper India, from the Karamnasa to the Sutlej.
1791. Drought in Bombay, Hyderabad, and Madras.
1792. *Scarcity* in north part of Madras; intense *famine* in Hyderabad and Southern Mahratta country; severe *famine* in Dekhan, Gujerat, and Marwar.
1802. Drought in South Hyderabad and in Dekhan.
1803. Drought in Ceded Province of N.W. Provinces and in Central India.
1804. *Famine* in N.W. Provinces, and *scarcity* in Central India and Rajputana.
1806. Drought in central districts of Madras, from Trichinopoly to Nellore.
1807. *Famine* in central districts of Madras.
1812. Drought in Gujerat, Cutch, and Kattyawar, and to some extent in Madras; also in Rajputana and Central India.
1813. *Famine* in Cutch, Kattyawar, intense in some parts of Rajputana; *scarcity* in parts of N.W. Provinces and of Madras.
1823. Drought in Madras.
1824. Drought in Bombay.
1824. *Famine* in Madras, chiefly in the north.
1825. *Scarcity* in Bombay, chiefly in Gujerat and Northern Dekhan.
1832. Drought in the northern districts of Madras, except Ganjam; in the south of Hyderabad and the Southern Mahratta districts.
1833. Drought in north part of Bombay, in Rajputana, and parts of Panjab and N.W. Provinces.
1833. *Famine* in northern districts of Madras, intense in Guntur; *scarcity* in Hyderabad and Southern Mahratta districts.
1834. *Scarcity* in North Dekhan and Gujerat, in Rajputana, the Hissar district of the Panjab, and the trans-Jumna districts of N.W. Provinces.
1837. Drought in N.W. Provinces, eastern states of Rajputana, and south-east part of Panjab.
1838. Drought in Gujerat, Cutch, and Kattyawar.
1838. Intense *famine* in Central Doab and trans-Jumna districts of N.W. Provinces; also in Dehli and Hissar districts.
1839. *Scarcity* in Gujerat, Cutch, and Kattyawar.
1844. Scanty rainfall in Dekhan.
1845. *Scarcity* in Dekhan.
1853. Drought in Ceded Districts of Madras, in South Hyderabad, Sholapur, and Kaladgi.
1854. *Famine* in Bellary; *scarcity* in adjoining parts of Madras, Hyderabad, and Bombay.
1860. Drought in part of N.W. Provinces and Panjab, and neighbouring states of Rajputana.
1861. *Famine* in Upper Doab of N.W. Provinces, Dehli, Hissar, adjoining parts of Rajputana; *scarcity* in Cutch.
1865. Drought in northern part of Madras, in South Hyderabad, and north part of Mysore, in the S. Mahratta districts, and all W. Bengal.
1866. *Famine* in Bellary, Ganjam, intense in Orissa and Behar; *scarcity* in all adjacent parts of Madras, Mysore, Hyderabad, and Bombay, and in Central and Western Bengal.
1868. Drought in Rajputana, trans-Jumna districts of N.W. Provinces, north and south-east districts of Central Provinces, and in Panjab from Jumna to Indus.
1869. *Famine* intense in Western Rajputana, and in the trans-Jumna districts of Allahabad and Dehli and Hissar; *scarcity* in adjacent parts of N.W. Provinces and Panjab, Gujerat, Cutch, and N. Dekhan, and also in the north and south-east districts of the Central Provinces.
1873. Drought in N. Behar, and in part of N.W. Provinces and Oudh.
1874. *Famine* in Behar, and *scarcity* in the strip of N.W. Provinces and Oudh adjacent.
1876. Drought in all Madras and Dekhan, Mysore, and south part of Hyderabad.
1877. Drought in Central Provinces, N.W. Provinces, and Panjab.
1877. *Famine* in Madras, Mysore, Bombay, and Hyderabad, very intense.
1878. *Famine* in N.W. Provinces and in Kashmir; *scarcity* in Panjab.

In the famine of 1873–74, the cost to the Government of British India was Rs. 6,75,95,700, and in that of 1876–78, Rs. 11,19,43,200.

Buddhists. — The use of animal food is not absolutely forbidden to the followers of Buddha, and all of this faith in Burma use enormous quantities of fish, reptiles, and crustacea; even the more strict of them, though they may refuse to take life for food, eagerly use flesh when they can get animals killed for them, or find them dead from accident or disease; and the cow, buffalo, and horse are all eaten. The Burmese eat the

tiger, the hyæna, camel, monkey, jerboa rat, field rat, bats of kinds, flying fox, flying lemur; and amongst other creatures, the Palolo viridis or sea-worm, and Cordylia palmarum, the grub of the palm weevil, are eaten by one or other of the races in the south and east of Asia and Australia. In Burma, tiger flesh sells for five annas (7½d.) a lb. Perhaps no race in the world so largely utilize vegetable and animal substances as the Burmese and Chinese,—the great rivers which intersect the country, and the extended seaboard, providing a large supply of fish, molluscs, and crustacea.

Chinese.—The great staff of life in China is rice, which is either eaten dry or mixed with water, so as to resemble a soup. Out of rice they make their chief intoxicating liquor, which, when good, is something like strong whisky, both in its colourless appearance and its smoky flavour. Vegetables are largely consumed, such as the sweet potato, yams, millets, peas, beans, turnips, carrots, etc. Of their fruits, the orange, leechee, loquat, and mango, are much in use. Their favourite drink is tea; and the favourite animal food of the poor is pork, the taste for which is national. There is a maxim prevalent among them, that 'a scholar does not quit his books nor a poor man his pigs.' The flesh of the bullock, sheep, deer, dog, cat, wild cat, rat, and horse is eaten, but, compared with that of swine, it is a rarity. Fish are eaten in great abundance, either fresh, dried, or salted; and they rear great quantities of ducks and various species of fowl for the table. The comprehensive principle on which Chinese diet is regulated, is to eat everything which can possibly give nourishment. The luxuries consumed by the very rich consist of the edible birds' nest, beche-de-mer or sea-slug, shark fins, fish maws, cow sinews, points of stag antlers, buffalo hides, which afford the gelatinous food considered so restorative. Amongst their delicacies also are dishes made of the larvæ of the sphinx moth, and of a grub bred in the sugar-cane. In China, the various modes of catching and rearing fish exhibit the contrivance and skill of the Chinese, quite as much as their agricultural operations. According to the Repository, at least one-tenth of the population derive their food from the water, and necessity leads them to invent and try many ingenious ways of securing the finny tribes. Great bag-nets and stake-nets are in use, also hand-nets with a diameter of 30 feet, which they throw with a swing over-head; and they teach cormorants to fish and bring the prey to the boat. Amongst molluscs eaten, are the sepia, octopus, turbo, hippopus, tridacna, cerithium, arica, holothuria, species of monodonta. Amongst reptiles, turtle and their eggs, tortoises, frogs, crocodiles, iguanas; amongst crustacea, prawns, shrimps, crabs; amongst birds, all but the carrion birds, and the edible nest of a swallow. Amongst other mammals, the Chinese eat the dog and cat; they and the Japanese eat whales. When Chinese fishermen take one of the huge rhizostoma, which abound on their coast, they rub the animal with pulverized alum to give a degree of coherence to the gelatinous mass.

Dead Animals.—Many of the Dher, Pariah, Mhar, and Chuckili or leather-workers of India eat creatures that die of disease. It is said that, in S. Africa, eating the flesh of animals that have died of peri-pneumonia causes in the eater a malignant pustule, and that the virus is neither destroyed by boiling nor roasting. But, after minute inquiries throughout India, no injury seems to result from such food. In 1863, when many horned cattle died throughout Burma, of what was supposed to be the rinderpest ailment, there was a considerable amount of sickness and death from a typhoid fever; but whether eating diseased animals was the cause, was not ascertained.

Milk, butter, ghi, curds, poultry, eggs, mutton, beef and game, are eaten in some form by almost all nations in the S.E. of Asia. The adult Khassya, Garo, and Burmese wholly abstain from milk.

The extent to which vegetable food is produced in India may be estimated by mentioning that 56 per cent. of the population of British India are agriculturists, with 16 per cent. of labourers, most of whom also are employed in the fields. The area cultivated for food-crops is a little more than 1 acre for each individual in the Panjab; 0·76 of an acre in the N.W. Provinces and Oudh; in Bengal, 0·81; Central Provinces, 1·8; Berar, 1·75; Bombay, 1·4; Madras, 0·93; and Mysore and Burma, each 1 acre; and the produce of food-grain per acre is as under:—

Panjab, ...	11 bushels,	or 0·29 of a ton.	
N.W. Prov. and Oudh, and Bengal, . . .	13	,,	or 0·36 ,,
Central Provinces, . .	8	,,	or 0·21 ,,
Berar, ...	6	,,	or 0·16 ,,
Bombay, *ex* Sind and N. Canara, . . .	7	,,	or 0·19 ,,
Madras and Mysore, .	11	,,	or 0·3 ,,

In the Central Provinces, in 1872–73, the average produce of wheat per acre was in Hushangabad only 267 lbs.; Sagar, 324 lbs.; Raipur, 432 lbs.; Narsingpur, 440 lbs.; and Jubbulpur, 600 lbs.—or from 4⅓ to 10 bushels; and that of rice in Balaghat, 360 lbs.; Bilaspur, 426 lbs.; Bhandara, 448 lbs.; Raipur, 602 lbs.; Seoni, 654; and Chanda, 675 lbs.—or from 6 to 11 bushels. With periodically recurring famines, and a population increasing at a little under 1 per cent. per annum, the importance of increasing in India the yield of grain and fodder has become a matter for serious thought, Mr. Lawes of England having shown that in the four years 1874 to 1877 inclusive, in Great Britain, the average yield of 23 kinds of wheat (dressed corn) was as under:—

	1874.	1875.	1876.	1877.
Average bushels,	50⅜	36⅜	42½	42⅝
Aver. weight per bushel, . . .	61⅛ lbs.	60⅜ lbs.	63½ lbs.	60·1 lbs.

Many of the ancient customs noticed in the Scriptures find illustrations in modern Eastern life. With regard to unclean and forbidden animals, Mahomedans follow generally the law of Moses, and only use animals that chew the cud and divide the hoof. They do not eat shrimps. Brahmans do not use the onion, saying it so resembles flesh; neither are the fruit of the Moringa pterygosperma or Sura kai or the radish articles of diet with Brahmans, and sugar from the palmyra tree wine is also avoided by them. Hindus eat sitting on the floor, off metal, usually brass, dishes, for the facility of purifying them by fire, but many are now using glazed china-ware, which they purify with ashes. In a large entertainment, however, leaf platters are used, made of the leaves, pinned together, of the banyan, the pulas (Butea frondosa), or the plantain leaf.

The pig, which many races avoid, is used by the Naidu Hindus of the Indian Peninsula, and by all the aboriginal races and humbler Christians. Most Hindus avoid crabs, but many eat shrimps. Eggs are eaten by many of the Hindus; and all Hindus partake freely of milk, which the Burman and Chinese in its natural state never touch. Hindus and Buddhists make food offerings to the deity, and bestow the first portion. With the Burmans the act of offering is the merit; and the quantities of food presented at the temple at Prome and at the great Shoay Dagon at Rangoon is so enormous, it is simply got rid of by being all thrown over the wall down the slope of the rock. Hindus make sacrificial offerings to the deity, the elements of sacrifice being a lamp, frankincense, camphor, and sandal-wood, which are burnt, and they eat the sacrificial offering, whatever it be. Food is often presented by Hindus to the pitri or manes of their ancestors; many of the races of Northern India, who follow Brahmanism, cook within a sacred circle, and a stranger stepping within it makes all unclean. A sect of Vaishnava Hindus will not permit a stranger to cast a look on the food they cook, nor even to look on them while eating; and every Hindu of that sect above the rank of a labouring man, eats his food dressed in a silk cloth.

It is mentioned, when describing the meal noticed in Genesis xliii. 32, that they set one for him by himself, and for them by themselves, and for the Egyptians by themselves, because the Egyptians might not eat food with the Hebrews, for that is an abomination to the Egyptians; and so, amongst the Hindus, different castes will not even eat food cooked in the same earthen vessel. If a person of another caste touch a cooking vessel, it is thrown away. Similarly, in Genesis xliii. 34, it is mentioned of Joseph that he sent messes unto them from before him; and this is still the method among some Hindus. The dishes are not placed on the table, but messes are sent to each individual by the master of the feast, or by his substitute. Feasting is everywhere in the East a great social duty, in the manner described 1 Kings i. 9. Food is eaten with the hands, as in Matthew xxvi. 23; and after meals, hand-washing, as in 2 Kings iii. 11, and Matthew xv. 2, Mark vii. 5, Luke xi. 38.—*Eng. Cyc.; Powell; Annals, Indian Admin.* xii.; *Hunter's Rural Bengal; Crawfurd, Dict.; Dr. Cornish on Dietary; Ward, Hindoos; M. E. J. R.; Fortune's Residence in China; Robinson's Travels*, ii. p. 132; *Tomlinson; Hassall; Statistique des Cereales de la France, par Moreau de Jonnes, quoted by Simmonds.* See Agriculture; Fish; Famine; Husbandry.

FOOL-SOLA. BENG. Æschynomena aspera.

FOONG-HANG, the Chinese phœnix, a head ornament worn by Chinese ladies, composed of gold and jewels, the wings hovering, and the beak of the bird hanging over the forehead on an elastic spring.

FOOT.

Kadam, .	ARAB., HIND.	Pie, ...	SP.
Pied, ...	FR.	Kal, . . .	TAM., TEL.
Fuss, ...	GER.	Ayak, ...	TURK.
Piede, ...	IT.		

The foot in most oriental countries is deemed the humblest part of the body. It is alluded to in 1 Kings ix. 9, where the Hebrews are mentioned to 'have taken hold of other gods.' When a person claims the protection of another, he casts himself down before him, and lays hold of his feet; and the expression is commonly used, though a person may not prostrate himself, 'I have taken hold of your feet;' 'I will not leave your foot.' When a person is called into the Burman monarch's presence, he is said to go to the golden feet; and a son writing to his parents will add that he kisses the feet of his mother.

Several oriental nations — Buddhist, Hindu, Christian, and Mahomedan — have marks on rocks, which they believe to be imprints of the feet or of the foot of people whom they reverence, such as that on Adam's Peak, Ceylon, or of Mahomed at the Kadam Rasul Hill near Hyderabad. St. Augustine, when landing at Thanet, is said to have left the prints of his foot on the rock. One foot-print is shown as that of Jesus, in a small circular chapel covering the stone which bears the foot-print, on the summit of the Mount of Olives. The ancient Mexicans showed one of the god Tezcatlipoca, and the people of Samoa, one of the Navigator's Islands, showed one of Tiitii.—*Peschel; Frere, Antipodes*, p. 237.

FOOTBALL.

Khyay-lon, . . .	BURM.	Ballone, ...	IT.
Ballon, ...	FR.	Pelota, ...	SP.

Football is a favourite game with the Burmese, Malay, and Papuans. In Burma it is woven of rattan, hollow and elastic. The player keeps it dancing a little while on his foot, then occasionally on his arm or thigh, till suddenly he gives it a good blow with the hollow of his foot, and sends it flying into the air. Another player runs to meet it, and at its first bound catches it on his foot, and plays in his turn; six or eight young men form a circle. It must not be struck with the hand, but only with foot, ankle, knee, elbow, shoulder. The game needs agility, skill, and practice. Malay players stand in a circle, larger or smaller according to the number engaged; a ball made of split rattans, hollow, and about 6 inches in diameter, is thrown up by one; the person to whom it approaches receives it on the instep of his foot, and throws it into the air towards his nearest playmate, who in like manner sends it on to the next, and so on. With expert players it is thus sent round from one to another an extraordinary number of times without falling; sometimes one player will himself, particularly when there are many onlookers, keep the ball in constant motion, receiving it in the fall, now on his foot, now on his knee, elbow, head, shoulder, etc. The ball is a perfect sphere, and is so light, it may be thrown almost with full force against any fragile object without causing injury. The introduction of this plaything into Europe would be a great matter in households.—*Jour. Ind. Arch.* v. No. 11.

FORAS. PORT. Fora, without. In Bombay, waste land adjacent to cultivated land. Foras and Pertenças Dependencies.

FORBES, JAMES, author of Oriental Memoirs, a Narrative of Seventeen Years' Residence in India, London 1834; Illustrations to Oriental Memoirs, with Explanatory Notices, London 1835.

FORBES, MAJOR, author of Eleven Years in Ceylon, comprising sketches of the Field Sports and Natural History of that Colony, and an Account of its History and Antiquities, 1840.

FORBIDDEN MEATS, or unclean meats, have been amongst almost all races, many of the prohibitions being of the most fanciful kinds. The animals which the Hebrews were ordered to avoid are enumerated in Leviticus xi. and Deuteronomy xiv., viz. blood, animals dying of disease or killed by wild animals, camel, hare, bat, coney, swine, fish without fins or scales, eagle, ossifrage, osprey, glede, kite, vulture, raven, owl, cuckoo, hawk, night-hawk, swan, pelican, gyr-eagle, cormorant, stork, heron, lapwing, creeping things which fly. Mahomedans adhere largely to the above. They abstain from the animals that do not chew the cud, and divide the hoof; also from scaleless fish and from prawns. Many Brahmans and many Hindus do not eat animal food of any kind, and abstain even from onions from their flesh-like consistence; as also from fowls and their eggs. The Garo and Khassya hold milk in detestation.

The Chinese and the lower castes of India are almost omnivorous; and Burmans, who are Buddhists, though they will not kill creatures for food, eat any creature which others kill, and eat almost every grain and vegetable. See Food.

FORESTS.

Forêt, ...	FR.	Biaban, ...	PERS.
Forst, Wald, . . .	GER.	Floresta, Selvosa, .	SP.
Jangal, ...	HIND.	Orman, ...	TURK.
Foresta, Bosco, .	IT.		

Drs. Roxburgh, Royle, Wallich, Gibson, and M'Clelland, for many years continuously, during the earlier part of the 19th century, urged the necessity for attention to the forests of India and Burma. A vast extent of forest land in Oudh, situated on the east side of the Kerrowlee river, was described by Dr. Royle as holding out the prospect of very valuable supplies by the year 1850, provided that means were adopted for preventing wanton destruction, and of allowing the young plants to grow up and supply the place of those which are cut down. Dr. Wallich drew attention to the forests then occupying the islands of the Gogra, commonly called Chandnee Choke. He represented them as in every way deserving of being preserved for the use of Government, and protected from destructive depredation. The sissoo and sal forests of the Dehra Doon were also recommended to be preserved, being as important for the stations in the north-west of India, as the forests of Oudh and Gorakhpur are for those in the south.

Dr. Gibson unceasingly advised the Bombay Government to preserve their forests, and to form plantations of hardy trees; Mr. Dalzell's efforts to preserve the Sind forests were untiring; in 1840, 1848, and 1878, Surgeon-General Balfour advised arboriculture.

In 1850, the British Association at Edinburgh appointed a committee to report on the probable effects of the destruction of tropical forests, and the report was presented the following year, 1851, at their meeting at Ipswich. A year afterwards, forest conservancy establishments were sanctioned for the Madras Presidency and for British Burma, and by Act VII. of 1865, the Government of India issued forest rules and penalties.

The forests of India had up to that time been injured by the fires of the kumari cultivators and cowherd races, and by reckless felling of wood merchants; whilst no systematic efforts were adopted to preserve or restore. Kumari cultivation has since been prohibited, the firing of forests to obtain fresh grass for cattle has been prohibited, and fire-paths formed, 40 to 50 feet broad, to cut off the fires. Great forest tracts have been reserved, new plantations formed, and seed dibbled in amongst the mass of vegetation.

The report of the committee had reference chiefly to the influence of forests on the climate and productiveness of a country; and it is now acknowledged that the indiscreet destruction of the forests of any country is apt to bring upon future generations three calamities,—the want of fuel, the want of water, and the want of timber; while the appropriation of forest land for purposes of cultivation would not benefit the revenue, as regards climate, the interests of agriculture, the progress of commerce, and the general prosperity of a province, doing so would gradually lead to the most serious consequences. Not only is the rain that falls economized and prevented from rapid evaporation, but the water which sinks into the ground is being continually pumped up from great depths by the roots of the trees, and exhaled by the leaves, thus actually moistening the neighbouring atmosphere in the driest weather, and benefiting the crops of the neighbouring fields. In passing through a tamarisk jungle early in the morning, even in the driest weather, the whole of the foliage is found dripping,—not from dew, but from the water of exhalation brought up from great depths by the vital processes of vegetation; the whole of this passes into watery vapour in a few hours. If forests be cleared away, the neighbouring fields become exposed to the violence of parching winds, and liable to be covered with drifting sand, while cattle find no grazing and no shelter from the scorching heat.

The Sunderbun tract, extending over 3000 square miles, is a dismal swamp, growing timber trees and underwood, its most valuable tree being the Heritiera littoralis. The western coast of the Peninsula of India, the country above the ghats in Canara, the Animallay and Pulney Hills, have famous forests, and Malabar teak has always been remarkable for its superiority to that of other places, and with which the dockyards and ordnance department was long supplied. The forests to the eastward of the Salwin river, in Martaban, when visited by Dr. Wallich, were very favourably reported on, for the supply of splendid bamboos as well as of teak, for the extent of the forests, the size of their timber, and the facility of procuring it. Subsequently, Dr. M'Clelland reported in the forests of Pegu and Tenasserim, 85 species of soft *white wood*, many of them valuable either for their fruit, gums, oil-seed, or spices; others, for their close and compact structures, are employed in the manufacture of small ware, as a species of Nauclea used for making combs, and two species of Erythrina yield the light charcoal employed in the manufacture of gunpowder. These light woods, useless as timber, belong to the families Urticaceæ (including more than 20 species of Ficus) and Sterculiaceæ, Laurineæ, Rubiaceæ, Myristicaceæ, Anonaceæ, Spondiaceæ, and Bignoniaceæ, with odd species from other families. Of the remaining white woods, 25 in number, valuable for their strength and closeness of grain, 17 of them were thought fit for house-building, and 8, from the hardness and fineness of their

grain, render them valuable as fancy woods for cabinetmaking. He found 25 *red-coloured woods*, 7 of which, from their strength and solidity, adapted for the various purposes of house-building; 7, from the elegance of their grain and colour, are suited to the various purposes for which mahogany is used, and 11 are suited to the finer purposes of fancy cabinet work. *Yellow woods*, 3 in number, hard and fine-grained, suited to fancy purposes. There are 12 dark-brown woods, all valuable, 11 of them adapted for house-building, and probably for ship-building, and one for special purposes requiring great strength and hardness *Black woods* consist of 4 different kinds, all of which are valuable for their strength and hardness. There were 7 varieties of *light-brown wood*, coloured wood embracing all the timber of most value in the province, exclusive of teak.

In British Sikkim are 105,004 acres of forest, and there are also forests in Assam, Dacca, Chittagong, Cuttack, Palemow, and the Rajmahal Hills. In British Sikkim and the Dwars of Bhutan are large tracts of sal (Vatica robusta). The higher slopes of the Darjiling district above 6000 feet have been reserved; plantations of temperate and sub-tropical trees have been formed, and several thousand mahogany trees were planted in the Terai. Forest tracts of the N.W. Provinces are in Kamaon, Garhwal, Meerut, Rohilkhand, Gorakhpur, and Jhunsi. In Kamaon and Garhwal, the total area surveyed was 406,134 areas, of which more than nine-tenths were covered with the cheer or stone pine. The Government forests in Gorakhpur cover an area of 127,527 acres, 116,384 of which are occupied by sal trees, with an average of 25 to the acre. About 400,000 acres of Garhwal and Kamaon are covered by the Pinus longifolia, bearing about 15 trees to the acre.

The *Oudh forests* are in three districts. The first, or Khirigurh district, lies between the rivers Sohali and Mohana. The area is 263 square miles, of which 149 square miles produce sal; but the trees here in 1868-69 were not large enough to produce logs of timber. The second, or Baraitch district, the countries between the rivers Kerrowlee and Girwa, is partly covered with sissoo forest and partly with a dense jungle of a variety of trees. The forest area is 170 square miles, of which 100 produce sal. Eight trees are reserved, viz. Vatica robusta, Dalbergia sissoo, Cedrela toona, Diospyros melanoxylon, Conocarpus latifolia, Terminalia tomentosa, Acacia catechu, and Nauclea cordifolia, sissoo, toon, and ebony. Other forest trees of Oudh are, Ægle marmelos, Ailanthus excelsa, Bassia latifolia, Eugenia jambolana, Feronia elephantum, Melia azederach, Mimusops elengi, and Terminalia bellerica.

The *Panjab* forests on the banks of the five rivers are of great value, and the deodar forests of the rajas of Chamba and Bassahir are available for the Indian Government. The northern limit of the sal is on the banks of the Beas in the Kangra valley.

In the arid tract of Sind and the Panjab, forests of babul (Acacia Arabica) line the Indus at various points, which, in Middle and Upper Sind, are mixed with tamarisk and the Euphrates poplar; while jhund or kundi (Prosopis spicigera), an acacia-like tree, salvadora, and an arborescent leafless caper (Capparis aphylla), occupy vast tracts in rear of the babul forests. The dry belt of the Panjab has woods on the high land between the rivers, composed mainly of prosopis, salvadora, and capparis.

The woodlands of a portion of Rajputana are mainly composed of a beautiful tree, a species of Anogeissus, with small leaves and drooping branches.

Sandal-wood grows in the S. dry belt of Mysore.

Outside the arid zones, the teak grows in the mountain tracts and west coast of the south of India, where also grow the blackwood trees, poon spar trees, angely, vengay, and irul; and the sal (Vatica robusta) grows in the extensive forests at the foot of the Himalaya, in forests in the Rewa territory, the eastern part of the Central Province, and the adjoining districts of Bengal.

The moist belt along the Himalayan range to Burma and Tenasserim, and that along the western coast of the Peninsula of India to the top of the ghats, is covered with luxuriant evergreen vegetation. In the Himalaya are the forests of pines and firs. The deodar has its eastern limit in Kamaon, but is succeeded by other coniferous trees, one of which, the Pinus Khassyana, extends into Burma. The Ficus elastica, yielding caoutchouc, is found along the foot of the Himalaya from Sikkim to Assam, and more sparingly at the foot of the Khassya and Cachar Hills. Assam also has the Mesua ferrea, Artocarpus chaplasha, and Lagerstrœmia reginæ.

In Burma there are extensive forests of Pinus Khassyana on the high mountains, large teak forests between the Salwin and Sitang, and magnificent evergreen forest vegetation in the moister valleys, where trees grow to a height of 200 feet.

Forests in British Burma cover 4,480,000 acres, out of a total of 60,000,000 acres. Of this the teak forests take up 1,534,000 acres; and forests devoid of teak, but in similar localities, 2,945,920. The richest in teak are on the hills between the Irawadi and Sitang. The destruction of the forests of Acacia catechu has been reckless. Burma also yields the Xylia dolabriformis. Teak plantations were commenced in 1856 on the river above Rangoon, and on the Sitang near Tounghoo, intended to extend to 30,000 acres.

In Kamaon and Garhwal, the characteristic trees are the chil (Pinus excelsa) and the chir (Pinus longifolia). Below lie the great sal and bamboo forests, which have been much worked, but there is still much timber near the Kosi and Ramganga rivers.

The deodar forests of Gangotri and Jaunsar, N. of the Dehra valley, near the sources of the Tons and the Bhagirathi, the last leased from the Tiri raja.

In Gorakhpur, sal is the characteristic tree, mixed with terminalia and acacia.

The deodar forests are in the valleys of the Sutlej, Beas, Ravi, Chenab, Jhelum, and their tributaries. The forests of the Chamba and Bassahir states are leased by the Government of India. The rakhs or preserves in the Panjab Doabs, between the rivers, consist of about 8000 square miles. Plantations of sissoo and kikar have been formed at Changa Manga in the Bari Doab, 44 miles below Lahore; also on the Jhelum near Lodhiana, and near Dehli and along most of the irrigation canals.

In Oudh, the forests in the Kheri, Gonda, and Bharaich districts are strips cut off from the

Nepal forests on high ground along the Nepal frontier. They consist of sal, terminalia, and conocarpus, interspersed with open glades of grass land.

In the Central Provinces there are great tracts of jungle, but only a small part properly forest. The hills between the Narbada and Nagpur, though covered with trees, contain little timber of value. In the Central Provinces, 2880 square miles of forest tracts have been reserved, 11,000 square miles remain unreserved, and there are 10,000 square miles of timber tracts belonging to private individuals. The teak in the forests of the Mandla district, at the head of the Narbada river, has been ruthlessly felled. Thence to Raipur are extensive sal forests; and the Dela Kari forest near Pachmari is the most westerly position of the sal tree in Central India. But further west are remnants of the teak forests of Baitul and Hushangabad, from which the cities of Ujjain, Indor, and Malwa were built. The vast forests to the eastward, the magnificent teak along the Godavery, and the great sal belt around Chatisgarh, extend across the centre of India from the head of the Narbada to Cuttack.

In Berar are 646 square miles of reserves. Mysore and Coorg have three great forest belts,—the evergreen on the Western Ghats, yielding angely, poon, ironwood, and blackwood; a moderately moist belt from 10 to 40 miles wide, on the eastern slopes of the ghats, yielding teak and sandal-wood; and a dry region on the eastern side of Mysore, on which grow the Hardwickia, Terminalia, and Conocarpus. In Mysore the reserves are 398 square miles. In Coorg there are 347 square miles, besides the Devada Kadu, or sacred forests.

Forests of Bombay Presidency extend for 500 miles, from Canara in the south to the Mahi river in the north, in the districts of Canara, Tanna, Kolaba, and Kandesh, the best tracts being near the line of ghats.

The forests of Sind, called Beyla, cover 352,460 acres. They were originally hunting-grounds of the Amirs. They are dependent on the inundations of the Indus, without which they would disappear.

In the Animallay forests of Madras there are reserved teak forests. The Conolly teak plantation on the Beypur river was begun in 1844. The teak seed is steeped in water for 48 hours, and sown on raised beds of fine mould covered with straw, to prevent too rapid evaporation; they germinate in 10 or 12 days, and in the interval are constantly watered. At Mudumalli a plantation of 20,000 teak trees was formed in 1865.

Australian gum-trees were introduced into the Neilgherries about 1850.

Sandal-wood planting has been tried with success in Cuddapah and Kurnool districts, and in the Segur and Collegal ranges of Coimbatore. The sandal-wood tracts belonging to the Government are confined to certain portions of the Coimbatore and Salem collectorates. The tree is often found in hedgerows and low scrub jungle, etc., but is seldom seen in any regular forest. Up to a few years ago, sandal-wood was considered a Government monopoly,—at least none of the ryots ever asserted a right to fell it when found in even their own fields and hedgerows; but upon a sub-collector of the Salem district raising the question, the Government waived any claim to the trees, and they are now generally sold standing by the ryots, to merchants, etc., for a merely nominal sum. Sandal-wood planting has been successfully tried in the Cuddapah and Kurnool districts, and in the Segur and Collegal ranges of Coimbatore. South Canara is held to be a promising field for the extension of the experiment, as the tree is indigenous in portions of that district. Blackwood and catechu trees have been largely planted in S. Canara, and much success has attended the formation of plantations of the babul, casuarina, red sanders, and Pithecolobium saman plantations, the latter being a Central American tree, esteemed very valuable for fuel, the seed of which was obtained from Ceylon. Much has been done for the extension of fuel reserves and plantations, in view of the railway requirements, and too much importance cannot be attached to the addition to the Conolly teak plantations in Malabar, which are an established success. Teak planting is under trial in Kurnool, the Animallays, Bolumputty, Mudumalli and its western vicinity, in the Cumbum valley of Madura, and in South Canara, and the results hitherto obtained are very promising.

The area of the conserved forests of the Madras Presidency is supposed to be more than 5000 square miles. The area of reserves and plantations for railway fuel is about 6200 acres, estimated to yield 67,000 tons of firewood annually; and the area of teak, sandal-wood, etc., plantations is about 2500 acres. From 1860-61 to 1874-75, the balances of receipts and charges ranged from a debit Rs. 59,380 to a credit Rs. 4,28,640, the annual average profit for the period being Rs. 1,11,518.

The reserved Government forests in the Nullamallays district are at an elevation of from 2000 to 2500 feet above the sea, and contain some of the finest blackwood timber in the world. The Cuddapah forests comprise the whole of the forests on the hills and plains on both sides of the N.W. line of railway running between Triputty and Cuddapah, and are estimated to cover 250 square miles; reserves were established in the districts of Cuddapah and North Arcot, in addition to a large plantation at Ghooty in the Bellary range. The working season in the Animallays lasts from June to November, during which time the forests are almost entirely covered with a dense undergrowth of grass, often growing to the height of ten feet, and swarming with wild beasts and elephants. For the other six months of the year work is impossible, owing to the malaria causing severe jungle fevers. The woodcutters very often refuse to work on account of the large number of tigers and elephants, which prove a source of endless annoyance. These forests are the finest in India, and should be placed under a very strict conservancy system.

The forests of Mysore are those of Bilikal in Kankanhalli, and Singapore, Mavakal, and Kachanhulli in Ashtagram, and in 1878-79 had an aggregate area of 442 square miles. Of sandal-wood, 1009½ tons were sold for Rs. 3,89,335, and the sales of timber and bamboos produced in 1875-76 Rs. 71,932, in 1878-79 Rs. 34,757.

The aspect of *Coorg* presents an entire forest; the long and narrow valleys cultivated within it serve but to render the vast woods more striking. The whole of the eastern boundary presents a

remarkable line of demarcation, exhibiting an almost uninterrupted and impervious wood from the Burmagherry Hill till reaching the Cauvery; this space is wholly uninhabited. Advancing westwards, the wood decreases in density as the country improves in cultivation, and becomes gradually thinner till reaching the Western Ghat, the immediate summits of which, naturally bare of wood, are clothed with a luxuriant herbage.

In 1881 there were 16,246 square miles of forest and fuel reserves in Bengal, Berar, Burma, Hindustan, and the Panjab; the Panjab had 15,000 square miles of rakh or preserves in its various districts, and there are leased forests in Berar, Bombay, Garhwal, Tehri, Madras, and Panjab.

Under Act vii. an order was issued prohibiting felling of forests at an elevation of 6000 feet or upwards. In 1879 the Panjab Government issued regulations to protect the Hazara forests, providing for their management, grazing, cutting timber within the reserved area, and the creation of village forests, the district officer being empowered to set apart certain areas of the village waste for this purpose. Such areas are the crests and slopes immediately below the crests of hills, the catchment basins of rivers, all steep and rocky slopes and other waste lands, of which the clearance is, in the opinion of the district officer, unadvisable. And in the case of other kinds of lands, a majority of the landowners, representing two-thirds of the revenue, may apply to the deputy-commissioner to have a tract set apart as village forest. Squatting, breaking up the soil, cutting trees or brushwood, barking trees, or grazing cattle contrary to the general orders, removing dead leaves or kindling fires, are prohibited within a village forest. Also the district officer can require the owner of any cultivated land on a hill-side to take the necessary step for ensuring the stability of the soil; and also, in case of erosion of a river's banks, or of risk of torrent action, or of the occurrence of landslips, to enclose and plant the necessary area in such manner as most effectually to guard against the threatened danger. The areas so enclosed are to be regarded as a reserved forest, and the owner is to be compensated as though it were taken up for a public purpose.

The forest's wild products vary in different parts, but honey, wax, roots, fruits, gall-nuts, ginger, turmeric, cardamoms, dye-powder, resin, and various fibres are obtained yearly from the forests of the Madras Presidency. Cinnamon bark, cinnamon flower, resins, gall-nuts, and bamboo sprouts, in Malabar. The most valuable of these products is cardamom; but a large quantity of this spontaneous crop is never gathered, and all efforts to collect it are failures, as the jungles are uninhabited by human beings, and wild animals take shelter in them. Cinnamon bark and flower are procured, the former by stripping the trees, and the latter by plucking the flowers when in blossom. Nagabetta (a species of cane) is carried away in large quantities by wayfarers and pilgrims frequenting the temple at Subramania, where they grow largely. The Government of Madras have repeatedly declared that they will not sanction any step in the direction of monopolizing the forest products, the collection of which affords the only employment and means of subsistence open to the inhabitants of wild forest tracts.

The gross revenue derived from the Indian forests, in the ten years 1872 to 1881, was £6,204,977, and the charges £4,207,554. The importance of forests to tropical climates, as inducing rain and preserving surface-water, is recognised. The extensive clearing of a country diminishes the quantity of running water that flows over it. Rain oftener falls, and more dew is deposited, in well-wooded countries than when a country is naked; mountains, when covered with their native forests, gather clouds around their summits, condense the humid particles of the air, and equalize the fall of rain; lands destitute of the shelter of trees allow of a more rapid evaporation; forests preserve the surface-water, and husband and regulate its flow.—*Royle's Productive Resources of India; M'Clelland; Cleghorn in Year-book of Facts*, p. 203, of 1868; *Scindian*, July 12, 1856; *Annals, Indian Administration*, March 1861.

FORMICIDÆ, an extensive family of Hymenopterous insects, belonging to the section Aculeata, sub-section Heterogyna, *Latreille*, comprising the numerous tribes of ants. The family is distinguished by the wingless state of their abortive females, by the great length of the basal joint of the antennæ in the females and the neuters, in which they are elbowed at the extremity of this joint, and by the first or the first and second joints of the abdomen being knotted; the upper lip of the neuters is large, horny, and perpendicular, falling between the jaws; the eyes are rounded, or oval and entire, the form of these organs varying greatly in many of the species. In their structural character the Formicidæ resemble the Tiphiæ and Daryli belonging to the section of the sand-wasps. The neuters are smaller than the males, and these are smaller than the females; the abdomen in the first and last of these sexes is composed of six segments, in the male of seven. The females and neuters are furnished with a sting in many of the species. Those species which have stings emit an irritating fluid into the wounds which they make, while the stingless species discharge a red transparent fluid on to the skin, causing painful blisters. The various genera of this family, according to Latreille, are:—Formica, Polyergus, Ponera, Myrmica, and Atta. This last genus differs from Myrmica only in having very short palpi; the head of the workers is generally very thick. The 3*d Tribe Formicites* contain those ants that have no sting, and the abdominal pedicle is of one knot only. It comprises two genera, Polyergus and Formica. The Formica genus is distinguished by having the footstalk of the abdomen composed of a single joint, the mandibles triangular, and denticulated at the edge. The females are destitute of a sting. The neuters are about one-third of an inch long, of a black colour, with the thorax, abdominal scale, and a large part of the head red. It makes its large conical nest in the open ground in woods, etc., amassing together large quantities of sticks, straws, etc. Dr. Jerdon notices in India F. ammon, angusticollis, assimilis, carinata, cinerascens, compressa, hastata, indifessa, longipes, nana, phyllophila, relucens, rufo-glauca, sex-spinosa, smaragdina, timida, vagans, velox, stricta, and sylvicola. The fondness of F. indefessa, *Sykes*, for sweet substances is very great. F. gigas is more than an inch long.

F. compressa, *Fabr.*, well known as the black ant, is found throughout every part of India

except the western coast. It lives in very numerous societies in the ground, the entrance to the nest being often round the trunk of a tree, or close to some building. The warriors are very numerous. Their food is chiefly vegetable secretions, sugar, etc., and Colonel Sykes has given an interesting account of the devastations committed by them on preserves, sugar, etc. They bite rather severely, but the pain is quite momentary. At certain times great numbers of the winged males and females are seen at the mouth of the nest, and they remain there for several days. When they take wing, they do so in vast numbers, and always at night.

F. smaragdina, *Worker*, the red ant of India, Dimiya, SING., of a uniform pale rufous. Male of a rufous colour. Female of a pale shining green colour. The red ant is well known in Malabar and the wooded parts of India, but is rare in the Karnatic. It forms a nest of living leaves, which it draws together without detaching from the branch, and unites with a fine white web; sometimes this nest is above a foot in diameter, but usually smaller. The society consists of a vast number of individuals, and in large nests are many females and males, both with and without their wings at all times of the year. They are very bold and pugnacious, and bite very severely. They live chiefly on vegetable secretions, and are very partial to the flowers and buds of some of the loranthi, which abound on the western coast. They often form a temporary web round the flowers, or sometimes round the fruit, of various trees, viz. the Eugenia Malaccensis, Artabotrys odoratissima, etc., apparently only for the purpose of feeding undisturbed. They will, however, also sometimes feed on decaying animal matter. It is said that the web they form is occasionally used for writing on in the N.W. Provinces of India, and that these ants are made use of to destroy a nest of wasps that may have established themselves in a house. They are said to destroy all the wasps, but to become so infuriated, that their own indiscriminate attacks are nearly as bad as those of their foes. In gardens they are most partial to mango trees, but in the jungles they make no selection.

F. timida, *Jerdon*, the small red ant, has all the body covered with long scattered hairs; only found on the Malabar coast, where it is very common, living chiefly on vegetable secretions. It has its nest under ground. It is timid, if approached or touched, dropping to the ground at once and hiding itself. On one occasion pigeon squabs placed in a room on the floor were found killed by these ants, chiefly, however, the warriors.

F. velox, *Jerdon*, colour blackish, abdomen greenish pubescent. Very common in Malabar, and also found in the Karnatic. It frequents flowers, especially delighting in those that have great quantities of pollen, such as the Cucurbitaceæ, Hibisci, etc. It runs very speedily, and is very easily alarmed, dropping to the ground on being touched. See Ants; Insects.

FORMOSA or Pahan Island, called also Tyoan, is about 210 miles in length from N.N.E. to S.S.W., its south point, called the Cape of Formosa, being in lat. 21° 53½′ N., long. 150° 53¾′ E. It is 20 to 80 miles wide, and is traversed down its centre by a mountain range, which rises to 8000 feet in the south and 12,000 feet in the north half; the valleys and higher slopes are clothed with trees. As yet only 35 species of its mammals and 128 of birds are known, several of them identical with the species of India and Malay Peninsula; 43 of its land birds are peculiar to the island. Formosa is part of a chain which lies along the Asiatic continent, and forms a distinct and well-defined ethnic and geographic group, which includes all the Japanese and Aino islands from Formosa to Kamtschatka; and Mr. Logan proposed to call it Aino-Japanesia. It was known to the Chinese A.D. 1431. It was held by the Dutch for a short time. The western coast is occupied to a great extent by recent settlers from China, but the interior is inhabited by several rude tribes, whose language differs from the known Formosa. The aborigines, called Kebalan, are short in stature, of tawny complexions, and lank hair. Although inhabiting a great and fertile island, affording to all appearance a fair opportunity of development, they have never made any progress in civilisation, and at present seem to live in a state of barbarism. The language of Formosa, according to M. de Rosner, appears to be a branch of the Oceanic, which, however, belongs to a state intermediate between the monotonic and the inflectional; words of the Malayan languages are to be found in the language of the aboriginal inhabitants. In the north-western portion of the island sulphur mines are frequently met with, presenting blots in the otherwise beautiful scenery. The gigantic laurels from which the camphor is obtained are found on the mountains in the possession of the aborigines. In the neighbourhood of Tamsuy alone, 800,000 lbs. of this valuable commodity are produced annually. Petroleum also adds to the riches of the island, which, both from its natural and artificial products, is well worth a struggle on the part of the Japanese to obtain, and on the part of China to defend. Aralia papyrifera in Formosa does not exceed 6 feet high. Formosa Pheasant is the Emplocamus Swainhoii.—*Ind. Arch. Supp.* ii. pp. 318–358; *Japan*, 410; *Loo-choo; Horsburgh; Latham's Descriptive Ethnology; Adams; Cornhill Magazine; Jour. Ind. Arch.*; *Marryat's Ind. Arch.* p. 41; *Dr. Collingwood, Trans. Ethn. So. N S.* vi. p. 139; *A. R. Wallace.*

FORREST, CAPTAIN THOMAS, author of Voyage to New Guinea and the Moluccas from Balambangan, in 1774-76, with a Vocabulary of the Magindano Tongue, Lond. 1780.

FORSKAL, PETER, a native of Denmark or Sweden, who travelled in Arabia and Egypt, and wrote the Flora Ægyptiaca, Arabica, and other works.

FORSTER, GEORGE, an early traveller from India to Europe. He proceeded by land from Bengal to the Caspian Sea, and from thence by the ordinary route on the Volga, etc., to Petersburg, in the year 1784. He avoided the country of the Sikhs. He wrote Journeys from Bengal through Kashmir, Afghanistan, Herat, Persia, Petersburg, etc., to England, Lond. 1808.

FORSYTHIA VIRIDISSIMA, a beautiful flowering plant of China; it blossoms in spring-time. Forsythia suspensa, *Smith*, Lien-k'iau, CHIN., is obtained in Shen-si and other Chinese provinces; the fruit, leaves, and root are used medicinally.—*Smith.*

FORT GEORGE, the fortress of Bombay. Fort

Gloucester, a fort now in ruins, is on the left bank of the Hoogly river, about 15 miles below Calcutta. Fort Golconda, a fortress on a rocky hill on the left bank of the Seena river, five miles W. of the city of Hyderabad in the Dekhan; its builder is not known. It consists of an enceinte, with bastions and a citadel. After a siege of seven months, it fell by treachery in the end of September 1687. Fort St. David, a place in the Karnatic at Behoor; between it and Pondicherry, Major Lawrence, in August 1752, entirely defeated the French army. Fort St. George, the fortress at Madras, built on the principle of Vauban. Fort Victoria, the name given to Bancoote, after its surrender to Commodore James on the 8th April 1756. Fort William, the fortress of Calcutta; it was constructed by Lord Clive.

FORTUNE, ROBERT, a scientific horticulturist, who collected many rare plants in China, in the middle of the 19th century; obiit 1880. His first voyage was made in 1842, for the Horticultural Society of London. During four years' wandering, he discovered several new useful and ornamental plants, which now add to the beauty of many an English garden. He was in 1848 deputed by the Court of Directors of the East India Company, and upwards of 20,000 tea-plants, eight first-rate manufacturers, and a large supply of implements, were procured from the finest tea districts of China, and conveyed in safety to the Himalaya. This journey occupied altogether about three years, and he returned to England at the end of 1851. He was deputed again in 1852, for the purpose of adding to the collections already found, and of procuring more tea-makers. He was occupied in this undertaking for nearly three years, and the result of his mission was considered very satisfactory. His fourth voyage was made in the service of the United States Government, to procure a very large supply of tea-plants, for trial in some parts of the American Union, and other choice productions desirable to introduce. He wrote Residence in China, and Wanderings in China.

FOSSILS. Copal occurs fossil along with lignite in the tertiary beds of the Malabar coast near Travancore, and on the east coast of Africa. It was first found in the blue clay at Highgate, near London; it occurs also at Wochlow in Moravia. It occurs in irregular pieces or small nodular masses. Its colour is yellowish or dull brown, nearly opaque; lustre resinous; fracture conchoidal; sp. gr. 1·046. When heated it yields an aromatic odour, and melts into a limpid fluid; it burns with a yellow flame and much smoke. When strongly heated in contact with the air, it is totally dissipated.

Fossils are very abundant in Southern Asia, all along the seaboard; west of Pondicherry, and near Trichinopoly; in Hyderabad and the Central Provinces; in the valley of the Nerbadda, in all the coal tracts, in the Siwalik Hills, and in Burma. Of those found in Burma by Mr. Oldham during his companionship with the embassy, he notes the following:—elephant tusk and lower jaw; mastodon lower jaw and molar tooth; rhinoceros tooth; tapir lower jaw; deer; sus or merycopotamus, portion of cranium; garial fragments; bones of the pachydermata, ruminants, crocodile, tortoise, large tortoise.

Sir Proby T. Cautley carried on extensive researches in conjunction with Dr. Falconer, in the fossil remains of the Siwalik Hills. They presented to the British Museum an extensive collection of fossil mammalia from the Panjab Siwalik. At Cutchavelly, north of Trincomalee, is a bed of calcareous clay, in which recent shells and crustaceans, principally Macrophthalmus and Scylla, are found in a semi-fossilized state. The breccia at Jaffna and the arenaceous strata in the western coast of Manaar and the neighbourhood of Galle also contain recent shells. These fossils, when powdered, are used by the Arabs as a specific for diseases of the eye. The saligramma which the saiva and vaishnava Hindus worship are fossil water-worn ammonites, found in part of the Gandak river in Northern India. The bin-lung, rori, and choolia stones found in the whirlpools of the Nerbadda and Chambal rivers are also worshipped by Hindus; but they are not fossils, merely stones rounded by attrition. Numerous fossils are obtained in the Baloti range and in the Shaikh Booden Hills, which may be considered offshoots from the Salt Range. Fossils also occur in the Lagari, Mazari, and Lower Hills of the Sulimani range. A species of echinus is found fossil in the Lagari Hills, Imam Bakhsh Khan, and Dehra Ghazi Khan, and the curious trilinear markings on it are compared by the people to the impression of a bird's foot, to which accordingly they attribute the origin of these fossils. The natives regard the larger fossils of the Mazari Hills as the petrified clothes of fifty betrothed virgins, who, while bathing, were surprised by their future husbands. They prayed Heaven to grant them a covering; in answer to this the earth swallowed them up, and their clothes became stones. In the Panjab, a fossil encrinite is used in medicine, under the name of Sang-i-yahudi, or Jew's stone; and the Sangcha, a nummulite from Dehra Ghazi Khan, and Sang-i-shad-naj, another nummulite, are also used in medicine.

The Dehli system of hills includes those of the Dehli, Gurgaon, and Hissar districts, also the Shekawati Hills in Gurgaon, which ultimately become fused in the Aravalli range. Some of these hills are fossiliferous, others yield metals, the copper of Hissar and Singhana in Gurgaon district belonging to this series. In other portions marbles and freestone are found; and the Kalyana Hills of Dadri, now included in the Jhind territory, furnish elastic (micaceous) sandstone.

Spiti yields ammonites, astarte, belemnites, species of nucula, othoceros, pholadomya, rhynchonella, and spirifer.

The Shih-yen of the Chinese are fossil shells, species of spirifer and rhynchonella, used medicinally. Fossil wood is found abundantly in Burma, in the Kyen-dween, and Namloroong.

Fossil wood in the sandstones at Trivicary near Pondicherry, at the village of Verdur Valudayur, four miles E. of Trivicary, and other fossils sent to Britain by Mr. Kaye and Mr. Cunliffe, were described by Mr. Edward Forbes. The Trivicary fossil wood is embedded in a coarse silicious conglomerate. The conglomerate in Sind consists chiefly of the rolled fragments of the nummulite and other sub-adjacent rocks. In the cliff at Minora, near Kurachee, adjoining beds of oysters and other sea-shells, *in situ*, along with fossil wood like that of Cairo, and fossils nearly identical

with those of Central India, Burma, and the Siwalik range.

The fossils of Perim Island, in the Gulf of Cambay, are embedded in a conglomerate, consisting mostly of rounded portions of trap in a clayey cement, and along with these are numberless fragments of fossil wood. The wood of Perim is nearly all rounded at the extremities, as if exposed to the action of running water, or of the breakers of the shore. It is, moreover, full of worm-holes, all emanating from its lower, and rising and radiating out towards its upper, surface, as if mineralized and hardened subsequently to its being placed in the position in which it is now found,—the perforations being effected while it was still soft.

Fossil wood is embedded in the sandstone in the desert between Cairo and Suez. The beds of sandstone vary in thickness from a few inches to 100 or 200 feet, are composed of rounded or ovoidal pebbles, nearly all more or less quartzose; the Egyptian jasper being peculiarly abundant, and in many localities embedding silicified trunks and fragments of trees, all sharply angular, and particularly abundant near Jabl-Ahmar near Cairo and Wadi Ansan, about 8 hours' journey to the eastward. The fossils have been left on the surface by the disintegration of the sandstone.—*Oldham in Yule's Embassy; Handbook of Punjab; Dr. J. G. Malcolmson; Smith.*

FOTHERGILLIA INVOLUCRATA. *Falc.*

Kilar, ...	HIND.	Chob-i-pau, . . .	PERS.
Pishor, Paseri, . .	,,	Po, Sha, Spilecha,	,,

In Kashmir, it forms whole tracts of low jungle; also in Ladakh and Kadak, at 4400 to 5000 feet. In general form it resembles a ground ash or gigantic hazel, 10 or 12 feet high, with branches about 2½ inches in diameter, and its fruit in clusters of small nuts. Wood very hard, resembling, but darker than, box. Messrs. Rudall and Rose formed a portion brought to England by Mr. Vigne into a finely-toned flute. It makes excellent tent-pegs.—*Vigne; Falconar; Cleghorn.*

FOUJDAR. HIND., PERS. A person in military employ in the Native States of India, but differing greatly in grades of rank; an officer of the Moghul government having police and criminal jurisdiction in a district. In Rajputana, the Foujdar is a leader of the vassals. The words are Fouj, an army, and Dar, holder.

FOUJDARI ADALAT, a court of military and criminal law. Courts of Sadr and Foujdari Adalat existed at Culcutta, Madras, and Bombay until the establishment of the High Court of Judicature.

FOULKES, The REVEREND THOMAS, author of the Elements of the Vedantic Philosophy, Madras 1860; A Synopsis of Hindu Systems and Sects, Madras 1860; The Elements of the Saiva Philosophy, Madras 1863.

FOUNDLING HOSPITALS, and poorhouses for the aged poor, and leper hospitals, are established in China and throughout the British Indian Empire.

FOUR, 4. The figure 4 surmounted the monogram of the E. I. Company, meaning unknown.

FOURCROYA CANTALA. —?

Agave cantala, *Roxb.*		Aloe Americana, *Rumph.*	
Bilati ananas, . .	BENG.	Bramha rakshasi, .	TAM.
American aloe, .	ENG.	Kitta nara, . . .	,,
Great aloe, . . .	,,	Samato, ...	TEL.
Simai katalay, . .	TAM.	Balu rakkisa, . .	,,

This plant flowers when 10 or 15 years old, and when 20 or 30 feet high.

Fourcroya Gigantea. *Vent.* Simai katalay, TAM. The great aloe, one of the Amaryllaceæ, has been introduced into India from S. America. It is remarkable for its leaves, which are often 10 feet long. It yields a fibre 5 or 6 feet long, somewhat finer than agave fibre, but possessing similar properties. It is less abundant than the agave, but is as easily propagated. In preparing its fibre, called aloe fibre, the leaves, cut close to the stem, are placed on a piece of board, and beaten with a short stout stick. After being thus bruised, the pulpy portions are scraped out with a blunt knife, and the fibres are subsequently washed in clean water and dried in the sun. Its long and strong fibre deserves more attention than is given to it. The agave and fourcroya are similarly called aloes, and their fibres, aloe fibre. They are capable of enduring a great variety of climates, and are all rapidly extending over India; but they are not yet sufficiently abundant, the Fourcroya gigantea especially, to yield the fibre in large quantities.—*M. E. J. R.* See Fibres.

FOWLS.

Ki; Chuh-ye, . .	CHIN.	Murghi, ...	HIND.
Ouph, ...	HEB.	Koli, ...	TAM.

Though in numerous breeds and sub-breeds, all the domestic fowls seem to have diverged from a single type. The game breed is from the Gallus Bankiva, called also G. ferrugineus. Its feathers are closely depressed to the body; it is indomitably courageous, evinced even in the dispositions of the hens and chickens. It is of various colours.

Malay fowl, with body of great size, disposition savage.
Cochin or Shang-hai breed, of great size, of Chinese origin, and disposition quiet.
Bantam breed, originally from Japan.
Creepers or Jumpers, from Burma, with monstrous short legs.
Frizzled or Kafir fowls of India, with feathers reversed.
Silk fowls, with silky feathering; and
Sooty fowls of India, the hens of which have a white colour, soot-stained, black skin and periosteum.
Gallus Sonneratii does not range into the northern parts of India; part of its hackles consist of highly peculiar horny laminæ, and it is not now believed to be the parent bird of the domestic fowl.
Gallus Stanleyii is peculiar to Ceylon, and greatly resembles the domestic fowl.
Gallus varius, called also G. furcatus, is met with in Java, and the islands of the Archipelago as far east as Flores. It has green plumage, unserrated curb, and single median wattle.
Gallus Temminckii is supposed to be a hybrid.
Gallus Bankiva, inhabits N. India as far west as Sind, ascends the Himalaya to a height of 4000 feet; inhabits Burma, the Malay Peninsula, Indo-Chinese countries, and the E. Archipelago as far as Timor.

The Europe breeds, Dorking, Hamburgh, Andalusian, Spanish, Sultans, Ptarmigan, Ghoandook, Rumpless, are unknown in S.E. Asia.

A long-tailed variety occurs in Corea; the kind with feathered legs, known in England as Cochin-Chinese, are obtained in Ho-nan. In China, a cock is used in oaths and sacrifices, and is not to be used on ordinary occasions. Black-boned fowls are in China prized to make soups for persons with lung diseases.

Fowls are not mentioned in the Old Testament, and are not figured on Egyptian monuments. They are figured on some of the Babylonish cylinders, B.C. 600 and 700. The Institutes of

Menu permit the wild fowl to be eaten, but forbid the domestic fowl, and Hindus avoid domestic fowls and fowls' eggs. At the present day, most of the pagan tribes on the east coast of Africa, from 4° to 6° south of the equator, hold the fowl in aversion. Cæsar informs us that the Celts of Britain would not eat the hare, goose, or domestic fowl. The Rajput will hunt the first, but neither eats it nor the goose, sacred to the god of battle (Har), and rarely the domestic fowl. The domestic fowl is eaten freely by Mahomedans, and they are largely reared for the table.

Fowls are sacrificed by the Yezdi of Kurdistan. The Assyrians worshipped the cock. The Jews of the East offer a cock for man and woman as an atonement. Socrates, when dying, desired a cock to be sacrificed to the god of health. Fowls fatten best when kept in the dark. In India their eyelids are sewn together.

Fowls' Gizzard, Ki-lui-kin, Chun-pi of the Chinese. The inner lining of the gizzard of fowls is peeled off and dried, and given medicinally in dyspepsia, spermatorrhœa, and urinary disorders. —*Darwin; Tod's Rajasthan; Smith.* See Cock; Gallus.

FOX.

Taaleb, ... ARAB.	Volpe, Volpone, . . IT.
Renard, ... FR.	Kokri, ... MAHR.
Fuchs, ... GER.	Robur, . . . PUSHTU.
Shual, ... HEB.	Zorra, ... SP.
Lomri, Nomri, . HIND.	Tilki, ... TURK.

India has three foxes,—

Vulpes Bengalensis, *Shaw.*

Canis Bengalensis, *Gray.*	Vulpes corsac, *Blyth.*
C. kokree, *Sykes.*	V. Bengalensis, ,,
C. rufescens, *Gray.*	V. Indicus, ,,
Vulpes Indicus, ,,	V. kokree, ,,
Lomri, Loomri, . DUKH.	Bengal, common fox, ENG.
Noomri, ... ,,	

Lives in the entire of India and the adjacent countries, but varies both in size and colour in different localities; is generally of a greyish brown with a fulvous cast, passing in some cases to Isabella; it is always variegated above with an intermixture of whitish hairs. It is a very pretty animal, but much smaller than the European fox, with a short head, very sharp muzzle, oblique eyes, nut-brown irides, very slender legs, and very bushy tail, trailing on the ground. Its principal food is rats, land-crabs, grasshoppers, beetles, and fruit; the mango, the custard apple, are largely eaten. It always burrows in open plains, runs with great speed, doubling like a hare; but instead of stretching out at first, like the hare, and trusting to its turns as a last resource, this fox turns more at first, and if it can fatigue the dogs it then goes straight away.

Vulpes flavescens, *Gray.*

Vulpes montanus, *Hodgs.* | Robur in Kandahar.

This species is numerous in the valleys around Kandahar, hiding in burrows and in holes in the rocks. It is about two feet long from the nose to the insertion of the tail, and the tail is about seventeen inches; height at shoulder, about fifteen inches. Its tail is yellowish; back rather darker, inclining to brown; face and outer side of fore legs and base of the tail fulvous; spot on the side of the face just before the eyes; the chin (breast), the front of the fore legs, a round spot on the upper part of the hind foot, and the tips of the hairs of the tail blackish; end of tail white, and ears externally black. The skins are soft, and are made into the nimchah and postīn overcoats.

Vulpes montanus, *Pearson*, the hill fox.

Canis montanus, *Pears.*	Vulpes montanus, *Gray.*
C. Himalaicus, *Ogilby.*	V. Nipalensis, ,,

The hill fox of India dwells in the Himalaya, ranging up to the snow limits; and in winter, when the snow is on the ground, they are very numerous about Simla, coming close to the houses in search of offal. Its fur is exceedingly rich, dense, and fine, the longer sort measuring fully two inches upon the back, and the inner everywhere of considerable length, and of a woolly character. General colour, pale fulvous; head mixed with white; tail bushy and white-tipped.—*Horsfield's Cat.; Col. Sykes; Jerdon.*

FOX ISLANDS, or Aleutian Islands, in the Northern Archipelago, on the west coast of America. This name was given to the whole group (16), on account of the great number of black, grey, and red foxes with which they abound. Lat. 52° 55′ N.

FRAGARIA, the strawberry genus of plants, of the order Rosaceæ. Some wild species occur in India, and others are cultivated. F. Chilensis, *Ehr.*, the Chili strawberry, was brought from S. America. F. collina is also an introduced plant. F. elatior, *Ehr.*, is the hautboy strawberry from America; and F. grandiflora and F. majaufea are also known, as also F. Roxburghii, *W. and A.*, the F. Indica of Roxburgh, which has also been classed with Duchesnea and Potentilla, growing in the Neilgherries, Dehra Doon, and Kamaon. Fragaria vesca, Shie-mei, CHIN., is the wood strawberry.

Fragaria Indica. *Andr.* Wild strawberry.

F. Malayana, *Roxb.*	D. fragiformis, *Don.*
Duchesnea fragarioides, *Sm.*	Potentilla Wallichiana, *Ser.*
Paljor of . . . CHENAB.	Bunun, Musrini of RAVI.
Kanzar of . . JHELUM.	Banaphul of . SUTLEJ.
Ingrach, Yang, Tash, KANG.	Tawai of . . . TR.-IND.

This grows wild in most parts of the Panjab Himalaya, from 4000 to 12,000 feet, in Kamaon, Dehra Doon, Neilgherries, and Penang. The fruit is excellent when gathered dry, but is largely improved by cultivation. See Strawberry.

FRA JOAN, an Augustine monk, who reigned for many years as a petty sovereign on the island of Sundwa, about the middle of the 17th century.

FRANCE, a country of Europe, which, in the 18th century, nobly made exertions for empire in the East. They occupied Madagascar, also the Isles of Bourbon and France; formed a factory at Surat and one at Masulipatam; were repulsed at Galle, but took, and again lost, Trincomalee; settled at Pondicherry, which they surrendered to the Dutch. They took and abandoned Surat, but founded Chandernuggur, conquered Mahe, obtained Karikal, repulsed the British fleet off Negapatam, took Madras. Defeated Mafuz Khan near Madras, at Sadras, and St. Thomé, but were surprised at Cuddalore, twice repulsed and forced to retire. They were besieged in Pondicherry, but repulsed the besiegers. They gained the battle of Amboor, when Anwar-ud-Din fell; surprised the camp of Morari Rao; defeated Muhammad Ali, son of Anwar-ud-Din, stormed Ginji; defeated Nasir Jung; defeated the British at Volconda. They were shut up at Trichinopoly, where they were twice defeated by Clive, and

retreated to Seringham, where they subsequently surrendered to the British. They afterwards defeated the British at Viccravaudi, but sustained a defeat from them at Bahur. They repeatedly defeated the Mahrattas, obtained great power, under M. Bussy, at Hyderabad, and obtained the cession of four provinces on the eastern coast. They defeated the British at Teruvadi, but were defeated at the Golden Rock, at the Sugar-loaf Rock, and took refuge in Seringham; were repulsed at Trichinopoly, but surprised the British and Contapara; made peace with the British, and refused to aid Suraj-ud-Dowla against the British. Subsequently, at Negapatam, they were beaten, but took Cuddalore and Fort St. David, and were repulsed from Tanjore. They were beaten off Tranquebar, at Condore, and off Fort St. David and at Wandiwash, and surrendered Pondicherry. Their efforts ceased from the 16th January 1761. By the treaty of Paris in 1763, Muhammad Ali was declared an independent sovereign. They are a brave and conquering nation, and had able leaders, but the officers under Dupleix and Bussy were inferior. France now holds the island of Bourbon, or Reunion, in the Indian Ocean; also settlements on the coast of Madagascar, at Nossi Bé, the island of St. Marie, and at Bali Bé; the island of Mayotta, one of the Comoro group, was purchased also, in 1841, from a chieftain, and converted into a colony. In Cambodia France has 56,000 square miles of territory, with a population of 750,000 souls, and exercises a protectorate over Annam.

The remaining French possessions in India consist of five towns, Chandernuggur, Karikal, Pondicherry, Yanaon, and Mahe. The total square miles of these is 191½, with a population of 203,887. Pondicherry was restored to France by the peace of 1763; in 1778, again taken by Sir Hector Monro, to be restored by the treaty of peace of 20th January 1783. Captured again in 1793; again restored by the peace of Amiens in 1801. Recaptured in 1803, and finally restored in 1814 and 1815. France sends annually to British India above half a million sterling of merchandise, and takes to the value of eight millions.

During their greatest efforts, Admiral de la Bourdonnais was employed by sea, and Dupleix and Bussy on land. Many eminent men of this nation served in India,—the younger Lally, Law, Dupleix, Bussy, De Suffren, De Boigne, Perron, La Bourdonnais, Dudrenec, Jean Baptiste, Raymond, and Bernadotte, who was subsequently king of Sweden. The noticeable era of the French power in India was but of short duration, but remarkably brilliant while it lasted. It commenced under the government of M. Dupleix in 1749, and was extinguished by the surrender of Pondicherry in 1761.

In 1601 they had sent two ships to India from St. Maloes, under the command of Lieutenant Bardelieu, but both were lost off the Maldives. In 1604 Henry IV. incorporated the first French East India Company, which the minister Colbert in 1664 re-established on an improved footing, granting a monopoly of the trade for fifty years. In 1668 Surat was selected as their first settlement; afterwards Trincomalee was taken from the Dutch, but soon again recaptured. In 1672, St. Thomé, now a suburb of Madras, was taken from the Dutch, but in 1674 it was again restored to them, and the same year they occupied Pondicherry, which they continue to hold. In 1688 Aurangzeb ceded Chandernuggur to the French Company; in 1727 the Company obtained Mahe, which the nation still retains; in 1739 they purchased Karikal from the ruler of Tanjore; and in 1752, Yanam and Masulipatam, which the French had seized in 1750, were ceded to them, the former definitely.

Between 1735 and 1754, Messrs. Dumas and Dupleix contributed greatly to uphold the French power. Dupleix was appointed governor of Chandernuggur in 1730, governor of Pondicherry in 1742 and 1746. In 1798 (19th May) the French nation invaded Egypt; and in 1801 an Indian contingent, under Sir David Baird, sailed for Egypt, where they arrived on the 8th June. It returned from Egypt in July and August 1802. Napoleon Bonaparte returned to France, October 1799. On the 22d October 1798, Colonel Roberts surrounded and disarmed the French troops, 11,000 strong, at Hyderabad.

FRANCKLIN, MAJOR WILLIAM, of the Indian army, author of History of Shah Alam; Memoirs of George Thomas; Observations in a Tour from Bengal to Persia in 1786–87; with Account of the Remains of Persepolis, Lond. 1790; Tracts, Political, Geographical, and Commercial, on the Dominion of Ava and the North-Western parts of Hindustan, 8vo, Lond. 1811.

FRANKINCENSE.

Kundur, ... DUKH.	Kamanan, Manan, MALAY.
Encens, ... FR.	Minan, Kamayan, ,,
Incenso, . . . IT., SP.	Kandricam, . . . TAM.

Of this there are several kinds in commerce. The best are the Arabian or tear olibanum, the African, and the East Indian or stalactitic. Olibanum and b'dellium, fragrant resins from species of Boswellia, are obtained in India from the Boswellia glabra, and the gum-resin of the Canarium strictum, *Roxb.*, is also fragrant. The oleo-resin of the Abies excelsa, or Norway spruce fir, is known as common frankincense; and in India the oleo-resin of Pinus longifolia is also so called. Some of the frankincense of European markets is doubtless obtained from the Juniperus lycia; and a tree of America is called the frankincense pine.

The substance called Kundricum by the Tamil people is very common in the Indian bazars, and is used as an incense in religious ceremonies equally by the Hindus and Portuguese Christians, being, though not quite of so grateful an odour, cheaper than benzoin. It is supposed by the Mahomedan medical men to be a species of olibanum, and they give the name of Kundur to both; but it is very unlike olibanum in its appearance, being always seen in pretty large agglutinated masses, composed of light-brown and yellowish tears, and having a strange stony kind of hardness when pressed betwixt the teeth; whereas the olibanum is in separate small roundish balls or large grains, which do not give the same sensation on being chewed, nay, even stick to the teeth. The Kundricum is generally brought to Southern India from Madagascar, from the coast of Borneo, and also from Pedir on the island of Sumatra. Common frankincense or thus is a spontaneous exudation from the spruce, the Abies excelsa, *D.C.*—*Ains. Mat. Med.* p. 16; *Birdwood, Veg. Prod.*

FRANKLIN, MAJOR J., an officer of the Indian army, author of Memoir on Bundelkhand; also

wrote on the geology of Bundelkhand, and on the Punna diamond mines.

FRASER, JAMES, author of History of Nadir Shah, and a Short History of the Moghul Emperors, Lond. 1742.

FRASER, JAMES BAILLIE, author of Journey from Constantinople to Tehran, and Travels in Persia; also Travels in the Caspian Provinces of Persia; also Journal of a Tour through part of the Himalaya Mountains and to the Source of the Rivers Jumna and Ganges, 4to, Lond. 1820; also Narrative of a Journey into Khorasan in 1821–22, with an Account of the Countries to the N.E. of Persia, 4to, Lond. 1825; also Travels in Koordistan, Mesopotamia, etc., with Sketches of the Character and Manners of the Koordish and Arab Tribes, 2 vols. 8vo, Lond. 1840.

FRASERPET or Khushhal Nuggur, a town in Coorg, 19 miles N. of Mercara, on the left bank of the Cauvery, in lat. 12° 26′ N., long. 76° 3′ E. It was named Khushhal Nuggur by Hyder, but takes the name of Lieutenant-General Fraser, the first Commissioner of Coorg.

FRAXINUS, the ash tree, Aran of the Arabs, and Oren of the Hebrews. Two species of the genus Fraxinus grow in the Western Himalaya,—F. floribunda, or large ash, and F. xanthylloides, or crab ash. They grow in the Mehra forest, near Abbotabad, Hazara; and in the valley of the Sutlej there is abundance of yew and olive, and a considerable quantity of box and ash, the ash and olive near the river, but the box and yew on the higher slopes, 2000 feet or more above the Sutlej. The larger ash and yew are much esteemed for jampan poles, hefts, and tool handles, etc.; and the larger, in colour, grain, and toughness, resembles the English ash, and makes good walking-sticks. Some species of ash are remarkable, like the sugar maples, to which in some respects they are allied, for the sweetness of their sap, which on concreting by exposure to the sun is known as manna. To the two species, F. rotundifolia and F. florifera, and probably also to other species, we owe the manna. Ornus florifera, the flowering ash tree, grows in the mountains of the south of France; and F. rotundifolia (Ornus rotundifolia), the round-leaved manna ash tree, is a native of Calabria and Sicily. The wax insect tree of China, F. Chinensis, grows abundantly on the banks of ponds and canals in the province of Che-kiang. When the insect, Coccus pela, *Westwood*, is fully developed, the trees seem as if covered with flakes of snow. The wax is of great value in Chinese commerce, and a small portion is exported.—*Fortune's Residence*, p. 146; *Cal. Cat. Ex.* 1862; *Cleghorn, P. Rep.; Royle, Him. Bot.* p. 266; *O'Sh.* p. 434.

FRAXINUS FLORIBUNDA. *Wall.*

Sinnu, Shumu,	CHENAB.	Sunnu, ...	RAVI.
Sum, ...	JHELUM.	Ugai, Shing, .	TR.-IND.
Hum, Hamu, .	KANGRA.	Banash, . . .	„

The large ash is found on the Thandiani and Mochpura ranges of the Himalaya, but not in Kaghan. It is a handsome tree, with a deeply furrowed bark, growing to 15 feet in girth and 120 feet high. The wood is excellent, possessing most of the qualities of European ash. It is valued for jampan poles, ploughs, platters, spinning-wheels, etc., and in Kashmir is reckoned by far the best wood for oars.—*J. L. Stewart, M.D.; Cleghorn, Panjab Report*, pp. 80, 177.

FRAXINUS XANTHOXYLLOIDES. *Wall.*

F. Moorcroftiana, *Wall.*

Butru, Sandal, .	CHENAB.	Chijla, Chuj, .	KANGRA.
Shangal, . . .	„	Siju, ...	„
Crab ash, . . .	ENG.	Chum, Thum, .	SUTLEJ.
Nuch, Hanuz, .	JHELUM.	Shang, . . .	TR.-IND.
Shilli, ...	„		

The crab ash is a large shrub or small tree. It grows in the N.W. Himalaya, and is found in the Sutlej valley between Rampur and Sungnam at an elevation of 7000 feet, and in Tibet up to 12,000 feet. It rarely reaches a girth of 5 feet and 25 feet high. The wood is small, but hard, heavy, and strong, mostly used for walking-sticks, hefts, handles, etc., and for fuel. Cleghorn states that it is at times used for jampan poles.—*J. L. Stewart, M.D.; Cleghorn, Panj. Report*, p. 64.

FREDERICK. Cæsar Frederick, a Venetian merchant, in 1563 travelled by way of the Persian Gulf to India, and on to Pegu in 1568. The account he gives of his travels was translated into English in 1588, by Thomas Hichoch. He describes Cambay, Ahmedabad, and Goa, and gives a detailed account of the commerce of Pegu. It had previously been visited by Antonio Correa, who, shortly after the occupation of Malacca by the Portuguese, was despatched thither with the view of establishing trade with Burma. It was subsequently (1583) visited by Gasparo Balbi; and his Viaggio dell' Indie Orientale and Cæsar Frederick's Narratives are the best notices we possess of this country until the publication of the modern works of Symes and Phayre.

FREGILUS GRACULUS, the chough, is found on high mountains and sea-cliffs of Europe, Asia, and Africa, is common in high Central Asia, the Himalaya, Afghanistan, etc.; as is also another chough, Pyrrhocorax alpinus, of the Swiss Alps and Pyrenees.

FRENCH BEANS, haricots.

Faginoli, ... IT. | Judia, ... SP.

Contain much nutritive matter, and are most desirable for the food of troops.

FRERE, SIR HENRY BARTLE, K.C.B., an eminent Bombay civil servant, Commissioner of Sind, Member of the India Council, afterwards Governor of the Bombay Presidency. He went as envoy to the sultans of Zanzibar and Muscat, with the humane object of endeavouring to put a stop to the slave-trade. He reported that from the remote island of Johanna to the Persian Gulf there are some rulers who are ashamed of and abjure slave traffic; that the prince who reigns at Muscat had not shrunk from declaring the freedom of every slave who shall land in his territory; and that Colonel Pelly had induced the Arab chiefs of what was once the pirate coast, to renew, confirm, and extend their engagements.

FRESCO PAINTINGS cover the walls of the caves of Ajunta; the walls of the mosque of Wazir Khan at Lahore are also covered with them.

FREYCINETIA BAUERIANA, the Norfolk Island grass tree, belongs to the tribe of Pandaneæ or screw pines. Its stem is marked by rings like the cabbage tree, where the old leaves have fallen off; and it lies on the ground, or climbs like ivy round the trees. The branches are crowned with crests of broad sedge-like leaves, from the centre of which the flowers arise, the petals of which are a bright scarlet, and the sepals green; and, when they fall off, clusters

appear of three or four oblong pulpy fruit, four inches in length, and as much in circumference. —*Keppel's Ind. Arch.* ii. p. 284.

FRIGATE BIRD, the Attagen aquilus, *L.*, and Tachypetes aquila, *Illiger*, is also called the sea hawk, also man-of-war bird and the boatswain. It has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds. It attacks the smallest birds, and makes other fishing birds abandon their prey. It takes extended flights, and is of great endurance, rising to vast heights in the air. It ranges through all tropical seas, and has been seen 400 leagues from land, but sailors say it returns to land every night. Its expanded pinions measure 14 feet from end to end. A. minor occurs in Australian seas.—*Ben.*

FRINGILLIDÆ, a family of small birds, which ornithologists arrange into six sub-families, viz. the Ploceinæ or weaver birds, the Estreldinæ are the munia or amadavads and wax bills, the Passerinæ or sparrows, the Emberizinæ or buntings, the Fringillinæ or finches, and the Alaudinæ or larks. The weaver birds build nests of strips of leaves or grass interwoven together. The amadavads are social little birds. The sparrows also are social, many of them preferring to dwell in towns. The ortolan bunting, E. hortulana, *L.*, occurs in the west of India; the Fringillinæ, comprising the grosbeaks, crossbills, rose-finches, and bullfinches, and the larks, are often kept as cage-birds. Fringilla montifringilla, the mountain finch of Europe, N. Asia, Japan, Asia Minor, Afghanistan, Kashmir, W. Himalaya, is a winter visitant in Britain, and the European Montifringilla nivalis has been obtained at Kandahar.

FROG-FISH, Cheironectes, *sp.*, the frog-fish of the British in India, belongs to the family of Lophiadæ or anglers, Lophius histrio and others, and species are met with in many seas. In this group the bones of the carpus form arms that support the pectoral fins, and enable these fishes to walk along the moist ground. C. immaculatus, *Ruppell*, has feet or claws rather than fins. Hartwig mentions a frog-fish of the Asiatic islands and the southern hemisphere, as remarkable for its hideous appearance and its capability of surviving for several days on land. Its pectoral fins are so placed that it can crawl about on land.—*Tennant's Ceylon*, p. 330.

FROGMOUTH, species of birds of the genera Batrachostomus and Ototrhix.

FROGS.

Grenouille, ... Fr.	Ranocchia, ... It.
Frosch, ... Ger.	Rana, ... Sp.
Mendak, ... Hind.	

Frogs are very common in all the south and east of Asia. They belong to the reptile sub-class Batrachia, and order Batrachia salienta. The Malabar bull-frog, Hylorana Malabarica, occurs in several parts of the Peninsula of India. The Rana cutipora occurs in Ceylon; it was named by Mr. Blyth Rana robusta. The little tree-frogs, Polypedates maculatus, *Gray*, shelter themselves beneath leaves from the heat of the sun; and several species of Polypedates occur in this region. The toes of the tree-frogs terminate in discs. Many of the small tree-frogs are mimickers. When seen in their natural attitudes, they cannot be distinguished from beetles or other insects sitting upon leaves. Several species of toads occur in Ceylon, but the more common are Buffo melanostictus, Kelaartii, and asper. As in Europe, so in India, these harmless creatures have ever been counted poisonous. In Ceylon this error is as old as the 3d century B.C., when, as the Mahawansa tells us, ch. xx. p. 122, the wife of king Asoko attempted to destroy the great Bo Tree (at Magadha) with the poisoned fang of a toad. Frogs are eaten in Europe, in India by the humblest of the races, by many of the Burmese, and in China by all classes. In Southern India, on Fridays, in the convents, Christian ladies from Europe use them. They are caught in China by tying a worm or a young frog just emerged from tadpole life by the waist to a fish-line, and lobbing him up and down in the grass and grain rice-fields where the old croakers are wont to harbour. As soon as one sees the young frog, he makes a plunge at him, and swallows him whole, whereupon he is immediately conveyed to the frog-fisher's basket, losing his life, liberty, and lunch together, for the bait is rescued from his maw, and used again as long as life lasts. Frogs, says Fortune, are in great demand in all the Chinese towns, both in the north and south, wherever he had been, and they were very abundant in Nan-tsin. They abound in shallow lakes and rice-fields, and many of them are very beautifully coloured, and look as if they had been painted by the hand of a first-rate artist. The vendors of these animals skin them alive in the streets in the most unmerciful and apparently cruel way. They are brought to market in tubs and baskets, and the vendor employs himself in skinning them as he sits making sales. He takes up the frog in his left hand, and with a knife which he holds in his right chops off the fore part of its head. The skin is then drawn back over the body and down to the feet, which are chopped off and thrown away. The poor frog, still alive, but headless, skinless, and without feet, is then thrown into another tub, and the operation is repeated on the rest in the same way. Every now and then the artist lays down his knife, and takes up his scales to weigh these animals for his customers and make his sales. Everything in that civilised country, whether it be gold or silver, geese or frogs, is sold by weight. Boiled frogs in a Burmese bazar are exposed for sale among other articles of food. The Pyxicephalus adspersus of Dr. Smith, the Matla-metlo of the Bechuana of S. Africa, when cooked, looks like a chicken. The length of the head and body is 5½ inches, and the hind legs are 6 inches long. During the dry months they conceal themselves in holes which they make at the foot of bushes.—*Williams' Middle Kingdom*, ii. p. 48; *A Res. among the Chin.* pp. 45, 343; *Tennant's Ceylon; Livingstone.* See Reptiles.

FRUIT.

Samar, Thamar, . Arab.	Bua, ... Malay.
Athi, ... Burm.	Bar, Mewa, . . Pers.
Ooft, ... Dut.	Owoschtsch, . . . Rus.
Obst, Fruchte, . . Ger.	Fruta, ... Sp.
Phal, Mewa, . . Hind.	Kai, Pallam, . . . Tam.
Frutta, Frutte, . . It.	Pandu, also Kaia, . Tel.
Fructum, ... Lat.	Yemish, Meyve, . Turk.
Fal, ... Mahr.	

The better known of the fruits of the S.E. of Asia are as under:—

Custard-apple, Anona squamosa.	Jack, Artocarpus integrifolia.
Soursop, A. muricata.	Breadfruit, A. incisus.
Bullock heart, A. reticulata.	A. communis.

Carambola, Averrhoa carambola.
Bilimbi, A. bilimbi.
Bengal currants, Carissa carandas.
Cherry, Cerasus.
Chestnut, Castanea Martabanica.
Chocolate nut tree, Theobroma cacao.
Double-leaved citron, Citrus torosa.
Orange, C. aurantium.
Sweet limes, C. limetta.
Shaddock, C. decumana.
Citron, C. medica.
Small lime, C. bergamia, C. acida.
Large lime, C. bergamia.
Lemon, C. limonum.
Cocoanut, Cocos nucifera.
Dorian, Durio zibethinus.
Figtrees, Ficus carica, lanceolata, glomerata, and macrophylla.
Hog plum, Spondias mangifera.
Otaheite gooseberry, Cicca disticha.
Brazil gooseberry, Physalis.
Granadilla, Passiflora quadrangularis.
India grape, Vitis Indica.
Grape vine, V. vinifera.
Guava, Psidium pyriferum (white).
Guava, P. pomiferum (red).
Leechee, Nephelium lichi.
Loquat, Eriobotrya japonica.
Mango, Mangifera Indica.
Mango, M. sylvatica.
Horse mango, M. fœtida.
Opposite leaved mango, Cambessedea oppositifolia (mangifera).
Mangosteen, Garcinia mangostana.
Water melon, Citrullus cucurbita.
Musk melon, Cucumis melo.
Mulberry, Morus Indica.
Oleaster plum, Eleagnus conferta.
Pawpaw, Carica papaya.
Pear, Pyrus.
Pierardia fruit, Pierardia sapota.
Pine-apple, Ananas sativus, Bromelia ananas.
Plantain, Musa paradisiaca.
Pomegranate, Punica granatum.
Rambutan, Nephelium lappaceum.
Raspberry, Rubus, *sp.*
Roselle, Hibiscus sabdariffa.
Rose apple, Eugenia jambos, Jambosa vulgaris.
Jambo fruit, E. jambolana.
Malay apple, E. jambosa, E. Malaccensis.
Doricum Indicum.
Strawberry, Fragaria, *sp.*
Sapodilla plum, Achras sapota.
Fœtid sterculia, Sterculia fœtida.
Budh's cocoanut, S. alata.
Tamarindus Indicus.
Triphasia trifoliata.
Uvaria grandiflora.
Walnut, Juglans regia.
Walnut Pegu, J. tricocca, ta soung-let-wah.
Whortle berry, Thibaudia loranthifolia.
Willoughbeia Martabanica.
Wood-apple, Feronia elephantum.

In few natural products is India more prolific than in its fruits. The pine-apple, mango, mangosteen, jambo, tamarind, orange, strawberries, dorian, guava, jack, grapes, figs, peaches, pomegranate, apricot, apple, pear, and loquat are amongst the best known, besides an infinite variety of smaller fruits, partaken of by the natives, either dried or in their curries. To the north, and in the hill districts, peaches, grapes, figs, etc., are both abundant and of good quality. In the south and central parts of Hindustan the fruits and vegetables in general use amongst the people are the melon, gourd, cucumber, water-melon, plantain, guava, jujube, custard-apple, and fig. In some of the hill districts the wild raspberry and a species of gooseberry are found in great abundance and of good quality. On the N.W. of India, in parts of the Panjab, Himalaya, in Kashmir and in Afghanistan, the fruits preferred by Europeans are more plentiful. In Kashmir the fruits which attain maturity are the apple, pear, quince, peach, apricot, plum, almond, pomegranate, mulberry, walnut, hazel-nut, pistachio, and melon. The gilas cherry is indigenous, and is cultivated in orchards. The bullace, Prunus insitita, is found nowhere else in a wild state. The vine is extensively cultivated.

In Kashmir there are four varieties of walnut; one of these grows wild in the forest, and the others are cultivated. The former is very tiny, and the scanty kernel is encased in a thick shell. One of the horticultural species is very much superior to the others; it is the Kaghazi (from Kaghaz, paper), because the shell is as thin as paper, and can easily be broken by the hand. The superiority of this species is attributed to its having been originally engrafted; but though now raised from seed, it does not become deteriorated. Some of the Panjab fruits are the produce of the waste or jungle lands; others are regularly cultivated; but among the most remarkable are the products of the thal or sterile sandy portions of the Muzaffargarh district. The berries of the salvadora, the seed-pods of the jhand (Prosopis spicigera), which are ground up and made into bread when dry, the acid berries of the Withania coagulans, used to curdle milk with, the shoots of that singular plant which is occasionally found in jhand and pilu thickets, the Boucerosia edulis, and also dried mushrooms, are among edible products of the province.

In Kanawar, apples are abundant and nice-looking, though not with much flavour. Peshawar exports dried red raisins, which sell at 18 lbs. for a shilling, and dried raisins of a pale green colour, which sell at 4 lbs. for a shilling; and bloom raisins are also obtainable. Dried apricots are very abundant; also figs dried, flattened, and strung together; also the dried plum (alucha) of Peshawar. The small seedless raisin, the kismis, is in every bazar. In the upper hills of the Panjab, the apricot (jaldaru or zardaru) is common, its kernel yielding oil. Apples and pears are also grown. There are two species of cherry, the jamuna, or Cerasus cornuta, and the Cerasus padam; the former has black sweetish berries, which are eaten. The wild pear, called mehal or kainth (Pyrus variolosa), is common also in the hills. It somewhat resembles the medlar, and the fruit is sweet when it is rotten. In Kangra and Kulu there is a crab or wild apple, called ban mehal (Pyrus baccata), also a quince (Cydonia vulgaris). The fruit of the trimal, or Ficus macrophylla, is sold in the bazar at Simla. There are on the Upper Sutlej some species of Ribes (R. nubicola and R. glaciala), which are like currants, but have little flavour; also a species of gooseberry. There is a wild strawberry (Fragaria Indica), and a blackberry, called unsri (Rubus flavus), the fruit of which is preserved. In Kulu and Kangra the loquat (Eriobotrya Japonica), and the pomegranate, darim (Punica granatum), both occur. The mitha tendu, or fruit of the Diospyros tomentosa, must not be omitted. In the Sutlej valley, Myrica sapida yields a fruit useful for making sherbets. Among nuts we find the findak, or nuts of Corylus lacera, sold at Simla; and the seeds of the edible pine (P. Gerardiana) are kept for food in Kanawar, where they sell at 2 annas a seer = 1½d. the lb. Above Chini this tree is the principal one in the forest. In the lower hills the fruit of the amla (Phyllanthus emblica) should perhaps be included; the well-known plantain and mango do not occur. The latter is last seen, says Dr. Cleghorn, near Rampur on the Sutlej, and the former below Kotgarh. Eleagnus conferta gehai and Carissa edulis yield fruits that can be preserved, the latter making the well-known Karunda jelly.

The fruits of Sind are from Cordia Rothii, *R. and S.;* Grewia affinis, salicifolia, rigida, *J. E. Stocks;* Tamarindus Indica, *Linn.;* Capparis aphylla, *Roxb.;* C. Decaisnæi, *Stocks;* Momordica

balsaminæ, *Linn.*; Salvadora Persica, *Linn.*; S. Indica, *Royle*; Solanum incertum, *Dun.*; Phyllanthus multifloris, *Linn.*, and Coccinea Indica, *W. and A.*

At Yercaud, on the Shevaroy Hills, at Bangalore in Mysore, and on the Neilgherry Hills, the fruits of temperate climates grow readily at heights of from 3000 to 6000 feet above the sea. Varieties of the pear, the bullock's-heart, apple, apricot, citron, carambola, cherry, custard-apple, fig, grape, guava, loquat, lime-tree, leechee, mangosteen, nectarine, varieties of the orange, with the bitter orange, the peach, pear, plum, Orleans plum, pomegranate, quince, rose-apple, sapodilla, soursop, and shaddock or pumplemose.

In Burma the fruits are very numerous, but nearly all of them very indifferent, though to a Burmese, who, while a child, eats a raw sweet potato with as much zest as a European would an apple, they are no doubt considered unsurpassable. The ancient Celts ate acorns, the modern Californians still use acorn bread, and the Burmese and Karens eat fruits which are but little superior to an acorn; in general, their fruits are much inferior to those of temperate climates.

The Malay names of the principal fruits of Penang, Singapore, and Siam are the amrah, Assam-glugor, Assam-kulubi, blimbing, blimbing buloh, blimbing saga, blinjow, buah-bell, buah-blingai, buah-bunga, buah-dulce mah, duku, kambule, kandangra, katapang, konajang, langsat, lemon-purut, namnam, palasan, rambai, rumania, sillooh.

The only trees to the cultivation of which the Chinese pay any attention, are the fruit-bearing kinds; and in some places, in China, there are very fair orchards, containing the mango, leechee, longan, wangpee, orange, citron, and pumelow. The yang-mai is a scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre. The kum-quat is a small species of citrus, about the size of an oval gooseberry, with a sweet rind and sharp acid pulp; a small quantity is annually sent to England as presents. Preserved in sugar according to the Chinese method, it is excellent. Groves of the kum-quat are common on all the hill-sides of Chusan. The bush grows from three to six feet high, and when covered with its orange-coloured fruit, is a very pretty object. The shaddock, plantain, and persimmon are common, and several varieties are enumerated of each; the plantain is eaten raw and cooked, and forms no inconsiderable item in the subsistence of the poor. The pomegranate, carambola or tree gooseberry, mango, custard-apple, pine-apple, rose-apple, bread-fruit, fig, guava, and olive, some of them as good and others inferior to what are found in other countries, increase the list. The whampe, leechee, lungan or dragon's eyes, and loquat (eriobotrya) are four indigenous fruits at Canton. The first resembles a grape in size, and a gooseberry in taste; the leechee looks like a strawberry in size and shape; the tough, rough red skin encloses a sweet watery pulp of a whitish colour, surrounding a hard seed. Grapes are plentiful, and tolerably good, but the Chinese do not make wine.

Fruits and Vegetables, Dried, Salted, exported from India.

Year.	Cwt.	Rs.	Year.	Cwt.	Rs.
1875-76,	43,257	1,67,375	1878-79,	60,907	2,52,050
1876-77,	78,774	1,89,805	1879-80,	94,091	2,92,332
1877-78,	59,541	1,85,140			

—*Williams' Middle Kingdom*, ii. p. 45; *Fortune's Wanderings; Cleghorn's P. Rep.; Mason's Tenasserim; M'Clelland's Report; Powell; Macnair; Mrs. Harvey.*

FRYER, JOHN, surgeon to the English E. I. Company. In a letter he asked to be made surgeon to the Surat factory. He travelled in Persia and India from 1672 to 1681; and his New Account of the East Indies and Persia, published in 1698, gives pictures of factory life in his time, and of the condition of the people of India. It is entitled Account of East India and Persia, being Nine Years' Travels, from 1672 to 1681, containing Observations on their Government, Religion, Laws, Customs, etc., fol., Lond. 1698.

FTITA. ARAB. An unleavened paste of flour and water, baked in ashes of camels' dung, and mixed up with a little butter.—*Robinson's Travels.*

FU. Every Chinese province is divided into a certain number of districts, called Fu, Ting, Chow, or Heen. Fu is a large portion or department of a province under the general control of a civil officer, immediately subordinate to the head of the provincial government. Ting is a smaller division than, and sometimes a portion of, a Fu; when separate, it is governed as a Fu, and called a Chuh-le.

FUCACEÆ, the sea-weed tribe of plants, the Algaceæ of Lindley and the Algæ of Jussieu. They are leafless, flowerless water plants. A species is mentioned by Dr. Bennett (p. 12) as growing on coral banks in isolated patches, which stings like a nettle. It is about a foot in length. It has a small corrugated granular bag filled with a transparent fluid.

Fucus natans is the Gulf weed which travellers to and from India meet with in the Atlantic. Agar-agar is the Malay name for the Fucus tenax of many of the Malayan islands, and forms a considerable article of export to China by junks. It is esculent when boiled to a jelly, and is also used by the Chinese as a vegetable glue. It abounds on the coral shoals in the vicinity of Singapore, but the finest known in the Archipelago is found on the coast of Billiton. It is known to the Chinese by the name of Hy-chy, and is converted by them into various purposes, such as glue, paint, etc. The chief consumption of it is in the dressing and glazing of their cotton manufactures, and the preparation of sacrifice paper and paintings for their temples. A small portion of the finest part is sometimes made into a firm jelly, which on being cut up and preserved in syrup makes a delicious sweetmeat.

Iodine is obtained from various species, Fucus vesiculosus, *L.*, F. nodosus, *L.*, etc.

Fucus amylaceus, *O'Sh.*
F. esculentus of authors. | F. lichenoides, *Turner.*
Ceylon moss, . . ENG. | Kaddil-pash, . . . TAM.

Grows in great abundance at Jafnapatam, and when boiled down makes an excellent jelly for invalids, and forms an article of trade thence.

Fucus spinosus, *Linn.*, F. tenax, *Turner.* Syns. of Eucheuma spinosa, the Gracillaria tenax of authors.—*Bennett*, p. 12; *Crawfurd, Dict.* p. 6. See Agar-Agar; Ceylon Moss; Edible Sea-weed; Eucheuma spinosa; Gracillaria tenax; Sphærococcus.

FUCHSIA, a genus of beautiful plants, which can be cultivated in India during the rains and cold season. They grow freely from slips, which

may be sent to a great distance if packed either in a tin case or bamboo, surrounded with damp moss. The soil in which they strike best is a light sandy loam. The slips, until they have thrown out strong shoots and leaves, must never be exposed to the sun, and even then only early in the morning.

FU-CHU, the capital of Foh-kien province, one of the most wealthy and populous cities in China.—*Yule, Cathay*, i. p. 109.

FU DO, a Buddhist deity of Japan. The figure is usually seated, always surrounded with flames, holding a naked sword in the right hand, and in the left a coil of rope, with which to punish the wicked.—*Sir J. E. Reed*, p. 84.

FUDSI YAMA or Fusi-Yama, a high volcanic mountain of Japan, at present inactive, but which tradition reports to have risen in one night, and as it rose there occurred a depression in the earth near Miako, which now forms the lake of Mit-su-no-umi. In A.D. 864 the mountain burst asunder from its base upwards, and at its last eruption in 1707 it covered Yedo with ashes. It is a sacred mountain. It is crested with snow, and presents the appearance of a truncated cone, and the gathering of a white cloud around its summit is a sign of bad weather. It is occasionally ascended by Japanese pilgrims for the worship of the god of the winds. Its peak, in lat. 25° 31′ N., and long. 138° 42′ E., is more than 14,000 feet above the sea. See Japan; Yama.

FUH, the Chinese abbreviation of Fuh-too or Buddha. Fuh-kwoh, the land of Buddha, the Chinese name for Tibet.

FULADAT, a town near Bamian; yields gold and lapis-lazuli.

FULIGULINÆ, a sub-family of birds of the family Anatidæ. It contains one species of the genus Branta, four species of Fuligula, and two of Aythya. Fuligula ferina, the pochard, in the circuit of northern regions, Barbary, is common in India. F. nyroca, ferruginous duck, Europe, Asia, N. Africa, is common in India. F. marila, scaup duck, circuit of northern regions, Panjab, Sind, Nepal. F. cristata, tufted duck, Europe, Asia, Barbary, is common in India. F. rufina of Pallas is the crested pochard.

FULLERS' EARTH.

Wu-sih-shih-chi,	CHIN.	Terra da purgatori,	IT.
Volaarde,	DUT.	Terra fullonum,	LAT.
Terre-a-foulon,	FR.	Schiffernaia,	RUS.
Walkererde,	GER.	Tierra de batan,	SP.

A soft, dull, greasy kind of clay, usually of a greenish-brown colour. It is used in the fulling of cloth from its property of absorbing oil and greasy matter. It is found in various parts of the south of England. Two kinds are distinguished, —yellow earth, the best, employed for the finer cloths of Wiltshire and Gloucestershire; and blue earth, principally used in fulling coarser cloths in Yorkshire. Kan-tu of the Chinese, meaning fullers' soap, is a kind of fullers' earth obtained in Peh-chi-li, Ho-nan, and Shen-si in China. It is used to remove grease from cloths.—*M'Culloch; Smith.*

FULLJAMES, CAPT., an officer of the Bombay army who wrote an account of the island of Perim in the Bom. As. Trans. i. p. 18; Visit to the Rajpeepla Hills, and Account of the Cornelian Mines, in Bom. Geo. Trans. i. p. 8; A Report on the Floods of the Taptee at Surat in 1837, ibid. vii. p. 352; An Account of Borings and Strata passing through the Gogo, in the Bl. As. Trans. 1837; Bom. As. Trans. 1841, i. p. 25; An Account of a Singular Hollow near Ahmedabad, called the Boke, supposed Volcanic, in the Bom. Geo. Trans. vii. p. 164; and On the Present and Former State of the Runn of Cutch, ibid. viii.—*Dr. Buist's Catalogue.*

FUMARIEÆ, the fumitory tribe of plants, of which there are about 70 species, a moiety known in India, Japan, and Persia. The Indian species, besides two that are common to other countries, consist of about 16 of Corydalis, 1 of Dactylocapnos, and 1 of Macrocapnos. The plants of this order have watery juice, are common in the Himalaya from Nepal to Kashmir, and contain a bitter principle.—*Voigt.*

FUMARIA OFFICINALIS. *L.* Fumitory.

Baqlat-ul-malik,	ARAB.	Pit-papra, Papra,	HIND.
Tsze-hwa-ti-ting,	CHIN.	Shaturuj,	PERS.
Fumeterre,	FR.	Shatra,	,,

This is used by Indian physicians, who consider it diuretic. Among European practitioners it was long regarded as a valuable tonic and alterative. From the Latin Fumus, smoke.—*O'Sh.*

FUMARIA PARVIFLORA, *W. et A.*, has the same synonyms. It greatly resembles F. officinalis, but is smaller. Flowers of a pale-red colour. It is found in Kent, and is also very common in the East Indies. F. parviflora is considered to be identical with the καπνός of the Greeks. It is much used in the Upper Provinces of India, mixed with black pepper, in the treatment of intermittent fevers. Is extensively employed as an anthelmintic and in mania, to purify the blood in skin diseases; also as a diuretic, diaphoretic, and aperient. —*Powell*, i. p. 327; *O'Sh.*

FUND. This term is applied in India to insurance and mutual benefit societies, established early in the 19th century by the servants of the East India Company, to provide retiring annuities for themselves and pensions for their wives and children. It was a grand scheme, of incalculable benefit to the officers and to the Government. The several service funds were abolished on the government of the country being taken over by the British Government, and others introduced.

FUNG FO SHIN, the wind and fire gods of the Chinese.

FUNGUS.

Ti-rh; Muh-rh,	CHIN.	Shirian of	JHELUM.
Champignon, Fongus,	FR.	Kulat, Chandawan,	MALAY
Schwamm,	GER.	Bat-bakri of	RAVI.
Kana kuchu,	HIND.	Hongo,	SP.
Fungo,	IT.		

Under this name botanists comprehend not only the various races of mushrooms, toadstools, and similar productions, but a large number of microscopic plants forming the appearances called mouldiness, mildew, smut, rush-brand, dry-rot, etc. They are cellular flowerless plants, and are arranged into mushrooms, puff-balls, smuts, mildews, truffles, morelles, moulds.

They are numerous in India, growing on or in damp vegetable mould. The common field mushrooms are eaten. But several poisonous fungi so closely resemble the common mushroom, that the utmost caution is necessary in their use. No test whatever, whether botanical or chemical, can be relied on to distinguish the dangerous from the wholesome kinds. Special cultivation is the only sure mode of procuring the mushroom of invari-

ably good quality. One fungus resembling a mushroom grows at the foot of the bamboo, and is regarded by the Burmese as a valuable specific in worms. Few fungi were found by Dr. Thomson in the N.W. Himalaya, and for the most part differed but little from the produce of a European wood. Some, however, grow to a very large size, as for instance Polyporus fomentarius, on poplars near Iskardo, exceeding in dimensions anything which this species exhibits in Europe. A very fine Æcidium (Æ. Thomsoni) also infests the fir tree Abies Smithiana, hexenbesen of the German forests, but is a finer species, and quite distinct. Polyporus oblectans, Geaster limbatus, Geaster mammosus, Erysiphe taurica, a boletus infested with Sepedonium mycophilum, Scleroderma verrucosum, an Æcidium, and a Uromyces, both on Mulgedium tataricum, about half-a-dozen agarics, one at an altitude of 16,000 feet above the Nubra river, a Lycoperdon, and Morchella semilibera, which is eaten in Kashmir, and exported when dry to the plains of India, make up the list of fungi.

The Sikkim region of the N.W. Himalaya is perhaps the most productive in fleshy fungi of any in the world, both as regards numbers and species; and Eastern Nepal and Khassya yield also an abundant harvest. The forms are for the most part European, though the species are scarcely ever quite identical. The dimensions of many are truly gigantic, and many species afford abundant food to the natives. Mixed with European forms, a few more decidedly tropical occur; and amongst those of East Nepal is a Lentinus, which has the curious property of staining everything which touches it of a deep rhubarb yellow, and is not exceeded in magnificence by any tropical species. The Polypori are often identical with those of Java, Ceylon, and the Philippine Isles; and the curious Trichocoma paradoxum, which was first found by Dr. Junghuhn in Java, and later on by Dr. Harvey in Ceylon, occurs abundantly on the decayed trunks of laurels, as it does in South Carolina. The curious genus Mitremyces also is scattered here and there, though not under the American form, but that which occurs in Java. Though Hymenomycetes are so abundant, the Discomycetes and Ascomycetes are comparatively rare, and very few species indeed of Sphæria were gathered. One curious matter is, that amongst the very extensive collections which have been made, there is scarcely a single new genus. The species, moreover, in Sikkim are quite different, except in the case of some more or less cosmopolite species, from those of Eastern Nepal and Khassya; scarcely a single Lactarius or Cortinarius, for instance, occurs in Sikkim, though there are several in Khassya. The genus Boletus through the whole district assumes the most magnificent forms, which are generally very different from anything in Europe.

A fungus has done enormous damage in the Ceylon coffee plantations. When a coffee tree is attacked by the bug, it is deprived of its sap and its nourishment, whilst the fungus, which never fails to attend on the bug, prevents restoration by closing the stomates through which the tree breathes and respires. About the year 1880, a new fungus in Ceylon was causing the leaves of the coffee trees attacked with it to fall off. The Rev. M. J. Berkeley says of it, that amongst more than a thousand species of fungi previously received from Ceylon this had not occurred; and it is not only quite new, but with difficulty referable to any recognised section of fungi. Indeed, it seems just intermediate between true mould and Uredo, allied on the one hand to Trichobasis, and on the other to Rhinotrichum. Though the fungus is developed from the parenchym of the leaf, there is not any covering to the little heaps, such as is so obvious in Uredo and its immediate allies, while the mode of attachment reminds one of Rhinotrichum. He was obliged, therefore, to propose a new genus for its reception. As the fungus is confined to the under surface of the leaves, and the mycelium is not superficial, it may be difficult to apply a remedy; but he would be inclined to try sulphur by means of one of the instruments which are used in the hop-grounds in Kent, or syringing with one of the sulphurous solutions which have been recommended for the extirpation of the hop mildew.

The Ti-rh or Muh-rh of China are fungi growing on trees, and preferred by the Chinese to the more delicate mushrooms.

Colonists in New Zealand have exported to China a fungus growing abundantly on decaying timber in all the forest districts of the colony, known as Hirneola polytricha, much resembling the variety commonly known as Jew's-ear; a considerable trade in this commodity sprang up since 1872. One year the total quantity exported amounted to about 250 tons, which, at £44 a ton, represented a value of £11,000. The selling price retail in China is about 1s. per lb. It is used by the Chinese in the shape of a decoction, and is supposed to purify the blood. It is also largely consumed in soups, and as an ingredient in various farinaceous dishes.

A dried fungus, used as food in Singapore, does not appear to differ from the Hirneola auricula Judæ of Britain, which has a wide range.

The Shirian of Jhelum, and Bat bakri of Ravi, is a thin, flat, ragged-looking fungus, yellow above and with white gills below, which is got on dead trees in various parts of the Panjab Himalaya at 8000 to 8500 feet. The natives slice and cook them, either fresh or dry, and eat them as a relish with bread. Dr. Stewart tried them in stews, etc., but found them leathery and flavourless. The Buin phal of the Panjab is an underground mushroom, mentioned by Edgeworth as found in cultivated ground near Multan, and eaten by natives, but which he did not find at all palatable.—*O'Sh.; Hooker's Him. Jour.* ii. p. 381; *Nietner; Smith's China; Powell; Dr. J. L. Stew.; Rev. M. J. Berkeley.*

FURNEAX ISLANDS, at the S.E. part of Bass Strait, form a great chain. They comprise Barren Island, Clerk Island, Great or Flinder's Island, and other islands.

FURNITURE, and Furniture Woods.

Meubles, ... Fr.	Mobili, ... It.
Ameublement, ... ,,	Ajuar, ... Sp.
Hausgerath, . . Ger.	Dūshimi, Eshzy, . Turk.

The native carpenters of India have long been celebrated for the great patience and fidelity with which they imitate the most elaborate details either of art or manufacture, but they are generally deficient in design, and much may still be done to infuse artistic taste and boldness of execution, when better principles of art are brought to bear upon this branch of industry. The woods used for

furniture in Madras are,—for common furniture, Chittagong wood, teak wood, toon, jack; and for carved and ornamental furniture, ebony, black-wood, or East India rosewood, satin-wood, kyaboca wood.

The Chittagong wood (Chickrassia tabularis) is more used at Madras in the making of furniture than any other wood. It is light, cheap, and durable.

The teak (Tectona grandis) is probably the most durable of all timbers. It is very hard, and very heavy. It is extensively used for bullock trunks and for house and camp furniture, for which it is well adapted, as it does not split.

The toon (Cedrela toona) resembles its congeners, Chittagong wood and mahogany, and is very much used for furniture all over the Peninsula.

The jack-wood (Artocarpus integrifolia) is an excellent timber, at first yellow, but afterwards brown. When made into tables and well kept, it attains a polish little inferior to mahogany. In England it is used, as well as satin-wood, for making backs of hair-brushes, etc.

Black ebony (Diospyros melanoxylon). This well-known and much-admired wood, Lignum nigrum, non variegatum? is very hard, heavy, and susceptible of a high polish. It is seldom obtained of great size.

East India blackwood, or rosewood, is an excellent heavy wood, suited for the best furniture. It can be procured in large quantities, and of considerable size; the wood contains much oil. In large panels it is liable to split.

Satin-wood (Swietenia chloroxylon) is hard in its character, and when polished it is very beautiful, and has a satiny lustre. It is much used for picture frames, rivalling the bird's-eye maple of America. It is occasionally used by cabinet-makers for general furniture, but it is liable to split.

Sandal-wood (Santalum album) is found in abundance in Mysore and Canara. It is chiefly remarkable for its agreeable fragrance, which is a preservative against insects. It is much used in making work-boxes, walking-sticks, penholders, and other small articles of fine ornament, but cannot be procured of a large size.

Kyaboca wood (Pterospermum Indicum) is imported from Singapore. It is beautifully mottled, of different tints, evidently produced by excrescences from the tree. The wood is chiefly used for inlaying, or for making desks, snuff-boxes, puzzles, etc.—*Dr. Cleghorn in M. E. J. R. of* 1855. See Blackwood Furniture.

FURRAH-RUD or Farah Rūd, like the Murghab and the Tajend, flows from the western side of the mountainous and hilly country to the north of Herat and Kābul. Its source has not been traced, but after a course of about 200 miles it falls into the Lake of Seistan. The banks of the Furrah-rud, Khaush-rud, and other streams are well cultivated, and produce wheat, barley, pulse, and abundance of excellent melons.—*MacGregor; Elphinstone.*

FURRID-ud-DIN, a Mahomedan saint, born at Ghanawal, near Multan. He was so holy, that by his look clods of earth were converted into lumps of sugar. He was therefore surnamed Shakargunj, which means the treasury of sugar.

FURROHUR DIN JASAN. Furrohur, amongst the Parsee people, means soul or spirit; and this day is one set apart by the people of this religion for the performance of the ceremonies of the dead.—*The Parsees.*

FURS.

Fourrure, Poil, . . . Fr.	Pelo, piel, ... Sp.
Fell, pelz, . . . Ger.	Kyürk, ... Turk.
Pelle, pellicia, . . . It.	

Furs are the skins of different animals with the inner side converted into a sort of leather, and the outer fine hair left. Previously to their undergoing this process, furs are termed peltry. The fur of the flying squirrel (Pteromys petaurista) is of such a very fine description, that it would excite much interest in Europe. The beautiful furs from Lhassa and Digurchee, in Tibet, are mostly obtainable in Khatmandu. These two large cities are great fur depots; they are only forty marches from Khatmandu.

A very large portion of the Russian fur trade is derived from this part of Tibet, and certainly by far the most valuable furs are obtained there. Some of the most beautiful dresses made of furs are brought by the native merchants from these cities; and a fur cloak with thick silk lining was purchased from one of them for 150 Moree rupees, in English money little more than ten pounds. About the beginning of the 19th century, the fur trade with China amounted to upwards of a million of dollars annually. The peltry of the American forests command good prices in the European markets. The amount carried into China over the northern frontier is, however, still considerable, though no account of the number can be obtained. Lamb-skins of various sorts are much used in the northern parts of the country.

The value of the exports of furs from British India to all parts in the year 1857-58, was £5553; next year, £4198; in 1859-60, £9603; and in 1860-61, £8216. Of the better known furs may be mentioned those of the—

Ermine, Mustela erminra, sometimes called the weasel or ermine weasel, also the stoat in summer and ermine in winter. It is found in the cold regions of Europe and Asia. Martes abietum is the pine marten of Europe.

The sable, Mustela zibellina, a native of Siberia, also the Aleutian Islands, and Thibet.

Pine marten, Mustela martes, and Martes toufæus.

Pennant's marten, Mustela Pennantii.

The mink, Mustela lutreola.

Beaver, Castor fiber.

Nutria of Brazil, Myopotamus Bonariensis.

Black or silver fox, Canis argentatus.

Arctic fox, C. lagopus.

Musk-rat, Fiber zibethicus.

Sea otter, Lutra marina.

American otter, Lutra Braziliensis.

—*Morrison's Compendious Summary; Sir R. Mongomery's Trade of the Panjab.*

FURTHER INDIA, a term applied to the Indian regions east of the Ganges. A greater variety of nations and diversity of languages are found in Further India than in any other region of equal area, and yet no one of them appears to be indigenous. The Indo-European races have crossed the Brahmaputra, and established themselves and their language in Assam. Turanian and Mongoloid races have poured in from Tibet in the north, and many tribes give indubitable evidence of Tibetan origin. On the east, the Tonquinese and Cochin-Chinese are known from their tongues to be offshoots from the Chinese, while the Malay tribes have come from the south up to 10° N., and spread their language into the Mergui Archipelago.—*Mason's Burma*, p. 17.

FU SANG. M. de Guignes in his Recherches sur les Navigations des Chinois du Côte de l'Amerique, states that under this name America is accurately described in a Chinese work of the 5th century as a land in the far east. According to M. Paravey, the Fu Sang described in the Chinese annals is Mexico, which, he says, was known as early as the 5th century of our era. Carved figures representing Buddha of Java, seated on a Siva's head, were found at Uxmal in Yucatan.

FUSTIC.

Geelhout, ... DUT.	Fustick, ... GER.
Bois jaune de Bresil, FR.	Legno giallo de Brasilio, IT.
Gelbholz, ... GER.	Palo del Brasillomarillo, SP.

A dye-wood the produce of the Maclura tinctoria, *Nutt*, a large tree of tropical America and the West Indies.—*M'Culloch; Tomlinson.*

G

G. This letter is used in most of the languages of Southern Asia, but with the hard sound, as in gardener, get, gild, golf, gun. There is not, apparently, any Eastern tongue in which it has the soft sound of the languages of Europe before e and i, as in general, geometry, gin, giorno, Gerusalemme. In writing Eastern words, therefore, this letter, where it occurs, presents similar difficulties to the letter c, which Europeans make interchangeable with k, as in Cashmir, Kashmir, Cabul, Kābul. Gehoon, HIND., wheat, which has the hard sound, might, by a native of Europe, be pronounced, erroneously, Jehun; and Gentoo, a word derived from the Portuguese, and pronounced Jentoo, might be, erroneously, pronounced hard. The Arabic Jab'l, a mountain, is pronounced Gabal by the northern Arabs. Ginti, HIND., a muster, Gird, HIND., PERS., a round or circle (Scotch, a gird or hoop), are alike hard. The English letters gh are generally to be pronounced separately in Eastern tongues, as if written g'h; but in the Arabic, and taken from it into Persian and Urdu or Hindustani, there is a separate letter, the ghain, which has a combined softened guttural sound of gh, as Ghulam, a slave. Arabic has no letter gaf, or hard g.

GAB, fruits of Diospyros embryopteris (D. glutinosa), the size of a small orange; deep green, with a rusty dust; strongly astringent and mucilaginous.—*Irvine, Med. Top.*

GABA-GABA. MALAY. The midrib of palm leaves, of the leaf of the sago palm, much used throughout the Moluccas for buildings and fencing. Atap is thatch made of the fringe of palm leaves, doubled down and sewed on sticks or laths of bamboo.—*Journ. Ind. Arch.* vi.

GABAR. PERS. A person not a Mahomedan, in general, but commonly a Zoroastrian, a Parsee or fire-worshipper; an idol-worshipper, an infidel; any unbeliever in Mahomedanism in general; but the word is more specially applied to a fire-worshipper. Meninski says, 'Ignicola, magus infidelis quivis paganus.' The word is more familiar to the people of Europe under the spellings Gaour and Guebre. A small remnant of fire-worhippers exists in Persia, chiefly at Yezd in Khorasan; but most of their countrymen have emigrated to India, where, especially at Bombay, they flourish under the name of Parsee. According to the dictionary, Burhan-i-Kattea, Gabar is used in the sense of Magh, which signifies a fire-worshipper, Gabar mani-i-Magh bashad, keh atash purust ast, *i.e.* Gabar means a Magh, which is a fire-worshipper. This is sometimas written, and very often pronounced, Gavr, by a change of letters frequent in Persian, as in other languages. Gavr, we learn from the dictionary Jahangiri, means those fire-worshippers who observe the religion of Zardusht (or Zoroaster), and they are also called Magh. But Origen, in the 3d century, defending Christianity against Celsus, an Epicurean, who had alluded to the mysteries of Mithra, uses Kabar as equivalent to Persians. 'Let Celsus know,' says he, 'that our prophets have not borrowed anything from the Persians or Kabirs' (Orig. contr. Cels. lib. vi. p. 291, Cantab. 1658). A Jewish writer, quoted by Hyde (Hist. Relig. Vet. Pers., cap. xxix.), declares that the Persians call their priests (in the plural) Chaberin (or Khaberin), whilst the singular, Chaber or Khaber (occurring in the Talmud), is explained by Hebrew commentators as signifying Parsai or Persians. On this subject Hadrian Reland has offered some remarks in Dissert. ix. de Persicis Talmudicis (see his Dissert. Miscell. part ii. p. 297, Traj. ad Rhen. 1706). Dr. Hyde, however, as above cited, thinks that Chaber or Chaver denoted both a priest and a layman. There can be no doubt but that the usages of a people which regard their dead are important evidences of the faith professed by them, or, if not clearly indicating it, that they may show what faith is not professed. The semi-exposure adopted by the Siah-posh has contributed probably to their being suspected to be a remnant of the Gabar, or followers of the reformer Zartusht, but no account has been heard of the least mention of fire-worship amongst them. There is the certainty that within the last three centuries there were people called Gabar in the Kābul countries, particularly in Lughman and Bajur; also that in the days of Baber there was a dialect called Gabari. We are also told that one of the divisions of Kafiristan was named Gabrak, but it does not follow that the people called Gabar then professed the worship of fire. That in former times fire-worship existed to a certain, if limited, extent, in Afghanistan, is evidenced by the pyrethræ, or fire-altars, still crowning the crests of hills at Gard-dez, at Bamian, at Seghan, and at other places. Near Bamian is also a cavern, containing enormous quantities of human bones, apparently a common receptacle of the remains of Gabar corpses; and to the present day the Parsees expose their dead on tower summits, but Tibetans, Chinese, and Hindus often lay their dead on plains or in rivers. At Murki Khel, in the valley of Jalalabad, and under the Safed Koh, human bones are so abundant on the soil that walls are made of them. There is every reason to suppose it a sepulchral locality of the ancient Gabar; coins are found in some number there.—*Ouseley's Travels*, i. p. 150.

GABBA. HIND. Carpets; a carpet made of different coloured pieces of pattu sewn together; a kind of woollen cloth.

GABET. MM. Huc and Gabet, by a route quite unexplored by any European, passed among the mountains north of Bhutan and Ava, and so made their way due east to the plains of 'the

Central Flowery Land.' M. Huc wrote an account of his travels.

GABRIEL or Jibrael, according to Mahomedan belief, the angel who has charge of all created things.

GACH or Gach'h. HIND. Mortar, plaster, fine plaster, plaster of Paris.

GACHCHA or Got, a section, a sect, a class. Amongst the Jains of Southern India there are 84 sections, castes, or classes. See Jain.

GACHCHA CHETTU. TEL. Guilandina bonduc, *L.* The Hindus, from the hostile and unapproachable character of this plant, compare it to a miser in the following padyam: 'If a miser dwell near a liberal man, he will die rather than remain a witness of his generosity, like the Gachcha under the Kalpa vriksha' (or celestial tree of desire).—*Vemana*, i. p. 7; *Fl. Andh.*

GACHI, a girdle of woollen cloth worn by men in Lahoul.

GAD, the Babylonian god of destiny.

GAD or Gadi, MAHR., also Garh and Garhi. A hill fort.—*W.*

GADARIA. BENG. A shepherd; from Gadar or Gadur, a sheep. The Gadaria shepherds of the N.W. Provinces have several divisions, who do not eat together nor intermarry. The younger brother marries the widow of the elder brother; elder brothers do not marry the widow of a younger brother. They are shepherds by caste as well as occupation. The several subdivisions in Hindustan are Neek'hur, Tusselha or Puchhade, Chuck, Dhangar, Bureyea, Pyhwar, and Bhyeatur, and of each of these there are also many subdivisions. This tribe is spread over the whole of Hindustan, but seems to be most numerous in the country between Allahabad and Farrakhabad. In some places they have resided from time immemorial. In the Agra district their subdivisions are manifold, and keep themselves distinct from one another. —*Ell. Sup. Gloss.; Sherring's Hindu Tribes.*

GADDA. TEL. Any edible root; an egg; the testis; also the terminal head of the date palm, eaten as a vegetable.

GADDA-GHAL is a punishment unknown in any but the Hindu code; the hieroglyphic import appears on pillars, and must be seen to be understood.

GADDI, a hill shepherd about Kangra and elsewhere. The Gaddi were enumerated by Mr. Sherring as Goalla; and Dr. Hunter classed them as Brahmans. They are really Gavei, a far inferior caste. See Gadaria.

GADELA. HIND. An elephant pad.

GADES had a temple of Melkarth, where his symbol was an ever-burning fire. It is the modern Cadis.

GADFLY, species of Œstrus, dipterous insects, attack the horse and other herbivorous animals. They undergo all their metamorphoses in the interior of the body of the animal—sometimes in that of man.

GADHA. HIND. A club, a mace, occasionally portrayed in the hands of Siva and Vishnu. A club, a mace, a battle-axe. The gada or club of Bhim-Sen is a pillar.

GADHI, a Hindu sovereign's throne; a pillow; the cushion by which a Rajput or any Hindu's throne is designated; a seat of honour, the cushion of the throne. Succession to a kingly dignity, or to the office of chief mahant of a temple, is called succeeding to the gadhi, and the occupant is said to be 'gadhi nishin.' Wilson describes it, also, as the spiritual throne of the founder of a Hindu sect; the pillow at the original site of the sect; the pillow or seat of the primitive teacher, the spiritual throne. A gadhi is literally a cushion, and is placed on a rich carpet on the ground, and forms the Hindu throne. To be raised to or seated on the gadhi is equivalent to being raised to the throne. Gadhipati, the chief of a body of religious mendicants.

GADHI. PUSHTU. A band of thieves.

GA-DI or Gari. HIND. A carriage.

GADI or Gaddi, cultivators in the Dehli district.

GADI CHAT. HIND. A grass used as fodder.

GAEEN, a small clan of Rajputs in the Zillah of Ghazipur and in Benares.

GAEKWAR, a feudatory sovereign of India, who resides at Baroda. The family are of the cowherd race, and formed part of the great Mahratta Confederacy, to whose supremacy the British succeeded. The Gaekwar family sprang in 1720 from Damaji Gaekwar Shamsher Bahadur (obiit 1768), an officer under Khandi Rao Holkar, and they ruled till the treaty with the British Government in 1802. In 1808, Colonel Alexander Walker, then resident at the Gaekwar's court, was able to arrange for payment to the Gaekwar, from ten Rajput chiefs, of a certain fixed sum as suzerainty. When the Peshwa was overthrown in 1817, the British succeeded to the chief control, with an annual tribute, in the proportion of $\frac{2}{3}$ to the British Government and $\frac{1}{3}$ to the Gaekwar. The tributaries are called talukdars, of whom there are 224, and each of whom possesses exclusive jurisdiction in his own district; and only the Grassia and Mul Grassia are allowed to litigate with their ruling chiefs. These are sprung either from cadets of the ruling tribe, or from proprietors of lands which they seized, and now defend with all the proverbial tenacity of the Rajput, who freely gives and takes life for acres. The territories of the Gaekwar have an area of 4399 square miles, with a population above two millions, and an annual estimated revenue in 1875 of £1,026,482, but £175,771 was not realized. The Gaekwar Mulhar Rao, on the 22d April 1875, was dethroned, and was replaced by Syaji Rao, a descendant of Pratap Rao, son of Piliji Rao, the founder of the family, and younger brother of Damaji, whose line terminated with Mulhar Rao. Mulhar Rao was sent to Madras, where he died in 1882. Lord Salisbury, when Secretary of State for India, on the 3d of June 1875, is said to have expressed the opinion of the then administration, that 'Mulhar Rao could not be treated as having been proved guilty of the crime of poisoning;' and that the stredhun, amounting in money to nearly £1,500,000, belonged to the ranas as private property.

GÆRTNERA KOENIGII. *Wight, Ic.*

G. acuminata, *Benth.* | Sykesia Kœnigii, *Arn.*

Var. β.

G. thyrsiflora, *Blume.* | Sykesia thyrsiflora, *Arn.*
G. oxphylla, *Benth.* |

Var. α is very abundant in Ceylon up to an elevation of 3000 feet. Var. β grows in the south of the island, at no great elevation.—*Thw.*

GÆRTNERA RACEMOSA. *Roxb.*

Hiptage madablota, *Gært.*

Maltilata, . . . HIND. | Vedala chettu, . . TEL.
Madholata, . . . SANSK. |

This is a fine and fragrant flowered creeper, and very hardy. G. Gardneri, *Thw.*, G. rosea, *Thw.*, G. ternifolia, *Thw.*, and G. Walkeri, *W. Ic.*, are Ceylon plants.—*Gen. Med. Top.* p. 192; *Thw.*

GAGAH. Sawah, tipar, of Java, are rice-fields, differing in the mode of cultivation adopted in them.

GAGH-GHO, a long shift worn by Baluch women.

GAGIANI, a Pathan tribe in the Doaba division of the Peshawur district, said to have come from the valley of the Kābul river, and to have ousted the Dalazak.—*MacGregor, N.W. F. I.* p. 511.

GAGRA. HIND. A subdivision of the Bhangi or sweeper caste. They apply leeches.—*Wilson.*

GAGRA, a plaited skirt of coarse fabric like langa, only coarser.

GAGROWN. In Hindu warfare, when the supply of water has been rendered impure, and consequently useless to the Hindus, they have been compelled to abandon their defences, and meet death in the open field. Ala-ud-Din practised this against the celebrated Achil, the Kheechie prince of Gagrown, which caused the surrender of this impregnable fortress.

GAHALAYA, an out-caste predatory race, near Matelle, in Ceylon, who acted as executioners in the times of the Kandyan kings. The people of the lowlands on the coast of Ceylon are of a Tamulian or Dravidian stock. Those of Kandy, with their habits of polyandry, would seem to be allied to the people of Coorg. The Gahalaya, Rhodia, and Veddah are wild, out-caste races dwelling in the forests and unfrequented parts.

GAHARBA. HIND. A resin used in Benares in making lacquer ware.

GAHARWAR or Gharwal, a tribe of Rajputs extensively spread through the N.W. Provinces; one of the 36 royal races, apparently at an early period settled at Kanouj.—*Wilson.*

GAHLOT or Gahilot. HIND. A tribe of Rajputs extensively spread through the N.W. Provinces and Rajputana. The raja of Udaipur is a member of one of their most celebrated branches, the Sisodya.—*Wilson.* See Gehlote.

GAI. HIND. A cow. Gai goru, horned cattle. Gai-kassai, a beef butcher. Gai-ran, cows' land, pasture land, a village common; all land not brought under cultivation. Gai-rūn, bezoar.

GAINA, a dwarf variety of the Bos Indicus, the Brahmany or Indian bullock.

GAINGOOL, HIND., Panam kalang, TAM., Tati kalangoo, TEL., is the young shoot of the brab palm tree, Borassus flabelliformis. It is boiled and eaten. To obtain it they dig a hole about 3 feet deep, in which they put the stone of the fruit, and cover it up with earth. About a year afterwards it is dug out, and the plant or shoot then produced is called Gaingool.

GAIRSAPA FALLS, are waterfalls on the river Cauvery, and known as the Great Fall, the Roarer, the Rocket, and the Dame Blanche. The water leaps from the first in a considerable volume from a height of 890 feet. The pool at the foot of the fall is 350 feet deep. The view into the abyss is terrific. The Roarer rushes in great volume over an inclined plane into a cavern or cup, which turns it into the bed below. The Rocket, seen from the Canara side, shoots itself out from the rocks, which break its fall, into hundreds of water rockets, which burst and pass away just like the rocket firework. The Dame Blanche is a lovely but gentle fall, sweeping down like liquid silk, or a stream of eider-down feathers. The entire chasm is tenanted by innumerable pigeons and swallows. The river is fullest in July, but the best sight is in December.—*Bishop Spenser.*

GAITA, a Gond tribe in the Rajamundry district. A tribe in Bastar who call themselves Koitor.

GAJANAMA, a name of the Hindu deity Ganesha, literally elephant-faced. See Ganesha.

GAJANDERGARH, a fortress in the southern Mahratta country, in lat. 15° 44′ N., and long. 75° 56′ E. The plain at the foot of the fort is 1996 feet above the sea.—*Schl. Herm.*

GAJAPATI. The title of a sovereign race that ruled in Orissa, but little is known of them. The name means Lord of the Elephant, and has been assumed as a title by several ancient Hindu dynasties. It is now held by a family in the Northern Circars, as Raja Gajapati Rao. In the Northern Circars, Chicacole and Rajamundry were the capitals of the Andhra sovereigns anterior to the Christian era. A more exact knowledge of these and of the early Buddhist princes of Vegi or Vengi Desam, who reigned at Dara Nagara on the Kistna, near Amaravati, and at Vengipuram, the exact site of which is not yet known, is an important desideratum.

The Kalinga Chalukya power ruled at Rajamundry and throughout the Northern Circars. Extant sasanams and sculptured remains exhibit several alternations of superiority between them and the Gajapati of Orissa.

The Ganapati or Kakateya dynasty ruled at Warangal, now in the Nizam's territory, once the capital of great part of the Northern Circars.

Of the Reddies of Condavir little is known.

The succession of the Buddhist religionists' race by the Chalukya of Rajamundry, the subsequent sway of the Ganapati, Vema Reddi, and Rayel of Bijanagar, together with their contests and the various relations between them, are little known.

GAJLHALLI or Gazzelhalli, in lat. 11° 33 N., and long. 77° 1′ E., in the Neilgherries, on the left bank of the Moyar, N.E. of Ootacamund, is 5948 feet above the sea.—*Scott.*

GAKHAI, also Gali, also Ghasha. HIND. A pass, a narrow defile.

GAKKAR, a tribe inhabiting portions of the Hazara, Jhelum, and Rawal Pindi districts. They claim to have been Mahomedans from Seistan, but they really were one of the oldest and most powerful of the Hindu dynasties of the Panjab. In combination with other rajas, they bravely opposed Mahmud on the plains of the Panjab. Their ancient boundaries were the Jhelum on the east, and the Indus on the west. They became Mahomedans shortly after Mahmud's invasions. They were friendly with Humayun and Akbar. They were kept down by the Sikhs, but have been friendly with the British. The Greek invaders found Rawal Pindi district in possession of a Scythic race of Takka in 327 B.C. 1300 years afterwards, the Musalman conqueror found

it inhabited by a fierce non-Aryan race of Gakkar. The Gakkar for a time imperilled the safety of Mahmud of Ghazni. In 1008, Ferishta describes them as savages, addicted to polyandry and infanticide. The tide of Mahomedan conquest rolled on, but the Gakkars remained in possession of their submontane tract. In 1205 they ravaged the Panjab to the gates of Lahore. In 1206 they stabbed the Mahomedan sultan in his tent; and in spite of conversion to Islam by the sword, it was not till 1525 that they made their submission to the emperor Baber, in return for a grant of country. During the next two centuries they rendered great services to the Moghul dynasty against the Afghan usurpers, and rose to high influence in the Panjab. Driven from the plains by the Sikhs in 1765 A.D., the Gakkar chiefs maintained their independence in the Murree (Marri) Hills till 1830, when they were crushed after a bloody struggle. In 1849, Rawal Pindi passed, with the rest of the Sikh territories, under British rule, but the Gakkars revolted four years afterwards, and threatened Murree, the summer capital of the Panjab, as lately as 1857. They now number only 10,153 persons, described by the British officers as a fine spirited race, gentlemen in ancestry and bearing, and clinging under all reverses to the traditions of noble blood. The Gakkar are not distinguishable from the Awan in personal appearance, both being very large fine men, but not exceedingly fair, inhabiting as they do a dry, bare, rather low country, hot in summer. At an early period of history they were given to infanticide.—*Campbell*, p. 96; *MacGreg. N. W. F. I.* pp. 511, 519; *Imp. Gaz.* iv.

GALA, a Semitic race, occupying Shoa in Abyssinia. They are one of the finest races in Africa, of a dark-brown colour, with strong hair, and well-limbed. They live in a beautiful country, extending from lat. 8° N. to long. 3° S., with a climate not surpassed by that of Italy or Greece, and speaking a language as soft and musical as pure Tuscan. They are from six to eight millions in number; amongst them are scattered Christian tribes, but the religion of the race in general is fetish, and the seven tribes of the Wollo Galla are Mahomedans. The fetishists worship the serpent as the mother of the human race, and hold their religious services under a tree. They acknowledge a Supreme Being, whom they call Heaven (Mulungu), and have a notion of a future state. There seem to be three natures or attributes in their Supreme Being, viz. Wak or Waka, supreme; Ogli, a masculine, and Ateli, a feminine, power or embodiment. They have two holy days in the week, viz. Saturday, which they call Saubatta kenna or little Sabbath, and Sunday, which is their Saubatta gadda or greater Sabbath.

GALAM BUTTER, a reddish-white solid oil obtained from Bassia butyracea.—*Simmonds' Dict.*

GALANGAL, Galanga.

Kust-talkh, . . .	Arab.	Langkwa, . .	Malay.
Kolangan, ...	,,	Kalgan, ...	Rus.
Laun-don, . . .	Chin.	Kolanjana, . .	Sansk.
Galgant, ...	Ger.		

A brown tuberose root, with a faint aromatic smell and pungent taste, like a mixture of pepper and ginger. It is a good deal used in China, and fetches in the London market from 12s. to 16s. per cwt. in bond. 1286 cwt. of galangal root, valued at 2880 dollars, was exported from Canton in 1850. It is mentioned by Ætius and by the Arab writers, but the plant or plants yielding the lesser and greater galangal remain unidentified,—a pepper, an iris, the Acorus calamus, Maranta galanga, and Cyperus longus, have been mentioned. Dr. Ainslie, the Rev. Messrs. Williams and Smith, considered the greater and lesser galangals to be four different plants. The former may be from species of Kæmpfera (K. galanga and K. mutans), and the latter from Alpinia (A. alba, A. Chinensis, A. galanga, and A. racemosa). A. galanga, *Willde.*, is a native of China and the Malayan Archipelago. Several species of this genus have roots with somewhat similar properties. Thus A. alba and A. Chinensis are much used by the Malays and Chinese; the former has hence been called Galanga alba of Kœnig; and the latter has an aromatic root with an acrid burning flavour. The fragrant root of A. nutans also is sometimes brought to England, according to Dr. Roxburgh, for Galanga major. Its leaves, when bruised, have a strong smell of cardamoms. According to Dr. Honigberger (p. 278), the natives of Lahore are of opinion that the root of Piper betel (panki-jar) is what the Persians call Koolian.—*Roxb.; Ains.; Williams' Middle Kingdom*, ii. 400; *Royle; Eng. Cyc.; Simmonds' Com. Prod.; Smith.*

GALANG-GALANG, the locust of Australia, is believed by the natives to excrete the manna of the Eucalyptus mannifera.

GALAPAGOS ARCHIPELAGO consists of ten principal islands, of which five exceed the others in size. All the islands are volcanic, with at least 2000 craters. Darwin saw tortoises (Testudo Indicus) weighing upwards of 200 lbs. They feed on the cactus. They drink water greedily when obtainable, which accumulates in the bladder and in the pericardium. The hideous-looking Amblyrhynchus cristatus is also there. They swim with ease, and go out to sea. A. subcristatus is another species. Both are herbivorous. At the visit of the Beagle, the birds allowed themselves to be killed by a switch. Almost every indigenous living thing is peculiar to them. Admiral Fitzroy mentions that while one side of them is covered with verdure, the other aspects are barren and parched.—*Darwin; Wallace*, p. 10.

GALATIANS, from the Greek, Gala, milk; Goala, herdsman in Sanskrit. Γαλατικοί, Galatians or Gauls, and Κελτι, Celts, allowed to be the same, would be the shepherd races, the pastoral invaders of Europe.

GALBANUM.

Barzud, . .	Arab., Pers.	Chelbeneh, . . .	Heb.
O'yu, ...	Chin.	Birija, ...	Hind.
Mutterharz, . . .	Ger.	Kinneh ka-Gond, .	,,
χαλβάνη, ...	Gr.	Galbano, ...	It.

This gum-resin, according to Don, occurs in commerce in agglutinated plastic masses. It is hot, acrid, and bitter, and in properties resembles asafœtida, but weaker.—*M'C.; Royle, Ill.; O'Sh.*

GALBANUM OFFICINALE. *Don.*

Nafiel, ...	Arab.	Gir-Khat, . . .	Pers.
Kinneh, . . .	Pers.		

This plant has, from the seeds, been surmised by Professor Don to be of the tribe Silerinæ. Ferula ferulago, F. galbanifera (*Nees* and *Ebermaier*), of the coasts of the Mediterranean, the Caucasus, etc., yields copiously a secretion which

dries into a gum-resin, supposed by some to be galbanum, and Opoidia galbanifera, of the tribe Smyrneæ, has also been surmised; but Professor Don states that galbanum is yielded by G. officinale, *Don*. In the opinion of the best botanists, it is not obtained from Ferula ferulago. The gum-resin is obtained by incisions in the root and stems; the juice is cream-coloured, and soon concretes into a solid mass.—*Eng. Cyc.; Hogg; O'Sh.*

GALEECHA. HIND. Galeem, ARAB. Carpets; a woollen or cotton carpet or rug.

GALEN, A.D. 130–200 or 201? Claudius Galenus, the Jalenus of the Arabs and of all the Asiatic Mahomedans, one of the most celebrated of the ancient writers on medicine. He was born at Pergamus in Asia Minor about the autumn of A.D. 130. When 17 years of age he elected to follow medicine, and he studied under Satyrus and others; then went to Smyrna to study under Pœlops and Albinus, and subsequently proceeded to Corinth to study under Numesianus. Afterwards he travelled to Cilicia, Phœnicia, Palestine, Scyros, Crete, and Cyprus; and at 54 years of age he repaired to Rome, where his efforts to teach anatomy were hindered by the jealousy of his contemporaries. He wrote largely on medical subjects. He is supposed to have died in Sicily, A.D. 200 or 201.

GALENA, sulphide of lead, lead glance, lead ore. Plomb sulfure, FR.; Bleiglanz, GER. This is the richest ore of lead, and from which that metal is chiefly obtained. As met with in commerce, it is in heavy, shining, black or bluish lead-coloured cubical masses, having a great resemblance to the sulphuret of antimony. At the Madras Exhibition of 1857, a rich ore of argentiferous galena was exhibited from Martaban by Dr. Brandis, granular, or in minute crystals, with silver passing through it in thready veins. This ore, assayed by Dr. Scott, contained about 80 per cent. of silver lead. But the quantity of silver was found to vary in the portion examined from 70 to 300 ounces in the ton of ore. By Pattenson's mode for separating the silver crystallization, by careful, slow cooling, the process proves remunerative where only 7 ounces of silver can be obtained from a ton of metal. This is probably the ore referred to by the Rev. Francis Mason, A.M., in his publication on the natural productions of Burma, where he says the limestone of the Provinces probably contains large quantities of lead. In the valley of the Salwin there is a rich vein of argentiferous galena, which is reported to appear on the surface. Professor Mitchell, in the certificate that he furnished to Dr. Morton of the analysis, says it contains lead, sulphur, silver, gold (traces), lime, magnesia, iron, silica, and carbonic acid.

Galena containing silver occurs abundantly in the eastern part of the Shan-tung province of China, also in many of the Shan states to the east of the Irawadi river; but the most prolific mines are those situated at Bawyine, Kyouktch, and Toung-byne, near Thee-baw, to the N.E. of Mandalay. One mine, the Kampanee, yields 40 tikals of silver and 25 viss of lead from one basket of the ore, while the poorest mine gives 4 tikals of silver and 30 viss of lead. The lead mines at Baudween, Baudweengyee, and Sagaing are also argentiferous.

In the Eastern Ghats of the Peninsula of India, between lat. 14° and 17° N., and long. 78° and 80° E., between Cuddapah and Nellore, near Bussahir, Jungamrazpillay, and Jungamanipentah, it runs in lodes, 1 to 1½ inch thick, in a limestone associated with sandstone and clay, and arenaceous schists and slates. The ore contains 85 per cent. of lead. The Dhone taluk, Kurnool, is another locality from which galena was sent, in very large blocks; one piece measured about 18 inches in diameter, and weighed upwards of 3 cwt. This ore, carefully tested by Dr. Scott in 1859, was then found to contain from 53 to 70 per cent. of lead, but no silver; it was also tried at the Mint, and yielded a large percentage of lead. It has been used for some years at the Madras School of Arts for glazing pottery, and answers well for that purpose, though it is found to succeed better when reduced to the form of minium, and then ground with felspar and an alkali. It was brought to notice by Captain J. G. Russell. A re-examination of the first specimen of the Kurnool ore proved it to contain upwards of 1 per cent. of silver, or 374 ounces in the ton, the quantity of lead and silver together being only 45 per cent., which was occasioned by there being a considerable quantity of gangue disseminated through the portion examined. Another specimen, given by Col. Cotton, and also said to be from Kurnool, was found to contain 175 oz. 3 dwts. in the ton. A specimen of this unwashed ore was again analysed by Dr. Scott in 1859, and when fused with carbonate of soda and nitrate of potash, produced about 60 per cent. of metallic lead. The resulting lead, on being coupelled, furnished a bead of silver weighing 1·18 grs., which is equivalent to 96·64 oz. in the ton of ore, or 165·76 oz. in the ton of metal. Among the metallic ores holding the promise of being marketable, is the rich ore of galena or sulphuret of lead from Jungamrazpillay, in the vicinity of Cuddapah. This ore is rich in silver, and is worked by the natives on this account; but all the lead is wasted, and the silver is obtained by a tedious, clumsy, and expensive process.

Galena is found at Rupi of Kulu in the Kangra district, associated with quartz; also in the Khagula in the Shahpur district, in the Kashmir country, and in Kandahar. — *Captain Strover*, 1873; *Newbold; Powell, Handbook; Econ. Prod. Panjab*, p. 54; *M. E. J. R. of* 1857.

GALEODES ARANOIDES. Species of this genus of spiders occur in Central Asia, Tartary, and the Himalaya. The Lycosa or Tarantuloides Singoriensis (Aranea tarantula, *Pallas*), and the scorpion spiders common on the steppes, are the Galeodes aranoides (Phalangium aranoides, *Pallas*). The latter, or a congener common in Afghanistan, was there mistaken for the tarantula by Elphinstone. Both, but more especially the Galeodes (or Solpuga), are celebrated for their bites, reputed to be envenomed, though this is now denied by naturalists. G. aranoides is a terrible pest on the Astracan steppe, where its bite is much dreaded by the Kalmuks, who call it the 'black widow' (Belbussan charra). They harbour chiefly under the tufts of wormwood, and about the bones which are always to be found near a Kalmuk habitation, and also at the mouth of the deserted nests of the Spermophilus citillus, where

they collect a sort of bed of leaves. Camels seem to suffer most from these spiders, because they are most addicted to lying on the ground.

Galeodes vorax. *Hutton.* An extremely voracious spider of Northern India, which feeds at night on beetles, flies, and even large lizards, sometimes gorging itself to such a degree as to become almost unable to move, and remaining torpid and motionless for about a fortnight. A sparrow, as also a musk rat (Sorex Indicus), were put along with it and killed by it. One was seen to attack a young sparrow half-grown, and seized it by the thigh, which it sawed through. The savage then caught the bird by the throat, and put an end to its sufferings by cutting off its head. Dr. Baddeley confined one of these spiders under a glass wall-shade with two young musk rats (Sorex Indicus), both of which it destroyed. It must be added, however, that neither in the instance of the bird, of the lizard, or the rats, did the galeodes devour its prey after killing it. Capt. T. Hutton, in the eleventh volume of the Asiatic Society's Journal, makes mention of a lizard bitten by one being 'allowed to escape with only a severe wound on the side; but as it lived for some days before being permitted to run off, the bite of the galeodes would not appear to be poisonous.'—*Gosse*, p. 237; *Captain Hutton, in Jo. As. Soc. Ben.* xi. part ii. p. 860.

GALEOPITHECIDÆ, the flying lemurs, a family of mammals of the order Primates, their position in which may be thus indicated:—

Galeopithecus volans, *Shaw.* Flying lemur, flying fox.

Lemur volans, *Linn.*	Cato-simius volans, *Camelli.*
Vespertilio admirabilis, *Bont.*	Colugo, *Griff., An. King.*
Flying macaco of Pennant.	Gendoo, ... JAV.
Flying cat, . . . ENG.	Kubung, . . . MALAY.

This is the only species of the genus. G. marmoratus, Philippensis, Ternatensis, rufus, undatus, Temminckii, are considered by Shaw and others to be varieties. It inhabits Burma, Penang, the Malay Peninsula, Siam, Sumatra, Java, and Borneo. It is nocturnal. They live on young fruits and leaves, and do very great injury to gardens and plantations. All day long they hang with their heads down, suspended by the claws of the hind legs to the branch of a tree, in clusters, and keep up a continuous querulous squeaking, as one encroaches on the position of another. As evening approaches, they quit their shady retreat, and are to be seen wending their flight to distant gardens. They resemble in flight a flock of crows retiring to roost. *Horsfield's Mammalia.*

GALEOPSIS TETRAHIT, the common hempnettle, is a native of cultivated ground throughout Europe and Middle Asia.

GALERIDA CRISTATA, the Alauda cristata or crested lark of Europe, Asia, N. Africa; rare in Britain, but common in India, where it is known as the charndol. It is the most abundant lark on the plains of Upper India and table-land of the Peninsula. It is a European species, though of rare occurrence in Britain; and its song, also its mode of delivery of it in the air, is not very unlike that of the sky-lark, although it does not soar to so lofty an altitude. Alauda Malabarica may be somewhat inferior to the European sky-lark, so far as regards variety in the notes, but the two birds could assuredly not be distinguished by the voice alone, nor by the mode of flight, for the common Indian lark resembles the European wood-lark in size and shape, with the plumage of the sky-lark.—*Blyth.*

GALETENG, a locality in the island of Flores, occupied by a race so called. According to the statements of Bugis traders, who had settled in Flores, that island is inhabited by six different races, speaking as many different languages, the Ende, the Mangarai, the Kio, the Roka, the Konga, and the Galeteng,—names applied from the principal places of their residence.—*Crawfurd.*

GALIACEÆ of Lindley, the madder tribe of plants; 17 species in South-Eastern Asia, viz. 1 of Asperula arvensis, *Linn.*, 11 species of Galium, and 5 species of Rubia. Madder is the only useful product of the order.—*Voigt.*

GALIKONDA or Galiparvat, literally 'Windy Hill,' a range of hills in the Vizagapatam district, Madras, lat. 18° 30′ N., long. 80° 50′ E. The two highest peaks reach a height of 5345 and 5287 feet respectively. Populated by a few miserable families of savages, who share with wild beasts the soil from which they wring a miserable and precarious existence. The climate of Galikonda is temperate all the year round. In 1859–60, a few temporary buildings for European soldiers and two officers were built. The place, however, proved unhealthy to Europeans, the men suffering much from fever.

GALILEE, Chinnereth, also Gennesareth, also Tiberias, also Bahr-ul-Tibariah, is a sea or lake formed by the river Jordan; it has many fish. Its surface is upwards of 300 feet below the Mediterranean, and it is enclosed by steep hills 300 to 1000 feet high; it is 12 miles long and 6 broad.

GALIUM VERUM, *Linn.*, was formerly used in Europe for the coagulation of milk. Its flowers are yellow. G. anglicum, aparine and tricorne are known.

GALLA, the native name of Point de Galle, the Cock's Point of the Portuguese, is supposed to be the Tarshish of the Old Testament, to which the Phœnician mariners resorted. Their Ophir has been supposed to be the present Malacca, the Aurea Chersonesus of the later Greek geographers. Galle fort was first built by the Portuguese, and afterwards re-built by the Dutch, who had dismantled it when they stormed Galle, and wrested it from their rivals, in 1640. Considerable additions have since been made by the British, to whom Galle was given up in 1796. The fort contains upwards of 500 houses and a garrison. —*Tennant.*

GALLERIOMORPHA LICHENOIDES, a little moth of Ceylon; its larva is formed on coffee trees.

GALLINÆ. *Linn.* A sub-family of birds, of the family Phasianidæ and order Rasores. The Rasores or game birds are the Gallinæ of Linnæus, the Gallinacei of Vieillot, the Pulveratrices of some authors, and are also called the gallinaceous birds. Their feet are formed for running; their bills convex, the upper mandible arched over the lower; their food, grain. Nest artless, and placed on the ground; eggs numerous. In this sub-family Jerdon includes the genera Gallus and Galloperdix. The European quail is the only real migratory bird of the Rasores; but some

other quails, bustard, and rock partridges, Pteroclidæ, wander about to different localities; and Sypheotides auritus, Ardea bubulcus, some rails, terns, and gulls, also wander. A few of the gallinaceous birds are polygamous, and their males are very pugnacious, comprising the jungle-fowls of India and Malayana, the fire-backs, the black pheasants, peculiar to the Malayan region, and the spur-fowl of India and Ceylon. See Gallus.

GALLINAGO, a genus of birds belonging to the sub-family Scolopacinæ and tribe Grallatores. They are the various snipe of Indian sportsmen.

Gallinago scolopacinus, Scolopax gallinago; Common Snipe of Europe, Asia, N. Africa. Gallingo gallinula, Scolopax gallinula; Jack Snipe of Europe, Asia, Barbara; G. nemoricola, wood-snipe, G. solitaria, solitary snipe, and G. stenura, pin-tailed snipe, are also of India.

These are migratory, coming over the Himalaya in October; but Gallinago stenura precedes them, though few sportsmen discriminate it from the common British snipe, which makes its appearance somewhat later. G. stenura is nevertheless a different bird, at once distinguished by having a set of curious pin-feathers on each side of its tail, whereas the British snipe, which is equally abundant in India, has a broad fan-shaped tail, as unlike that of the other as can well be. The pin-tailed is the common snipe of the Malay countries, and is unknown in Europe, excepting as an exceedingly rare straggler from its proper habitat, the East. The double snipe is the Gallinago major of Europe, distinct from the two species of large or solitary snipes of the Himalaya, G. solitaria and G. nemoricola. See Rhynchæa; Painted Snipe.

GALLINULA CHLOROPUS, *Linn.*, water-hen of Europe, extends to Asia, all Africa; common in India. It is known to the natives as the Jambu-kodi, Boli-kodi, Jal-murghi, Godhan, and Dakak paira. G. Burnesii, *Blyth*, is of Sind, and G. phœnicura, *Pennant*, the white-crested water-hen and others, are of India and the Archipelago. —*Jerdon.*

GALLOOR KA PATTA. HIND. A plant or sea-weed used in the cure of goitre.

GALLOPHASIS, a genus of birds generally called pheasants. The Khalij, Gallophasis albocristatus of the W. Himalaya and G. melanotus of Sikkim, produce an intermediate race in Nepal; and G. Cuvieri of Assam and Sylhet and G. lineatus of Burma interbreed in Arakan, etc., so that every possible transition from one to the other can be traced. G. Horsfieldii of *Gray and Wolf* is found in all the hilly regions of Assam, Sylhet, Tiperah, and Chittagong and Khassya Hills, up to 4000 feet. It grades into the Burmese G. lineatus, forming hybrids.

GALLS, Gall-nut, Nut-gall.

Afaz, Afis, . . . ARAB.	Gallæ, ... LAT.
Py-in-ta-gar-ne-thi, BURM.	Majakani, . . . MALAY.
Mu-shih-tsze, . . CHIN.	Mazu, Fikis, . . PERS.
Gal-apfel, ... DUT.	Galhas, ... PORT.
Galles, Noix de Galles, FR.	Mayaphal, . . . SANSK.
Gallapfel, Gallus, . GER.	Masaka, . . . SINGH.
Kekis, ... GR.	Agallas, ... SP.
Majuphal, Maiphal, HIND.	Mocha kai, ... TAM.
Galla, Galluza, . . IT.	Machi kaia, . . . TEL.

The galls of Europe are obtained from the oak; those of British India from Rhus succedanea; those of China from the Rhus semi-alata.

Galls are produced by the female of the Cynips or Diplolepis piercing the buds of Quercus infectoria and other trees, and there depositing its eggs. Dr. Falconer, when travelling in the Panjab, was informed that galls were produced on the Balloot oak, Quercus balotta. East India galls of commerce are Bussora galls re-exported from Bombay. Mecca galls are also called Bussora galls. A kind of gall is also imported from China, called Woo-pei-tze, which are said to be produced by an aphis; they are more bulky than common galls, of very irregular shape, and hollow. The galls produced on Tamarix Indica, or faras tree, are called Ma-in, and are used for dyeing purposes. They are largely gathered in the Jhang, Gugaira, and Muzaffargarh districts, as also in the Dehra Ghazi Khan districts, where as much as 500 maunds are annually collected. Galls are imported into England from Smyrna, being produced in Asia Minor; also from Aleppo, the produce of the vicinity of Mosul in Kurdistan. They are also imported into England from Bombay (sometimes to the extent of 1000 cwt.), having been first imported there from the Persian Gulf. Mr. Wilkinson observed that whenever the prices were low at Symrna, the galls came from Bombay, and *vice versa;* but the supply was never abundant from both sources in the same year. They are imported into Bombay from Basra (Bussora), probably the produce of Kurdistan and of other Persian provinces. The quantity annually imported into Britain amounts to 700 tons. They are employed in tanning, to make ink, and medicinally in infusion, ointment, and as gallic acid. They sell at £4 to £6 the cwt., and in the London market are classed as blue, green, and white. The exports from British India rose from 286,350 cwts. in 1875 to 537,055 in 1877–78, value £230,526. In China, in the absence of better food, the galls of the oak tree produced by the Cynips or Diplolepis insect are said to be eaten. — *Smith; Royle; Simmonds; Tomlinson; M'C.; Faulkner.*

GALLUS, a genus of the sub-family Gallinæ, of the family Phasianidæ. The Gallinæ comprise the jungle-fowls of India and Malayana, the firebacks and black pheasants peculiar to the Malayan region, and a small group in India and Ceylon, the spur-fowl of Indian sportsmen. The very beautiful Diardigallus prelatus, *Bonaparte*, a bird of Siam, is considered to be the link from the Kalij pheasants to the jungle-fowl, or to the firebacks. It has a peacock-like crest, a rather long, glossy black tail, the upper plumage and breast silvery grey, and the rump pale golden-yellow. Next this should come the firebacked pheasants Macartneya, with Phasianus ignitus and P. Vieillotti, large birds with black plumage, the back fiery red, and the middle tail feathers white. Next, Alectrophasis, *Gray*, founded on Lophophorus Cuvierii, *Temm.*, a very beautiful bird, and Acomus, founded on the Phasianus erythrophthalmus, similar but smaller. Next these is the jungle-fowl;

Gallus ferrugineus, *Gmel.*, red jungle-fowl.

G. Bankiva, *Temm.*

Natsu-pia, . . . BHOT.	Jangil-murgh, . HIND.
Geragogor (male) of GOND.	Parsok-tshi, . . . LEP.
Kuru (female), . ,,	Ban-kokra of . SANTAL.
Ban-murgh, . . HIND.	

It inhabits India as far west as Sind, ascends the Himalaya to a height of 4000 feet; inhabits

Burma, the Malay Peninsula, Indo-Chinese countries, and the E. Archipelago, as far as Timor.

Gallus Sonneratii, *Temm.*, grey jungle-fowl.

Phasianus gallus, *Sonneratii.*
P. Indicus, *Leach, Blyth, Sykes, Jerdon.*

Jangli-murgh, . HIND. | Adva-kodi, . . . TEL.
Katu-koli, ... TAM. |

This does not range into the northern parts of India; part of its hackles consist of highly peculiar horny laminæ, and it is not now believed to be the parent bird of the domestic fowl.

Gallus Stanleyi, *Gray.*

G. lineatus, *Blyth.* | G. Lafayetti, *Lesson.*

Jungle-fowl of Ceylon, is peculiar to Ceylon, and greatly resembles the domestic fowl.

Gallus Temminckii is supposed to be a hybrid; it occurs in Batavia.

Gallus varius, called also G. furcatus, is met with in Java and the islands of the Archipelago as far E. as Flores. It has green plumage, unserrated comb, and single median wattle.

Gallus æneus, *Temm.*, is considered to be a hybrid between G. varius and G. Sonneratii, *Darwin, Tod.*

The Galloperdix genus comprises the spur-fowl of Indian sportsmen. G. spadaceus, *Gmelin.*, is the red spur-fowl. G. lunulosus, *Valenc.*, is the painted spur-fowl. G. Zeylonensis is the Ceylon spur-fowl.

The domestic fowl and all its many species and varieties, the Ouph of the Hebrews, the Murghi of the Mahomedans of India, and Koli of the Tamil people, though in numerous breeds and sub-breeds, have all diverged from a single type. The game breed is from the Gallus ferrugineus. Its feathers are closely depressed to the body; it is indomitably courageous, evinced even in the disposition of the hens and chickens; it is of various colours. The chief varieties are,—

Malay fowl, with body of great size, disposition savage.
Cochin or Shang-hai breed, of great size, of Chinese origin, and disposition quiet.
Bantam breed, originally from Japan.
Creepers or jumpers, from Burma, short, monstrous thick legs.
Frizzled or Kafir fowls of India, with feathers reversed.
Silk fowls, with silky feathers. This is called the Phasianus lanatus, Gallus lanatus, Coq-à-duvet, Silk fowl. Kircher describes them, out of Martini, as woolly hens, the wool of which is much like that of sheep.
Sooty fowls of India, the hens of which have a white colour, soot-stained, black skin and periosteum.

The Europe breeds, Dorking, Hamburgh, Andalusian, Spanish, Sultans, Ptarmigans, Ghoandook, Rumpless, are only known in S.E. Asia as introduced varieties.—*Cal. Rev.; Jerdon; Horsfield; Yule's Cathay*, p. 100.

GALTIGUL. HIND. The insect which occasions the manna on the Calotropis procera.

GAM, the title of the chiefs of the Singpho. Gam, amongst the Mishmi, is the head of a family.

GAMALLAVADU. TEL. A toddy-drawer; the caste following that business.—*Wilson.*

GAMBAROON, the town of Bandar Abbas, a seaport town in the province of Kirman. It is the ancient Harmozia. It is situated in a barren country, in a bay of the Gulf of Ormuz. It is fortified with double walls. It did not long benefit by the fall of Hormuz, but appears to have been nearly ruined during the reign of Nadir Shah, whose tyranny extended its baneful influence even to this extremity of the Persian empire, so that in 1750 Mr. Plaisted found there nine houses out of ten deserted. In the year 1639 there seems to have been an English factory at Bussora, subordinate to that at Gambaroon, and protected by firmans.—*Ouseley's Travels*, i. p. 165; *A Journal from Calcutta to Aleppo, etc.*, p. 11, Lond. 1758; *Kinneir's Geographical Memoir*, p. 201.

GAMBIER, catechu, terra japonica.

Pin-lan-kau, . . CHIN. | Gambia, . . . MALAY.

Gambier is extracted from the leaves and shoots of the Uncaria gambier, in Siak, Malacca, and Bittang. As brought to the market, it resembles in appearance and consistency little square blocks of yellow mud. A gambier plantation has much the appearance of brushwood of three years' growth, with leaves of a dark green colour. The plant is seldom over 7 or 8 feet high. It is much cultivated at Singapore, and is planted 6 feet asunder. The cropping of the leaves may commence when about 18 months old, but the plant is at its full growth when two years old, and its leaves and young branches may thus be cropped once in two months. The croppings are thrown into a large caldron of hot water, and boiled for 6 or 7 hours, till all the extract be inspissated into a thick, pasty fluid. This is now poured into shallow troughs a little more than an inch deep, and allowed to cool and dry, when it is cut up into little inch blocks, and is then ready for the market of Siam, Cochin-China, China, and the Archipelago, where, along with betel-nut in a leaf of the piper betel (Siri), it is largely chewed as a masticatory. The average size of the Singapore plantations were of 30 acres, and when in full bearing employed 8 men. A plantation becomes exhausted and worn out in 15 years from its commencement. As a preservative for timber, dissolve three parts of gambier in twelve of dammer oil, over a slow fire; then stir in one part of lime, sprinkling over the top; to prevent its coagulating and setting in a mass at the bottom, it must be well and quickly stirred. It should then be taken out of the caldron and ground down like paint on a muller till it is smooth, and afterwards returned to the pot and heated. A little oil should be added to make it tractable, and the composition can then be laid over the material with a common brush. As a protection against the teredo, black varnish or tar is substituted for dammer oil, omitting the grinding down, which would not answer with tar. It is largely imported into Britain; from 1846 to 1850 the average quantity entered was 1200 tons, priced at £13 to £14 the ton; in 1870, 19,050 tons. It is duty free. It is used in tanning, is employed medicinally as an astringent, as a preservative of timber exposed to water, also for canvas; the gambier may be in solution, but if applied to a ship's bottom, it should be in the form of a composition of chunam, gambier, and dammer oil. It is also recommended to be applied in house-building to protect the beams from the white ants, and in shipbuilding as a composition on the butts, and on the outside of the timber previously to planking. Gambier may also preserve timber from dry-rot.—*Jour. Indian Archipelago*, March 1850, p. 136; *Cleghorn's Panjab Report*, 1859–60, p. 7; *Statistics of Commerce.*

GAMBOGE.

Ossara rewand, .	ARAB.	Rong, ...	MALAY.
Tha-nat-dau, . .	BURM.	Shir-i-rewand, .	PERS.
Shie-hwang, . .	CHIN.	Gomarum, . . .	PORT.
Tang-hwang, . .	,,	Gokkatu, . . .	SINGH.
Gutte-gum, . .	DUT.	Goma guta o guta, .	SP.
Gomme gutte, . .	FR.	Gamba, ...	,,
Gummigutt, . .	GER.	Makki, ...	TAM.
Gomma-gutta, . .	IT.	Passapu-yennai, . .	TEL.

Gamboge is obtained from several plants in Southern Asia,—from the Garcinia pictoria of Ceylon, the G. Cochin-Chinensis, *Rumph.*, of Siam, the G. elliptica, *Wall.*, of Siam, Sylhet, and Tavoy; and G. morella, *var.* pedicillata, of Siam, is also said by Hartman to yield Siam gamboge. A tree common in Hu-peh, in China, is said to yield a gamboge-like substance. The gamboge of commerce is known by the names of Ceylon and Siam gamboge. Siam gamboge is usually seen in cylinders, whence its name of pipe gamboge; but it is also seen as lump or cake gamboge, in round cakes or masses, and as coarse gamboge or fragments and inferior pieces. Ceylon gamboge is seen in irregular masses. The first notice of this vegetable gum-resin is by Clusius in 1605, who described a piece brought from China by Admiral Van Neck in 1603. Two trees yielding a gamboge-like substance were first made known by Hermann in 1670, one called Goraka, Garcinia cambogia, the other Kana or edible, Hebradendron cambogioides. At present gamboge is received principally from G. morellas, G. hexandras, G. Wightii, G. Travancorica, G. xanthochymus. About 30 to 50 tons are annually imported into Great Britain, where it sells at £5 to £11 the cwt.

The composition and properties of the gamboge of Ceylon are identical, or very nearly so, with those of other gambogioid exudations. The Singhalese method of collecting the gamboge is by cutting pieces of the bark completely off, about the size of the palm of the hand, early in the morning. The gamboge oozes out from the pores of the wood in a semi-liquid state, but soon thickens, and is scraped off by the collectors the next morning without injury to the tree, the wounds in the bark soon healing, and becoming fit to undergo the operation again. Gamboge is much used as a pigment and in miniature painting; it is employed to colour varnishes and lacquers. Gamboge of Mysore is the exudation of Garcinia pictoria.—*Ainslie; Royle; O'Sh.; Cleghorn; Eng. Cyc.; W. Ill.; M'C.* See Clusiaceæ; Garcinia.

GAMBOGE BUTTER.

Mukki-tylum, . .	TAM.	Yennai, ...	CAN.
Arasinagoorghy, .	CAN.		

A solid oil, called cocum butter, obtained from the seeds of the gamboge tree, Garcinia elliptica, which grows abundantly in parts of the Mysore and western coast jungles. The oil is prepared by pounding the seed in a stone mortar, and boiling the mass until the butter or oil rise to the surface. Two and a half measures of seed should yield 1½ seer of butter. In the Nuggur division of Mysore it is sold at As. 1·4 per seer of 24 Rs. weight, or at £36, 6s. per ton, and is chiefly used as a lamp-oil by the better classes of natives, and by the poor as a substitute for ghi. The butter thus prepared does not appear to possess any of the purgative qualities of the gamboge resin, but is considered an antiscorbutic food ingredient.—*M. E. J. R.*

GAMBROON, a twilled cotton lining made at Khangurh.

GAMCHA. HIND. A lump of dough used in cleaning gold-lace.

GAME BIRDS of British India have been in a brief manner noticed under the heading Birds of India, and the more important will be found under their respective titles in more detail. They have been well described in a monograph by Mr. A. O. Hume, C.B. Game birds, elephants, and other wild animals are supposed to be rapidly diminishing in numbers, and a close season for elephants has been appointed. To check the indiscriminate persecution, and to give the small game fair play, Poona sportsmen proposed, that between the 1st June and 15th October partridges and quail be considered out of season, and that sportsmen agreeing to this proposition shall use their utmost exertions to prevent the sale and destruction of these varieties of game between the periods mentioned. The black or painted partridge—an excellent bird for sport or for the table, and once common throughout the Dekhan—is fast becoming extinct in all but the remote parts of the country. Small game in India is assailed by innumerable natural enemies; snakes, rats, bandicoots, ichneumons, foxes, and jackals all prey upon the eggs or the young game on the ground, while kites, buzzards, hawks, owls, and many other birds assail them in the air with a persistency that renders it surprising that game should be as abundant as it is in places where the native shikaris have no interest in destroying it by wholesale; but the latter are in fact its worst enemies, a single shikari family, accustomed to supply a market, doing probably more damage in a month than all its other enemies put together could inflict upon it in a year. They are adepts at netting and snaring, and they have calls for every kind of game bird, by which they take thousands in the breeding season, and effectually put a stop to its reproduction. Migratory birds fare better than the others; they too are persecuted in a manner which is causing them to become scarcer and scarcer every year. Hardly has the first wisp of snipe made an appearance within marketable distance of a town or cantonment, than the birds are either netted by native shikaris, or shot down by sportsmen! An October snipe is scarcely worth eating, yet, for the sake of slaying or selling him, hundreds of birds are driven harassed from haunts, where, had they been allowed to remain in peace until later in the year, they would not only have fattened to perfection, but would have attracted other hundreds to their feeding grounds to afford good sport to the sportsman. As with snipe so with wild ducks. It is hard to conceive the latter out of date in India, considering the immense flocks in which they visit us, but they are nevertheless needlessly persecuted by shikaris and others without regard to season; and good duck-shooting is no longer to be had in the vicinity of any large town or cantonment, or anywhere, we might say, within easy distance of a line of rail.

GAMELUNG. JAV. A musical instrument of the Javanese. See Bamboo.

GAMES of a country take their colour and complexion from the prevailing character of their inhabitants; and in the different physical condi-

tions of the regions in the S. and E. of Asia, the amusements of their inhabitants are widely dissimilar. In the hot climate of the plains of British India, though the young boys have their childish games, those of most of the grown men are sedentary and in-door,—play at chess, pasha or pachisi, cards, pramara (primero?), and music, the drama, jatra, pachali, kavi, bulbul fights, cock-fighting, juggling, athletics interest them; and the women of Bengal have as their games, the Ashta-kashta, the Moghul-pathan, Das-pachis, Bag-bhandi.

Kite-flying is a favourite game of the Hindu and Mahomedan men of British India, of Burma, and of China. Wrestling amongst the men of Hindustan and the Burmese is a favourite amusement; every village of Northern India has a gymnasium, and professional gymnasts perambulate the country.

The bulbul and other birds are taught to fight; cock-fighting is almost a passion in the Philippines; and in Siam a species of fish are reared for fighting.

The people of Manipur are famed for their skill on horseback at the game of hockey; slings, dandaguli, bat and ball are an amusement.

Jafar Sharif, the author of the Kanūn-i-Islam, which Dr. Herklots translated, described many games:—Adole-ke-madole; aghal-zab, also called ek-pari sab-pari; aka-mukka-danda; alam-tola; andhla-badsha; anghoti-badsha; ankh-muchani, or blind-man's buff; ardah-pardah; atha-champa; atha-chamak; atk-matk-champa; atka-matkal; bag-bakri or dragon; cheep karella or trap ball; galli-dando or tip-cat; chaugan or hockey; galli-chup-ja, hide-and-seek; and half a hundred others. Tacitus describes the baneful effects of gambling amongst the German tribes, as involving personal liberty, their becoming slaves, and being subsequently sold by the winner. In passion for play at games of chance, its extent and dire consequences, the Rajput from the earliest times has evinced a predilection, and will stand unenviable comparison with the Scythian and his German offspring. To this vice the Pandus owed the loss of their sovereignty and personal liberty, involving at last the destruction of all the Indu races; nor has the passion abated. Yudishtra of the Pandava race, having staked and lost the throne of India to Duryodhana, to recover it hazarded Draupadi. By the loaded dice of his foe, she became the goli of the Kurua. Yudishtra, not satisfied with this, staked twelve years of his personal liberty, and became an exile from the haunts of Kalindi, a wanderer in the wilds skirting the distant ocean. The spirit of gambling is evinced by several of the mercantile tribes of British India, in their daring speculativeness as to the rise and fall of prices, which far outvies all that European merchants ever indulge in. Most of the advanced nations of the Asiatic islands are gamblers, and the little fighting fish of Siam and cock-fighting are largely betted on. In Bali, Lombok, Celebes, and the Philippines, cock-fighting is quite a passion. The passion for cock-fighting is indeed impressed in the very language of the Malays, which has a specific name for cock-fighting, one for the natural spur of the cock, and another for the artificial spur; two names for the comb, three for the crow of the cock, two for a cock-pit, and one for a professional cock-fighter. The passion is nowhere carried further than in the Spanish dominions of the Philippines. There it is licensed by the Government, which derives from it a yearly revenue of about 40,000 dollars. Gambling is prohibited in British India, and by the Dutch in their Eastern possessions. It is carried on in China to a fearful extent. — *Crawfurd; Frere, Antipodes*, p. 213; *Bikmore's Tr.* p. 62; *Tr. of a Hindu*, ii. p. 8; *Tod's Rajasthan*, i. p. 179.

GAMLA. BENG. An open-mouthed earthenware vessel.

GAMPA-KAMALOO. TEL. A race of basket-makers in Bellary.

GAMUT or Hamat. This name, 'husband of the mother,' was given to Osiris. Herodotus mentions that when he was in Egypt, he was astonished to hear the very same ravishing song of Linus sung by the Egyptians, and which they had known from time immemorial, as he had been accustomed to hear sung in his own native land of Greece. Linus was Bacchus or Osiris, and the most exquisite music was called by his name. Now the name of Linus or Osiris, as the 'husband of his mother,' in Egypt was Hamat (Bunsen, i. p. 373), which in Persia and India became Gomat, and in Rome Gamut. Hence the music of the Chaldæan worship was called the music of Gamut. Gregory the Great introduced the Gregorian chants from the Chaldæans; in other words, he introduced into the church the music of Gamut. And thus it comes to pass that the name of Osiris or Gamut, 'the husband of his mother,' is in everyday use among ourselves as the well-known name of the musical scale.

GANA. In Mysore, a sect of Lingaet Hindus.

GANA. SANSK. A troop, a flock; a host of celestials in Kailasa, Siva's paradise; an attendant. Gana are dwarf figures in the sculptures of Ellora, Badami, the Vaishnava temple at Aiholli, and other places. They are represented as fat, small beings, some with faces of cats. Ganachari, KARN., a teacher, a censor. Gana devata, SANSK., a troop of deities who dwell in Ganaparita on Mount Kailasa, and Hindus recognise the following:—12 Aditya; 10 Viswa Dewa; 8 Vasa; 12 to 30 Tushita, identical with the Aditya; 49 Anila or winds; 220 to 236 Maharajika; 12 to 17 Sadhya; and 11 Rudra.—*Fergusson; Birdwood; Wilson; Dowson.*

GANAPATI or Kartakeia, a title of an ancient dynasty in Warangal, once the capital of a great part of the Northern Circars. The dynasty of Warangal, ruled from that town over a great part of the Circars, but the succession of the Buddhist Chalukya race to dominion at Rajamundry, the subsequent sway of the Ganapati, Vema Reddi, and Rayel race of Bijanagar, together with their contests and the altering relations between them, are very little known. Condavir was once ruled by a race of Reddi. See Gajapati.

GANAPATI, lord of hosts. One of many names given to the Hindu deity Ganesha, the god of prudence and policy. In Northern India he is usually styled Ganesha, but Ganapati in the south; under the name of Kartikeya he is the leader of the celestial armies, and as Ganesha and Ganapati is the god of wisdom. He is the reputed eldest son of Siva and Parvati. The Ganapatya is a limited Hindu sect, worshippers of Ganesha or Ganapati, or of his forms Baktratunda or Dhundhi raj. They are so styled because they worship

Ganesha or Ganapati exclusively. There are five grand divisions of Hindus who so worship a single divinity, uniting in its person all the attributes of Brahm, and the Ganapatya are one of the five. See Ganesha.

GANDA, in Indian currency the hundredth part of an anna; but in reckoning means to count by fours, so that ganda also means four pice, or about one anna.

GANDA-BEROZA. HIND. The crude resin of Pinus longifolia; also a preparation from the resin. It is often applied to barija or barzad, which is the rare drug galbanum, from the Boswellia thurifera.

GANDAH in Hindi dialects means perfume, aroma, odour; and several plants derive part of their compound name from this word,—Gand'h bel, Andropogon schænanthus; Mirchia gand'h, Cymbopogon iwarancusa; Gandha bute, Euphorbia helioscopia; Garba gandha, Saccharum sara; Gandhaga mara, Santalum album, sandal. Gandha banik, a druggist.

GANDAHARA, according to Bunsen, is Kandahar. It is named in the inscription of Darius Hystaspes. The Gandhara district, or Parashawa, is not mentioned by Alexander's professed historians; but it is correctly described by Strabo under the name of Gandaritis, as lying along the river Kophes, between the Choaspes and the Indus. In the same position Ptolemy places the Gandaræ, whose country included both banks of the Kophes immediately above its junction with the Indus. This is the Kien-to-lo or Gandhara of all the Chinese pilgrims, who are unanimous in placing it to the west of the Indus. The capital, which they call Pu-lu-sha-pu-lo or Parashapura, is stated to be three or four days' journey from the Indus, and near the south bank of a large river.—*Cunn. An. Geog.* p. 48.

GANDAH-MADANA, in Hindu cosmogony, is one of the four boundary mountains enclosing the central region of the world, called Ilavritta, in which Meru, the golden mountain of the gods, is situated. The Puranas are rather at variance as to its position. According to the Vayu Purana, it lies on the west, connecting Nila and Nishada, the north and south ranges. The Vishnu Purana places it on the south, the western mountain being there called Vipula. It has, however, a Gandah-madana to the west amongst the projecting branches or filaments of Meru. The Bhagavat places it on the east of Meru. The Mahabharat agrees with the Vayu Purana. The Padma Purana is at variance with itself, and places it in one passage on the west, and in another describes it as on the east. According to this Purana, Kuvera resides on it with the Apsarasa, Gandharba, and Rakshasa. The Sita alighting on its top thence descends to the Bhadraswa varsha, and flows to the eastern sea. —*Hindu Theatre*, i. p. 24.

GANDAK, the name of two rivers of Hindustan. Great Gandak (known also as the Narayani or Saligrami, the Kondochatis of the Greek geographers), a river in the North-Western Provinces and Behar, rises high among the recesses of the Nepal Himalayas, in lat. 30° 56′ 4″ N., and long. 79° 6′ 40″ E. Its alpine feeders unite at Varaha Kshetra above Nat'hpur, within the hills. It rises near Dhawalagiri peak in the Himalaya, runs S.S.E., S.W., S.E. into Ganges, near Patna, after a course of 407 miles. In its course it receives the Trisula-ganga, 100 miles long; Marachangdi, 100 miles long; Naling, 110 miles long; and about 40,000 square miles are drained. Though navigable continuously through its whole course downwards from Bhelunji, there are in the part of its channel nearer that place many rapids and passes, where, the course being obstructed by rocks, navigation becomes difficult and dangerous. The upper part of the river is called Saligrami, from the fossil ammonites, called saligram, which are found in it, and which Hindus hold in veneration. The Chota or Little Gandak river passes through the Muzaffarnagar and Gorakhpur districts.

GANDAMAK, a village occupied by the Koghani tribe of Afghans. It is on an elevated site, is cooler than Jalalabad, and its people tend silk-worms. It stands in a rich spot, and has a fine view of the Safed Koh. It is 35 miles from Jalalabad on the road to Kābul. Near this, between 1839 and 1842, much fighting took place between British troops and Afghans; and on the retreat of the British from Kābul in 1852, Gandamak was the place where the last survivors of the force, viz. 20 officers and 45 British soldiers, were slain.—*MacGregor*, p. 255; *Mohun Lal's Travels.*

GANDASULI. Marsden gives this as the Hedychium coronarium of Linnæus, and adds that its flowers are worn as ornaments in the hair, and in the enigmatical language of flowers stand for inconstancy.—*Jour. Ind. Arch.*, August 1851.

GANDAVA, a town in Baluchistan, situated on the Moolla pass route, lat. 28° 32′ N., long. 67° 32′ E. A fortified place, built apparently on an artificial mound; is a great level tract, and is inhabited by three very distinctly marked races, the Jat, the Rind (including the Maghazzi), and the Brahui. The Jat seem the original race, and occupy the centre of the province.—*Imp. Gaz.*

GANDHAR, the third note of the musical scale, 'mi.'

GANDHARI, daughter of Subala, raja of Gandhara. She married the blind maharaja Dhritarashtra. Her sons Duhsasana and Duryodhana were named Kaurava, and fell in the eighteen days' battle of Kuru Kshetra. Gandhari, after the battle of Kuru Kshetra, retired with Dhritarashtra and his mother Kunti to the jungle on the Ganges, where the maharaja died.

GANDHARVA, in Hindu mythology, a shade, a spirit, or ghost; also an inferior deity of the Hindus, attendant upon Indra and Kuvera, and distinguished for musical proficiency; also heavenly choristers, a celestial musician,—these are demi-gods or angels who inhabit Indra's heaven, and form the orchestra at the banquets of the gods, they are skilled in medicine, regulate the asterisms, and are fond of women. They are described as the husbands of the Apsarases; but very various accounts of them are given. They are described as witnesses of the actions of men, and sixty millions in number. They are called Apsarasa, and Devangana. Their band is composed of a tambourine (tamma), cymbals or castanets (tal), a vina or lute, and a stranga, played with a bow like a violin. Gandharva is also a form of Hindu marriage, with the consent of the two parties. Gandharba in the Himalayas is a raja's kept woman, with a status below that of a wife, but higher than a concubine. Gandharva-Veda, an

appendix of the Sama Veda, is the science of music and song. It is one of the four Upa-Veda; the other three are the Ayush, Dhanush, and St'hapatya.—*Williams' Story of Nala*, p. 142; *W.* See Alaka; Hindu; Mahadeva; Vidya.

GANDHILA. HIND. A low, vagrant, predatory caste in the N.W. Provinces who make mats, and exhibit feats of activity.

GANDHRI. HIND. A perfumer who manufactures perfumes by enfleurage and distillation processes. The manufacture of the otto of roses calls forth his highest powers; it is, however, very remunerative. The Gandhri and the Mali were formerly one clan; but the Gandhri no longer is exclusively engaged in the preparation of perfumes from flowers.

GANDIVA, in Hindu mythology, a bow belonging to Varuna, given by Agni to Arjuna, one of the Pandava, before burning the forest of Khandaprestha, to enable him to combat Indra. It was used by Arjuna in the swayamvara or tournament in which he won Draupadi.

GANESA is the Hindu god of prudence and policy, and the patron of letters. He is the reputed eldest son of Siva and Parvati, and as Siva's eldest son is called Vigneswara; but is said also to have been produced without a father by the intense longing of Parvati. He is represented as a short, fat, red-coloured man, with a large belly and the head of an elephant, an emblem of sagacity. He is frequently attended by a rat, sometimes riding on one, the conduct of that animal being esteemed by the Hindus as peculiarly marked by wisdom and foresight. He has generally four hands, but sometimes six or eight, or only two. He is invoked by Hindus of all sects, in the outset of any business. If they build a house, an image of Ganesa is previously propitiated, and set up on or near the spot. If they write a book, Ganesa is saluted at its commencement, as he is also at the top of a letter. Beginning a journey, Ganesa is implored to protect the wayfarer; and, for his guardianship of travellers, his image is occasionally seen on the roadside, especially where two roads cross; but sometimes it is little else than a stone, rudely chiselled into something like an elephant's head, with oil and red ochre daubed over it, decorated, perhaps, with a chaplet of flowers by some pious neighbour or traveller. It is common to see a figure of the god of prudence in or over bankers' and other shops; and, upon the whole, there is perhaps no deity of the Hindu pantheon so often seen and addressed. When he has four arms, in one hand he holds the ankus or hook for guiding the elephant, in another a chank or shell, in the third a conical ball, and in the fourth a cup with small cakes, with which he is supposed to feed himself. Ganesa is often represented eating the batasa, sweet cake, also is sitting on the lotus. Images of him are made and set up with those of Durga, in the festivals of that goddess in Calcutta. In an invocation to a superior deity, a salutation is usually made to him; and his image is frequently seen placed as a propitiation over doors of houses and shops, to ensure success to the temporal concerns of their owners. Siddhi and Buddhi (knowledge and understanding) are represented as the two wives of Ganesa. There are not many temples dedicated to Ganesa, but his images are frequently discovered set up with those of the other deities. Ganesa has many names, among which are Lambo-dara, the long-bellied; Eka-danta, one-toothed; Gajanumu, elephant-faced; Gana-is-a, Gunnis, Ganapati, Pillaiyar, Vinayakar, etc. There are five grand divisions of Hindus who exclusively worship a single divinity, uniting in its person all the attributes of Brahma himself. One of these divinities is Ganesa, and the sectaries who thus worship him are called Ganapatya. Ganapati, more correctly pronounced Ganpati, is the chief of the Dii minores of the Hindu pantheon, as the etymology of the word indicates, and, like Janus of the Romans, was entrusted with the gates of heaven, with the right to preside over peace and war. Ganesa is the first invoked and propitiated on every undertaking, whether warlike or pacific. The warrior implores his counsel; the banker indites the words Sri Ganesh at the commencement of every letter; the architect places his image in the foundation of every edifice; and the figure of Ganesa is either sculptured or painted at the doors of the houses as a protection against evil. Though often represented as four-armed, and holding the disc (chakra), the war-shell, the club, and the lotus, Ganesa is not bifrons, like the Roman guardian of portals. In every transaction he is 'AD,' or the first, though the Hindu does not, like the Roman, open the year with his name. One of the portes of every Hindu city is named the Ganesa Pol, as well as some conspicuous entrance to the palace. Thus Udaipur has its Ganesa dwara, who also gives a name to the hall, the Ganesa deori; and his shrine is to be found on the ascent of every sacred mount, as at Abu, where it is placed close to a fountain on the abrupt face of the hill, about 1200 feet from the base. There is likewise a hill sacred to him in Mewar, called Ganesa Gir, tantamount to the Mons janiculum of ancient Rome. The companion of this divinity, the rat, indirectly receives a portion of homage, and with full as much right as the bird emblematic of Minerva.

The name Ganesa, from Gana and Isa, as also Ganapati, mean lord of the Gana. He has other names,—Dwi-deha, double-bodied; Eka-danta or Eka-danshtra, single-tusked; Gajanana, Gajavadana, and Kari-Mukha, elephant-faced; Heramba, boastful; Lamba-karna, long-eared; Lambo-dara, pendent-bellied; Vighnesa or Vighna-hari, remover of obstacles.

Ganesa-janani, the mother of Ganesa; from Janna, birth. —*Moor; Tod's Rajasthan*, i. pp. 590–91; *Dowson.*

GANESA-GITA is the Bhagavad-gita with the name of Ganesa substituted for that of Krishna. It is used by the Ganapatya sect.

GANESH, an elephant with one tusk, held in reverence by Hindus.

GANESH CHATURTHI or Ganesh-chauth, also Pillayar Chatturthi, a Hindu holiday. On this day, which falls about the beginning of September, on the fourth day of the new moon, was formed Ganesh, called also Ganapati, made from the turmeric and oil of the head of Parvati. Ganapati has a man's body with the head of an elephant; his head is said to have been cut off or destroyed by Siva, when Ganesh tried to prevent Siva intruding on the privacy of Parvati when bathing. Clay images of Ganesh are made and worshipped for from one to nine days, and are then thrown into water. The Chinchor or Chinch-

wad, who resides at a village of that name near Poona, is believed to be an incarnation of Ganesh, who promised an ascetic named Moroba, who lived in Sivaji's time, that he would be incarnate for seven generations in his family. The earth image of Ganesh is one of three forms in which the earth deity Mrittika is worshipped by Hindus. The first is the Naga-panchami, in which feast a snake of clay is worshipped; the second is Gokul-ashtami, when a clay image of the infant Krishna is worshipped; and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The feast in honour of his birth, which is held on the 4th of the month Bhadrapad, and falls on the first days of September, seems to have some connection with the seasons of the year. The image of Ganesh is brought to the house with much pomp.

GANGA is a term applied to the sacred rivers of the Hindus, of which there are several in India, —Ganges, Godavery, Kishna, Cauvery. The most sacred of the rivers is the Ganges. Ganga-jal or Ganga-jala, is swearing by its waters; Gangalobh, also Ganga-prapti or Ganga-yatra, committing a dead body to the river, or a Hindu brought to die there.—*W.*

GANGA, in Hindu mythology, the personified goddess of the river Ganges, the source of which the Saiva sects place in Siva's hair; whence, in graceful flow, she

'sprung radiant,
And, descending, graced the caverns of the west.'

The Vaishnava sects assert that it flowed out of Vaikuntha, from the foot of Vishnu, and, descending upon Kailasa, fell on the head of Siva, who shook some drops (Bindu) from his hair, and these formed the great lake called Bindu Sarovara, far to the north of Hindustan. Sometimes the Ganges is fabled to issue from a cow's mouth, and the cleft in the Himalaya is called Gungotri and Gaomukhi. Others make it arise from water poured by Brahma on the foot of Siva; others, from the feet of Brahma; and others, from the fingers of Parvati. The Ganga is also called Dasahara or ten removing, as bathing in her waters on the tenth day of the month Jyaisha effaces ten sins, however heinous soever, committed in ten previous births. One of the holiest spots of the Ganges, is where it joins with the Jumna, near Allahabad, though, with Hindus, the sangam or confluence of any river is a spot peculiarly revered. A person dying at the confluence of the Ganges and Jumna is supposed to be certain of immediate moksh or beatitude, without risk of further transmigration. Professor Wilson, in his translation of the Mudra Rakshasa, describes Ganga as

'by the autumn led,
Fondly impatient, to her ocean lord,
Tossing her waves, as with offended pride,
And pining fretful at the lengthened way.'

Though, as above related, the honour of having given birth to this goddess, the personification of the sacred stream of the Ganges, has been claimed for their deities both by the Saiva and Vaishnava sects, all sects and castes of Hindus worship this goddess of their sacred stream. Numerous temples are erected on the banks of the river in honour of her, in which clay images are set up and worshipped. The waters of the river are highly reverenced, and are carried in compressed vessels to the remotest parts of the country; from whence, also, persons perform journeys of several months' duration, to bathe in the river itself. By its waters the Hindus swear in courts of justice. Mr. Ward says there are 3,500,000 places sacred to Ganga; but that, according to Hindus, a person either by bathing in or seeing this river, may be at once as much benefited as if he visited the whole of them. For miles near every part of the banks of the sacred stream, thousands of Hindus of all ages and descriptions pour down every night and morning, to bathe in or look at it. Persons in their dying moments are carried to its banks to breathe their last, by which the deaths of many are frequently accelerated; and instances occur where such event has thereby been actually caused. The bodies are then left to be washed away by the tide, and numbers of them are to be seen floating up and down with every flood and ebb, or lying all along the banks, with vultures, adjutant birds, carrion crows, and kites about them, feeding upon the remains. Several festivals are held during the year in honour of Ganga. She is described as a white woman with a crown on her head, holding a water-lily in one of her hands, and a water vessel in another, riding upon a sea animal resembling a crocodile, or walking on the surface of the water with a lotus in each hand. There are other myths relating to Ganga. The river goddess has some of the attributes of Pallas, being, like the Athenian Maid (Ganga never married), born from the head of Jove. The bard of the silver age makes her fall from a glacier of Kailas (Olympus) on the head of the father of the gods, and remain many years within the folds of his tiara (jit'ha), until at length, being liberated, she was precipitated into the plains of Aryavarta. It was in this escape that she burst her rocky barrier (the Himalaya), and on the birth of Kumara exposed those veins of gold called jambunadi, in colour like the jambu fruit.

The river goddess, like the Nile, is the type of fertility, and, like that celebrated stream, has her source amidst the eternal glaciers of Chandragiri or Somadri (the mountains of the moon),—the higher peaks of the gigantic Himalaya,—where Parvati is represented as ornamenting the tiara of Iswara with a beamy moon. In this metaphor, and in his title of Somanat'ha (lord of the moon), we again have evidence of Iswara, or Siva, after representing the sun, having the satellite moon as his ornament. The Egyptians, according to Plutarch, considered the Nile as flowing from Osiris; in like manner the Hindu poet describes the fair Ganga flowing from the head of Siva, and Sir W. Jones thus classically paints the myth in his hymn to Ganga:

'Above the reach of mortal ken,
On blest Coilasa's top, where every stem
Glowed with a vegetable gem,
Mahesa stood, the dread and joy of men;
While Parvati, to gain a boon,
Fixed on his locks a beamy moon,
And hid his frontal eye in jocund play,
With reluctant sweet delay;
All nature straight was locked in dim eclipse,
Till Brahmins pure, with hallowed lips
And warbled prayers, restored the day,
When Ganga from his brow, with heavenly fingers prest,
Sprang radiant, and descending, graced the caverns of the west.'

According to another legend, the goddess Mera,

daughter of Meru, became the spouse of Himavati, from whose union sprang the beauteous Ganga, and her sister Ooma. Ganga was sought in marriage by all the celestials; while Ooma, after a long life of austerity, was espoused by Rudra. But neither sister was fortunate enough to have offspring, until Ganga became pregnant by Hutashna (regent of fire), and Kumara, resplendent as the sun, illustrious as the moon, was produced from the side of Ganga. The gods, with Indra at their head, carried him to the Krittikees to be nursed, and he became their joint care. As he resembled the fire in brightness, he received the name of Skanda, when the immortals, with Agni (fire) at their head, anointed him as general of the armies of the gods. The festival of the birth of this son of Ganga, or Januvi, is on the 10th of Jeyte. Sir W. Jones gives the following couplet from the Sancha:—'On the 10th of Jyaisht'ha, on the bright half of the month, on the day of Mangala, (a) son of the earth, when the moon was in Hasta, this daughter of Jahnu brought from the rocks, and ploughed over the land inhabited by mortals.'—*Cole. Myth. Hind.* 119.

GANGA-BUL. TIB. Literally, place of the Ganges. A sacred lake on the mountain of Haramuk in Kashmir. It lies under the wildest and most lofty peaks of the mountain; is 1½ miles long and 200 or 300 yards wide, and is about 12,000 feet above the level of the sea.—*Vigne.*

GANGA-DHARA. SANSK. Bearer of the Ganges, a name of Siva.

GANGA-DWARA. SANSK. The gate or defile or passage of the Ganges; the modern Hardwar. In the Gaelic, Dwara becomes Dorras, in English a door.

GANGA-JAMNI, work in silver and gold combined, as with a silver ground and gold flowers, etc.

GANGA-KANDAPUR, in Tamil, Ganga-kandapuram, or city visited by the Ganges, a small town in the Madras Presidency, in lat. 11° 12′ 30″ N., long. 79° 30′ E., population (1871) 1014. Close to the village is a temple consisting of one large enclosure, measuring 584 feet by 372. The Vimana in the centre of the courtyard is a very conspicuous building, the pyramid surmounting it reaching a height of 174 feet.—*Imp. Gaz.*

GANGAPUTRA, a tribe of inferior Brahmans, who claim a right to attend pilgrims and direct their ablutions at Benares, and other holy places on the Ganges. At Benares, where they are most numerous, they claim a hereditary right to the bank between high and low water mark. Some follow agriculture.

GANGES, the great river of Northern India, is formed by the drainage of the southern ranges of the Himalaya. It rises in the Garhwal state, in lat. 30° 56′ 4″ N., and long. 79° 6′ 40″ E., and falls into the Bay of Bengal after a course of 1557 miles. It has been known to Europe from very early times. The fleets of the Egyptian kings sailed to it round the Peninsula of India and Ceylon. Seleucus Nicator is said to have penetrated to the mouth of the Ganges, and it had been sailed up by the Romans as far as Palibrotha before the time of Strabo. Its valley seems to have been peopled by several races long before the Aryan Hindus arrived there, and many of the conquerors who have entered India from the north-west have striven to occupy the fertile valley of this great river. Hindu poets have celebrated its praises in a multitude of songs. The river is fabled in their mythology to be the goddess Ganga; they long to see it, to bathe in its waters and be purified from their sins, and at last to die on its banks, or to have their bones conveyed to it from the most remote parts of India. No Hindu raises such a question as in 2 Kings v. 12, for the Ganges is recognised as the most efficacious of all the Hindu sacred rivers. On its banks have dwelt the chief of the religious reformers whom India has seen. Its valley was the cradle of Buddhism, which, from its rise in the sixth century before Christ, gradually spread over the whole of India, was extended by Asoka to Kashmir and Kābul, shortly after Alexander's invasion, and now prevails amongst 222 millions of men. Numerous dynasties have ruled there. The Andra race was in power in the Gangetic province of India about the beginning of the Christian era, but the most enduring was the great Kshatriya family that long ruled at Indraprestha, and terminated with Prithi-raj in A.D. 1200.

The whole valley is now part of British India. The river issues from the mountains at Gangotri, at an elevation of 13,800 feet, and is there known as the Bhagirathi. It issues from beneath a great glacier, thickly studded with enormous loose rocks and earth. The glacier is about a mile in width, and extends upwards of many miles, towards an immense mountain covered down to its base with perpetual snow, its glittering summit piercing the very skies, rising 21,000 feet above the level of the sea. The chasm in the glacier, through which the sacred stream rushes forth into the light of day, is named Gangotri and Gaomukhi, the Cow's Mouth, and is held in the deepest reverence by all Hindus; and the regions of eternal frost in its vicinity are the scenes of many of their most sacred mysteries. The Ganges enters the world no puny stream, but bursts forth from its icy womb a river thirty or forty yards in breadth, of great depth, and very rapid. From the source at Gangotri it runs in a generally south-easterly direction to Allahabad, to Sikrigalli, and into the Bay of Bengal, by numerous mouths, having given off some of its waters to form the Hoogly, and it also anastomoses with the Megna. In its course it receives the Jumna, 860; Gogra, 606; Gandak, 450; Gumti, 482; Sone, 465; Kosi, 325; Ramganga, 373; Mahanadi, 240; Karumnassa, 140; Koniae or Jamuna, 130; Alaknanda, 80; Bhillung, 50 miles. 39,000 square miles are drained, exclusive of Hoogly. The Ganges is navigable for river craft as far as Hardwar, 1100 miles; steamers ply as far as Gurmukteesur, 393 miles above Allahabad, distant from Calcutta *via* Dehli 930 miles; at Cawnpur, 140 miles above Allahabad, the navigation is plied with great activity. It falls rapidly to Hardwar, which is 1300 miles from the mouth. At Allahabad, 840 miles from the sea, it receives the river Jumna, which rises at the south-western base of the Jumnotri peaks. At about 240 miles from the coast it begins to divide into branches. The two on the west, called the Bhagirathi and Jalingi, unite to form the river Hoogly; the other stream passes to the Brahmaputra, with which the waters mingle, and are known as the Kartinassa river. The Ganges receives from the left bank the Ramganga, Gumti, Gogra, Gandak, Kosi, and Mahanadi; and from the

right bank, the Kali, the Kali Naddi, Jumna, and Sone. Some of these are equal to the Rhine, and none smaller than the Thames, besides many others of lesser note. It is owing to this vast influx of streams that the Ganges exceeds the Nile so greatly in point of magnitude, while the latter exceeds it in length of course by one-third. In the plain of the Ganges are the provinces of Bengal, Behar, the Doab or Mesopotamia of the Jumna and Ganges, Oudh, and Rohilkhand. It is of exuberant fertility. The population of the Gangetic Doab is 800 to the square mile. The chief towns on the banks of the Ganges are Hardwar, Bijnour, Farrakhabad, Cawnpur, Mirzapur, Benares, Ghazipur, Patna, Monghir, Bhagulpur, Rajmahal, Rampur, Pubna. Calcutta is below the sea level; Benares 265 feet above it; Allahabad 305 feet, and Agra 670 feet. The pre-eminently sacred spots on its banks are Gangotri, Hardwar, Allahabad, Benares, and Saugor Island, which are frequented by thousands of pilgrims from every province of the Peninsula.

The Gangetic Delta is an extensive tract of cultivated and forest-covered country, composed of alluvial or transported soil brought down the country by the Ganges and Brahmaputra rivers and their numerous tributaries, the water-sweepings of two basins whose aggregate area is 432,480 square miles. The Delta is intersected from north to south by many broad rivers, and by endless creeks running one into the other, filled for the most part with salt water when near the sea. This tract of land occupies approximately 28,080 square miles of superficial area, or double the area of the Delta of the Nile. Measuring from west to east, or from the right bank of the Hoogly river opposite to the Saugor tripod on the south-west point of Saugor Island, to Chittagong, it is 270 miles in width, presenting to the Bay of Bengal a series of low, flat mud-banks, covered at high water and dry at low water. A few miles from low-water mark commence mangrove swamps; a little further inland, trees appear, and lastly cultivation,—the nearest cultivation in the central portion of the Delta being 47 miles from the sea. In the sea front of the Delta there are nine principal openings having a head stream, that is, having water flowing direct from the Ganges, or from the Megna or Brahmaputra. They are—1, the Ganges; 2, the Megna or Brahmaputra; 3, Horinghatta; 4, Pussur; 5, Murjatta or Kagga; 6, Barapunga; 7, Mollinchew; 8, Roymungul or Juboona; 9, Hoogly. Besides these large rivers, there are numerous openings having no head stream, being mere salt-water tidal estuaries. These openings or headless rivers are the deepest, as no silt or deposit is poured into them from the higher lands. The tides in the Hoogly run with a rapidity in the springs of seven miles an hour, between Saugor and Calcutta. At Calcutta it is high water about 2 hours 30 minutes on full and change of the moon. The bore is of not unfrequent occurrence in this river.

This river's annual rise begins in the end of April, and continues to increase till the middle of August, when it reaches in many places 32 feet, and the level districts in its lower course are inundated. At Benares, after the Ganges has received the waters of its tributaries, the Kali Naddi, the Gumti, and others, the breadth varies from 1500 to 3000 feet; the average discharge each second of the year has been estimated at 250,000 cubic feet. By the latter end of July, all the lower parts of Bengal contiguous to its banks are overflowed, forming inundations of a hundred miles in width, where little appears above the surface of the flood save isolated villages and trees. Barks of every kind then steer a direct course, husbandry and grazing are alike suspended, and the peasant sculls his boat across the fields. In some parts of Bengal, whole villages are every now and then swept away by changes in its course, through districts from which, a few years before, it was several miles distant.

The Bhagirathi, Jalangi, and Matabhanga, are all offshoots of the Ganges, which unite to make up the headwaters of the Hoogly. In former times, the main volume of the Ganges was carried to the sea by one or other of these channels, but they now receive so little water as only to be navigable in the rainy season, and then with difficulty. Since the beginning of the present century, Government has undertaken the task of preventing these Hoogly headwaters from further deterioration. A staff of engineers is constantly employed to watch the shifting bed, to assist the scouring action of the current, and to advertise the trading community of the depth of water from time to time. In the year 1877–78, a total sum of £9522 was expended on this account, while an income of £32,494 was derived from tolls.

The Ganges river basin embraces 391,100 square miles. Average discharge at Hardwar, when the river is at its lowest, 7000 cubic feet per second; at Rajmahal, a high flood discharge of 1,800,000 cubic feet per second, and an ordinary discharge of 207,000 cubic feet. The Ganges during its minimum discharge at the Bhagirathi head in April has a breadth of surface of 2800 feet, an average depth of 15 feet, its sectional area 42,000 square feet; and multiplying this with its mean velocity of 1·92, gives its discharge per second as 80,660 cubic feet. During the inundation the breadth of surface is 10,633 feet, average depth 30 feet, sectional area 318,990 square feet, mean velocity 4·25 = 1,355,707 cubic feet discharge per second.

The Ganges near the delta has frequently altered its course. Colonel Colebrooke mentions that, between 1779 and 1788 such an alteration had occurred at Colgong, making a new channel 90 feet deep, above which the earth rose 25 feet, a removal of 115 feet of earth. Entire fields at times are hurled into the river, and large islands disappear rapidly when the power of the main current is made to bear on them. Budh-Ganga, also Burha Ganga, is an old bed of the Ganges traceable below Hastinapur, Soron, and Kampil.—*Hooker, Him. Jour.; Markham's Himalaya, Cal. Rev.; Royal Sanitary Commission Rep.; Imp. Gaz.*

GANGES CANAL, an important irrigation work and navigable channel in the North-Western Provinces, passing through the eastern portion of the Upper Doab, and watering a large tract of country, from Hardwar to Cawnpur, extending from lat. 26° 30′ 30″ to 29° 57′ N., and from long. 78° 13′ to 80° 21′ 15″ E. From the Ganges at Cawnpur to the Jumna at Agra the distance is nearly 200 miles. All this long tract is unwatered by a single natural stream. To remedy this the great Ganges Canal was projected by Sir Proby Cautley, K.C.B., during the administration of Lord Dalhousie. It was commenced in 1848, and was

opened in 1854. Its principal head is 2½ miles from Hardwar. At the 18th mile above Roorkee the canal crosses the Solani river. From this point the main canal follows the watershed between the Ganges and Jumna for 181 miles to Nanun. From Nanun the eastern branch continues 170 miles to Etawa, where it falls into the Jumna, and the western branch of the same length falls into the Ganges at Cawnpur. There are two smaller branches of 83 and 10 miles long. It has an irrigating capacity of 1,205,000 acres. It has been an unfortunate canal; up till remodelled in 1866, it could not carry its full supply. Up to the end of 1872-73 it cost for works and distributing channels £2,187,740.

The Lower Ganges Canal, an important irrigation work in the North-Western Provinces, designed to water the whole southern portion of the Doab.—*Imp. Gaz.*

GANGONDRAM, a brick structure at Negapatam, supposed to be a Buddhist work.

GANGOTRI, mountain temple in Garhwal state, Panjab; lat. 30° 59′ N., long. 78° 59′ E., and 10,319 feet above the sea. It stands on the right bank of the Bhagirathi or Ganges, 8 miles from its source, in a small bay or inlet, surrounded by a wall of unhewn stone. The temple is a square building about 20 feet high, containing small statues of Ganga, Bhagirathi, and other mythological personages connected with the spot. Near the temple the scenery is grand. Four peaks rise there, huge, lofty, covered with snow, and the river runs impetuously in its shingly bed, the stifled sound of the stones which it rolls along, mixing with the roar of its waters. Soorgarounee is the nearest of the peaks, and forms the western point of the great snowy hollow. Rudra Himala is the eastern, and forms the other point; but from that point runs down a huge snowy shoulder, that seems to give off or end in the mountains that surround, and form a great unbroken, though unequal, snowy ridge, bounding and confining the glen of the Bhagirathi. The other three peaks form different points in the back of the immense hollow, and altogether compose one of the most magnificent and venerable mountains, perhaps, that the world can produce.

Below Gauri Kundah the river falls over a rock of considerable height in its bed, and continues tumbling over a succession of petty cascades or rapids nearly all the way to Mianee ka Gad'h. Above the debouch of the Ked or Ganga, the bed widens into a small shingly space, in which the river rapidly rolls. A bridge has been thrown across, and above the bridge is the small temple dedicated to the goddess Ganga or Bhagirathi. It is built on the sacred stone on which, as Hindus believe, Bhagirathi used to worship Siva Mahadeo. —*J. B. Fraser, in Jam. Ed. Journ.* 1820, iii. p. 229; *Fraser's Himalaya Mountains; Herbert; Hodgson.*

GANGRI or Kailas, a mountain range which extends in one unbroken chain from the source of the Indus to the junction of the Shayok, and forms the natural boundary between Ladakh, Balti, and Rongdo on the south, and Ruthog, Nubra, Shigar, and Hunnagar on the north. It has six passes, at heights from 15,000 to 18,105 feet. Gangri, in Tibetan, means ice-mountain. Kailas means crystalline or icy, and is derived from Kelas, crystal, which is itself a compound of Ke, water, and Las, to shine. Kailas, or Ice Mountain, is the Indian Olympus, the abode of Siva and the celestials. The Tibetans look upon Ti-se or the Kailas Peak as the highest mountain in the world. Near the Gangri range, four rivers take their rise,—the Indus, called Sing Chin Kamba or Sing Jing Kamba, the Map-chu Kamba or Karnali, and the Brahmaputra, called to the eastward Tamjyak Kamba, also the Lang Chin Kamba.

GANGUA, a valuable timber tree of the Andamans.

GA-NHAT, a god of the Singpho.

GANITRUS SPHÆRICUS. *Gærtn.* Its nuts, cleared of the soft pulp or flesh that covers them, are curiously sculptured, and, being hard and taking a fine polish, they are frequently set in gold and strung into necklaces. Ganitrus sphæricus is a middle-sized tree, common in various parts of India, as well as the Malay Archipelago. Its nuts, and those of Monocera tuberculata, *W. and A.*, from the forests of Travancore, also those of Elæocarpus lanceæfolius, are what are principally used as beads.

GANJ, HIND., is a mart or market; a granary, especially one of grain; and in Bengal and Hindustan is applied to any village or town which is an emporium for grain and other necessaries of life. It is used as an affix to proper names, as Islam-ganj, Hurdoa-ganj, Captain-ganj; just as chip or chipping, which are of the same meaning as Ganj, is in England, as Chipping-Sodbury, Chep-stow, Chippen-ham, Cheap-side.

Ganj-i-Shahid, a sepulchral mound where Mahomedans have fallen and been buried.—*Elliot.*

GANJA. HIND., TAM., TEL. Hemp-plant.

Kanub, ... ARAB.	Ging-i-lacki lacki, MALAY.
Ma-fuen, Chu-tsao, CHIN.	Ganjika, Bijiah, . SANSK.
Gindshi, ... JAV.	

The dried hemp plant which has flowered, and from which the resin has not been removed, is called ganja. It sells for 12 annas to 1 rupee the seer in the bazars. It yields to alcohol 20 per cent. of resinous extract, composed of the resin (charras) and green colouring matter (chlorophylle). Distilled with a large quantity of water, traces of essential oil pass over, and the distilled liquor has the powerful narcotic odour of the plant. The ganja is sold for smoking chiefly. The bundles of ganja are about 2 feet long, and 3 inches in diameter, and contain 24 plants. The colour is dusky green, the odour agreeably narcotic, the whole plant resinous, and adhesive to the touch. The natives cut the plant when in flower, allow it to dry for three days, and then lay it in bundles averaging one seer weight, which are distributed to the licensed dealers. The best kinds are brought from Gwalior and Bhurtpur, and it is also cultivated of good quality in a few gardens round Calcutta. In Jessore the drug is known to be produced of excellent quality, and to a very considerable extent of cultivation. In the north of Africa, South America, Turkey, Egypt, Asia Minor, India, and the adjacent territories of the Malay, Burmese, and Siamese, hemp and its products are used in various forms by the dissipated and depraved, as the ready agent of a pleasing intoxication. The leaves or young leaf-buds of the hemp plants are smoked by itself, or rubbed between the hands and added to tobacco to impart an intoxicating power.—*Faulkner; Royle; Waring; Birdwood.*

GANJAM, a small seaport town in lat. 19° 22′ 27″ N., long. 85° 2′ 52″ E., with a population of 4163 souls. It gives its name to a revenue district in the north-east of the Madras Presidency lying between lat. 18° 15′ and 20° 15′ N., and between long. 83° 49′ and 85° 15′ E.; area 8313 square miles, population 1,520,088. The chain of the Eastern Ghats is here known as the Maliya; and its peaks are—Mahendragiri, 4923 feet; Singharaj, 4976; and Deodonga, 4534. Ganjam anciently formed part of the southern kingdom of Kalinga, and it was not until the long line of Gajapati or Ganga Vansa kings (1132–1532) occupied Orissa that the adjoining district of Ganjam was annexed to that province. It suffered from famines in 1789, 1791, 1800, 1836, 1866; and in the last about 60,000 of the people were lost. The town of Ganjam was nearly deserted in 1815, in consequence of fever. The district contains several petty chieftainships, and it embraces a large portion of the mountainous tracts known as Khondistan, and the valley of Chocapaud. Chilka lake, in Ganjam, is 35 miles long and about 8 broad, with numerous islets. The aboriginal tribes inhabiting the hill tracts are principally Kandh (55,735) and Saura (21,656), who have now nearly all embraced some form of Hinduism. During a campaign in 1836, it became known that the Khand were addicted to sacrificing human beings, and the rite has now (1882) been suppressed. Uriya are chiefly found in the north of the district, extending as far south as Parla Kimedi. South of Kasibuga, and throughout the Chicacole division, the larger number of the inhabitants are Teling. The Uriya language prevails in the northern part of the districts, as far south as Itchapore. In the southern division the Telugu prevails. The Khand race have a language peculiar to themselves, which was reduced to writing by Captain J. P. Frye of the Madras N. I. Of the inhabitants, about 450,000 are Uriya. Many of the Uriya Brahmans obtain their livelihood as cultivators. Brahmans of this sect also trade, and follow the occupations of brickmakers, bricklayers, etc. The chief towns of the Ganjam district are Berhampur, Chicacole, Parla-Kimedi, and Kalingapatam. Chicacole is the principal civil station in the Ganjam district. It is in lat. 18° 18′ N., long. 83° 58′ E., about 567 miles from Madras, and has 15,587 inhabitants. It lies four miles direct west of the sea, and is situated on the north bank of the river Languliya. It is the station of the judge and the sub-collector.

GANJ-i-BAR, a bald tract in the central dorsal plateau in the Manja or middle part of the Bari doab. The soil of the Ganj-i-Bar is intensely arid, often saline, and produces only some salsolaceous plants, with a few bushes of jhand.

GANNA. HIND. Saccharum officinarum, sugar-cane. The name differs but little in almost all languages to express the same object,—Hebrew Kaneh, Arabic and Persian Kunnat, German Kanne; Greek, Latin, Italian, Spanish, and Anglo-Saxon, Canna; and hence the English cane and sugar-cane, and the many words derived from it, which are applied to vessels and utensils bearing resemblance to the shape of hollow reeds, as can, canakin, canal, canister, and canoe, which latter is evident from the passage in Juvenal (Sat. v. v. 89). Minshen ascribes a similar origin to the word gun: 'Gune, ex Lat. canna, quia consistit canna ferrea;' regarding which it is to be observed that no one has succeeded in giving a better etymology. From the Hebrew name is the Haneh, or measuring reed of the Jews, equal to six cubits, which has its counterpart in the Bans or bamboo measure of the Hindus; the Roman Decempes and the Greek Akaina, all of six cubits or ten feet.—*Elliot.*

GANNET, a sea-bird, the Sula alba, which measures about 5 feet across, and $2\frac{3}{4}$ feet long. Also the Pelecanus bassanus.

GANONG, generally called Ayen Panas, hot springs in Nanning. All the hot springs of the Malayan Peninsula, and some of those in Sumatra, occur in swampy flats. That of Ganong occurs at or close to the line up to which plutonic action has converted the rocks of the district into granite.

GANPATI, the Hindu god of wisdom. See Ganapati; Ganesa.

GANTA BHARANGI. TEL. A species of Clerodendron, a low herbaceous plant, common about Lamsingi in Vizagapatam; the roots are largely exported for medicinal purposes.

GANTH, also Gant'hi. HIND. A knot. Mahomedans usually keep a string for their children, on which they tie a knot each birthday; hence Baras-gant'h, a birthday knot, a birthday. In land revenue the twentieth part of a mana or bigha.

GANTHA, a bell. One is used in the holy ceremonies of Hindus, and is rung at certain times to keep away evil spirits. These bells, as well as the lustral spoons, are usually surmounted by the figure of the deity in whose worship they are used.—*Cole. Myth. Hind.* p. 380.

GAO, written also Ganw or Gaon. HIND. A village. Travellers in India reckon the day's distance of journeys by the Gao or village. Das Gao would mean ten days' journey.

GAO. HIND., ZEND. A cow. In Hinduism, the Gao or cow is symbolic of Prit-ha, the earth. Gao has numerous combinations. Gao-char or Gao-charhai, pasture land kept free from cultivation, as the grazing ground of the village. Gao-dana or Godana, the gift of a cow to a Brahman or to a bridegroom, or at a religious ceremony. Gao-kos is the distance that is measured by the audibleness of the bellowing of a cow from one extremity to another.

Gaola or Goala, contraction from Gopala, a cowherd (perhaps from Gala, milk). Gaola, the milkman race; they have considerable herds of cattle.

Gao-lobh, swearing while holding a cow's tail.

Gao-than, a village site.

Gao-ran, grazing ground.

Gao-lochan, gall stones extracted from the gall bladders of dead cows, much used in medicine, also in charms, and in painting.—*Gen. Med. Top.* p. 136; *Tr. of Hind.* ii. p. 40.

GAO. HIND. An ordeal. See Divination.

GAOHATTY, a town in Assam, the ancient Kasawati. See Gowhatty.

GAON, a Hindi word meaning a village, is applied to hamlets and townships in every part of India to which words of Hindi origin have reached. It is written in the English Gam, Ganw, and Gaum, as Mulligaum. It is a vernacular term from the Sanskrit Gram or Gramma, Grammu or Gramam, Gramamu, and still preserved and used in the word Grammadeva, the village deity, and used with inflections in Tamil, Malealam, Telugu,

and supposed to be represented in the Chinese Heong and Singhalese Gama.

Gaon-barah, in Bengal, a village authority.

Gaon-kari, a freeman of a village, either free from being of the original settlers, or having purchased it by fee, by some useful act, as digging a well, repairing a wall, building a temple.

Gaon Korawa, a section of the Korawa race. See Korawa.

Ga'oora, MAHR., a patel.

GAO ZABAN. PERS. Lit. cow's tongue. The plants of the bazars of India are the Cacalia Kleinia, Anisomeles Malabarica, Trichodesma Indicum, Heliotropium erosum, H. ophioglossa, Onosma bracteatum, O. macrocephala, and Macrotomia euchroma. Eastern physicians suppose them to have cooling properties, and give them in disorders arising from heat of body, external or internal.

GAR, TIBET, a fort; in Sanskrit, a district, a region, as Kash-gar, Gujar-gar, Cutchwaha-gar; and Ghar, HIND., is a house, a fortalice, a fortified town, as Futtehghar. Gharri, a fortalice. Nagar, also Nagara, SANSK., a town, a city, as Ahmadnaggur, Farrakhnaggur, or simply nagar, the town, is from the Sanskrit Nagara, and is often in English written Nagore.

GARA, an agricultural tribe in Saharunpur, Roorkee, Rampur, Sultanpur. They are Mahomedans, and are supposed to be converted slaves, like the Jhoja.

GARARIGA or Gadarya, from Gadūr, a sheep, a shepherd, and goat race, scattered over all the N.W. Provinces of India, but most numerous between Allahabad and Farrakhabad. They are in many clans, which do not intermarry,—Bakarkasan, Barkata, Bharariya, Chak Bareya, Chikwa, Dhangar, Illahabadi, Jaunpuri, Namdahwalay, Nikhar, Paihwar, Pachhade, Tasselha. The Bharariya take their name from Bhera, a sheep. The Chikwa are Mahomedans. The Dhangar, Jaunpuri, and Nikhar also weave coarse blankets. They marry the widow of a deceased brother. The Gareri, or shepherd tribe, are in dignity of caste in much the same position as the Gop. In the west of India they founded a dynasty, that of Holkar, which still flourishes. They tend sheep and make blankets from their wool,—a bad conjunction of trades, as the poor sheep are invariably shorn when blankets are in most request.—*Dalton, Ethnol. of Bengal*, p. 317.

GARBHA. SANSK. A dome of a Buddhist cave; also pregnant. Garbhadana, a Hindu rite performed on the first indications of pregnancy.

GARBHA. The nine days preceding the Dasara are the Nao-ratri, during which a Brahman is engaged to read the praises of Durga, and on the tenth performs the homa or fire sacrifice, in which rice and ghi are poured into the fire. Banya women keep up a dance called Garbha.

GARCE, in Telugu Garissa, a Madras grain measure of 400 paras = 9256½ lbs. The Madras olluk is a measure of 11·719 cubic inches. The Madras padi is a measure of 8 olluks, and the Tamil marakal measure is 8 padi.

GARCIAS AB HORTO, physician to the viceroy at Goa, author of a work entitled De Arom. et Simp. Historia, 1565.—*King.*

GARCIA SILVA FIQUERVA, in A.D. 1627, visited Persia on a diplomatic mission.

GARCINIA, a genus of the Garciniaceæ, the mangosteen tribe, a natural order of plants, consisting of trees or shrubs growing in Ceylon, the Peninsulas of India, the Khassya mountains, Sylhet, Burma, Andamans, Java, and the Moluccas. The species of this order all abound in a viscid, yellow, acrid, and purgative gum-resinous juice, resembling gamboge. This gum-resin is obtained by removing the bark, or by breaking the leaves or young shoots. It is met with in commerce as the fine or gum gamboge, cake or lump gamboge, and coarse gamboge. The Garcinaceæ genera are—Garcinia, Mammea, Mesua, Calophyllum, Kayea, Calysaccion, Rheedia, Pentadesma, Moronobea, Micranthera, Quapoya, Clusia, Tavomita. Several of the Garcinia genus yield edible fruits, and one of them is the mangosteen fruit tree, G. mangostana, *L.*, a tree of the Malay Peninsula and islands of the Moluccas. G. Kydia, *Roxb.*, of the Andaman Islands, is a tree with a sharp but agreeably acid fruit, similar to the large fruit of G. pedunculata, *Roxb.*, which grows in Rungpur. G. paniculata, *Roxb.*, a tree of Sylhet, has a palatable fruit something like the mangosteen; G. Roxburghii, *Wight*, a tree of Travancore, Malabar, and Chittagong, has an edible but very acid fruit; G. purpurea, *Roxb.*, grows on the western coast of peninsular India. The fruits of several other species of the Garciniaceæ are brought to table in the countries where they grow, but they are regarded as very inferior. The mammee apple, or wild apricot of S. America, of another genus, is said to be very delicious. Its seeds are anthelmintic; its flowers yield on distillation a spirit known as Eau de Creole, and wine is obtained by fermenting its sap. Mr. Gamble enumerates 22 species of Garcinia.—*Roxb.*

Garcinia cambogia, *Desrous*, not *Roxb.*

Cambojia gutta, *L.*	G. Indica, *Choisy.*
G. Roxburghii, *Wight.*	G. papilla, *Wight.*
G. Kydia, *W. and A.* ?	
Wontay, ... CAM.	Racta shrava, . SANSK.
Valaiti amli, . . DUKH.	Goraka-gass, . . SINGH.
Kurka pulie, . MALEAL.	Karka-pulie maram? TAM.
Heela of NEILGHERRIES.	Woda chinta chettu? TEL.

A tall tree, growing in Ceylon up to 1500 feet, grows also in Travancore, in the forests of Malabar; is very abundant in Tenasserim, and very common in Siam and Cambodia. It is common in all the western forests of the Madras Presidency. A semi-transparent pigment exudes from the trunk, very adhesive, but quite unsuitable as a paint; the acid rinds of the ripe fruit are eaten, and in Ceylon are dried and eaten as a condiment with curries. It yields an excellent, straight-grained, lemon-coloured, slightly elastic wood, which is easily worked, and would answer for common furniture.—*Roxb.; Thwaites; Beddome.*

Garcinia cornea, *Linn.*, of E. Bengal and Burma, has a heavy brown-coloured wood, and yields a sort of gamboge.

Garcinia cowa, *Roxb.* ii. p. 622.

Toung-tha-lai, . . BURM.	Cowa, ... HIND.
Toung-da-lai, . . ,,	

This tree grows in Assam, Andamans, Bengal, Chittagong, and Burma. It is of a middle size, and handsome; it yields an inferior sort of gamboge, and the fruit, edible, though not the most palatable.

Garcinia dulcis, *Kurz*, a tree of the Andamans, with a close-grained hard wood.

Garcinia heterandra, *Wall.*, is the G. elliptica, *Wall. and Kurz*, and the Tha-nat-tau of the hills

of Burma up to 3000 feet. It yields a superior kind of gamboge.

Garcinia lanceæfolia, *Roxb.*, the G. purpurea, *Wall.*, and the Kirindur of Sylhet. Grows in Assam, Chittagong, and Sylhet.

Garcinia loniceroides, *T. And.*, is the G. succifolia, *Kurz*, of the swamp forests of Pegu. Yields a gamboge, but scanty and inferior.

Garcinia mangostana, *Linn.*, mangosteen.

Mungeestun of BOMBAY.	Manggusta, . . MALAY.
Men-gu, Young-zalai, BUR.	Manggosta, . . ,,
Manggisi, Bugis of . CEL.	Manggis Malay of Baloi
Shan-chuh kwo, . CHIN.	Java, ... SUNDA.
Manggos, . . LAMPONG.	Mangu, ... ,,

A prolific tree of the Malay Peninsula and the Archipelago, which yields the mangosteen, the most palatable of all known fruits. It is a very handsome tree, the foliage, which is large and opposite, being of the darkest shining green. The fruit is a drupe as large as a moderate apple; is composed of an outer skin of a soft and fibrous nature, brownish-red or dark purple on the outside, but when cut, of a bright crimson; the snow-white pulp which envelopes the seeds, lying within this, has an appearance no less beautiful to the eye, than the flavour is grateful to the palate. Its characteristic quality is extreme delicacy of flavour, without being rich or luscious. When cultivated, as in the peninsula of Malacca, it fruits twice a year, being ripe in July and December, yielding 1000 fruits; it grows in perfection as far as 14° N. of the equator, and 7° S. of it. A congenial proportion of heat and moisture throughout the year seems much more requisite than soil or latitude for the successful growth of this fruit. The coat or rind of the mangosteen fruit, and the bark of the katapping or wild almonds (Terminalia catappa), are used for dyeing black, also in dysentery. It has been introduced into Travancore. —*Crawfurd's Dict.; Low's Sarawak; Marsden's Sumatra*, p. 97; *Roxb.* ii. p. 618; *Voigt; Gamble.*

Garcinia morella, *Desrous.*

Cambogia gutta, *Linn.*	Garcinia gutta, *W. Ill.*
Hebradendron cambogioides, *Graham.*	G. elliptica, *Wall.*
	G. pictoria, *Roxb.*
Aradal, . . . S. CAN.	Gokatoo, . . . SINGH.
Punar pulit, . . . ,,	Kana-goraka, . . ,,

The Gum-resin.

Sanatosi, ... BURM.	Rewa-chini, . . . MAHR.
Gota gamba, . . HIND.	Makki, ... TAM.

A middling-sized tree of E. Bengal, Assam, Khassya, Ceylon, and S. India. In S. Canara, in the moist forests of the plains and ghats, up to 2000 feet elevation; Ceylon, up to 2000 feet elevation; also of E. Bengal and Assam. It is the true gamboge tree of commerce; and the pigment which exudes from wounds in the trunk is largely collected and exported from Ceylon and Siam; but little or no attention seems to be paid to it in British India. In the Madras Presidency, Colonel Beddome only met with the tree in S. Canara. It is closely allied to G. pictoria, which is the common species of the Madras Presidency, and scarcely distinguishable, except by the female flower.—*Beddome, F. S.* p. 86; *Gamble.*

Garcinia ovalifolia, *Hooker.*

Xanthochymus ovalifolius, *Roxb.*

Ella-gokatu, . . SINGH.	Kokati, ... TAM.

A tree of the Western Ghats.

Garcinia paniculata, *Roxb.*, the Bubi-cowa of Sylhet, E. Himalaya, Khassya, and Chittagong.

Garcinia pedunculata, *Roxb.*, Tikal, HIND., Tikur, HIND. A tree of Rungpur, Goalpara, and Sylhet; its fruit weighs about 2 lbs. The fleshy part has a sharp, pleasant acid taste, and is used in curries sliced; they keep for years, and might be useful in long voyages. Wood used for planks.—*Roxb.* ii. 625.

Garcinia pictoria, *Roxb.* ii. p. 629. Hebradendron pictorium, *Christison.* It yields ossara-rewund, a gamboge at least equal to that of Siam or of Ceylon. This is a very common tree in all the western forests of the Peninsula, up to about 3500 feet elevation. It is closely allied to G. morella, but differs in the female flower. The pigment is excellent, and quite equal to that of G. morella. The timber is used by the natives for various purposes.—*Roxb.; Beddome.*

Garcinia purpurea, *Roxb.*, *Bedd.* G. Indica, *Choisy.* A tree of the Canara and Konkan Ghats. The fruit has an agreeable acid flavour, and it is preserved in syrup. The seeds furnish a concrete oil, known as the kokum.

Garcinia speciosa, *Wall.*, Pa-la-wa of the Burmese, grows in Tenasserim and the Andamans. It is an evergreen tree, with thin greyish-black bark. Its wood is said to be used by the Andamanese for their bows.

Garcinia stipulata, *T. And.*, the Sana-kadan of the Lepcha and Bhutan, up to 4000 feet. Its fruit is eaten. Its fruits and gum give a yellow gum, but it is not used.

Garcinia Travancorica, *Bedd.*, Malam pongu, TAM., of Tinnevelly. This is a very beautiful, middling-sized tree; flowers and fruits in August. The tree is confined to the southern portions of the Travancore and Tinnevelly ghat forests (3000 to 4500 feet elevation), but is most abundant in localities where it grows (Muti-kuli vayal, Travancore, Calcad Hills, Tinnevelly). Every portion of the tree yields abundance of a bright yellow gamboge, which has not yet been examined. It is a highly ornamental tree, and seed has been transmitted to the Ceylon and Bangalore Botanical Gardens.—*Beddome, Fl. Sylv.* part xv. p. 173.

Garcinia Wightii, *T. And.*, a tree of S. India. Its gamboge is very soluble, and yields a good pigment.

Garcinia xanthochymus, *Hook. f.*, X. pictorius.

Tepor, ... ASSAM.	Iswara-mamadi, . . TEL.
Ma-tau, ... BURM.	Tamalamu; Chitaka, ,,
Dampel, . . . HIND.	Mraku, ... ,,
Maohla, . . . PHEKIAL.	

This is the gourka tree; it yields a large quantity of indifferent gamboge.

GARDAN. HIND. The neck. Gardani, a silver neck ring, put loosely around the neck of Mahomedan girls in India, on which at each birthday a silver loop or ring is strung. See Baras-ganth; Ganth; Sal-girah.

GARD-DEZ. In Afghanistan, remains of pyrethræ or fire-altars are still to be seen on its hills, as also at Bamian, Seghan, and other places, showing that fire-worship had existed to a certain extent. See Kafir; Gab'r.

GARDENIA, a genus of plants of the order Cinchonaceæ and section Gardenieæ. The known species in the S.E. of Asia are about 23 in number. G. amœna, anisophylla, arborea, calyculata, carinata, Chinensis, coronaria, costata, densa, dumetorum, enneandra, florida, gummifera, latifolia, longispina, lucida, macrocarpa, rothemannia, mon-

tana, radicans, Thunbergia, turgida, uliginosa, obtusifolia, and sessiliflora. G. florida and G. radicans are known as Cape jasmine, their flowers are highly scented; colours pink, white, and pale yellow. G. campanulata is a shrub of Chittagong. Its berry is about the size of a golden pippin apple, and is employed as a cathartic and anthelmintic. One species of Gardenia (Telaga, TEL.) is a tree of the Godavery forests and Dekhan, and furnishes a very hard wood, which would be very good for turning. G. Fortuniana is a fragrant Chinese plant, now common in English gardens, to which it was introduced by the Horticultural Society in 1845. G. montana is common in the coast and inland jungles of Bombay, and may be recognised by its straight stem, long stout thorns, and general absence of leaves. The wood is hard, but always small, never squaring to more than 3 inches. G. obtusifolia, *Roxb.*, a timber tree of Pegu.—*Fortune's Tea Districts*, p. 17; *Dr. Gibson; Roxb.* i. p. 709.

GARDENIA CORONARIA. *Buch.*

G. costata, *Roxb.* | Yin-gat, Yen khat, BURM.

A tree of Chittagong, Moulmein, and Tennasserim. It produces a profusion of flowers that are white when they first open out in the morning, but on exposure to the sun become quite yellow. Wood used for building purposes. Is a strong, tough wood, and useful for turning. Fruit edible.—*Mason; Voigt; Cal. Cat. Ex.* 1862.

GARDENIA ENNEANDRA. *Kon.*

G. latifolia, *Roxb.* | Bikki, ... TEL.

A small tree of peninsular India; furnishes a light wood of little use. Native combs are made of it.—*Voigt; Mr. Latham.*

GARDENIA FLORIDA. *Linn.*

Wax-flower Gardenia, ENG.	Shan-chi-tsze, . . CHIN
Gundhuraj, ... BENG.	Gul-chand, . . . HIND.
Thet-ya, ... BURM.	Gundhuraja, . . SANSK.
Tngu-hsen-pan, . ,,	

Wax-flower Gardenia is a shrub of slow growth, cultivated in Japan, the Moluccas, China, and India. Both double and single varieties are common in gardens. Its pure snowy blossoms, strongly fragrant, smell like the narcissus, and contrast delightfully with the thick deep green foliage in which they are set.—*Roxb.* i. p. 703; *Gen. Med. Top.* p. 185; *Mason; Gamble.*

GARDENIA GUMMIFERA. *Linn.*

Gardenia arborea, *Roxb.*

Chiri bikki, . . . TEL. | Chatta matta, Garaga, TEL.

A large shrub or small tree, with large fragrant flowers, which in the morning are white, and become yellow by the evening. The wood is hard. The natives eat the fruit. It grows in Ceylon, in the Gingi Hills, on the Godavery, and in the Circars, and is very common about Duddi, on the Gutpurba river; grows wild on the hills in the Kotah jungles, the leaves and unopened blossoms being shrouded at the point in pure fragrant gum-resin, said to be one of the sources of the Dikamully resin.—*Roxb.* i. p. 707; *Gen. Med. Top.* p. 185; *Voigt; Beddome.*

GARDENIA LATIFOLIA. *Aiton, Willde.*

Papara, ... HIND.	Karinguva, Kokkita, TEL.
Kumbay maram, . TAM.	Kurukiti, ... ,,
Bikki, Konda manga, TEL.	Pedda karinga, . . ,,

Grows wild in the moist Kotah jungles, and is also cultivated in gardens. It is a small tree in the south of the Peninsula of India, and also on the Godavery. Wood close-grained, and promises well for turning.—*Roxb.; Gen. Med. Top.* p. 185; *Beddome.*

GARDENIA LUCIDA. *Roxb., W. and A.*

Gardenia resinifera, *Roth.*

Kun kham, . . ARAB.	Cumbi, ... TAM.
Tsay-tham-by-ah, BURM.	China karinguva, . TEL.
Dikamalli, DUK., GUJ., HD.	Tella manga, . . . ,,

Grows in the Southern Mahratta country, the Circars, on the Godavery, Chittagong, and Burma, and has a close-grained wood, well adapted for the lathe, like that of several other species of Gardenia and Randia; it is used for making combs. A cubic foot weighs 49 lbs. To the first branch is 15 feet, and girth at 6 feet from the ground is 3 feet. Its resin, Cumbi-pisin, TAM., has a strong disagreeable smelling gum-resin, procurable in most Indian bazars. It is much used, dissolved in spirits, as an external application, for cleaning foul ulcers, and in cases of worms in children.—*Roxb.* i. p. 707; *Voigt; Dr. Brandis; Beddome.*

GARDENIA RADICANS. *Var.* G. grandiflora, *Lour.* Cape jasmine.

Hwang-chi-tsze, . CHIN. | Muh-tan; Yueh-tan, CHIN.

This favourite shrub is largely cultivated in Ho-nan in China, also in Cochin-China, and in Indian gardens. Its flowers are excessively fragrant, and are said to be used in flavouring tea. It should be planted in a well-manured flower-bed or border which has been drained with sand; they require a soil more approaching to sand than clay, and plenty of water; propagated by cuttings in boxes or seed-pots during the rains.—*Riddell; Smith.*

GARDENIA RUBRA. Hung-chi-tsze, CHIN. Grows in Sze-chuen in China, and said to have brilliant red flowers. Its seeds are used to dye articles of an ochrous red colour.—*Smith.*

GARDENIA TURGIDA. *Roxb.* Nunjoonda maram, TAM. A tree of Bhutan, N. Canara, and Berar. Both it and G. montana are in Wight's Ic. ii. t. 577, 579; *Roxb.* i. p. 711; *Wight; Gibson.*

GARDENS and Gardeners.

Jardin, ... FR.	Giardino, ... IT.
Garten, ... GER.	Huerta Jardin, . . . SP.
Bagh, Baghicha, . HIND.	Tota, . . . TAM., TEL.

Alike amongst Mahomedans and Hindus, the formation of a garden as a place of retreat is a great object of desire. In Wilson's specimens of the Hindu drama, which he translated from the Sanskrit, the Necklace and the Toy Cart contain beautiful allusions to gardens. 'The garden is now most lovely. The trees partake of the rapturous season, their new leaves glow like coral; their branches wave with animation in the wind, and their foliage resounds with the blithe murmurs of the bee. The bakula blossoms lie around its root like ruby wine; the champaka flowers blush with the ruddiness of youthful beauty; the bees give back in harmony the music of the anklets, ringing melodiously as the delicate feet are raised against the stem of the asoka tree.'

Toy Cart, Act 8, p. 125, says:

'Look round the garden with these stately trees,
Which daily, by the king's command, attended,
Put forth their fruits and flowers,
And clasped by twining creepers, they resemble
The manly husband, and the tender wife.'

And the Mahomedans in India also give them loving names, as Lal Bagh, Farkh Bagh, Roushan

Bagh, Ruby Garden, Garden of Delight, and Ornamental Garden. In this they resemble the Dutch.

Gardeners of British India are all Hindus, and constitute distinct castes. The largest number of them are the Malli, who give their name to the bulk of the gardening tribes. The Koeri gardeners of Hindustan in Behar grow the poppy. The Totakara of the Tamil people and the Teling Totavadu are good gardeners. The Malli are supposed by Mr. Campbell to be a considerable and widespread people. Between Ambala and Dehli are a good many Malli villages, and the race are scattered about the N.W. Provinces as gardeners. They are common about Ajmir, and on the southern frontier of Hindustan. South of Jubbulpur there are many, and are mixed with the Kurmi. All through the Mahratta country they are mixed with the Kunbi; and most of the potails are either Kunbi or Malli, and extending with the Kurmi far to the east, the Malli into Orissa, and the Kurmi into Manbhum and other districts of Chutia Nagpur.

The formation of a garden with Hindus assumes a religious character, and their Banotsarg ceremony consists in their marrying a newly-planted orchard to the neighbouring well, without which it would be held improper to partake of the fruit. The British have formed several agri-horticultural societies, each of which has its garden, with economic and ornamental plants. That best known is on the banks of the Hoogly, at Garden Reach, Calcutta, over which Dr. Wallich long presided. The Government garden, Saharunpur, was under the care of Drs. Royle and Jameson. The Madras Agri-Horticultural Garden in 1853 had 996 species of plants. There is one at Dapooli, near Poona. The Government Botanical and Horticultural Gardens at Ootacamund has a valuable collection of plants. The Mysore Government Garden at Bangalore, in the old Lal Bagh, was well known; and the garden at Peridenia, in Ceylon, under Mr. Thwaites' care, attained great perfection.

A botanical garden is kept up at Batavia in Java, at a considerable expense, defrayed by the Netherlands Government. The Indian Government gardens, as also those of the agri-horticultural societies, are for the object of encouraging the cultivation of useful and ornamental plants. European and native soldiers form kitchen gardens.—*The Necklace*, Act 1, p. 272; *Specimen of the Theatre of the Hindus, translated by Mr. Wilson; Chow-Chow*, p. 218; *C.* pp. 105, 106.

GARDHA-BHELA of Kakustha ruled in Balabhipura in S. 523; he is surmised to have been a son of Bahram Gour, one of whose sons, it is known, obtained dominion at Patan. All that is known of him is from a passage in an ancient Jain MS., which indicates that in S. 523, Raja Gardhabhela of Kakustha or Suryavansa, ruled in Balabhipura.

GARDOKH, Garo, Garoo, Gartop, Sur, Yoogar, or Gurtokh, is known by all these names. Rudokh is to the east by south of the Padgong lake, at about lat. 33° 25′ N., and long. 72° 40′ E., and Gardokh between the sources of the Indus and Sutlej, at about lat. 31° 40′ N., and long. 80° 25′ E. Through both these towns from Leh there is a route to Lhassa, the more direct one by Gardokh being 1350 miles in distance, or 4½ months' journey. By the route by Rudokh the Sok-po are said to have invaded Ladakh in 1826-27, and again 3000 Chang-pa in 1834, the latter rapidly retreating as the Kashmir troops approached. Shortly after both Rudokh and Gardokh fell under the dominion of Maharaja Gulab Singh; but disasters attending his army in 1842, the old boundary between Ladakh and Chinese Tibet was once more re-established. Another town, Shipki, is just without the Bassahir frontier, and 100 miles from the termination of the Hindustan and Tibet road at Serahun. From it there is communication with Simla, Rampur in Bassahir, and Kulu. The trade entering the Panjab from Gnari Khorsum is considerable. Shawl-wool comes from Chanthan in the vicinity of Rudokh, a tract of country long celebrated for the fine fleeces of its herds of sheep and goats. The people of the north are active traders. They proceed to Leh for charras and to Gardokh for shawl-wool, giving in exchange money, cloths, and spices. The mountain paths are scarcely practicable for laden mules, and merchandise is carried chiefly on the backs of sheep and goats. An annual fair is held in November at the capital of Rampur on the Sutlej. The town is of some importance, as the point where the commercial routes from Leh, Gardokh, and Simla meet, and also as a seat of the pashmina from Bassahir catches up the Hindustan and Tibet road at Serahun, and passes by Kotghur to Simla, and from Rampur direct by Spiti to Leh or to Sultanpur in Kulu, and thence to the Panjab. Garo is the most famous mart for wool in Chinese Tartary, and there is a fair of 10,000 or 22,000 people in July, well attended by merchants from Kamaon, Kanawar, and Ladakh, and sometimes from Yarkand. Wool, borax, and salt are the principal exports, and these articles are exchanged for the produce of the plains of India. The pass over the range between Garo and the Sutlej is 19,200 feet above the sea. It is near the source of the Indus river. The Garo river is the Sing-ge-chu or Indus, also called there Gar-jung-chu; and there is no great eastern branch, as some suppose. At Garo, according to Moorcroft, it is a very insignificant stream.—*Moorcroft's Travels; Capt. Gerard's Kunawar.*

GARG, a celebrated rishi, and founder of the Garga family, one of the 66 subdivisions of the Kanoujia Brahmans.—*Wils.*

GARGA, a Hindu religious sage, a follower of Kapila, who is mentioned in several Puranas. He was born at Mithila, and resided on the banks of the Gandak river. He taught that final emancipation would be obtained by ardent devotion in religious duties, whatever opinions might be held. —*Ward*, iv. p. 40.

GARGBANSI, a tribe of Rajputs in Sugri and Mahul of Azimgurh, and in Amorha, Ratanpur, Bansi, and Rasulpur, Ghous of Gorakhpur.—*Elliot.* See Chunumea.

GARGI VACHAKNAVI, with Sulabha Maitreyi and Vadava Pratitheyi, are three learned women, mentioned in the Grihya Sutras of the Rig Veda. —*Weber*, p. 56.

GARGYA, son of Baliki. He was a famous teacher and grammarian, and dealt especially with etymology.—*Dowson.*

GARH. HIND.

Gad, ... MAHR. | Gadi; Gadhi, . . KARN.

A fort, a house, a fortified village; the watch-tower in the centre of a village. See Gar.

GARHA, in the Jubbulpur district, once the capital of the Gond dynasty of Garha Mandla, whose ancient keep, known as the Madan Mahal, still crowns the low granite range along the foot of which the town is built. Tradition gives Garha a great antiquity, and it probably existed from the Christian era.

GARHA. HIND. Very coarse and thin cotton cloth.

GARHEEBUND, properly Garhiband, a description of maafee tenure in Bundelkhand, by which lands are held on paying a stipulated yearly tribute, but not one-fifth the amount which ought to be paid. The Mahrattas found the Garhiband holders difficult to deal with in every way, slow and irregular in the payment of revenue.—*Elliot, Supp. Gloss.*

GARHWAL, in the Himalaya, has a British portion and a Native State. British Garhwal, in the N.W. Provinces, lies between lat. 29° 26′ and 31° 5′ N., and between long. 78° 17′ 15″ and 80° 8′ E., with an estimated area of 5500 square miles; pop. (1872), 310,288 persons. The valleys of the Giri, Tons, and Pabar rivers, which flow into the Jumna, adjoin the district of Garhwal, in which are deodar forests, and some of kail, Pinus excelsa; while lower down there are forests of chill, Pinus longifolia. The Tons river is under the Garhwal and Dehra Doon authorities; the Pabar and the Giri run through Bassahir and Sirmur respectively. The streams are rapid, and the volume of water scanty. It has a mixed population.

The Dom or Dhum appear to be the descendants of the aboriginal tribes, and now form the menial class throughout the district. The Khasiya evidently came from the plains of Hindustan. The Brahmans and Rajputs arrived in the country after the establishment of a settled government. The great Hindu temples of Badrinath and Kedarnath attract large numbers of pilgrims, and have produced a deep influence on the history and manners of the people. They lie among the inmost recesses of the Snowy Range.

A totally distinct race inhabits the region lying within the Snowy Range. These are the Bhutia, a tribe of Indo-Chinese origin, much intermixed with Hindu elements. They talk the Hunia or Tibetan language, as well as the Hindi, and they have also a patois of their own. They number in all only 3030 souls, but they control the whole carrying trade with Tibet. Both men and women are powerfully built, dirty in their habits, and greatly addicted to drink. Among the social customs of Garhwal generally, must be noticed the universal prevalence of polygamy. Wives are looked upon in the light of beasts of burden, so that every man obtains as many as his means will afford. Desertion and suicide are common, in spite of all the efforts of the British officials in ameliorating the condition of women.

Garhwal or Tehri, the Native State, is in political relationship with the British Indian Government, lying between lat. 30° 2′ and 31° 20′ N., and between long. 77° 54′ and 79° 19′ E. The chief town is Tehri. The raja pays no tribute. The area of Garhwal is about 4180 miles; the population in 1875 was estimated at 150,000, and the revenue at £8000. The hills are generally very steep, and a large portion of the territory is covered with forests, which include valuable deodar tracts. These were leased to the British Government in 1864. Garhwal is to a large extent Bhot; the language spoken is Hindi. The habitable portion of the Bhot area in Kamaon and Garhwal is confined to the passes and their neighbourhood, all the rest being either snow or rock.—*Imp. Gaz.*

GARI. HIND. A carriage of any kind, from a coach-and-four to a wheel-barrow. The driver is called Gariwan, also pronounced Gadi and Gadiwan.

GARI-GOND. HIND. A light substance like the decayed cotyledons of a seed, or decayed soft grains of the pith of wood, very bitter to the taste. The native druggists of India call it a foreign white gum; it is a purge, and given when vision is much obstructed from any cause; one massee with other ingredients is a dose.—*Gen. Med. Top.* p. 136.

GARJO, a cross with the yak, when sire a bull and dam a yak. See Yaboo.

GARLAND.

Guirlande, ... FR.	Ghirlanda, ... IT.
Blumenkran, . . GER.	Guirlanda, ... SP.
Mala, Hara, . . HIND.	

Garlands are in constant use in India amongst native Christians, Hindus, and Mahomedans, on festive, on religious, and on funeral occasions. They are placed around Hindu idols, over the graves of Mahomedans, at the doors of churches, and are hung around the necks of visitors. This seems to have obtained from the most ancient time, for garlands made part of the bridal as well as sacrificial ornaments amongst the Greeks. Thus in Agamemnon, Clytemnestra, in addressing Achilles, says:

> 'Offspring of Thetis, pity my distress';
> Succour a virgin named, tho' falsely named,
> Your bride: yet I with flowers adorned her brow,
> And fancied that I led her to your arms,
> But now I to the bloody altar lead.'
>
> *Iphigenia in Aulis.*

Acts xiv. 13 mentions how the priests of Jupiter brought oxen and garlands to offer sacrifice to Paul and Barnabas.—*Hind. Theat.* ii. p. 68.

GARLIC, Allium sativum.

Sum, ... ARAB.	Aglio, ... IT.
Kesun, ... BALL.	Bawang-putih, . MALAY.
Beluli, ... CAN.	Sir, ... PERS.
Ail, ... FR.	Sudulunu, . . SINGH.
Knoblauch, . . GER.	Ajo sativo, . . . SP.
Skorodon, ... GR.	Vallai pandu, . . TAM.
Shumim, Shum, Hebrew of Numbers xi. 12.	Vellulli, ... TEL.
Lahsan, ... HIND.	Sarimsak, . . . TURK.

Garlic is largely used as a condiment by all the Hindu and Mahomedan races of India, who consider it a valuable stimulant. It is added to their curries. It is grown all over India from the seed or bulbs, the latter method being most in practice. One of the bulbs is broken, and the cloves taken out and planted in beds about four inches apart. No particular care is required, save watering and keeping clear of weeds. When the leaves dry and wither, then take up the roots and preserve. Garlic oil is obtained by expression from the cloves of the garlic bulb. It is prescribed internally by native practitioners to prevent the recurrence of intermittent fevers, and externally in paralytic and rheumatic affections.—*Riddell; Faulkner; M. E. of* 1855.

GARM-AB, a hot spring in Jell, which preserves its temperature throughout the year.

GARM-MASALIH. HIND. Spices, warm condiments.

GARM-SAIR, PERS., is a term applied to the pasture grounds of the nomade pastoral races of Asia. Every pastoral mountain tribe in the Himalaya, in Tibet, in the Afghan and Baluch mountains, in Arabia, Syria, Persia, and in Kurdistan, has its wintering and summering regions. The province of Fars has its Garm-sair, also its Sarhad or Sard-sair, its warm and cold climates. The Kashgoi are a nomade Turkish tribe of about 12,000 families, whose chief is the Il-Khani of Fars. They and the Bakhtiari from the warm pastures of Arabistan and the head of the Persian Gulf, arrive in spring on the grazing of Isfahan. At the approach of winter, both the tribes return northwards to their respective wintering lands. The entire southern region of Fars, bordering on the Persian Gulf, is called the Garm-sair. It extends from the sea to the latitude of Kazeroon, and runs parallel with the Persian Gulf from the banks of the Tab to the confines of Luristan. From Bushire eastward as far as Cangoon, the tract is named the Dushtistan or land of plains. The Tungistan, commonly pronounced Tungistoon or narrow land, is a small tract of land east of Bushire. The greater portion of the people of the whole Garm-sair consists of an independent lawless set, many of the tribes being robbers by profession. A huge wall of mountains separates the Garm-sair or low region from the Sard-sair. Sard-sair signifies the cold region, but it is also termed the Sarhada, a word literally signifying boundary or frontier, but generally applied to any high land where the climate is cold, or the high table-land of Persia. One of the most conspicuous of these is an abrupt lofty hill, named Hormooj, where coal occurs. In Fars, the Garm-sair of Sijistan is a narrow strip of culturable land about one-fourth of a mile on the south bank of the Helmand, five days' journey N.W. from Nushki, on the edge of the desert. The Baluch races seem to pronounce it Gurmsehl or Garm-sail, and one of their wintering places is north-west of Nushki, distant about 75 miles.—*Pottinger's Tr.* p. 103; *Rich.*

GARNET.

Hung-sha, . . .	CHIN.	Granati, Carbunculus,	LAT.
Grenat, ...	FR.	Yakut? . . .	MALAY. ?
Granat-stein, . . .	GER.	Sang-i-mahtab, . .	PERS. ?
Granaten, ...	,,	Granatnoi-kamen, .	RUS.
Tambra, ...	HIND.	Granadas, ...	SP.
Granate, ...	IT.		

Garnet is a word supposed to be derived from the Grenatici specified by Marhodus, the red hyacinths of the Romans. There are many varieties,—Almandine or noble garnet; grossular garnet; cinnamon stone, essonite, hessonite, or kaneel stone; romanzonite, and hyacinth; common lime garnet; magnesia garnet; iron garnets; common iron garnet; rothoffite, alloclorite; melanite, pyreneite; colophonite; uwarorite; pyrope, almandine, hexahedral garnet; helvine or tetrahedral garnet; and idocrase or pyramidal garnet. The Alabandic carbuncles of Pliny were so called because they were cut and polished at Alabanda. The clear deep-red garnets make a rich stone, and are much used for ornament. They are cut quite thin on account of their deep colour. It is this thin stone which is now termed the carbuncle. Among the Burmese the most beautiful come from Sirian, the chief town of Pegu. Garnets of very good quality occur in Nellore, Masulipatam, and Bezwarrah. The red variety of the gem is very generally diffused over India. Its geognostic position is the hypogenic or metamorphic schists near their line of junction with plutonic rocks or trap dykes; for instance, in the crystalline and metalliferous areas of Salem and Nellore, whence the finest crystals are procured, and sold by the native merchants at an insignificant price. Colophonite is not uncommon in these tracts, as also in Mysore, the Neilgherries, the Karnatic, and other provinces of Southern India. It usually occurs in the granite, associated with the hypogene schists. Cinnamon stone or essonite was discovered by Dr. Benza in the Neilgherries in the hypogene hornblende rock, near the Seven Cairns Hill, where entire portions of the rock are formed almost exclusively of them, the essonite and hornblende in large separate crystals, embedded in a paste of compact felspar and hornblende; the former is very liable to disintegrate, leaving, in falling out, small cavities in the rock. Green garnet is of rare occurrence. Newbold discovered this in the Salem district at Sankerydrug, lat. 11° 29′ N., long. 77° 58′ E., associated with other green crystals in quartz veins, penetrating hornblende schist, associated with gneiss, garnet rock, actinolitic schist, and altered limestone, thrown into disorder by the intrusion of a porphyritic granite. A mine of precious garnet occurs at Gharilpet, about 8 miles S. of Palunshah, in the Hyderabad country, in the detritus of a granitic rock, penetrated by trap dykes, and composed of mica, garnets, kyanite, quartz, and felspar. Dr. Voysey states that the precious garnets are found there at the depth of eight or ten feet in the alluvium at the foot of the rock. He found the surface of the rock and soil strewed with garnets in great profusion, but these were generally of a very coarse kind. The garnets when collected are gently pounded, and the bad ones broken; those which survive the blows are reckoned of good quality. In a river near the Munzerabad ghat in Mysore, the natives search for garnets, which are sold at one rupee each. They occur there as deposits from a hill of mica schist which occurs higher up the river, which Captain R. Roberts of the Engineers followed up.

The garnets of China are found in the Lu-shan mountain in Kiang-si, not far from Kia-king.

There are three distinct kinds of ruby garnets sold in Madras,—1. Subramaniam ravakalu, the best, obtained from a village of that name in the Madura district; 2. Badrachellum ravakalu, second in quality, obtained from Badrachellum on the river Godavery; 3. Kondapilly ravakalu, obtained in the neighbourhood of Kondapilly, Bezwara, Toley, Kistna district. Bezwara garnets sent to England realize in the market £8 a ton, and Mr. Bowden thinks they are used as a substitute for emery. In Southern India they are almost universally employed by the cutler, the stone-mason, and others, as a substitute for emery, under which name the coarser garnets are sold in the bazars. In the scale of hardness, the garnet is 6·5 to 7·5. Garnets are of various colours, a circumstance due to the varying proportions and combinations of the three or four silicates of alumina, lime, iron, and magnesia, of which they are composed.—*Madras Museum Report; King; MacCulloch's Comm. Dict.; Voysey; Newbold; Helfer; Mason; Smith; Eng. Cyc.; Mad. Ex. Jur. Report.*

GARODI, a race of migratory jugglers, who exhibit serpents; they profess Mahomedanism.

GARO HILLS are in the S.W. corner of the province of Assam, lying between lat. 25° 9′ and 26° 1′ N., and long. 89° 52′ and 91° 3′ E. The principal ranges are the Tura and Arbela Hills, which run east and west, some of the Tura peaks rising to 4500 feet. The Garo Hills form a mountainous projection between Goalpara and the Bengal district of Mymensing, and are now a revenue district of British India, with an area of 3180 square miles, and an estimated population of 80,000 or 100,000. Garo is a term applied to the people by the Hindus; but they consider themselves as forming three or four nationalities, with different names. The most eastern, bordering on the Khassya, are called the Nunya, the central tribe are the Lyntea, and the remainder are the Abengya. Each tribe has its dependent and independent branches. The Nunya resemble the Khassya in feature and complexion and in language. The language of the western Garo is unintelligible to the Nunya. The Bengali people, however, only distinguish the Garo as the Malawa and the Bemalawa, which, like the Bori and Abor of Upper Assam, means dependent and independent.

The Garo build large houses on the lower hills; the bamboo floor is from four to ten feet from the ground. One corner is enclosed as a bed-room for the parents and girls, who alone stop at home. Every village has its Deka-chang or bachelors' hall, in which all the boys and unmarried men sleep. Several of the petty rajas of Kamrup, whose estates skirt the Khassya and Garo Hills, are Hinduized Garo who have maintained their footings in the valley during changes of dynasty. The Garo have many slaves, called Nokol. A freeman, Nakoba, must not marry a slave girl, nor even keep her as a concubine. The men are lively, good-natured, hospitable, frank, and truthful. The young women make the first advances, the newly-married man is taken to the bride's home, and the descent of property is in the female line. The women wear a short kilt. The clans are divided into different houses, called Mahari (Buchanan calls these Chatsibak), which may be translated motherhoods. The man who marries the favourite daughter of the house must also marry her mother on the death of her father, and in this way he succeeds to the family property. Among them and the Khassya, in all domestic matters, the women enjoy a high social position. They never cut the hair of the head.

Cotton is their chief husbandry. They practise the jhumia mode of cultivation. Their weapons are swords, spears, bamboo shields. They use sharp bamboo panji or stakes, four inches long, as a means of opposing invasion. They eat omnivorously, kine beef, pork, deer, tigers, dogs, snakes, and frogs, but hold milk in aversion. They rear kine, goats, swine, dogs, cats, fowls, and ducks. They eat dried fish and tortoises, which they buy in the plains; and their hills supply them with deer, wild hogs, frogs, and snakes.

They believe in demons, imps, and witches; they think that the souls of certain persons can leave their human frames and take up their abode in the body of a tiger or other animal. A small dish of bell-metal with embossed figures, called a Deo-Kora, is hung up as a household god, and worshipped and sacrificed to; and the Garo believe that when the household are asleep, the Deo, or figure of the Kora, issues in search of food, and returns to its Kora to rest. They burn their dead, and bury the ashes near the door of the hut. At the time of cremation, dogs are sacrificed in order that they may direct the spirit on his way. They sacrificed human beings to their spirits, and to the manes of their chiefs, but in a treaty in 1848 they consented to abstain from hanging human skulls in their houses. A party of them, however, in May 1860, murdered sixteen natives of the plains in the north of the Maimansing district, and afterwards mutilated the bodies. They confessed the crime, and three were executed in their own villages before their own people. Their accomplices, in number some twenty men, were condemned to transportation for various periods. Their object was not so much plunder as human heads to offer to their spirit of the mountains. The raja of Nustung, one of the Khassya states, subsequently undertook to aid in repressing their raids.

The attempt to enumerate them at the census of 1871 disturbed them, and in 1872-73 an expedition had to put them down. The Garo erect carved posts as monuments. The Khassya and the Ho also erect monumental stones.—*Buch. Ham. in Linn. Tr.* xvii. p. 209; *Campbell's Ethnology; Dalton's Ethnology; Indian Antiquary*, October 1873; *Imp. Gaz.*

GAROREE, a wandering race in Woon.

GARORU of the Ravi, a rope across a stream, by means of which passengers and goods are slung across by a pulley arrangement.

GAR-PAGARRI, a sect of Hindu Sudras, who profess to have the power to prevent the fall of hailstones on fields. Possibly the term is derived from the Persian ghar, ice. Wilson says the word is Mahratta, and that they are retained in some villages as part of the establishment, to prevent the hail injuring the crops.

GARPHANS, officers of justice in Hundes.

GARRAH, a principality on the Nerbadda, bordering on Bundelkhand. In the early years of Akbar's reign (A.D. 1564, A.H. 972) it was invaded and conquered by Asof Khan, an officer of Akbar. It was governed by a queen, who opposed the Mahomedan general in an unsuccessful action, when, seeing her army routed and being herself wounded, she avoided falling into the hands of the enemy by stabbing herself with her dagger. Garrah mandla in the middle of the 16th century was 300 miles long and 100 broad. Garrah town is 5 miles below Jubbulpur.—*Elphin.* p. 439.

GARRAH, often written Gharra, a river of the Panjab; the modern name of the ancient Hyphasis.

GARRAH and Ubrassa, districts in the west of Cutch, in which are the towns of Mhar, Narna, and Lakpat Bandar.

GARRETT, JOHN, editor of a Classical Dictionary of India; also in 1847 of an edition of the Bhagvat Gita, in Sanskrit, Canarese, and English, with Schlegel's Latin version, and Humboldt's Essay on the Philosophy of the Gita.

GARRULACINÆ, a sub-family of birds of the tribe Insessores and family Corvidæ.

GARU. TEL. Literally 'they;' like the German Sie, the honorific plural of the pronoun, it is added to any name as a title of honour; thus Amma-garu, lady mother, is a titular appendix to the names of well-to-do Teling people.

GARUDA, a demigod of the Hindus, with the head and wings of a bird, and the body, legs, and arms of a man. He is the son of Kasyapa and Vinata, the brother of Aruna, and the vahan or vehicle of Vishnu,

'When high on eagle-plumes he rides.'

As Aruna, the charioteer of Surya (the sun), is the dawn, the harbinger of day, so does Garuda, the younger brother, follow as its perfect light. He is the emblem of strength and swiftness, and besides being the bearer of the omnipotent Vishnu, is greatly distinguished in Hindu legends on many very important occasions. Aruna, in the Sabean system of the Veda, as the charioteer of the sun, driving his six-horsed car, corresponds with the Aurora of the Greeks. The emblem or vahan of Vishnu is Garuda, or the eagle; and the Sun-god, both of the Egyptians and Hindus, is typified with this bird's head. It is the analogue of the eagle of Jove. Aruna (the dawn), in Hindu mythology, also the son of Kasyapa and Vinata, is the brother of Garuda, and is described as a handsome youth without thighs or legs. His two sons, Sumpati and Jutayoo, attempting in imitation of their father to reach the sun, the wings of the former were burnt, and he fell to the earth. Of this the Greeks may have made their fable of Icarus. The images of Garuda are set up and worshipped with those of Vishnu, in the temples dedicated to that deity. Sculptured images of him are also found in the magnificent cavern temples of Elephanta, Ellora, etc. In the last mentioned he is in several places accompanying Parvati, the consort of Siva. Garuda has many names. He is called Superna from the beauty of his plumage; Nagantaka, or the enemy of serpents; Vishnu rat'ha, or the vahan of Vishnu, etc. In many of the vaishnava temples, Garuda is sculptured on the pillars, or large plaster figures are placed at each corner of the temple walls; also on the walls of many vaishnava temples as a winged young man, kneeling or seated, with the palms of the hands closed, and fingers pointing upwards, denoting reverence.—*Moor; Cole; Myth. Hind.* p. 374; *Tod's Travels; Taylor's Mackenzie MSS.*

GARUDA-BASIVI, a devoted Murli or Devadasa woman.

GARUGA PINNATA. *Roxb.*

Toom, ... BENG.	Karri-vembu maram, TAM.
Khyong-youk, . . BURM.	Garuga chettu, . . TEL.
Kuruk, Kanghur, . HIND.	Kalugudu, . . . ,,
Khar pat, . . PANJAB.	

A large tree with a round umbrageous head; leaves pinnate, deciduous; flowers of a yellowish white, in panicles covered with a mealy kind of white substance; fruit size of a small plum, used for pickling. Grows in the Madras and Bengal Presidencies and Panjab; is common in the Bombay jungles and in the plains and on the hills of British Burma, but the wood is not much used. The bark is a tan; fruit is eaten raw and pickled. — *Riddell; Wight; Gibson; Brandis; Stewart; Beddome; Cal. Cat. Ex.* 1862.

GARUKI, a town in the Hormara district, a sterile province, subject to Las. The Gujar tribe occupy Jab-Malan. Garuki is occupied by the Sangur tribe; and at Hormara in Mekran, with 400 houses, is a tribe of this name. The Hormara tribe say they came originally from Sind.

GARWARA, a tribe of Monghir, who spear otters and the porpoise of the Ganges.

GAS-MADDOO. SINGH. A tree-snare. Atmaddoo, hand-snares.

GASPAR ISLAND, or Pulo Glossa, in lat. 2° 24½′ S., long. 107° 5½′ E., and 14 miles E. from Batavia; has on it a peaked hill, visible for 30 miles, and is a principal mark in sailing to or from the Gaspar Strait. Gaspar Strait, between the islands of Banca and Billiton, was named after a Spanish captain who passed through it from Manilla in 1724. Many navigators prefer this strait to that of Banca.—*Horsburgh.*

GASTEROPODA, the third class of molluscs; according to the system of Cuvier, it is very numerous, and an idea may be formed of it from the slugs and shell snails. According to other classifications, it is the second class.

GASTEROSTEIDÆ, a family of fishes of the order Acanthopterygii. Gasterosteus ductor is the pilot fish.

GASTROCHÆNIDÆ, a family of molluscs, comprising the genera Gastrochæna, Chæna, Clavagella, and Aspergillum.

GASTRODIA SESAMOIDES. *R. Br.* A herbaceous species of orchis, native of New Holland. It is edible, and prefered by the aborigines to potatoes and other tuberous roots, and should be introduced into India. It flourishes in its wild state on loamy soil, in low or sloping grounds, and in the spring appears as a whitish bulb above the sward, of a hemispherical shape, and about the size of a small egg. The dusky white covering resembles a fine white net, and within it is a pellucid gelatinous substance. Again within this is a firm kernel, about as large as a Spanish nut, and from this a fine fibrous root descends into the soil. It is known in Van Diemen's Land and Australia by the name of native bread, also wild yam.—*Simmonds.*

GATA. HIND. (1) A plot or piece of land; (2) two bullocks in yoke treading out the grain; (3) a Brahman or Banya associating with a strange woman.

GATE. The gates of Eastern cities with Mahomedans have honourable names, such as the Dehli gate, the Mecca, etc., gates. In British India, natives lower their umbrellas when passing through the gates of a fortress. In China, the south gate is always honoured, and the dead and night soil are not permitted to be borne through it.

GAT'HA, a song, a verse; a religious verse, but not taken from the Vedas. The Zend hymns of the Zoroastrians (Zarathustra) are called Gathas. The verses interspersed in the Sanskrit Buddhist work called Lalita Vistara, are composed in a dialect between the Sanskrit and the Prakrit, and have given their name to this, the Gatha dialect.—*Dowson.*

GAT-HA, properly Gat'ha, a measure of length. The twentieth part of a jareeb. Each Gat-ha contains three Ilahi gaz. The word is derived from Gat-hna, to join or unite by knots, from Ganthi, a knot.—*Elliot, Supp. Gloss.*

GATTARU, an out-caste race in Ceylon.

GAU. SANSK. The German Gau, Armenian Gawar, earth, land, province. It was also a settlement of the Aryans near Sogdiana.

GAUDA. KARN. An agricultural tribe in Mysore, sometimes labourers; small farmers under a lease from the landholders. A grain store. TEL., a bricklayer race of Hindus.

GAUDA. KARN. The headman of a village, similar to the potail of the Mahratta villages; also

the headman of the potter, shepherd, cowherd, weaver, and cultivator castes.—*W.*

GAUDA-PALEN, a Buddhist temple at Paghan. Gauda-Palen signifies the throne of Gaudama. Height, 180 feet. It is cruciform in plan. It is very conspicuous in approaching Paghan from the southward, with numerous pinnacles and tall central spires; it is seen glistening with its white stucco-like plaster far down the Irawadi river, rising like a dim vision of Milan cathedral. It is compact in structure, and elevated in proportion to its bulk. It has a massive basement, with porches, and rising above in a pyramidal gradation of terraces, crowned by a spire Tee. From the top of the terrace, just below the spire, is a fine prospect of a vast field of ruined temples, stretching north-east and south-west.

GAUHATI (Gowhatty), chief town of Kamrup district, and the largest in Assam; situated on the left or south bank of the Brahmaputra, in lat. 26° 11′ N., and long. 91° 48′ E.; population (1872), 11,492. Gauhati is an important centre of river trade, being one of the largest seats of commerce in Assam.—*Imp. Gaz.*

GAULI, a milkman; tall, robust, and fair race of the Peninsula of India; have no resemblance to any other race in the Dekhan. The name is evidently from Gala, SANSK., GR., milk. They are pastoral and migratory. The name is also derived from Gopala. Gauliga a migratory pastoral tribe of Mysore, who rear buffaloes, sell milk and ghi, and accompany camps.—*Wilson.*

GAULTHERIA NUMMULARIA, and several other plants which extend into the N.W. Himalaya, are also found in the Javanese mountains nearly 3000 miles' distance. Gaultheria occurs along the whole Himalayan range and in the Khassya, and many other Java plants are more uniformly spread over the hilly districts of India and Ceylon. G. fragrantissima and G. trichophylla also occur in the Himalaya, but are represented by a few species in the plains of the Panjab, on the outer slopes of the Western Himalaya, and even on the Khassya mountains. Spiræa Kamtschatica, chamœdrifolia, and sorbifolia, and Paris polyphylla, are other Siberian forms which extend into the rainy Himalaya, and Corydalis Sibirica and Nymphæa pumila are remarkable instances of specific identity between Khassya and Siberian plants.—*Hooker.*

GAUNHARIN. HIND. From Gana, to sing. Singing and dancing women of Hindustan in the N.W. Provinces. They perform at all Hindu festivities, at households, play on the saringi (violin), and tablah (drum); their dancing is a posturing. They are like the bayadères of mediæval Europe, and are by profession immoral. They form a very numerous class in all towns and cities in India.

GAUPAYANA, sons or descendants of Gopa. They were the authors of four remarkable hymns in the Rig Veda, which have been translated by Max Müller.—*Jo. R. A. S.* ii. 1866.

GAUR, the bison of Bengal sportsmen. See Gavæus.

GAUR, a province north of Ghazni, which gave the Gori dynasty to India. It and Balkh are separated from the Seistan by the Paropamisan chain. See Gour.

GAUR, the ancient name of Central Bengal, and of its capital, the ruins of which are still so called. Gaur is mentioned in the Mahabharata, and in historical documents of the 9th century A.D. It was conquered in A.D. 1204 by the Mahomedans, who retained it as the chief seat of their power in Bengal for more than three centuries. It is in the Maldah district, situated on a deserted channel of the Ganges. The city with its suburbs covered an area variously estimated at from 20 to 30 square miles. The west side of the city was throughout washed by the main stream of the Ganges. Here is situated the large Sagar Dighi, the most celebrated artificial piece of water in Bengal. Gaur ruins have been a quarry, not only for the brick houses of the neighbouring towns and villages, but also for the mosques, palaces, public monuments, of Murshidabad. It is now entirely deserted, and overgrown with dense jungle, except where cultivation is again gradually spreading.—*Imp. Gaz.; Elphin.*

GAUR, a term applied by modern philologists to a class of languages relatives to Hindi. Dr. Caldwell, in his Comparative Grammar, remarks that by the term Gaura or Gauda are meant the Bhasha or Prakrit or vernacular tongues spoken in Northern India, some old ones of which have since ceased to be spoken, or have merged into others. At present the languages which may be considered Gaura, are Bengali, Hindi, with its neighbour the Hindustani, Panjabi, Gujerati, Mahrati, the languages of Kashmir and Nepal, altogether nine.

GAURA, a designation of one of the two great divisions of the Brahmans or the five Gauras, also to one of the five, the Brahmans of Bengal proper, who are distinguished again as Varendriya, Rarhiya, Satshati, and Vaidika Brahmans. The two first, from their being settled in the several portions of Gaura, called Varendra and Rarh; the third, as descended from 700 brahmanical families who were settled in Bengal before the introduction of the families from Kanouj, who are said to have been fugitives from Orissa; the fourth, from their knowledge of the Vedas. The Gaur Brahmans were also classed by Balal Sen, a raja of Bengal about the eleventh century, in three divisions, viz. Kulina, from Kula, a family, the most respectable members of the community; Srotriya, those who had passed through the established institutions, and had read part of the Vedas; and Vansaja, merely born Brahmans, possessing neither respectability nor learning.

There are other divisions of Bengal Brahmans of a still inferior description, degraded by acting as priests for the mixed castes, or by some peculiarities of a fanciful and fabulous character.

A Gaur Brahman is one of the five Gaurs now located in Hindustan, in the Upper Provinces, throughout the Subah of Dehli to the hills. There are many subdivisions of these Gaur Brahmans, who are apparently unknown in Bengal, as the Adh Gaur, Kaithal Gaur, Gujar Gaur, Sidh Gaur, and amounting in all to forty-two.

The Gaur Kayasth is one of the twelve divisions of the Kayastha tribe, who are generally clerks, who are all over India, many being in the Upper Provinces, where they settled under the patronage of Nasir-ud-Din, son of Balhav, about the 13th century.

Gaur Rajput, one of the 36 royal Rajput races, whose origin is doubtful; they are numerous in the N.W. Provinces, divided into three principal

branches,—the Bhat Gaur, the Brahman Gaur, and Chamar Gaur,—names derived, Mr. Elliot supposes, from some intercourse with Bhats, Brahmans, and Chamars.

Gaur-taga is an important tribe of Brahmanical descent in the north-west of India, extending through a great part of Rohilkhand, the Upper Doab, and territory of Dehli. They claim to have been originally invited from Bengal by Raja Janamejaya, king of Hastinapur, for the purpose of exterminating the Takshaka or Snake race, in concert with the raja. Mr. Elliot considers the Takshaka to have been Buddhist Scythians from the north, who invaded India. The Taga have their name, it is said, from the Sanskrit Tyaga, abandoning, as they abandoned their Brahmanical character, by accepting and cultivating the lands granted to them by Janamejaya.—*Wilson.*

GAURI, a name of Parvati, the consort of Siva. In Rajputana, under the name Gangauri, a festival is held in her name. Colonel Tod remarks that by the prefix of Ganga (the river) to Gauri, the Gangauri festival is evidently one essentially sacred to a river goddess, affording proof of the common origin of the rites of the Isis of Egypt and India; for Gauri is the goddess of abundance, and is called Isa, also Isani or Parvati, also Lakshmi, and corresponds to the Ceres of Greece. The festival relates to the Bassant or spring, the vernal equinox. An image is made of earth, barley is sown, and by watering and artificial heat is made to grow. In Rajputana beautiful girls carry the idol and bathe it in the water, and return with it to the palace. The festival resembles that of the Egyptian Diana at Bubastis, and of Isis at Busiris, within the Delta of the Nile. During this festival Iswara yields to his consort Gauri, and occupies an unimportant position near her at the water's edge, meanly clad, smoking intoxicating herbs, and holding the stalk of an onion in full blossom as a mace or club, a plant regarded by some of the Egyptians with veneration, but held by the Hindus generally in detestation; but why the Hindus should on such an occasion thus degrade Iswara, is not apparent. Gauri Sankar, in Hinduism, is the term usually given to the idol of Siva or Mahadeva and Parvati, in which she is sculptured sitting on Mahadeva's knees, with the bull Nandi at his feet, and the Sinha or lion at hers.—*Tod's Rajasthan*, i. p. 575.

GAURIKUND, in lat. 30° 36′ N., long. 79° 3′ E., in Garhwal, is on the right bank of the Mandagni, below Kedarnath. The heights above the sea are,—hot springs, 6417 feet; upper limit of walnut, 8116 feet; upper limit of chestnuts, 10,016 feet; upper limit of kanchua, 10,559 feet. —*Robert Schlagentweit.*

GAURI-SANKAR, a Hindu idol, in which the god Siva is represented in a sitting posture, with Parvati seated on his knee, the bull Nandi at his feet, and the Sinha or lion at hers.

GAURI SANKAR, the Nepalese name of a mountain in the Himalaya of Nepal, in lat. 27° 59′ 17″ N., and long. 86° 54′ 40″ E., attaining a height of 29,000 feet above the sea; it is also called Mount Everest, and in Tibetan, Chin-go-pa-ma-ri. It is on the Nepal and Tibet frontier, and is the highest mountain of our globe as yet measured. The Hindu name is from Gauri, white or fair, a name of Parvati, the wife of Siva; and Sankar or Sankara, one of the forms assumed by Siva. Gauri Sankar is the term in use among the Hindu pandits of Nepal; its signification shows a remarkable identity with the meaning of the name Chamalhari, the prominent object of western Bhutan. The name given to Gauri Sankar by the Tibetans, and that by which it is generally known in the northernmost parts of Nepal, is Chin-go-pa-ma-ri.

GAUR-THAKUR, a tribe of Rajputs settled in the Farrakhabad district.—*Wilson.*

GAURUA, an inferior class of Rajputs in Agra and Mathura, and other districts west of the Jamuna.—*Wilson.*

GAUTAM. HIND. A branch of the Chandravansi, or Lunar family of Rajputs, very numerous in the Lower Doab, and formerly very powerful. Offshoots from them, termed Gautamian, are settled in Azimgarh.—*Wilson.*

GAUTAMA or Gaudama is the name by which the last Buddha, Sakya Sinha, is known to the southern Buddhists. They believe that before coming as Gautama, he had passed through 550 different phases of existence, called dzat by the Burmese. The history of these 550 existences is detailed in the Jataka, in stories or tales supposed to have been related by Gautama himself to his disciples and others, to make them acquainted with what had happened to him during these metempsychoses. Almost all end by showing Gautama as the hero or principal personage, and that those who had befriended him were now around him as his disciples, whilst his former opponents were now the wicked Dewadat and heretics. Most statues represent him sitting cross-legged, the left hand upon the lap, and the other hanging over the right knee. It is the attitude of teaching. Other statues represent him recumbent on the right side, with the left leg placed directly over the right, the head resting on the palm of the right hand, supported by the elbow, and the left arm extended at length over the left leg. This is the position he is described to have assumed when he died.

Images of Buddha Gaudama are largely manufactured in Burma, in marble, wood, stone, and metals. At Amarapura is a sitting brass figure 12 feet high. It was formerly the tutelary saint of Arakan, and was carried off from thence A.D. 1784, by the king of Burma.—*Fytche*, ii. pp. 144–159.

GAUTAMA, also written Gaudama and Gotama, in the mythical legends of Hinduism, the father of Kripa; also one of the seven Rishi. Gautama, son of Gotama, is a name of the sage Saradwat; but many men have borne this name. One Gautama was the founder of the Nyaya school of philosophy, and Gautama Siddartha is a name of Gautama Buddha. See Buddha; Sakya.

GAVÆUS FRONTALIS. *Jerdon.*

Bos frontalis, *Lambert.*	B. gayeas, *Colebrooke.*
J'hong-nua, . ARAKAN.	Methana, . . . KOCH'HI.
Gobay goru, . . . BENG.	Mi-than, . . . ,,
Nunec, ... BURM.	Shial, ... ,,
Gavai, Gayal, . . HIND.	Gau-jangli, . . . PERS.

Found in the hilly tracts to the E. of the Brahmaputra, and at the head of the valley of Assam, the Mishmi Hills and their vicinity, probably extending north and east into China. It is a heavy, clumsy-looking animal; it has a small distinct dewlap. It is easily domesticated, and has bred with the common Indian cattle.—*Jerdon.*

GAVÆUS GAURUS. *Jerdon.* Bison.

Bos gaurus, *H. Smith.*	B. assel, *Horsf.*
B. gour, *Traill.*	Bibos cavifrons, *Hodgs.*
Vana-go, ... Beng.	Jangli-Khulga, . . Hind.
Pyoung, ... Burm.	Gaoiya, ... Mahr.
Kar-Kona, . . . Can.	Ban-parra at . Mundla.
Peroo-maoo, . . . Gond.	Bod at . . . . Seoni.
Gour, Gauri-Gai, . Hind.	Katu Yeni, . . . Tam.

The gaur, called by sportsmen bison and jungle buffalo, is an inhabitant of all the large forests of British India, from near Cape Comorin to the foot of the Himalaya. It is abundant along the Syhadri range or Western Ghats, both in the forests at the foot of the hills, but more especially in the upland forests. The Animallay Hills, the Neilgherries, Wynad, Coorg, the Baba Booden Hills, and the Mahabaleshwar Hills, are all its favourite haunts. It dwells in the forests of the Tapti river and neighbourhood, and north of the Nerbadda, a few in the deeper recesses of the Vindhyan mountains. On the eastern side of the Peninsula it is found in the Pulney and Dindigul Hills, the Shanda Mangalam range, the Shevaroy Hills, and some of the hill ranges near Vellore and the borders of Mysore; from the Kistna and Godavery rivers all along the Eastern Ghats to near Cuttack and Midnapur, extending far into Central India, and northwards towards the edge of the great plateau which terminates south of the Gangetic valley,—Hodgson also says the Himalayan Terai. It extends into Burma and the Malay Peninsula, and formerly existed in Ceylon. It is a magnificent animal, in length 9½ to 10 feet, height at the shoulder 6 feet, tail 34 inches. They associate in herds of up to 30 or 40, generally 15 cows and a bull. It is one of the most timid and wary of animals, and requires to be stalked most warily and carefully. It breeds in the cold season, and the young are born June to October. When disturbed, the first who sees the intruder stamps with its foot, and the whole rush through the forest with a terrible crash. All attempts at domesticating them have failed.—*Jerdon*, pp. 302–6.

GAVÆUS SONDAICUS. *Jerd.*

Bos banteng, *Raffles.*	Bos sondaicus, *Müller.*
B. leucaprymnus, *Q. and G.*	
Tsoing, ... Burm.	Ban-teng, . . . Malay.

The Burmese wild ox or wild cow is a native of the Malay Peninsula, Martaban, Java, Borneo, and Bali, but is not in Sumatra, Celebes, or any of the Philippine Islands.

Another wild ox, called Saladang by the Malay, seems to occur along with it.

GAVEH, a Persian standard. This famous standard was a blacksmith apron set in jewels, and was long the imperial standard of Persia. Gaveh was a blacksmith, who overthrew Zohak, and placed Yendoon on the throne of Persia. When collecting followers, he carried his apron as the standard of revolt against Zohak. This apron remained the standard of the empire, till taken by Saad-ben-Wakas, who commanded the Mahomedan army that conquered Persia.

GAVEL-KIND. Eng. The equal division of the inheritance amongst the sons. It was brought to England by the Jut brothers who settled in Kent. It was the custom of the Getic hordes, and is still followed by the Jharija Rajputs.

GAVIAL, the genus of crocodiles described as Gavialis, properly the gharial; has jaws very long, sub-cylindrical, slender, rather dilated, and convex at the end. Teeth, canines two, quite anterior, small; lower canines shutting into a notch in the edge of the upper jaw; feet fringed; toes webbed to the tip. The cervical plates united to and forming a disc with the dorsal ones. Males with a large swelling in front of the nostrils. See Crocodile; Gharial.

GAVYA. Sansk. Five products of the cow, milk and its preparations; in Hinduism, the pancha gavya are proper offerings to an ancestor's manes.

GAWILGARH HILL RANGE, a branch of the Satpura mountains in Berar, situated between lat. 21° 10′ and 21° 46′ 30″ N., and between long. 76° 40′ and 77° 53′ E.

Gawilgarh Hill Fortress is about 21 miles N.W. from Ellichpur, in lat. 21° 21′ 30″ N., and long. 77° 24′ 30″ E. It was taken by storm on the 15th December 1803. The Gawilgarh Hills rise in peaks to heights of 3000 feet. They are 120 miles long, and 60 miles broad. They commence at the confluence of the Purna and Tapti rivers, and, running nearly E. by N., terminate a short distance beyond the sources of the Tapti and Wardah, separating the Tapti and Purna rivers. To the south they are bounded by the valley of Berar, and to the north by the course of the Tapti. It was first fortified by the Gaoli, a tribe from whom it takes its name, and who are still numerous here. The fort, 2300 feet above the plain, and 3595 above the level of the sea, is quite in a dilapidated state, and the only interesting object now remaining is the old mosque, completely in ruins, many of its twenty-one domes having fallen in, and the surrounding walls given way. A tablet over the gateway records that this building alone cost within a few pice that of the whole fort. A gun on the fortress is 27 feet long. Colonel Stevenson in 1803 brought his guns up *via* Dhamungaon and Amjura, and his brigade of the army under the command of General Wellesley took Gawilgarh.

GAYA, a town in Bengal, in lat. 24° 48′ 44″ N., and long. 85° 3′ 16″ E., on the right bank of the river Phalga; it has a population of 66,843, and is the chief town of a British revenue district of the same name. It is in two portions,—the old town, or Gaya proper, where the priests reside, and Sahibganj, the trading quarter. As a place of Hindu pilgrimage, the town of Gaya is of comparatively modern interest.

Buddha or Bodh Gaya is about six miles south of Gaya; and a few hundred yards west of the Phalgu or Nilajan river there are ruins of great sanctity. Sakya Sinha, the founder of the Buddhist religion, dwelt here, and here is the pipal tree under which he sat in mental abstraction for five years. The tree is still here, but is much decayed, being at least 2400 years old. Immediately to the east of the tree there is a massive brick temple, nearly 50 feet square at base, and 160 feet in height. This is beyond all doubt the vihar that was seen by Hiwen Thsang in the 7th century, as he places it to the east of the Bodhi tree, and describes it as 20 paces square at base, and from 160 to 170 feet in height. At the present day the chief pilgrims to the sacred tree at Bodh Gaya are devout Mahrattas. Before leaving his home, he must first walk five times round his native village, calling upon the souls of his ancestors to accompany him on his journey. Of the 45 sacred places, Bedi tirat or tirtha is supposed to represent the footprint of

some deity. At each a pinda or ball of rice and water has to be deposited by the pilgrim, while a hymn is chanted by the attendant Brahman. The Brahmans number 65,301. One wealthy Brahman tribe are called Gayawal, and obtain large sums for conducting the pilgrims to the shrines. Gayalese widowers are barred the privilege of wiving after the death of their first wife, as Hindu widows are barred the privilege of taking a husband after the death of their first husband. This may be a remnant of the celibacy of the Buddhaic priests.

There are also extensive remains of temples and monuments, and of the Rajasthan or palace, said to be the residence of Dharma Asoka and some of his successors on the throne of Magadha. Another place of interest in the district is a temple of great antiquity, which crowns the highest peak of the Barabar Hills. This temple is sacred to Sidheswara, and contains a linga said to have been placed there by Bara Raja, the Asar king of Dinajpur. In September, a large fair, attended only by men, is held here. The pilgrims, who number between 10,000 and 20,000, spend a night on the mountain. Near the foot of the hill are some caves cut in the rock, about 200 years B.C., and in the immediate neighbourhood are a sacred spring and tank, and several sculptures of great interest to the antiquary. — *Cunningham, Ancient Geog. of India*, p. 459; *Tr. of Hind.* i. p. 223; *Imp. Gaz.*; *Arch. Surv. Report*, xxxii.; *Beng. As. Soc. Journ.* 1864.

GAYASHA, the tea-house girl of Japan. They are virtuous. It is part of their profession to assist at the orgies of the Pans and Nymphs.— *Hodgson's Nagasaki*, p. 240.

GAYATRI. From the Sanskrit Goi, to sing, an invocation used by Hindus as a prayer. That usually alluded to under this term is considered to be the most sacred verse in the Vedas. In the nature-worship of the Vedas, the sun was worshipped under the designation Savitri. This prayer is supposed to be known to Brahmans only. They are taught it when they receive the sacred string, and they are enjoined never to communicate it to any other sect. Its Sanskrit words are, — O'm! Bhūrbhuvā ssuvâhā, O'm! Tatsa vit'hru varēnnyâm, B'hargo devâssyâ dhimahi dhiyo yonaha pracho dayath. O'm! earth, air, heaven, O'm! 'Let us meditate on the supreme splendour of the divine Sun. May he illuminate our minds.' Professor Wilson's literal translation of it is: 'We meditate on that desirable light of the divine Savitri (the sun) who influences our holy rites.' Sir William Jones, Colebrooke, Wilson, and Benfey have each given interpretations of it, all somewhat differing. The Gayatri, called by Sir William Jones the mother of the Vedas, and in another place the holiest text of the Vedas, is expressed by the triliteral monosyllable AUM. Sir William Jones thus interprets it: 'Let us adore the supremacy of that divine Sun, the godhead who illumines all, delights all, from whom all proceed, to whom all must return, whom we invoke to direct our understandings aright in our progress towards his holy seat.' And in another place he defines that divine Sun as 'not the visible material sun, but that divine and incomparably greater light which illumines all, delights all, from whom all proceeds, to which all must return, and which can alone irradiate not our visual organs merely, but our souls and our intellects.' Mr. Colebrooke again thus explains it: 'On that effulgent power which is Brahm himself, and is called the light of the radiant sun, do I meditate, governed by the mysterious light which resides within me for the purpose of thought. I myself am an irradiated manifestation of the supreme Brahm.' These are, however, mere scholastic or theologic comments, to suit the theological doctrines of the various Hindu sects, for there is no doubt that the Vedic doctrine was a nature-worship, and the quoted Sanskrit words are an invocation to the sun. Gayatri is a form of metre, and thence applied to this verse in the Vedas, which is repeated inaudibly in the daily morning worship of the Brahmans. Bunsen thus interprets it:—

'We remember with longing the bright beams of Savitar:
May he prosper the handiwork of our piety!
For sustenance we supplicate the divine Producer:
That he may deign to bestow on us our portion, do we beseech him.
All who are wise of heart, adore God the Begetter,
Bringing him offerings of a devout heart, with hymns of praise.'

The extreme importance that the Hindus attach to the supposed profundity of the Gayatri, renders it a text of more curiosity than readers will be able to discover in the words themselves, in either their ordinary or recondite allusions. Sir W. Jones says that the Gayatri is called the 'mother of the Vedas.'

GAYAWAL, a class of Brahmans at Gaya, who claim the right of conducting the ceremonies of pilgrims at the Ghats, and of fees.—*W.*

GAYER. MALAY. A fruit of Singapore. Its seeds are used as marbles.

GAYNI or Gajni, an ancient name of Cambay, now in ruins, and 3 miles from the present city.

GAZ or Gazu, which is much used for making sweatmeats in Persia, is a glutinous substance like honey, deposited by a small green insect upon the leaves of the tamarisk tree. It is the manna of the chemist, Gazanjabin, and is the manna produced on branches of the Tamarix Indica, T. orientalis, by the punctures of the Coccus maniparus. This is often called Arabian manna, to distinguish it from Turanjabin, Persian manna, from the Shirkist or Khorasan manna, and from Sicilian manna.

GAZ. HIND. A long measure, formerly varying in length from 18 to 58 inches, but reduced by Akbar to a standard supposed of 33 inches, and called the Shahi-gaz. The gaz of Gujerat is 27¼ inches.

GAZA, a town in Syria, with a harbour and a castle. It contains many mosques. The principal commerce is furnished by the caravans between Egypt and Syria. Long. 34° 45′ E., lat. 31° 24′ N.—*Robinson's Tr.* i. p. 23; *Eothen.*

GAZELLE, the name given to several species of the family Bovidæ and sub-family Antilopinæ, under which they have been noticed,—the Indian, G. Bennettii; the Persian, G. sub-gutturosa; and Arabian, G. dorcas. The Indian gazelle is found in India, and is known to sportsmen as the goat-antelope, or ravine deer. The species to which no doubt Moore's celebrated lines were addressed, is the Dorcas gazelle of Arabia and Northern Africa, which is often kept in a semi-domestic state by the wandering Arabs, and makes a most

beautiful and sociable pet, though not unfrequently inclined to be mischievous.

GAZETTEER. Several of these relating to India have been published, — the East India Gazetteer, by Walter Hamilton; the Bengal and Agra Guide and Gazetteer; Thornton's Gazetteer of the Countries adjacent to India; Thornton's Gazetteer of the Territories under the Government of India, and of the Native States on the Continent of India; Pharoah's Gazetteer; and the Imperial Gazetteer, by Dr. W. W. Hunter, C.I.E., B.C.S., issued in 9 volumes in 1882.

GAZZA EQUULÆFORMIS. *Ruppell.* In the Straits of Malacca this species is very numerous at all seasons, and forms, like the rest, an article of food.

GEAWA. In the city of Lhassa, and over the whole of Tibet, Geawa Remboochi, or the Grand Lama, is nominally the supreme authority in temporal and spiritual affairs. His residence is in Patala Goompa, on the north side of Lhassa.

GEBANTÆ, also known as the Catabeni, an ancient race who occupied the country immediately within the Straits of Bab-ul-Mandab. Their seaport was Okelis, which was long the centre of commerce between Europe and the East. Its ruins are situated about a mile inside the straits, at a place called by the natives Dakooa. See Okelis.

GEBBE, an island between N. Guinea and Gilolo, in the Eastern Archipelago, and not far from Gilolo. It is occupied by a Negro race, with nose flat, the lips thick and projecting, the complexion a dark olive, the eyes deep-seated, and, on an average, the facial angle 77°, but as high as 81°. In Gebbe and Waigyu, and in some parts of the coast of N. Guinea, the complexion is lighter, and the peculiar texture of the Negro hair is absent. M. Freycinet has described the Negroes of Gebbe. In Gebbe, Waigyu, and in some parts also of the coast of New Guinea, the Malayan race may have become intermixed with the Negro, as the complexion is lighter, and the peculiar texture of the Negro hair altered or obliterated. The language spoken at Waigyu is entirely Papuan, being that which is used on all the coasts of Mysol, Salvatty, the N.W. of Guinea, and the islands in the great Geelvink Bay. Waigyu, Gebbe, Poppa, Obi, Batchian, between New Guinea and the Moluccas, as well as the south and east peninsulas of Gilolo, possess no original tribes, but are inhabited by people who are evidently mongrels and wanderers.—*Wallace*, ii. p. 216.

GEB'L DUKHUN. Its porphyry quarries, the Mons Porphyritis of the Romans, are probably coeval with the celebrated Breccia quarries of Wadi Keneh, and worked in the time of the first Osertasen, the supposed Pharaoh who ruled over Egypt in the time of Joseph. The beautifully coloured porphyries, green, purple, and red, and much of the basalt used in ancient Egyptian sculpture, were derived in great measure from Geb'l Dukhun and its vicinity. The Wadi from Geb'l Dukhun to Keneh, the ancient Koinipolis, a little north of Coptos, is to this day called the Tarikat-el-Arabiyeh, the high road of the carts. An inscription on the frieze of the temple near Geb'l Dukhun, bears the name of the emperor Adrian, with the surname of Trajan, whose son by adoption he was. The temple is dedicated to Serapis the Great, with his titles of Pluto and the Sun, ΔΙΙ ΗΛΙΩΙΜΕΓΑ ΔΩΙΣ ΑΡΑΠ ΔΙΙ, and to the other gods in the same temple. Small temples to Serapis are very common in the vicinity of mines and quarries, as Pluto is supposed to preside over demons and the evil genii, who, the orientals imagine, watch over the treasures in the earth. Geb'l Dukhun lies in about lat. 27° 16′ N., and long. 33° E. There is an ancient road leading from it to Myos Hormus, an old port on the Red Sea, from which it is distant about 32 miles as the crow flies.—*The Eastern Desert of Egypt, by Hekekyan Bey.*

GECARCINUS, a genus of land-crabs, called by the French Tourlouroux, Crabes peints, and Crabes violets. G. carnifex and G. hirtipes occur in India, G. carnifex in the neighbourhood of Pondicherry; its carapace is very much elevated.

GECKO, a genus of saurian reptiles of the widely distributed natural family Geckotidæ. In the Malay tongue they are called Tokke or Tokai. In Burma, the ordinary call of the house Gecko is Tooktay. In the forests, large flat and marble-coloured Geckos cling to the smooth trunks of the trees. They are harmless, but their sudden clear call and their hideous forms alarm strangers. It is said a French traveller, M. Touquet, hearing his name pronounced, repeatedly answered to it, 'Eh bien,' until made aware that it was the Gecko's call. There are in Ceylon Hemidactylus maculatus, *Dum. et Bib.*, H. Leschenaultii, *Dum. et Bib.*, H. frenatus, *Schlegel.* The last named is very common in the houses of Colombo. Colour grey; sides with small granules; thumb short; chin-shields four; tail rounded, with a transverse series of small spines; femoral and frenal pores in a continuous line. The Geckos frequent the sitting rooms, and, being furnished with pads to each toe, they are enabled to ascend perpendicular walls, and adhere to glass and ceilings. The Tokai or Takke of the Malays, le Gecko de Siam of Cuvier, are numerous in Siam, but also occur in Java and other places of the Archipelago. One is from 6 to 9 inches long, and marked with red and green spots, and frequent tubercles. They destroy multitudes of noxious insects.

Gecko verus, *Merr.*, Bengal, Assam, Andamans, Tenasserim.
G. stentor, *Cantor*, Andamans, and six others.
Ptychozoon homalocephalum, *D. and B.*, Pegu.
Hemidactylus coctæi, *D. and B.*, Calcutta.
H. Kelaartii, Ceylon.
H. Leschenaultii, *D. and B.*, Neilgherries.
H. maculatus, *D. and B.*, Ceylon.
H. sublævis, *Gray*, Mergui, Ceylon.
H. fasciatus, *Gray*, Ceylon.
H. frenatus, Ceylon.
H. vittatus, Ceylon, and three others.
Peripia Cantoris, *D. and B.*, Andamans.
Nycteridium platyurus, *Schneid.*
Dorynra Berdmorei, *Blyth*, Mergui.
Phelsuma cepedianum, *Per.*, Mauritius.
P. Andamanensis, *Blyth*, Andamans.
Gymnodactylus Jerdonii, *Theob.*
G. Geckoides, *Spix.*, Salt Range.
G. triedrus, *Gunth.*, Ceylon.
G. pulchellus, *Gray*, Penang, Singapore.
G. frænatus, *Gunth.*, Ceylon.
G. Kandianus, *Kelaart*, Ceylon.
G. Mysorensis, *Jerdon*, Bangalore.
G. Indicus, *Gray*, Neilgherries.
G. Malabaricus, *Jerdon*, Malacca.
G. littoralis, *Jerdon*, Malacca.
G. Deccanensis, *Sykes*, Dekhan.
Nanetinus variegatus, *Blyth*, Tenasserim.
N. fascialatus, *Blyth*, Subathu.
Puellula rubida, *Blyth*, Andamans.

Eublepharis Hardwickii, Chaibassa, Chittagong, and Penang.
E. macularis, *Blyth*, Salt Range.
Homonota fasciata, *Blyth*, Central India.
Platyurus Schneiderianus, Java.
Boltalia sublævis, India.
Peropus mutilatus, Manilla.
Theconyx Seychellensis, Seychelles.
Pentadactylus Duvancellii, Calcutta, India.
Tarentola Borneensis, Borneo.
Goniodactylus Timorensis, India, Timor.
Cyrtodactylus marmoratus, Java, Philippines.
C. pulchellus, Singapore.
Heteronota Kendallii, Borneo.
—*Crawfurd's Embassy*; *Tennant's Ceylon*, p. 281; *Gosse's Natural History*, p. 31; *Gray, Lizards*, p. 155.

GEDAUN, in Baluchistan, the tent of black felt in which families reside. The Afghans call it Kizhdi; the Turks, Kara Ulli; and the Persians, Siah Chadr. The felt is the Namdah of India, from which is the Indo-European word Nomade.

GEDROSIA of the Greeks, the modern Makran. See Kej.

GEER, a tract in the south of the Gujerat peninsula, stretching 50 miles east and west, and 30 miles north and south. It consists of ridges and hills covered with dense forest trees and jungles, and full of almost inaccessible fastnesses, which for ages gave shelter to robbers, outlaws, and the Aghori fanatics, said to be cannibals. Lions, till lately, were found in the Geer jungles, but there are no tigers. The climate is equable and temperate, and the coast is balmy with the wet breath of ocean breezes blowing fresh from the south pole. —*Cal. Rev.*, December 1860. See Kattyawar.

GEESOO. Tib. Koutouktow, Mong. Amongst the Mongols, the title of the highest class of the priests of Buddha. The one resident at Oorga is called by the Mongols Gheghen Koutouktow. The Oorga high priest seems also to be called Geesoo-tahba, and is a regenerated Buddha of great sanctity. There are 30,000 lamas under several heads at Oorga. See Geawa; Kouren; Koutouktow.

GEETA. Sansk. Properly Gita, from Goi, to sing a hymn or song. Bhagavat Gita, a divine song, a Sanskrit poem in the form of a dialogue between Arjuna and Krishna. That Geeta is a discourse on the Yoga philosophy. See Gita.

GEHAR, a large class of child-stealers in the valley of the Nerbadda.

GEHENNA, a valley celebrated for the inhuman and barbarous, as well as idolatrous, worship paid to Moloch, to which deity parents often sacrificed their offspring, by making them pass through the fire (2 Kings xxiii. 10, 2 Chron. xxviii. 3). To drown the lamentable shrieks of the children thus immolated, musical instruments (Hebrew, Toph) were played; whence the spot where the victims were burnt was called Tophet. After the captivity the Jews regarded this spot with abhorrence, on account of the abominations which had been practised there; and, following the example of Josiah, they threw into it every species of filth, as well as the carcases of animals and the dead bodies of malefactors, etc. To prevent the pestilence which such a mass would occasion if left to putrefy, constant fires were maintained in the valley, in order to consume the whole; hence the place received the appellation of Gehenna, the Jahannam of the Arabs. By an easy metaphor, the Jews, who could imagine no severer torment than that of fire, transferred this name to the infernal fire,—hell, to that part of the invisible world in which they supposed that the demons and the souls of wicked men were punished in eternal fire.—*Robinson's Travels*, i. p. 107.

GEHLOT, a Rajput race founded by Bappa. They long held power in Saurashtra. Before they became Saiva Hindus, they chiefly worshipped the sun. The name is also pronounced Grahlot. Arore, on the Indus, is said by the Gehlot to have been their ancient site, and they claim to be the Balicaputra who occupied it. They were driven from Balabhipura when it was taken and sacked by the Huns or Parthians. The Gehlot cula was subdivided into twenty-four sacha or ramifications, few of which exist,—the Aharya, at Dongurpur; the Mangulia, in the desert; the Sesodia, in Mewar; and the Piparra, in Marwar. Bappa, the Gehlot chief, born A.D. 713, obtained Chitore 728, and abandoned it 764. From the Gehlot have branched the Sesodia and Aharya. They are spread over different parts of the North-West Provinces. The name Sesodia is said to be from Sessoo, a hare. Their neighbours, who for some unexplained reason are fond of imputing cowardice to them, say their name of Gehlot is derived from Gehla, a slave girl. But the origin believed in Mewar is the following:—When the ancestors of the rana of Mewar were expelled from Gujerat, one of the queens, by name Pushpavati, found refuge among the Brahmans of the Mallia mountains. She was shortly afterwards delivered of a son, whom she called, from the cave (Goha) in which he was born, by the name of Gehlot; from him are descended the present ranas of Mewar or Udaipur. Their claim to be descended from Nushirwan and a Grecian princess, which has frequently been discussed, invests this clan with a peculiar interest.—*Elliot*; *Tod's Rajasthan*, i. p. 84. See Keneksen.

GEI-SHA, in Japan, dancing girls who also play and sing.

GELASIMI, land-crabs; most of these have a single large claw. They move about with that half erected, and quickly retreat to their holes in the sand. There are several species known,—G. annulipes, Indian seas; G. Dussumieri, G. tetragonum, of the Red Sea, Mauritius; G. forceps, *Edwards*, of Australia; G. cordifornis, *Edwards*, Australia.—*Collingwood*.

GELATINE.

Ghurri-ul-jallad, . Arab. | Siris; Sirisht, Hind., Pers.
Yu-kiau, P'iau-kiau, Chin. | Suresham-i-jald, . ,,

Gelatine is obtained from skins, cartilage, tendon, membrane; also from the parings of hides or horns of any kind, the pelts obtained from furriers, the hoofs and ears of horses, oxen, calves, sheep, etc.; from the raspings and trimmings of ivory, the refuse pieces and shavings left by button-mould makers, and from other kinds of hard bone. Size, again, is made by boiling down in water the clippings of parchment, glove leather, fish-skin, and other kinds of skin and membrane, and is used either alone or mixed with flour, paste, gum-arabic or tragacanth, and employed by bookbinders, paperhangers, and painters in distemper. Gelatine is one of the principal constituents of most of the animal substances employed as food. The Chinese import various substances, which can be valuable only as yielding gelatine of different degrees of purity,—agar-agar, trepang, birds'-

nests, shark fins, and fish maws. Good isinglass is one of the purest forms of gelatine.

GELIDIUM CORNEUM, one of the Algæ. According to some narrators, it enters into the formation of the edible swallow-nests of the Japanese islands. See Algæ; Nostoe edulis.

GELONIUM LANCEOLATUM. *Willde.*

G. bifarium, *Willde.* | Hsai-than-bayah, BURM.

This pretty evergreen tree is found in the Rangoon district and Northern Circars; it seldom exceeds 3 feet in girth. Wood, white colour, fit for house-posts, and adapted for every purpose of house-building, weighs 50 lbs. per cubic foot. It is common in rather open forests, up to an elevation of 4000 feet. It is a very variable plant; and Mr. Thwaites thinks that all the specimens he had seen of the genus, from different and distant parts of India, might with safety be referred to one species.—*Roxb.* iii. p. 831; *Thw. Zeyl.* p. 274.

GELUM. TIBET. A monk.

GEM, a term employed by jewellers to designate the more beautiful of the precious stones. Gem sand, from the neighbourhood of Ava, is sometimes one of the Shan articles of merchandise. It consists of small fragments of nearly all the precious stones found in the country; but garnet, beryl, and spinel are its principal constituents, more especially the last, which seems to constitute more than three-fourths of the whole mass. A single handful will contain specimens of every shade,—black, blue, violet, scarlet, rose, orange, amber yellow, wine yellow, brown, and white. Many retain their original crystalline forms; some have the fundamental form of the species, a perfect octahedron; but many others have some of the secondary forms, among which it is not uncommon to see twin crystals re-entering angles, formed by two segments of the tetrahedron truncated on the angles, and joined together by their bases.—*Mason.*

GEMELLI - CARERI. Giovanni Francesco Gemelli-Careri, of Naples, wrote the Giro del Mondo, a narrative of his six years' travels round the world, and which was published in 1699. He notices that at his time the remnants of the conquests of the Portuguese in Asia were so inconsiderable, as scarcely to defray their own expenses.

GEMITORES, in natural history, an order of birds, comprising in India the families Treronidæ, Columbidæ, and Gouridæ. See Birds.

GENDARUSSA VULGARIS. *Nees.*

Justicia gendarussa, Roxb.

Jugut mudun,	BENG.	Nila nirganda,	SANSK.
Ba-wa-net,	BURM.	Cari nuchi,	TAM.
Tsin-kiau,	CHIN.	Nalla-vavali,	TEL.
Kali shumbali,	DUKH.	Gandharasamu,	,,
Vada kodi,	MALEAL.		

Grows in the Konkans, in Travancore, and Madura; is common in gardens. Flowers during the wet season, with dark purple or green smooth shoots. Grows in Liau-chau in Shan-si, and in Ho-nan. Its twisted, wrinkled brown roots are boiled in milk, and given in China in rheumatism, as a diaphoretic and diuretic.—*Smith; Voigt.*

GENII, spirits. The word is derived from the Arabic Jin, through the Persian. Mahomedans believe that the Jin reside in the lower or first firmament. See Jin; Saraswati.

GENNA, amongst the Naga, a kind of taboo.

GEN SHU SHAI. JAP. A festival on the annual opening of all public business.

GENTIANACEÆ, an order of plants, growing in most parts of the world,—in Japan, Arabia, and the E. Indies. The whole order is bitter as a characteristic, both in the stem and roots, and used as a tonic. G. umbellata grows in the Caucasus; G. decumbens, *L.*, is common at considerable elevations in the various parts of the Panjab Himalaya; a tincture of it has been used as a stomachic by the Lahoul missionaries. Gentian root is a bitter tonic, and before the discovery of cinchona it held the first place among febrifuge remedies, and it is still deemed a very useful medicine in intermittent diseases. A perfect substitute for the infusion of gentian is made from the Gentiana kurroo, common in the Himalaya, and is much used in native practice. Species of Agathotes, Exacum, Justicia, Cicendia, and Ophelia, of this and other orders, are possessed of the same properties as gentian. Gentiana asclepiadea, *Smith*, Lung-tan-ts'au, grows in Shen-si. Its roots are agreeably bitter.

GENTIANA KURROO. *Wall.*

Pneumonanthe kurroo, Don, Royle.

Kamal phul,	HIND.	Nilakil, Nilkanth,	HIND.
Himalayan gentian,	ENG.	Kurroo,	,,

Grows at Simla and other parts of the Himalaya, at from 3000 to 9000 feet. The roots are used like the gentian.—*O'Sh.* p. 459; *Cleghorn's P. Rep.* p. 658; *Stewart.*

GENTIANA TENELLA. *Fries.* The Tita of Ladakh and various parts of the Panjab Himalaya, up to 15,000 feet in Ladakh. In Lahoul, a decoction of the leaves and stems of this and other species is given in fevers. In Ladakh its root is put into spirits.—*Dr. J. L. Stewart.*

GENTIL, author of Voyages dans les Mers des Indes, 1660.

GENTILE, a term used by the Jews to designate all races not Jews or not circumcised. It answered to the Barbaros of the Greeks and Romans. The term was employed by the Europeans in India to designate the Teling people, the races occupying the country from Madras to Ganjam. It is pronounced Gentoo, and the people themselves accept that designation. The Gentile of the Jews was the equivalent of the M'hlecha of the Aryan Hindu, the E of the Chinese, and the Kafir of the Mahomedan. With the Arabs, they themselves are the Arab-ul-Arāb; all the rest of the world are Ajami, or foreign. Gentoo is a corruption of the Portuguese Gentio, a Gentile. Dr. Fryer (Travels, 1672 to 1681) says 'the Gentues, the Portugal idiom for Gentiles, are the aborigines.' He appears to be the first English writer by whom the term was used; but before his time, Pietro del la Valle speaks of the Hindus as Gentile, following the example of the Portuguese. Notwithstanding those unquestionable authorities, Halhed (Gentoo, Code xxi. xxii.) supposes that the Portuguese borrowed the term Gentoo from the Sanskrit word Gunt, a sentient being.—*Elliot.*

GEOCICHLA CYANOTUS, the Madras bulbul.

GEOGRAPHY of India, in ancient times, became slowly known to the learned men of the West. In the centuries immediately preceding the Christian era, the conquests of Alexander threw open the interior of Asia as far as the Indus and Afghanistan, and Greek colonies bearing the conqueror's name were established on the sites of Herat and Kandahar. Megasthenes, the

resident ambassador of Seleucus at the court of the Indian monarch Sandracottus, gave to the world a valuable store of information concerning India, of which only fragments remain to us in the works of Arrian and Strabo. But Megasthenes' knowledge of India was apparently limited to the valleys of the Indus and Ganges; he had little idea of its general configuration. The earliest geographical treatises were called Peripli, or circumnavigations, being in fact detailed descriptions of the coasts and ports of some particular sea or seas, and the nations bordering on them. Thus there were several Peripli of the Mediterranean, two or three of the Euxine and of the Red Sea, and one of the Indian Ocean. Eratosthenes the astronomer followed Megasthenes in his account of India. And if we compare his map with that of Herodotus, many improvements are apparent. But the great mountain chains of Asia are represented by a stiff, unbroken range, traversing that continent horizontally in one straight line. The Persian Gulf, the outline of India with its promontory, are strangely distorted towards the east, instead of pointing due south, Taprobane (Ceylon) making its appearance at the foot. In the generation after Eratosthenes, wrote Hipparchus, also an Alexandrine astronomer. He devoted much time to criticising Eratosthenes, and generally unjustly. From Hipparchus to Strabo there arose no geographer worthy of mention. The physicist Posidonius thought that the habitable world extends over about half the circumference of the globe, 'so that there would only be another half to be traversed by any one sailing with an east wind to India.' This, too, was the leading idea of Columbus' voyage 1600 years later, and was the germ of the name West Indies.

Pliny gives some details of the direct voyage to India, as it was practised in his day. His account is confirmed by the more than usually accurate Periplus of the Erythræan Sea (as the Indian Ocean was then called, the modern Red Sea being then the Arabian Gulf), the work apparently of a trader in those parts. The direct voyage to the western coast of India was a distinct advance upon the practice of the ancient Alexandrian traders, who seldom ventured far beyond the mouth of the Arabian Gulf. Hippalus, a pilot, discovered the secret of the trade winds; and, following his example, navigators sailed straight to Muziris (perhaps Mangalore). The district of Dachinabades is evidently the Dekhan, and Comar or Cape Cory is Cape Comorin.

Marinus of Tyre wrote 50 years after the date of the Periplus. He had new sources of information for the S. and S.E. of Asia. A miscalculation of the distance which would be covered by a seven months' journey, led him to place the capital of the Seres, or Chinese, about 3000 miles too far to the east. Such an error is the stranger, as the Chinese historians record the arrival at the court of the emperor Hi-wan-ti, in A.D. 166, of an embassy fron Antun (Antoninus), king of Ta-thsin (Rome). The Seres had been known even in the Augustan era as the silk manufacturing nation; but it was thought they carded the silk off the trees. Thus Virgil relates:—

'Velleraque ut foliis depectunt tenuia Seres?'

The error was long-lived. Pausanias had some glimmering of the truth; but the silk-worm was not known in Europe till Justinian. Just as

Marinus extended Asia to the E., he extended it proportionately to the S.E. Rumours had already reached the author of the Periplus of the Erythræan Sea concerning Cochin China and the Malay Peninsula. On the strength of these and of other information of his own, Marinus conceived the continent as stretching far away in that direction, and then bending round and joining the S. of Africa. No doubt this tremendous extension of the length of the inhabited world by Marinus, accepted as it was by Ptolemy, by shortening the voyage across the Atlantic to India, was an additional incentive to the adventure of Columbus.

Claudius Ptolemæus, who may be said to be the last great ancient geographer, wrote about A.D. 150. He was a mathematician and astronomer, and regarded geography from a corresponding point of view. Ptolemy's information about the source of the Nile is more correct than Europeans possessed till Speke and Livingstone. It must have come to him *via* Zanzibar, down to which point the author of the Periplus of the Erythræan Sea has some acquaintance with the coast.

Ptolemy places Cape Comorin very little to the south of the mouth of the Indus. Massilia and Byzantium are still placed on the same parallel of latitude, and help to distort the whole map of Europe.

The northern provinces of British India occupy a great unbroken plain, which extends from the Himalaya mountains to the Arabian Sea and the Bay of Bengal, and is traversed by the rivers Indus and Ganges and their tributaries. The central and southern portion projects into the Indian Ocean. It is roughly triangular in shape, and its larger part consists of a hilly plateau or table-land. On the western flank of this plateau are the Aravalli Hills, which separate Rajputana from the plain of the Indus, and the Syhadri or Western Ghats, which rise abruptly from the sea to an elevation that seldom exceeds 4000 feet, though the Neilgherry mountains, near the southern end of the range, rise to 8760 feet. The eastern margin of the plateau is known as the Eastern Ghats. In Mysore the plateau rises to 3000 feet, but the average altitude of the central parts is about 1500 feet above the sea.

GEOLOGY of India has been summarized, during the 19th century, by Mr. James Calder, Captain Newbold of the Madras army, Surgeon Carter of the Bombay army; and lastly, and in the highest sense, in a joint work by Messrs. H. B. Medlicott, M.A., and W. T. Blanford, F.R.S. Its most striking feature is the difference between the rocks of the Peninsula proper and those of the countries lying beyond the great Indo-Gangetic alluvial plain. The investigations of Dr. Hugh Falconer have shown that, at a period geologically recent, the present Peninsula of India was a triangular island, bounded on each side by the E. and W. Ghats, converging to Cape Comorin, while the base of the triangle was formed by the Vindhya mountain range, from which an irregular spur, forming the Aravalli mountains, extended northwards; while between the northern shore of this island and a hilly country, which is now the Himalaya mountains, ran a narrow ocean strait. The bed of this strait became covered with debris from the adjacent Himalaya on its northern shore, and with this debris became entombed and pre-

served many and various animal remains. The present condition of the country in Northern India has been produced by a subsequent upheaval of the land, so that what was the ocean strait forms the northern plains of India, the long, nearly level valleys in which flow the Ganges and the Indus. Besides this, a great upheavement along the line of the Himalaya has elevated a narrow belt of the plains into the Siwalik Hills (determined to be of tertiary age), and added many thousand feet to the height of the Himalaya; and facts tend to the conclusion that India had one long term and one protracted fauna, which lived through a period corresponding to several terms of the tertiary periods of Europe.

The rocks of the Peninsula, though for the most part of very ancient date, are far less disturbed than those of the Himalaya, Afghanistan, and Burma, many of them, like the Vindhyan sandstones, being still quite horizontal. All the evidence goes to show that from a very early period in the history of the world, the greater part of the Indian Peninsula has been dry land; whereas for many ages the Himalayan area was occupied by the sea, and the rocks of that region have been, down to very recent times, and probably still are, subject to violent crushing and contortion. In fact, the arrangement of the strata shows that, notwithstanding the great outpourings of volcanic rock which constitute the Dekhan trap, the Indian Peninsula has from the earliest ages been one of the steadiest and most fixed portions of the earth's crust, whilst the Himalayan area has been subject to violent oscillations of level; and the highest mountains in the world probably owe their height to the circumstance that the elevating forces are still in operation.

The oldest rock known to occur in India is the *gneiss* of Bundelkhand. It is exposed over a roughly triangular area, lying between Kirwee, Gwalior, and the southern part of the Lalitpur district. Along its northern edge it is covered by the Gangetic alluvium, and on the other sides it is bounded by a steep scarp of Vindhyan sandstones, or by a series of sub-metamorphic rocks underlying the Vindhyan. Two other areas of gneiss occur in the Peninsula, but from their relations to the sub-metamorphic series, they are supposed to be of an age posterior to the gneiss of Bundelkhand. One of these extends, with hardly an interruption, from the Ganges in the neighbourhood of Bhagulpur, to Cape Comorin, and from the coasts of Madras and Orissa to Vingorla and Nemaur, where it is covered by the Dekhan trap. The other occupies the central and southern part of the Aravalli Hills in Rajputana, and it may be continuous with the eastern gneiss of the Nerbadda valley, underneath the trap. An outlier of the same kind of gneiss occurs in Assam. The gniess of Bundelkhand is of remarkably simple and uniform composition, while that of the south and east of the Peninsula is much more complex, and contains many extraneous minerals, among which may be mentioned the gold of the Wynad, and the immense deposits of magnetic iron ore that occur in many parts of the country. Resting upon the Bundelkhand gneiss, but more or less disturbed where in contact with the other gneiss of more recent age, is a series of partially metamorphosed strata of no great thickness, called the Bijawars, in Bundelkhand. This group of strata can be traced on the outskirts of the gneiss, from Silang in Assam to the Nerbadda valley. Similar rocks flank the Aravalli Hills; and detached outliers occur through Northern Rajputana and the S.W. Panjab, as far as the Korana Hills, beyond the Sutlej and Ravi, and within a few miles of the Panjab Salt Range. An upper series of transition rocks can be traced near Gwalior, and in parts of the Madras Presidency.

Over these, and resting unconformably upon them, comes the most widely distributed series of stratified rocks to be found in India,—the so-called *Vindhyan system*. This immense series of horizontal sandstones and shales extend from Sasseram and Rotasgarh on the Sone, to the borders of Mewar, and from Agra to the Nerbadda valley, with several outlying patches in Southern India, as at Bhima and Kurnool. All the diamonds found in India seem to be derived from a pebble bed at the bottom of the Vindhyan series, but the diamonds occur simply as water-worn pebbles, so that their original matrix is still unknown. That such an immense area of perfectly undisturbed and quite unaltered rock should be totally devoid of fossils, is very puzzling to the geologist, yet such appears to be the fact. The only explanations of it that can be given, are either that the Vindhyan rocks were deposited before the beginning of life on the globe, or that there was something inimical to life in the composition of the waters in which these rocks were formed. There is no evidence whatever, except the mere absence of life, that either of these explanations is correct; but, on the whole, it seems most probable that the Vindhyan strata were deposited in fresh water, at a time when the dry land and the waters enclosed by it were without life, although some kinds of living beings may have existed in the contemporaneous seas.

Resting in hollows of the ancient gneiss or the Vindhyan rocks, are found the first fossiliferous strata of the Indian Peninsula, — those of the *Gondwana system*, or the Indian coal measures. These rocks extend in patches from West Bengal through South Rewa and the Nerbadda valley to Cutch, and they are also found in the valley of the Godavery, and as far south as Madras. A small outlier of the same series has been discovered at the base of the Himalaya, near Darjiling, almost the only instance of a Peninsular rock occurring in the extra-Peninsular area.

At the bottom of these rocks, wherever the base can be seen, is found a peculiar conglomerate, consisting of boulders, many of them of large size, embedded in a fine matrix. Some of these boulders are marked with parallel striæ on one or more sides, and the appearance of the whole stratum is that of an ancient boulder-clay deposited from icebergs. Similar rocks are observed in S. Africa and in the Permian formation of Europe, and it is probable that these Talchir beds are of Permian age. Above the Talchirs lie the coal-bearing strata of Karharbari, and the Damuda series of coal-bearing beds found here and there over the country from Raniganj to the valleys of the Nerbadda and Wardha rivers. These are no doubt economically the most important of the Indian strata, though they cover a very small area compared with that occupied by the Vindhyan rocks or the ancient gneiss.

The coal-bearing strata contain numerous plant

remains, and a few skeletons of terrestrial animals belonging to the amphibia, but not a trace of any marine fossil has yet been discovered in them. There has been a good deal of discussion about the age of these beds, and of those overlying them, the Panchets, Jubbulpur bed, and Mahadevas, because the fossil ferns they contain resemble on the one hand those of the Trias of Europe, and on the other they are very like those found in the true carboniferous rocks of Australia. The lower rocks of the coal-bearing series are supposed by Mr. Blanford to be of Permian or carboniferous age, and the upper ones (Panchet) Triassic. There can be no doubt about the proper geological horizon of the uppermost plant-bearing beds,—those of Cutch and Rajmahal,—which are distinctly Jurassic in their fossils, and contain in Cutch marine animal remains, such as ammonites of Jurassic age, interstratified with the plant beds. Of the *Cretaceous rock*, only a few detached areas exist in the Indian Peninsula, and these are all, with the exception of some beds at Bagh near Indore, within a few miles of the present coast.

Overlying the cretaceous rocks of Bagh, and overlaid in turn by the Eocene beds of Gujerat, are the great horizontal sheets of the Dekhan trap,—the greatest accumulation of volcanic rock known in the world. The trap extends in the north and south direction from Belgaum to Nemuch, and spreads from Kattyawar on the west, to Amarakantak on the east, covering every kind of rock, from the Bundelkhand gneiss to the most recent cretaceous formations, with its great horizontal lava flows, and in parts of the Western Ghats it is more than 4000 feet thick. It has been surmised that the lava must have been ejected on dry land, and not under water, because in some parts, as near Naldrug, the upper part of nearly every flow is full of vesicle, now occupied by zeolites and other minerals. How this could have been accomplished so as to leave all the beds nearly horizontal, and without trace of a single volcanic cone, is not apparent. But Dr. John Grant Malcolmson, who in the early part of the 19th century described this great volcanic outburst, discovered in the Gawilgarh trap many casts of marine shells.

The following is a classified list of formations in Peninsular India, with the approximate maximum thickness in feet :—

		Recent and Post-Tertiary.	Blown sand, soils, including black soil or regur, ...	Unknown; 700 feet deepest boring.
			Modern alluvial deposits of rivers, estuaries, and the sea-coast, Khadar of Indo-Gangetic plain, etc., ...	
			Raised shell beds of coast, ...	
			Low-level laterite; older alluvial deposits of Ganges, Nerbadda, Godavery, etc.; cave deposits, ...	
Cænozoic.		Tertiary.	Miliolite of Kattyawar; Pliocene, Miocene, and Eocene (nummulitic) beds of Cutch and Gujerat; sandstones, clays, and lignites of the west coast, Travancore, and Ratnagiri; Cuddalore sandstones; high-level laterite, ...	2,700
		Dekhan Trap Series.	Upper traps and inter-trappeans of Bombay; middle traps; lower traps and inter-trappeans of Central India, Rajamahendri, etc.; Lameta or infra-trappean group; infra-trappeans of Rajamahendry group, ...	6,000
	Mesozoic.	Marine Cretaceous Rocks.	Arialur, Trichinopoly and Utatur groups, ...	3,000
			Bagh beds, ...	
			Neocomian of Cutch, ...	
		Marine Jurassic Rocks.	Umia, Katrol, Chari, and Pachham groups of Cutch; Jeysulmir limestones; Triputty and Ragavapuram beds of east coast, ...	6,000
	Palæozoic ?	Gondwana system.	Upper: Cutch and Jubbulpur, ...	11,000
			Upper: Rajmahal and Mahadeva, ...	
			Lower: Panchet, ...	13,000
			Lower: Damuda: Raniganj or Kamthi, ironstone shales and Barakar, ...	
			Lower: Karharbari and Talchir, ...	
Azoic.		Vindhyan Series.	Upper: Bhanrer (Bundair), ...	12,000
			Upper: Rewa, ...	
			Upper: Kaimur (Kymore), ...	
			Lower: Kurnool, Bhima, Sone, Semri, ...	2,000 ?
		Transition or Sub-Metamorphic Rocks.	Upper: Gwalior, Cuddapah, and Kaladgi series, ...	20,000
			Lower: Bijawars; Champanir beds; Arvali; Malani beds; transition rocks of Behar and Shillong (the last extra-Peninsular), ...	...
		Metamorphic or Gneissic.	Gneiss, granitoid, and schistose rocks, etc., ...	?

The following is the succession of the more important fossiliferous peninsular rocks :—

		Peninsular Rocks.	*Supposed Marine Equivalents.* Indian.	European.
Cænozoic.		High-level laterite, . .	Nummulitic,	Middle Eocene.
		Upper Dekhan traps, . .	?	Lower Eocene.
Mesozoic.	Dekhan Traps.	Middle traps, ...	Arialur,	Upper chalk.
		Lower traps, ...	Trichinopoly,	Lower chalk.
		Infra-trappeans or Lameta,	Bagh beds, Utatur,	Upper greensand.
	Gondwana.	Jubbulpur and Cutch, .	Umia and Katrol,	Jurassic.
		Mahadeva and Rajmahal, .	Chari and Pach'ham,	
		Panchet, ...		Triassic.
Palæozoic.		Damuda, ...		Upper Palæozoic. ?
		Talchir, ...		

Classified List of Formations in Extra-Peninsular Territories of British India.

Recent and Post-Tertiary.—Alluvial and lake deposits; sub-Himalayan high-level gravels.
Pliocene.—Upper Manchars of Sind; upper and middle Siwaliks of sub-Himalayas, Panjab, etc.; Mammaliferous deposits of Western Tibet; Dehing group of Assam; fossil-wood deposits of Pegu.
Miocene.—Lower Manchars and Gaj of Sind; Murree beds (in part); Nahan; Tipam group of Assam; Pegu group of Burma.

Eocene.
- *Upper* —Nari group of Sind; Kasauli and Dagshai groups of sub-Himalayas.
- *Middle*—Nummulitic limestone of Sind, Panjab, Assam, Burma, etc.; Khirthar of Sind; Subathu of sub-Himalayas; Indus or Shingo beds of Western Tibet; coal measures of Assam?
- *Lower* —Ranikot beds of Sind; lower nummulites of Salt Range.

Cretaceous.
- *Upper* —Dekhan trap; Cardita Beaumonti beds and cretaceous sandstones of Sind; olive group of Panjab Salt Range; Disang group of Assam; upper cretaceous of Khassya Hills; Negrais beds of Burma (*N.B.* Some of these formations may in part be Eocene).
- *Middle*—Hippuritic limestone of Sind; cretaceous beds of Mount Sirban in Hazara, and of Kohat; Chikkim beds of N.W. Himalayas; cretaceous beds of Assam in part; Mai-i group of Burma?
- *Lower* or Neocomian beds in Chichali beds, Salt Range.

Jurassic.
- *Upper* —Salt Range; Gieumal and Spiti beds of Northern Panjab and N.W. Himalayas.
- *Middle*—Variegated group of Salt Range; part of Spiti shales in N.W. Himalayas.
- *Lower or Lias*—Upper Tagling limestone of N.W. Himalayas; Sylhet trap.

Trias.
- *Upper, including Rhœtic*—Lower Tagling limestone of N.W. Himalayas; Nerinæa beds of Mount Sirban, Hazara; Para limestone of N.W. Himalaya; beds with Megalodon and Dicerocardium at Mount Sirban, Hazara.
- *Middle*—Salt Range? Lilang series of N.W. Himalayas, and Kashmir. Axial group of Burma.
- *Lower* —Ceratite beds of Salt Range; infra-Triassic of Hazara in part?

Permian and Carboniferous.—Salt Range carboniferous limestone; Damudas of Sikkim and Bhutan? infra-Triassic of Hazara; Krol limestone of Pir Panjal? Krol limestone and infra-Krol of Western Himalayas; Kuling series of N.W. Himalayas and Kashmir; Moulmein group of Burma.

Silurian.—Obolus beds of Salt Range; Attock slates of Upper Panjab? slates and traps of Pir Panjal and Kashmir? Muth and Bhabeh series of N.W. Himalayas; Blaini and infra-Blaini of Simla area?

Infra-Silurian.—Salt marl of Salt Range? gneiss of Pir Panjal and Ladakh; upper gneiss of Zanskar range; Shillong series of Assam Hills, Mergui group?

Lower or Central Gneiss of Himalayas; Gneiss of Assam and Burma.

—*Geol. Manual*, I. xiii.

GEOMYDA, a genus of the Cataphracta, or shielded reptiles, the order Chelonia and family Geæmydidæ. G. Bealii, grandis, mutica, nigricans, Reevesii, spinosa, spengleri, and tricarinata, occur in S.E. Asia. See Reptiles.

GEOPHILUS FULGENS, a luminous centipede.

GEOPHILUS NICOBARICUS is the Columba Nicobarica of Latham, the C. Gallus of Wagler. It inhabits the isles of Nicobar, Java, Sumatra, and many of the Moluccas.

GEORGE ibn BACTISHUA, a native of Khorasan, a physician celebrated for his skill in medicine and for his proficiency in the Persian language. He was educated at the medical school at Nesabur or Jondisabur. He was sent to serve under the Khalif-ul-Mansur, and at whose request he translated several books on medicine. His son Gabriel was physician to Harun-ur-Rashid.

GEORGIA, a Russian province extending from lat. 39° to 44° N., and long. 37½° to 50° E., consisting, with the exception of Daghistan, of all Russian territory S. of the Caucasus. It is 417 miles long, 280 miles broad, and with an area of 56,007 square miles; population above a million. Its divisions are Abasia, Baku, Daghistan, Erivan, Guria, Immeritia, Kakhetia, Karabagh, Kartelinia, Kuba, Mingrelia, Lesgistan, and Shervan. The rivers are the Aras and Kur, with tributaries. Georgia is called by the Persians Gurgistan, and by the Turks Gurtshi. The last reigning king ceded it to Russia on his death, which happened in 1800, and in 1802 it was made a Russian government. The hills of Georgia are covered with forests of oak, ash, beech, chestnut, walnut, and elm, encircled with vines, growing perfectly wild, but producing vast quantities of grapes. Cotton, rice, wheat, millet, hemp, and flax, are raised on the plains. The valleys afford the finest pasturage, the mountains abound in minerals, and the climate is healthy. Georgian women have fine dark large eyes, very regular features, and a pleasing mild expression of countenance. The dress of the higher ranks is splendid, and carefully adjusted. The Georgian dance consists of feats of activity, and strange and inelegant contortions of the limbs, sitting down on their heels, and hopping about in that position.—*Porter's Travels*, i. p. 123.

GERANIACEÆ, the geranium tribe, largely cultivated as flowering plants. They are propagated by cuttings, which ought to be kept somewhat dry till they root. The root of G. Nipalense, *Swt.*, is called Rowil and Bhand; it grows in the Himalayas, and is said to be astringent, and useful in diseases of the kidneys.—*Powell; Voigt.*

GERARD, two brothers, one a medical, the other a military, officer in the Bengal army, who distinguished themselves by their researches into the physical geography of the Himalaya. Dr. Gerard wrote an account of Kanawar. He accompanied Lieut. (afterwards Sir Alexander) Burnes for a great part of the road, in his travels in Central Asia. Captain Alexander Gerard of the Bengal Engineers was employed in surveying the Himalayas, which he ascended to the height of 19,600 feet. He was afterwards employed in Central India. His Account of Kanawur, edited by George Lloyd, appeared in London in 1841.

GERARDINIA LESCHENAULTIANA. *Dcne.* A tree in the central province of Ceylon, at 5000 to 6000 feet.—*Thw.*

GERARDINIA ZEYLANICA. *Dcne.*

Urtica heterophylla, *Roxb.* | Gass-kahambillya, SINGH.

Not uncommon in the warmer parts of Ceylon. —*Thw. Zeyl.* p. 259.

GERBILLUS INDICUS. *Blyth.* Jerboa rat.

G. Hardwickii, *Gray.* | G. Cuvieri, *Waterhouse.*

Jhenku Indur, . . BENG. | Yeri yelka of WADDARS.
Billa ilei, ... CAN. | Tel yelka of . . YENADI.
Hurna Mus, . . . HIND.

The India jerboa rat of all India and Ceylon is of the family Muridæ. The jerboa are field rats of Asia and Africa, with small fore limbs and well-developed hinder limbs, with slender form and large eyes. The colour is always of uniform bright fawn. The incisors are always of a deep yellow colour, the eyes very large and full, the tail longer than the body. A large adult male measured,—length of body, 7 inches; of tail, $8\frac{1}{10}$; of head, $2\frac{1}{10}$; of ear, $\frac{8}{10}$; of fore foot, $\frac{5}{10}$; of hind foot, 2. Weight, $6\frac{1}{4}$ oz. They are said to be very prolific, bringing forth 16 to 20 at a birth, but this seems an exaggeration, and the litter probably seldom exceeds 12. It is the common prey of foxes, owls, snakes. Lives in numerous societies, making

extensive burrows in the red gravelly soil of the Mulnaad, generally in or near the root of shrubs or bushes. The entrances, which are numerous, are small, from which the passage descends with a rapid slope for two or three feet, then runs along horizontally, and sends off branches in different directions. These galleries generally terminate in chambers from half a foot to a foot in width, containing a bed of dried grass. Sometimes one chamber communicates with another, furnished in like manner, whilst others appear to be deserted, and the entrances closed with clay. The centre chamber in one burrow that was opened was very large, which the Waddars attributed to its being the common apartment, and said that the females occupy the smaller ones with their young. They do not hoard their food, but issue from their burrows in the evening, and run and hop about, sitting on their hind legs to look round, making astonishing leaps, and on the slightest alarm flying into their holes. The Waddars eat this species. Another species, G. erythrourus, *Jerdon*, inhabits the Indian desert west of the Jumna, Hurriana, and adjacent districts.—*Jerdon.*

GERMAN, a race in central and northern Europe, who form, with the Irish, English, Scotch, Persians, Aryan Hindus, Greeks, and Romans, part of the great Iranian family. Philologists admit a Germanic family of languages.

GERMANES, a sect of ascetics mentioned by Megasthenes, supposed to have been Buddhists. See Sarmanes.

GERRA or Gerrha was in ancient times a great emporium in the Persian Gulf. Its ruins are to be seen at the inmost recess of the deep and narrow bay, at the mouth of which are the islands of Bahrein.

GERU. HIND. Red earth, ochre. The earths and clays met with in the Panjab bazars are,—

Geru, a hard, red, laminated earth, sometimes used in dyeing; school teachers grind it up with water, and teach to write with it on wooden slates. It is used medicinally in India.

Gil-i-khardya is a variety of Geru.

Gil-i-abrorshi or Gil-i-farsi is a pink clay, hard, but less brittle and paler than Gil-i-irmani.

Gil-i-makhtum, a variegated earth, deep red and pure white, soft and irregular; it contains clay, carbonate of lime, and sesquioxide of iron.

Gil-i-irmani differs little from Geru and Geri. It is a rough, red, brittle earth, occurring in laminated masses, used as a colour, and also medicinally. It is the representative of the Bolus Armeniacus, once so celebrated as a European medicine.

GETÆ, an ancient race, supposed by Professor Wilson to be the Sacæ. Dr. Jamieson proves satisfactorily that the Getæ, Scythians, and Thracians were the same people, and that it is very probable, if not certain, that the Getæ and Goths were the same people. On the northern side of the Danube, opposite to the territory occupied by the Scythians, and in the angle forming a part of Thrace, there was a small nation in the time of Herodotus, who bore the name of Getæ. The Massagetæ and Getæ seem gradually to have advanced from their ancient limits into the more fertile districts of Asia. And all the lower and middle parts of the western boundary of the Indus went by the name of Indo-Scythia. The Scythians, chiefly the Getæ, had expelled the Greeks, and re-peopled it with colonies of their own nation. The Getæ were the bravest and most just of all the Scythians, and continued to preserve this character in their new possessions. Gete, Jut, Jit, and Takshak races, which occupy places amongst the 36 royal races of India, are all from the region of Sakatai or Chaghtai. Regarding their earliest migrations the Puranas furnish certain points of information, and of their invasions in more modern times the histories of Mahmud of Ghazni and of Timur abundantly acquaint us. If we examine the political limits of the great Getic nation in the time of Cyrus, six centuries before Christ, we find them little circumscribed in power on the rise of Timur, though twenty centuries had elapsed. At this period (A.D. 1330), under Timur, the last prince of Getic race, the kingdom of Chaghtai was bounded on the west by the Dhasht-i-Kapchak, and on the south by the Jaxartes or Jihun, on which river the Getic khan had his capital. Khojend, Tashkand, Ootrar, Cyropolis, and the most northern of the Alexandria cities, were within the bounds of Chaghtai. From the mountains of Joud to the shores of Makran, and along the Ganges, the Jit is now widely spread. The Takshak or Takiuk may probably be discovered in the Tajak, still in his ancient haunts, the Transoxiana and Chorasmia of classic authors; the Mawar-ul-Nahr of the Persians; the Turan, Turkistan, or Tocharisthan of native geography, the abode of the Tachari, Takshak, or Toorshka invaders of India, described in the Puranas and existing inscriptions. The Getes had long maintained their independence when Tomyris defended their liberty against Cyrus. Driven in successive wars across the Sutlej, they long preserved their ancient habits as desultory cavaliers, under the Jit leader of Lahore, in pastoral communities in Bikanir, the Indian desert, and elsewhere, though they have lost sight of their early history. The transition from pastoral to agricultural pursuits is but short, and the descendant of the nomadic Gete of Transoxiana is now the best husbandman on the plains of Hindustan, but during the rebellion and mutiny of 1857 they marched boldly under British leaders to aid in restoring order. Asi was the term applied to the Gete, Yeut, or Jut, when they invaded Scandinavia and founded Jutland.—*Tod's Rajasthan; Pennant's Hindoostan; Chatfield's Hindustan; Recherches sur les Langues Tartares; Kennedy on the Origin of Languages.*

GHADA or Ghur-Kudd. ARAB. A thorny bush. Its succulent leaves are the favourite fodder of the camel of Arabia. It grows 4 or 5 feet high, has a reddish stem and green fleshy leaves.—*Lady Anne Blunt.*

GHADI. MAHR. A Sudra attendant on a village temple.

GHADIR. ARAB. A fanatical practice of Shiah Mahomedans of India on the 18th of Zilhaja, when three images of dough, filled with honey, are made to represent Abubakr, Umar, and Usman, which are stuck with knives, and the honey is sipped, as typical of the blood of these khalifs, whom they regard usurpers. The festival is named from Ghadir, a pool,—Mahomed, it is said, having declared Ali his successor at a place called Ghadir-Khum, a watering-place for caravans half between Mecca and Medina.—*Wilson.*

GHADSI or Garsi. MAHR. Vagrant musicians, said to be descendants of the race who formerly

inhabited the great southern forest, the Dandakaranya. They are village pipers and drummers. —*W.*

GHAFFAH or Guffa, the burying alive of a Sunyasi.

GHAGGAR, a river in the Panjab and Rajputana. It rises among the Himalayan slopes in the native state of Nahan or Sirmur (lat. 30° 41′ N., long. 77° 14′ E.). In ancient times the lower portion of the river appears to have borne the name of its confluent, the Saraswati or Sarsuti, which joins the main stream in Patiala territory. At present, however, every village through which the stream passes has diverted a portion of its waters for irrigation.—*Imp. Gaz.*

GHAGRA. HIND. A petticoat of Meo women; a skirt worn by women from Malwa, Gujerat, Kattyawar, and Cutch, also by Purbhu girls in Bombay, fastened by a band round the waist, and reaching the ankles. The ghagra and choli are comparatively modern innovations, adopted by Hindu and Jain women from the Mahomedans. In the south of India and in Burma, it is the popular belief that women were made to bare their breasts to allure the male population; but it is a fact that till the conquest of India by the Mahomedans, made-up apparel was unknown. Rajput ladies have only three articles of parure,—the ghagra or petticoat, the kanchi or corset, and do-pati or scarf. The fashion varies in each province and tribe, though the texture and materials are everywhere the same,—cotton in summer, and quilted chintz or broadcloth in winter.—*Tod's Rajasthan.*

GHAIAS-ud-DIN-bin-HUMAM-ud-DIN is known by his takhallus or literary name, Khondamir. His book is entitled Habib-us-sayar-fi afrad-ul-bashar, the curious part of the lives of illustrious men. It is a history which he had extracted from that which his father Mirkhond had composed and entitled Rauzat-us-Safa, but to which he made augmentations. He dedicated this book to the secretary of state belonging to the king of Persia, Shah Ismail Safavi, who gave him the name of Habib-Ullah; and for that reason the book had the name of Habib given it in the year A.D. 1508, Hijira 927, in the reign of Louis XII. He was also author of another book, entitled Khulasat-ul-Akhbar, or The Cream of Histories, which he completed about A.H. 900. Khondamir's last work was the Humayun Namah, which he finished A.H. 940. He was born at Herat about A.H. 880 (A.D. 1475), and died A.H. 941 (A.D. 1534-35). At his death his title was Amir-i-Akhbar, Prince of News.—*History of Genghiz Khan*, p. 422; *Elliot, H. of India.*

GHAIR. ARAB. Without.

Ghair Mulazim, as opposed to Mulazim, persons in the villages of the Panjab who help the farmers, but are not regularly hired cultivators.

Ghair-Mahdi, a Mahomedan sect who believe that the imam Mahdi has come to the world and gone. The words mean, without, or deprived of, Mahdi. See Elias; Mahomedan.

GHAKKAR, a Scythic race inhabiting the banks of the Indus. The Ghakkar was a warlike tribe in the time of Mahmud of Ghazni, inhabiting the Salt Range or Johd mountains, between the Indus and the Behut (Hydaspes). The Moghul, and subsequently the Daurani, failed to master them, but the Sikh rulers, after having been frequently foiled, at length nominally accomplished their subjugation by stirring up internal faction, and by the perpetration of acts of cruelty and treachery (Rec. Govt. of India). The Ghakkar opposed Mahmud; in 1205 they ravaged the Panjab to the gates of Lahore; in 1206 they stabbed the Mahomedan sultan in his tent. They were converted to Mahomedanism, and in 1525 submitted to Baber, in return for a grant of country. During the next two centuries they rendered great services to the Moghul dynasty against the Afghan usurpers, and rose to high influence in the Panjab. They were driven from the plains by the Sikhs in 1765 A.D., but they maintained their independence on the Murree Hills till 1830, when they were crushed after a bloody struggle. In 1849, Rawal Pindi, with the rest of the Panjab, fell to the British, but the Ghakkar revolted four years afterwards, and threatened Murree as late as 1857. They now number only 10,153 souls, described as a fine spirited race, gentlemen in ancestry, and bearing and clinging under all reverses to the traditions of noble blood.

At an early period of history they were given to infanticide. It was a custom, says Ferishta, 'as soon as a female child was born, to carry her to the market-place, and there proclaim aloud, holding the child in one hand, and a knife in the other, that any one wanting a wife might have her, otherwise she was immolated.' By this means they had more men than women, which occasioned the custom of several husbands to one wife. When any one husband visited her, she set up a mark at the door, which, being observed by the others, they withdrew till the signal was removed. They continued polyandric till Baber's time. The Ghakkar are supposed to be the descendants of the mountaineers whose chief Ambisaces sent ambassadors with presents to Alexander. Baber writes the name Guker, but it is also written Ghuka and Khaka.—*Tod's Rajasthan*, i. p. 636; *Imp. Gaz.* iv. p. 278.

GHAMETA, a subdivision of the Kurmi tribe.

GHANA or Ghani. MAHR. A heap of grain which the mistress of a house places on a mortar, to be given to a Brahman at the Makara Sankranti, or the sun's entrance into Capricorn.—*W.*

GHANCHO in Gujerat, matmakers.

GHANTA. HIND. A clock, a gong, an hour. Ghanta bajana, to strike the hour.

GHANTARAVAMU. SANSK. Crotalaria, *sp.* This, like the Telugu name Gilaka chettu, is a generic term signifying 'rattle,' from the sound of the seeds in the dry legume.

GHAO. HIND. A wound, an ulcer; hence Ghaeja (?), GUJ., the village barber and barber-surgeon.

GHAR. PERS. White quartz, white carnelian; ice, hail; also, ARAB., a cave.

GHAR. MONGOL. The hand. It is the Sanskrit Kar, the Hindi Gar, and Greek Kheir.

GHAR-BASATH is the revisiting, by a newly-married Hindu woman, of her parents' house. If she do not return within eight days, she cannot do so till after a year.

GHARI, a water clock, a clepsydra, a brass gong; a division of time, about twenty-four minutes. Gharial, a watch; hence Ghariali, a gong-striker.

GHARI. MAHR. Ghadi. A Sudra attendant on a temple, corresponding with a Gurare.

GHARIAL is the Gavialis Gangeticus, the narrow-beaked crocodile of the Ganges, supposed to be the largest of the living saurians. The measurement of the largest mentioned by Messrs. Dumeril and Bibron is given at 5 metres 40 centimetres (17 feet 8 inches). See Reptilia.

GHARILPIT, about 8 miles S. of Palunshah, in the Hyderabad country. Garnets occur here in the detritus of a granitic rock, penetrated by trap dykes, and composed of mica, garnets, kyanite, quartz, and felspar. Dr. Voysey states that the precious garnets are found at the depth of eight or ten feet in the alluvium at the foot of the rock.

GHARRA. HIND. An unglazed earthen water-pot; hence Ghar-nai, a raft supported on pots.

GHARRA RIVER, the modern Panjabi name applied to the united streams of the Beas and Sutlej, from their confluence at Endrisa to their junction with the Chenab. Below this the whole river takes the name of Panjnud.

GHARSI, in the Mahratta country, a tribe of musicians.

GHASAL. ARAB. Mahomedans have two kinds of ablution or lustration,—the Ghasal or legal washings for all classes, after any kind of bodily uncleanness, such as the pollutio nocturna, menses, coitus, or childbirth, for until purified it is unlawful to eat, pray, touch the Koran, or go to the mosque. If the legal Ghasal be not needed, nevertheless, before prayer, the Wazu or washing in a prescribed manner of the face, hands, and feet, is indispensable. It occupies two or three minutes. The Wazu is only needed when any minor cause of impurity, as in performing the natural functions, has occurred. Where water is not to be had, the Teyammum, or rubbing the face, legs, and hands with fine dust or dry sand, suffices.

GHASI, a servile race in Central India. Wherever there are Kol there are Ghasi, and though evidently of an entirely different origin, they have been so long associated that they are a recognised class in the Kol tradition of creation, which assigns to them a thriftless career, and describes them as living on leavings or on charity. There are not fewer than 50,000 Ghasi in the Kol countries. Their favourite employment is that of musicians. No ceremony can take place, or great man move, without the accompaniment of their discordant instruments—drums, kettledrums, half-drums, and huge horns—to proclaim the event.—*Dalton, Ethnol. of Beng.* p. 325.

GHASI DAS was a Chamar or leather-worker, who lived in Ch'hatisgarh in the early part of the 19th century. He withdrew himself for six months into the forest, and when he returned he urged the people of his caste to renounce the worship of idols, and worship only the Sad'h nam or true name. He died in A.D. 1850, and his son, who succeeded to the office of leader, was murdered in 1860 by Rajputs, whom he had offended. The murdered man's place was taken nominally by his son, but really by his brother, Agur Das. The sect is now split into two great factions, those who smoke tobacco, and those who deem it to have been prohibited by Ghasi Das. At the time of the census of 1871, the number of the sect in the Central Provinces was 266,000.

GHAT. HIND. A term employed in India to designate a ferry or landing place on a river, or a quay or wharf; also a range of hills, or the scarped wall of a table-land, or the defile or pass leading through such. The Western Ghats or Syhadri range extend from the valley of the Tapti to the gap of Palghat, a distance of 800 miles. They are clothed with dense forests, with few inhabitants. The coast-line from the sea to their base is generally flat and low, with occasional spurs or solitary hills, but the ghats rise abruptly, almost scarped, to an average height of 3000 feet. Purundar is 4472, and Mahabaleshwar 4700. Matheran is a projecting spur. The Eastern Ghats extend from Orissa to Coimbatore, along the eastern or Coromandel side of the Peninsula of India, at distances of 50 to 150 miles from the Bay of Bengal. They are steep, and well clothed with forests. The country lying between them and the sea is low, scarcely rising above a hundred feet above the sea. Towns, as Hinginghat in lat. 20° 34′ N., and Palghat in the south of the Peninsula, have their names from the passes; and Hindus speak of Bala-ghat and Paen-ghat, above or below the Eastern Ghats. The chief passes in the western range are the Thul, Bhor, and Ram Ghats.

In Rajputana, Antri means a defile, a tract surrounded by mountains. The Antri of Mewar is fertilized by the Brahmani, which joins the Chambal after a course of thirty miles through a singularly diversified country.

The Ghatiya is a Brahman who attends at ghats where Hindu pilgrims bathe, to take care of their clothes, and supply sandal, flowers, etc. He exacts certain fees as a right, denouncing imprecations on any who resist his exactions. These people sometimes repair to a distance to escort pilgrims to their places of ablution.

Ghat-manjhi, is a ferryman; also a man who regulates the hire of boats, supplies, etc.

Ghatwal, a guard of the passes in the mountains of Bengal.

GHATAK or Ghataki, in Bengal, matchmakers, men or women.

GHATA-KARPARA, one of the nine learned men of the court of Vikramaditya.—*Dowson.*

GHATATOP. MAHR. A covered conveyance, and framed for concealing a woman.

GHATICA. SANSK. An Indian hour, twenty-four minutes European time. Ghatka-patra, a clepsydra. See Danda.

GHATWAN, in Bengal, a man of a low caste, frequently a predial slave.

GHAZA. ARAB. In Mahomedanism, an expedition against infidels. The term Ghazi is applied to those who fight for their religion to the death; also a gallant soldier; a hero.

GHAZAL. ARAB. In Persian poetry, an ode. It should consist of not less than five, or more than eighteen, couplets, the last line of each couplet terminating in the same letter of the alphabet. The two first lines of the ode rhyme together, after which every alternate line; and the last verse always contains the takhallus, the assumed literary name of the poet. A poem on the subjects of love and wine, interspersed with moral and satirical observations.

GHAZAN, son of Kai-Khatu, and nephew of Kablai Khan, succeeded to his father's throne in A.D. 1295. He was a brave soldier and able statesman.

GHAZI. PERS., HIND. A Mahomedan soldier

fighting for his faith; a religious warrior; one who has slain an infidel. Properly speaking, a man becomes a Ghazi only in war against unbelievers (Kafir), such as Christians, Jews, and idolaters, as Hindus, Buddhists, etc. The Sunni of Central Asia consider Shiah Mahomedans as unbelievers, and enslave them. The Othoman Turks have never recognised this theory, considering the Persians as only heretics (Rafiz, Mulhid).—*P. Arminius Vambery, Bokhara*, p. 351.

GHAZI MIYAN, a Mahomedan saint in high repute with the agricultural and lower classes of the N.W. Provinces, except in Dehli, and included among the Panch-Piri, or five saints. The Mirat-i-Musaudi says he had a dream the night before his death, in which his mother came and placed a bridal chaplet on his brow, as being indicative of the crown of martyrdom with which he was to be honoured on the following day. He is partly on this account called Gajna Doolha and Salar Chhinula. An annual festival is celebrated in his honour in most large towns of India, but particularly at Barech, in the month of Jeth. It is commonly called the Shadi, or marriage of the saint, in allusion, according to another tradition, to his having suffered martyrdom on the eve of his nuptials. The festival is equally popular with the Hindus and Mahomedans. Who this Ghazi Miyan was, is a question on which even Mahomedan authorities are not agreed. Elliot, quoting M. Garcin de Tassy, in his Mémoire of the Musalman Religion in India, was of opinion that it is not his shadi or marriage, but his shahadat or martyrdom, that is represented at the festival. He is also said to have been a nephew of Mahmud of Ghazni, born at Ajmir, and killed in battle with the Hindus at Barech, after Mahmud's death.

GHAZIPUR is the name of a town and of a district in the N.W. Provinces of India. The town is in lat. 25° 18′ 36″ N., and long. 83° 35′ 13″ E., and has a population of 38,853. The district lies between lat. 25° 18′ 31″ and 26° 2′ 10″ N., and long. 83° 6′ 20″ and 84° 42′ 40″ E., with an area of 2167 square miles, and 1,345,470 inhabitants. The town is on the left bank of the Ganges, 64 miles N.E. of Benares, 351 feet above the sea. The palace of Kasim Ali Khan also is there. Rose-water and otto (atr) of roses are largely made.

The district, in 1871, had, besides Brahmans, Rajputs, and Banya,—Ahir, 171,216; Chamar, 122,075; Kayasth, 22,680; Kurmi, 18,136. It is one of the hottest and dampest districts of the N.W. Provinces. The district can boast a long history of its own, stretching far back into the earliest days of Aryan colonisation. Carved monoliths bear witness to a very ancient Hindu civilisation; and one in particular, at Bhitri, contains an inscription of Samudra Gupta, who probably reigned over the surrounding country as far as Kanouj, about the end of the 4th century A.D.

Asoka erected here one of his well-known pillars, and at least two stupas. In 1805, Lord Cornwallis died here, and a monument, with a statue by Flaxman, was erected to his memory. He had been appointed Governor-General a second time, and was proceeding up the country, when he fell sick and died.—*Tr. of a Hindoo*, i. p. 121; *Imp. Gaz.*

GHAZNI, a town and fortress of Afghanistan, in lat. 33° 34′ N., and long. 68° 18′ E., and 7726 feet above the sea, 85 miles from Kābul, 233 miles N.E. of Kandahar, on the left bank of a river bearing the same name, at the termination of the well-known Turnak valley. It is composed of 3500 mud houses, which have flat roofs, with small windows in the upper storey. The circumference of the wall is only a little over one mile. The citadel is almost in the centre of the town, standing upon the summit of the natural mound which forms the city. The wall embraces the whole of this hill, and, regarded from a distance, Ghazni may be said to form a square. The streets are dark, narrow, irregular, and dirty, and the houses several storeys high, with a population of Afghans estimated at 10,000 souls, some Hazara labourers and Hindu shopkeepers. The chief trade consists of grain, fruits, and madder. It was captured by the British Indian army in 1839 (22d July) under Sir John Keane, and again in 1841 under Sir T. Wiltshire. It was covered by the British army under General Stewart in 1880. Its position gives a dominance over all Afghanistan. From November to the middle of March, snow lies on the ground. In A.D. 976 it was made the seat of government of Abustakin, a Bokhara adventurer, who was succeeded by Sabaktagin, father of Mahmud.

Mahmud's empire extended from the Tigris to the Ganges, and from the Oxus to the Indian Ocean. It fell to pieces on his death, and in 1151 Ghazni was stormed by Ala-ud-Din, prince of Ghor, who massacred the inhabitants on the spot, with the exception of those of rank, whom he conveyed to Ghor, and there killed them, using their blood to moisten the mortar with which he constructed fortifications.

From Ghazni westward, all along the valleys of the Tarnak and Helmand down to the basin of Seistan, the whole country is covered with the ruins of cities, obliterated canals, and deserted cultivation, all assigned to the devastation of the Tartars in the 13th and 15th centuries, when the Arab rule was overthrown. Ghazni has the repute of being a very ancient site. Wilford, following Sanskrit authorities, tells us that the kings of the Yavana and Deucalion resided at it. He further tells us that its proper ancient name was Sabal, Zabal, or Saul, as written by Chrysococcas, whence he infers it to be the Ozola of Ptolemy. He also conjectures it to be the Oscanidati of the Pentingerian tables, noted as twenty-two farsangs from Asbana, which he considers Kābul, and thirty-five farsangs from Rupha, which he would identify with Shahr Safar. The annals of the Yadu of Jeysulmir state that long anterior to Vikrama they held dominion from Ghazni to Samarcand; they established themselves in those regions after the Mahabharat, but on the rise of Mahomedanism, or the pressure of other races, they were again impelled towards the Indus river. They assert that Ghazni is properly Gajni, founded by the race of Yadu; and in a curious specimen of Hindu geography presented by Colonel Tod to the Royal Asiatic Society, all the tract about the glaciers of the Ganges is termed Gajlibun, or Gajlibu, the 'Elephant Forest,' elephant wilds. There is a Gujingurh mentioned by Abul Fazl in the region of Bijore, inhabited by the Sultano, Jadun, and Yusufzai tribes.

Since the 10th century of the Christian era, the

history of this city is but another name for that of the rulers of Afghanistan and Hindustan. It is the starting-point for four practicable routes into India, which are the Kuram, the Urgundeh, the Dawar, and, most important of all, the Gomul, and under a settled administration Ghazni would become a very flourishing town. The country round Ghazni is of remarkable fertility. It is celebrated for its orchards; and the merchants carry on a very considerable trade with India in this and other products, such as tobacco, cotton, etc. On the north of the town, about half a mile from the gate, rises the first of Sultan Mahmud's minars, or towers; the other is about 400 yards beyond it, in the same direction. They both rise alone, based upon rough stone-work. The most northerly is the handsomest structure, but both are exquisite specimens of brickwork. They are about 140 feet in height, and much damaged.

The following emperors have reigned in Hindustan since the Ghaznian conquest:—

Ghaznian Emperors began to reign—

Mahmud I.,	A.D. 999	Ibrahim I.,	A.D. 1058
Muhammad I., Musaud I.,	1030	Musaud II.,	1089
Modud,	1040	Arsillan,	1114
Abul Hasan,	1049	Bahram I.,	1118
Abul Rashid,	1051	Khusru I.,	1152
Farokhzad,	1052	Khusru II.,	1160

Ghorian Kings.

Ala-ud-Din,	1152	Shahab-ud-Din,	1176
Saif-ud-Din,	1156	Mahmud,	1206
Ghaias-ud-Din,	1157		

Slave Kings.

Kuttub,	1206	Bahram,	1239
Eldoz, Aram, Altamsh,	1211	Musaud,	1241
Firoz I.,	1235	Mahmud,	1246
Sultana Rizia, empress,	1236	Bulbun,	1266
		Kei-Kobad,	1286

House of Khilji.

Jalal-ud-Din,	1288	Omar,	1316
Ala-ud-Din,	1295	Mubarik,	1316

House of Taghalaq.

Ghaias-ud-Din I.,	1321	Abubakr,	1389
Muhammad,	1325	Nasir-ud-Din,	1390
Firoz,	1351	Mahmud,	1394
Ghaias-ud-Din II.,	1388		

Syud Dynasty.

Khizer,	1414	Muhammad,	1435
Mubarik,	1421	Ala-ud-Din,	1444

Dynasty of Lodi.

Behlol,	1450	Ibrahim,	1517
Secunder,	1488		

Moghul or Mongol Emperors.

Baber,	1525	Humayun,	1530

Sur Dynasty.

Sher,	1540	Muhammad Adili,	1553
Selim,	1547		

Moghul Dynasty restored.

Humayun,	1555	Ferokhsir,	1713
Akbar,	1556	Ruffeh-u-Dirjat, Ruffeh-u-Dowla,	1719
Jahangir,	1605	Muhammad Shah,	1719
Shah Jahan,	1628	Ahmed Shah,	1748
Aurangzeb, or Alamgir I.,	1659	Alamgir II.,	1754
Bahadur Shah,	1707	Shah Alam,	1760
Jahander Shah,	1712		

—*Tod's Rajasthan; Rennell's Memoirs; Elphinstone*, p. 433; *Vigne's Personal Narrative; Journeys; MacGregor*, pp. 250, 263, 272.

GHEGURA, HIND., also Gheghura, is the unripe pod of gram; also the unripe bole of cotton, which is known also by the names of Goolur, Ghenti, and Bhitna. When it bursts it assumes another name. When this change in the plant occurs, it is usual eastward of the Jumna to select the largest plant in the field, and, having sprinkled it with butter-milk and rice-water, it is bound all over with pieces of cotton taken from the other plants of the field. This selected plant is called Sirdar or Bhoguldaee, *i.e.* mother-cotton, from Bhogla, a name sometimes given to a large cotton-pod, and Daee (for Daiya), a mother; and, after salutations are made to it, prayers are offered that the other plants may resemble it in the richness of their produce. To the west of the Jumna there is rarely a Bhoguldaee; but when the pods begin to burst, women go round the field, and, as a kind of lustration, throw salt into it, with similar supplications that the produce may be abundant. Tibullus, lib. ii. el. i. says,—

'Dii patrii, purgamus agros, purgamus agrestes;
Vos mala de nostris pellite limitibus.
Neu seges eludat messem fallacibus herbis.'

The practice appears to be observed with a similar object, and in somewhat similar fashion, to the Ambarvalia of the Romans, and the Field-Litanies of the English Church Rogation or Gang-days.—*Elliot.*

GHERIAH, in the Ratnagherry district, Bombay, was the chief town and strongest port of Angria. In 1756 it was attacked and taken by a British squadron under Admiral Watson, and on land by an army under Clive. A Mahratta army was present, but held aloof.

GHERIAH. 21 miles from Jungipore is Sooty, where the Bhagirath branches off from the Ganges. The neighbourhood of Sooty is remarkable for the battle of Gheriah, fought between Ali Verdi and Sarfaraz Khan in 1740. There was another battle fought in 1763 between Mir Kasim and the British.—*Tr. of a Hind.* i. p. 85.

GHET KUCHU. BENG. Typhonium Orixense; also called Ghet-kol. Tubers the size of a small egg, exceedingly acrid while fresh, and used as a counter-irritant in poultices, also as an application in snake-bites. They are likewise given inwardly in doses of from 20 to 30 grains. Roxburgh describes this arum as a most powerful stimulant in proper hands.—*O'Sh.* p. 625.

GHETTA. HIND. A broad curved slipper, worn in Dehli by women and by effeminate men.

GHEWARI. MAHR. A retail dealer, in some places limited to those who sell garden produce.

GHI. GUJ., HIND. Clarified butter.

Ghruttham, grita, SANSK. | Neyi, . . . TAM., TEL.

Ghi is largely manufactured in all the south of Asia, and generally sells at 25 per cent. above the cost of butter. Ghi is made in very large quantities in the jungle tracts of the Bar. The finest ghi used on the Bombay side of India comes from Kurachee, near the mouth of the Indus. Butter is churned from the milk as soon as milked; but the people of Southern Asia use ghi. In preparing it, the butter is boiled until all the watery particles and curds have been thrown off by repeated skimmings. When the liquid is clear oil, it is poured into a vessel to cool, which it does in a granulated form, and if originally well boiled, will keep for years without taint. Instances are known of its preservation for 200 years in

deserted castles. Ghi and sandal-wood are used as a burnt-offering, in Bombay, to invoke Lakshmi. Ghi is exported to all the sea-coast of Eastern and Southern Asia to the extent of 400 and 500 tons annually.

1876-77, ...	1,004,661 lbs.	Rs. 3,57,250
1877-78, ...	1,044,687 ,,	3,76,504
1878-79, ...	902,835 ,,	3,38,800
1879-80, ...	1,236,433 ,,	4,54,844

GHIAOUR, the Gabr or fire-worshipper, now synonymous with Kafir, is applied to the Parsee people who preceded the Mahomedans, as well as to Europeans.—*Rich's Kurdistan*, i. p. 30.

GHIGOWAR. HIND. Aloe Indica, *Royle*. In Southern India, plants of the ghigowar, ghicwar, or the kulbunda, Aloe perfoliata, are suspended with their roots upwards, with a longitudinal incision in each leaf, to permit the aroma of the juice to become apparent, and disperse mosquitoes from the room.

GHILIAK, a nomade race dwelling on the coast of Tartary and Siberia, as far as Ayan on the north-west extremity of Saghalin. They are low in stature, stout, and rather broad in proportion to their height. Shape of the head round; cheek-bones prominent; eyes oblique; well-defined eyebrows, more arched than those of the Chinese; hair coarse, black, and bound into a tail, and occasionally wearing a coarse, black beard; hands small and delicate, with well-shaped nails; complexion fair and ruddy. Their language is different from the Tungusian dialects along the river. According to Rinso, polyandry prevails amongst the Smerenkur Ghiliak. The women are small, but prolific.—*Dr. Latham's Descriptive Ethnology; Ravenstein's Russians*, p. 391.

GHILJI, a tribe in Afghanistan, which, with the Abdali, forms the bulk of the Afghanistan population. The Ghilji occupy the principal portion of the country between Kandahar and Ghazni, and are the most numerous of the Afghan tribes. They are also found between Farrah and Herat, and again between Kābul and Jalalabad. The Ghilji between Kandahar and Ghazni comprise the great families of the Ohtak, the Thoki, the Tereki, and the Andari, with their subdivisions. The Ohtak are acknowledged the principal of the Ghilji families, and in the period of their supremacy furnished the sovereign. At the present day the Ghilji have two great sections, the Ohtak or Hotaki, with four clans, Sakzai, Tunzai, Sat Khel, and Shagri; and the Turan or Tokhi, with nine clans, Shah Alam, Shah-u-Din, Kalu, Miranzai, Jalalzai, Bakarzai, Pir, Likaki, and Amir-khan. The Ghilji are both an agricultural and a pastoral people, dwelling in villages and forts, as well as in tents. They are a remarkably tall fine race of men, with marked features, the Ohtak and Thoki peasantry being probably unsurpassed, in the mass, by any other Afghan tribe for commanding stature and strength. They are brave and warlike, but the generality of them have a sternness of disposition amounting to ferocity, and their brutal manners are not discountenanced by their chiefs. Some of the inferior Ghilji are so violent in their intercourse with strangers, that they can scarcely be considered in the light of human beings; while no language can describe the terrors of a transit through their country, or the indignities which are to be endured.

Although the Ghilji are considered and call themselves Afghans, and, moreover, employ the Pushtu or Afghan dialect, the name is evidently a modification of Khalji or Khilaji, that of a great Turki tribe, mentioned by Sharif-ud-Din in his history of Timur. The testimony of Ferishta, while clearly distinguishing the Ghilji tribes from the Afghans, also establishes the fact of their early conversion to Mahomedanism. Still there is a tradition that they were at some time Christians of the Armenian and Georgian churches. This tradition is known to the Armenians of Kābul; and they instance, as corroborating it, the practice observed by the Ghilji of embroidering the front parts of the gowns or robes of their women and children with figures of the cross, and the custom of their housewives, who, previous to forming their dough into cakes, cross their arms over their breasts, and make the sign of the cross on their foreheads after their own manner.

East of Ghazni, in the province of Zurmat, are the Suliman Khel Ghilji, exceedingly numerous, and notorious for their habits of violence and rapine. These have no positive connection with the Thoki or other tribes, neither have they one acknowledged head, but are governed by their respective malik, who are independent of each other. Dost Muhammad Khan reduced them to the condition of tributaries, after having destroyed a multitude of their castles. Ghilji girls from the age of eight to twenty are not much veiled, but they twist their hair, and tie it like a cake, which hangs over their forehead, and a little below their eyebrows. The centre of the lock (or hairy cake) is adorned by a gold or silver coin, which in black hair shines prettily. This is the sign of virginity amongst the Ghilji. The women allow their twisted locks to hang upon their ears, and even as far as their arms.

At present (1879) they appear to be a nation of families submitting to their natural heads, and having the patriarchal institutions nearly complete. But in the year 1707, Mir Wais, a leading Ghilji at Kandahar, was seized by the Persian governor and sent to Isfahan, where, however, he ingratiated himself, and was allowed to return. On his arrival he raised a rebellion, defeated the Persian governor, and before his death in 1715, after a reign in Kandahar of eight years, repulsed three armies sent against him.

His son Mir Mahmud, in 1820 invaded Persia. He moved on Kirman with 12,000 men, 5000 of whom perished amid the intervening deserts; but the town was taken and held for four months, when it was retaken by Lutf Ali Khan, and Mir Mahmud escaped with a few followers.

In 1722 he raised an army 28,000 strong, and again took the town of Kirman, but failed to take the citadel; failed also to take Yezd, but marched on Isfahan, which he invested for eight months, when Shah Husen abdicated, and Mir Mahmud massacred the troops who had defended the city. He took Kasvin, whose inhabitants he massacred. In 1724 he reduced Irak and Fars, and took Shiraz after an eight months' siege; but becoming more cruel, he was put to death, and his relative, Mir Ashraf, was raised to the throne. He defeated the Turks near Burujard, took Kasvin, and defeated Thamasp, son of Shah Husen; but Nadar Kuli Khan advanced against and defeated him, and he fled to Isfahan, leaving 12,000 dead on the field. He was again defeated by Nadar Kuli Khan near

Isfahan, losing 4000 Afghans, and fled to Shiraz. He again met Nadar, only again to be defeated, and his soldiers then made terms with Nadar, and Mir Ashraf fled into Seistan, where he was murdered by a Baluch chief. The seven years of the Ghilji occupation of Persia cost that country a third of its population. The Daurani tribe assumed the sovereignty of Kandahar, and put down a subsequent attempt which the Ghilji made to reassume sovereignty. Towards the middle of the 19th century, when the British advanced to place Shah Shuja on the throne, the Ghilji opposed them, but were driven off on the 22d July 1839. In the same year, Captain Outram with a very small body of troops marched all through the Ghilji country. In 1840 Captain Anderson defeated the Ghilji at Tazi. In 1841 they were defeated by Colonel Wymer near Kalat-i-Ghilzai. But on the 9th October 1841 they attacked Colonel Monteith at Butkak; on the 12th they attempted to occupy the Khurd Kābul pass; on the 14th they attacked the British camp in the Khurd Kābul valley, they attacked Colonel Sale's force in the defiles of Jagdalak, and they hung upon Sale's troops till they reached Jalalabad.

On the 6th January 1842 the British began to retreat from Kābul, and from Butkak, till the last man of that force was killed or taken prisoner, the Ghilji surrounded them, attacking, plundering, massacring all. 3000 souls went down in the Khurd Kābul; at Tezin the number was raised to 12,000; at Gandamak 20 muskets were all that could be mustered, and in a few hours more these too were gone. The Ghilji drank their fill of British and Indian blood, in that brigade.

In the latter part of 1842 (8th September) they were repulsed in an attack on General Pollock's force, and again on that on Colonel M'Caskill's force.

In the south, on the 20th November 1841, they attacked Ghazni, and in March 1842 the garrison surrendered, and many of the sepoys were massacred. On the 9th December 1841 they invested Kalat-i-Ghilzai, and by May 1842 had completely surrounded it. On the 21st May they assaulted it in two columns, but were defeated with the loss of 400 men. They subsequently attacked General Nott at Bonei Badam, and the force of General Pollock at Tezin, Haft Kotal, and Jagdalak. Subsequently, in 1849, they were reduced by Amir Dost Muhammad Khan, who sent 25,000 Abdali against them; and when they again rebelled under Muhammad Shah, they were again reduced.—*MacGregor; Moorcroft's Tr.* ii. p. 360; *Masson's Journeys*, ii. p. 198; *Pottinger's Tr.* p. 200; *Mohun Lal's Tr.* p. 323; *Elphinstone's Caubul.*

GHINNI. BENG. The female head of an undivided Hindu family.

GHOONT, a Himalaya breed of horses, generally small, strongly made, hard-mouthed, and sometimes almost unmanageable. In ascending hill faces, or passing along the declivities of mountains, it is best to let them have their own way. Their common pace is a kind of amble, and they stop every now and then to breathe, when no application of the whip will move them. They are sure-footed, and sometimes halt at the edge of a precipice, to the terror of the rider. They are not so quick in ascending hills as the low-country horses, but they descend with double the speed, and endure great fatigue. The ghoont in Spiti are bred chiefly for sale. They have two breeds, one a small ghoont, never above 12 hands high, peculiar to the country; and the other a large breed, from 13 to 13½ hands high, is bought from the Chinese, and usually comes from Choomoortee; for a Chinese ghoont two years old, they give a Spiti ghoont four years old. All are equally hardy, and are kept out the whole winter, except the yearlings, which are housed. During winter the ghoont live on the roots of the stunted bushes, and are very expert at scraping the snow from off them with their fore feet. Many are killed during winter by wolves and leopards.—*Powell, Handbook; Capt. Gerard's Koonawur*, p. 112.

GHOOR, a lizard of Gujerat, which the natives believe to be poisonous. There are two kinds, according to native report, Putlah ghoor and Chundun ghoor. A venomous lizard will, however, be believed in by no naturalist until he has ocular demonstration of the existence of the poison apparatus. Hardly a snake is caught in India, that is not, according to the snake-catcher, the worst snake in the country. See Ghorphara.

GHOOS is literally a bribe; and no treaty or transaction was ever carried on in Rajputana without this stipulation. So sacred was the ghoos held, from tyrant usage, that the Peshwa ministers, when they ruled the destinies of their nation, stipulated that the ghoos should go to the privy purse.—*Tod's Rajasthan*, ii. p. 404.

GHOR, a mountainous country between Kābul and Herat in one direction, and between Kandahar and Balkh in another. It is practically independent, and is peopled by Mongol tribes. They are known to themselves and to the Afghans as the Hazara. According to Istakhri and Ibn Haukal, Ghor was bounded by the districts of Herat, Farrah, Dawar, Rabat, Kurwan, and Gharjistan, back to Herat, which were all Mahomedan countries; but Ghor itself was a country of infidels, containing only a few Mahomedans, and the inhabitants spoke a language different from that of Khorasan. In the 11th and 12th centuries the kingdom of Ghor comprised Afghanistan, Lahor, Sind, and Khorasan. The princes of Ghor are said to have belonged to the Afghan tribe of Suri, and their dynasty was allowed to be of very great antiquity even in the 11th century. Their principal cities seem to have been Ghor, Firoz Koh, and perhaps Bamian.—*Bellew; Elliot; Elphinstone's Caubul*, i. p. 244.

GHORAMANI, a Baluch tribe in the Dehra Ghazi Khan district.—*MacGr. N. W. F.* p. 531.

GHORBASTA. The climate of Makran generally, but especially at the level tract south of the mountains, is very unhealthy. The Ghorbasta or Ghorband in Makran are great structures, at times almost bearing resemblance to the Cyclopean remains of Europe. They are evidently remains of a people that occupied or passed through the country long prior to the advent of the present occupants, who know nothing of the builders, or of the uses of the buildings, and attribute them to kafirs or infidels. They are found usually in out-of-the-way places, narrow valleys at present stony and barren. They are placed always on declivities, or across the mouths of ravines. Their solidity and size are proportioned to the steepness of the declivity. Where there is only a gentle slope, the walls are narrow, low, and slightly built; but

where the descent is great, and the flow of water after floods and rains would be violent, they are of great thickness and height, and, as seen in the valley beyond Baghwana, supported and strengthened by buttresses or walls built at right angles. They always present a scarped face to the opposite side, which, when well preserved, is levelled off with the surrounding and higher ground. Those built across the mouths of ravines are very solid and high, and usually the builders have taken advantage of some mass of rock jutting out, as a sort of foundation. Those in slopes are never seen singly, but always in numbers varying with the extent of the ground to be covered, and placed in succession one behind the other. The intervening ground being levelled, is thus formed into a succession of terraces. They were constructed for the irrigation of the country. Those built across ravines were intended to form tanks for the preservation of the waters that come down at irregular intervals in floods. Those on slopes, to economize the distribution of water; the surplus water of one terrace running over and flooding the lower one, depositing as it went a layer of surface soil. The ground thus levelled of course became more valuable, freed from the irregularity and roughness which characterize these narrow stony valleys. They are almost confined to the provinces of Jhalawan, and are largest and most important in the southern and south-eastern portions of the province. The ancient city at Gunjjuk seems of the same date, and constructed by the same people. From the numbers and position of these structures, the people who built them must have been extremely numerous,—must have felt that the country as existing by nature was utterly incapable of supporting them; and they must have possessed an energy and ingenuity which the present races are totally without. It appears probable—nay, almost certain—that they must have swarmed eastward over the mountains from Makran, making their appearance on the south-west portion of the table-land. Gradually pushing eastward and northward, as their numbers increased, either rapidly by additions from without, or more slowly by increase of the population from within, they ascended to the various valleys as high as Kalat, when, discovering the great eastern outlet, the Moolla pass, they found an exit by it into the plains of India. How long they remained on the table-land, from whence they originally came, and over what countries they eventually distributed, are alike mysteries.

There are one or two points of slight resemblance between the Pelasgi, the builders of the Cyclopean walls of Greece, Italy, etc., and the ghorbasta builders, suggesting that they might have been a kindred people with kindred habits. The Pelasgi came from Asia, not from Asia Minor, not from Syria, not from Assyria, not from Persia, but probably from that birthplace of emigration, the tract north and north-east of Persia. The ghorbasta builders probably came from the same tract, and were not Makranis, nor Persians, nor Assyrians. The Pelasgi existed only a few generations in Greece (about 250 years), before they were turned out by the Hellenes; they must therefore have brought with them when they entered the country their propensity for building massive walls, and commenced their work almost immediately on arrival. It was probably the same with the wall-builders of Baluchistan; they only remained in the country long enough to allow them to extend northward as far as Kalat, when, meeting with the Moolla pass, they debouched into the plains. Their art was a fully-developed one before they arrived here to carry it out. The Pelasgi arrived in Greece about 1800 B.C. This date seems to accord roughly with the advent of the unknown people into Jhalawan.

The ghorbasta buildings differ considerably, however; for, when compared with the Cyclopean remains, they are slight, most roughly executed, and insignificant; yet they evince a like instinct and habit in two races which probably came originally from the same region. Lieutenant Aytoun, in his Geological Report on a portion of the Belgaum Collectorate, given in Mr. Carter's Geological Papers on Western India (p. 392), mentions that certain gorges in the hills had been artificially bunded, and the Kadar are a terrace-cultivating race on the Pulney Hills in the extreme south of the Peninsula.—*Dr. Cook*, in No. vi. *Bombay Medical Transactions.*

GHORCHARHA, a subdivision of the Kurmi tribe. The literal meaning of the word, if rightly spelled, is a horseman; but Elliot is not sure that there may not be some connection between them and the Kurchurra whom Tod puts down in Chund Bardai's list of the royal races.—*Elliot.*

GHORI and Khilji were dynasties in Malwa, founded by Dilawar, of a family from Ghor.

Dilawar Ghori,	A.D. 1401,	A.H. 804
Hushang Ghori,	,, 1405,	,, 808
Muhammad Ghori,	,, 1432,	,, 835
Mahmud Khilji,	,, 1435,	,, 839
Ghaias-ud-Din Khilji,	,, 1482,	,, 887
Nasar-ud-Din Khilji,	,, 1500,	,, 906
Mahmud Khilji II.,	,, 1512,	,, 916

GHORPHARA, a powerful Mahratta family, who hold lands at Gunjundurghur, Sondur, Madhol, and Akulkote. They derive their name from the ghorphar or iguana, from a tradition that Maloji Rao, the founder of the family, scaled and took a fortress by its means, by fastening a rope to its tail. See Ghoor.

G'HOS, also G'hosi, herdsmen, said to be descended from the Ahir race. Most of them have now been converted to Mahomedanism; indeed, the name is generally considered, according to the dictionaries, to be exclusively applied to Mahomedan milkmen. The name is derived from a Sanskrit word signifying a cattle pen. The eastern G'hosi who have been converted are called Bundi G'hosi. In many parts of the country, as in Dehli, the G'hosi are those who trade in milk, without any reference to their caste or religion.

GHOSE, a corruption of Ghosh, in Bengal a division of the writer caste, used by them as a family name, as Chandra Ghose.

GHOSTS are believed in by the Hindu and Mahomedan and Buddhist races, and by all the aboriginal tribes of British India. They are of many kinds, and the spirits of evil are supposed both by Hindus and Mahomedans to move abroad at noon. In this they concur with the modern Greeks, who believe that it is especially at midday that the Nereids exercise their hurtful power. At that time they rest in the shade of trees, especially of the plane and poplar, and by the side of springs and running water, and those who pass by are apt to receive a stroke. See Spirits.

GHOUL. PERS. According to superstitious belief in Persia, a fair woman of about twenty years of age, that preys at night on dead bodies. The ghoul-i-biaban, or 'demons of the desert,' are also described as a hideous race, that particularly infest a dreary tract in the north of Persia, not far from Tehran, bearing the portentous name of Malik-al-Mout Darrah, or 'Valley of the Angel of Death.' The ghoul resembles the Boddach of the Scotch Highlanders.

GHOUS-ul-AZAM, the title of Abdul Kadar Ghilani, q.v.

GHRAB or Grab. ARAB. A sea-going vessel trading between the Malabar coast and Arabia.

GHUGREE, hollow rings with pebbles in them, worn on one or both thumbs, and rattled.

GHULAB SINGH, a maharaja, the first ruler of Kashmir, a Dogra Rajput; died on the 2d August 1857.

GHULAM. ARAB. A slave, a servant; a term in frequent use by persons to indicate their readiness to obey, as 'Main ap ka Ghulam hun,' I am your slave; also often used as a part of a name, as Ghulam Ali, Ghulam Hasan, Ghulam Mahomad, servant of Ali, Hasan, Mahomed, etc.

Elliot considers that in this word we have the origin of the English gallant, gallantry, gala, etc., Ghulam being derived from the Arabic Gh'l'm, libidinosus, and hence it signifies a comely youth, one chosen as an attendant or page for his personal endowments. The Spaniards borrowed it from the Arabs, and called a handsome young man Galanta, from which are derived Galante, Galanteur, Galanteria, all subsequently adopted into the European tongues through the influence of the amatory poetry of the troubadours. In Persia, Ghulam is now applied to an inferior civil officer or policeman, answering to a cavass in Turkey. Several of these are attached to each European embassy in Persia. The Shah has also a number attached to his person, who are called Gulam-i-Shah; these form a kind of bodyguard. The Russians use their Ghulam only for posting purposes, to accompany members of the embassy, and have a body of Cossacks for escort; the British embassy Ghulams are used for escort, and also for posting purposes, the regular native Indian cavalry who used to form the escort of the British ambassador having been discontinued during the mission of Sir Gore Ouseley, which lasted from 1812 to 1818.

In Persia the Kooleragassee is the superior of the slaves. Each of the princes, as well as the king, has a certain number of confidential troops, who act as guards or agents on all important occasions, and who are called Ghulam or slaves.—*Elliot; Fraser's Khorasan*, p. 105; *Ferrier's Journ.* p. 21.

GHULAM HUSAIN of Zaidpur, author of Riaz us Sulatin, a Persian history of Bengal, up to A.D. 1787-88.

GHULAM HUSAIN KHAN, a Mahomedan noble of Bengal, author of the historical work, Siyar-ul-Mutaakhirin, a history of India from A.H. 1118-1195, A.D. 1706-1782.

GHULAM KADAR, a Rohilla chief at Dehli, who in 1788, learning that Shah Alam II. was to remove him from court, surprised the palace, maltreated and tortured the emperor, maltreated the children before the emperor's face, ordered the emperor's eyes to be pierced, dishonoured the ladies of the court, and gave up the palace and city to pillage. He fled, and at length, galloping alone from a fort in which he had taken refuge, his saddle stuffed with plunder, he was thrown from his horse, and picked up by his pursuers, the Mahrattas, who deprived him of his limbs, and exhibited him in Dehli in a cage, in which he perished. It is said that he himself with his dagger destroyed the emperor's eyes.

GHULGHULEH, a city in ruins, south of Bamian, destroyed by Chengiz Khan. It is in the valley of Bamian, and Cufic coins are occasionally dug up in it.—*MacGregor.* See Gulgula.

GHUMAO, HIND., properly Kahman, a land measure in the Panjab. A pair of good oxen will plough a ghumao in twenty-four hours.

GHUN. HIND. A destructive weevil that attacks wood and gram, the Calandra granaria. Ghungi, an insect that destroys growing grain. —*W.*

GHUNGOL, also Ghangol, the water-lily which produces the celebrated Nelofar or lotus flower. It yields a greenish fruit about the size of an orange. Its seeds are eaten by the poorer classes. —*Elliot.*

GHURYAN is situated in a level plain, with numberless plants of asafœtida. The Kakar, an Afghan tribe, come up in swarms with their families, and disperse themselves over the plain. They make longitudinal incisions along the stalk, and then protect the asafœtida plants with small pieces of clay or bricks, to keep off the rays of the sun. A dark-coloured secretion oozes from the plant, and congeals over the fence stones. The people, with small bags of skin hanging to their necks, collect the asafœtida. The asafœtida plant is nearly five feet high, and has large leaves.—*Mohun Lal's Travels*, p. 273.

GHUZZ. The Mameluks of Egypt were known by this name. Yomut, Göklen, Chaudar, and Imraili have dwelt from time immemorial in the steppes to the east of the Caspian; while Sariks and Salar and Kara Turkomans inhabited, in the 9th century, if not their present ranges, at least the neighbouring steppes between Balkh and Anjoi, and both divisions are alike called the Ghuzz by contemporary writers. Chinese historians call them barbarians of the mountains; and the trouble they caused from time to time to the Chinese, would warrant a more appropriate title.

G'HWALARI or Gomal, a pass which offers an easy route from Afghanistan to the Derajat.

GHWARAZAI, a small section of the Kakar tribe of Afghanistan, numbering about 110 men. —*MacGr. N.W. F.* p. 533.

GHYAS-ul-LOGHAT, an Arabic dictionary.

GHYLONG, a Buddhist priest of the Bhotia.

GIALBO. TIBET. In Chinese, Tsan-pu. Rulers of Tibet till the 11th century.

GIBRALTAR, in lat. 36° 7′ N., long. 5° 21′ W., was captured from the Spaniards in the year 711, and it remained in possession of the Arabs till the early part of the 14th century, when the Spaniards retook it, but lost it again in 1333. It was then held by the Arabs until its second recovery by the Spaniards, in 1462. On the 24th July 1704, it was suddenly assailed and captured by the British under Sir George Rooke, the garrison being small and unprepared for defence. The Spaniards, occasionally assisted by the French,

have since made various attempts to recapture the place, but without success. Burton says Gibraltar is Jabal-ul-Tarikh, and 'Mt. Ethne that men clepen Mounte Gybelle' is 'Monte Gibello,' the mountain *par excellence.—Burton's Mecca.*

GIBSON, ALEXANDER, M.D., born at Laurencekirk, October 1800. In 1825 he was appointed to the Bombay Medical Establishment, and served throughout the Burmese war as flag surgeon to Sir John Hayes. He was from 1837 to 1860 Conservator of Forests, and contributed largely to scientific journals,—On Indigenous Materia Medica, On Leeches, On Sugar-making, On Useful Plants, On the Cultivation of Senna, Hyosciamus; Forest and Garden Reports, a Handbook of Indian Forestry, on Kino, on the Shikargahs of Sind, on the Bassia trees, on the bark of Alstonia scholaris.

GIGANTOCHLOA APUS. *Kurz.* The Bambusa apus, *Roemer;* grows in the Archipelago at elevations up to 5000 feet, height of stem to 60 feet. G. aspera, *Kurz,* attains to 170 feet of height.—*Von Mueller; Gamble.*

GIGARTINA LICHENOIDES. *Lamouroux.*

Sphærococcus lich., *Ag.* | Gracillaria, lich., *Greville.*

The whole thallus of the Ceylon moss is sometimes imported from Ceylon, and used in Britain for dressing silk goods.—*O'Sh.* p. 668.

GIGARTINA SPINOSA. *Grev.*

Euchema spinosum, *Ag.* | Fucus lichenoides, *Willde., non Linn.*

Kyouk puen, . . Burm. | Agar-agar, . . Malay.

Edible sea-weed is found in the Andamans and at Termoklee Island. The Chinese collect it on their coast to a great extent, using it in the arts and also for food. It affords an excellent material for glues and varnishes. It is simply boiled, and the transparent glue obtained is brushed upon a porous kind of paper called sha-chi, which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and is extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south, and extensively used for food. It is also made into a sweet glutinous jelly, called in Canton, Wong-leung-fan, which is used as a sweetmeat, and sold on stalls in the streets. It is brought from New Holland and New Guinea and other adjacent islands. Between 400 and 500 pikuls are imported annually by the Chinese, at a prime cost of from one to two dollars per pikul. Its cheapness and admirable qualities as a paste render it worthy the attention of other countries; when cooked with sugar, it resembles calf's-foot jelly. Of the three kinds of agar-agar sent to the Exhibition of 1862 from Malacca, the first quality was from a sort of tripe-de-roche, an edible sea-weed which grows on the rocks that are covered by the tide. It is much used for making a kind of jelly, which is highly esteemed both by Europeans and natives for the delicacy of its flavour, and is exported to China at 19s. per 133⅓ lbs. The agar-agar of the second quality from Macassar and the Celebes, is an edible sea-weed collected on the submerged banks in the neighbourhood of Macassar by the Baju Laut or sea gipsies, for exportation to China, at 12s. 6d. per 133⅓ lbs. The agar-agar of Singapore is collected on the reefs and rocky submerged ledges in the neighbourhood of Singapore, and constitutes the bulk of the cargoes of the Chinese junks on their return voyages. It is much used as a size for stiffening silks, and for making jellies. The quantity shipped from Singapore is about 10,000 pikuls annually. Though deserving of being better known, it does not appear to be an article of Indian import, or, if so, it is brought in under some other name.—*Hon. A. Morrison; Exhib. Jur. Reports and Catalogue; Simmonds; Tomlinson; Williams' Middle Kingdom,* p. 275. See Ceylon Moss; Edible Sea-weed; Gigartina tenax.

GIL. Pers. Earth, clay.

Gil-i-Abrorshi, a rough, hard, not brittle, pink earth, only used in native medicine; properly speaking, a deposit from a mineral spring containing sulphur. The sediment is collected and made into little cakes. But the Hasan dhup ordinarily seen in the bazar is a mere imitation, consisting of some earthy clay mixed with ground sulphur and formed into cakes, called probably Moses' Stone, from its lamellar structure, as if the tables of the law given on Sinai had been on slate tablets.

Gil-i-Farsi, a pink earth.

Gil-i-Irmani, Armenian bole, not now used in European medicine, but formerly so employed, and still used by natives.

Gil-i-Khardya, a red earth.

Gil-i-Kiria, a soft, laminated, nearly white clay, resembling chalk in appearance, hence probably the name.

Gil-i-Makhtum, a soft, rough, irregular, variegated marl, containing clay, deeply coloured by peroxide of iron, mixed with nearly white carbonate of lime.

Gil-i-Multani, fullers' earth. A soft, laminated white or pale yellow earth, used by the natives for cleaning their hair, and in medicine.

Gil-i-Safed, chalk, Calcis carbonas.

Gil-i-Zard, a pale yellow, tough, laminated earth, intermediate in colour between geru and gil-i-Multani, but resembling both in appearance. —*Powell.*

GIL, a culivator race E. of Ferozpur, who claim to be offspring of Jat mothers and Rajput fathers.

GILAUNDA. Hind. The flower of the Bassia latifolia, after it has fallen off. When the flower falls off, the pod or gula forms, and from this a useful arrack is prepared.

GILCHRIST, JOHN BORTHWICK, LL.D., M.D., born 1759 in Edinburgh, a medical officer of the Bengal army, who distinguished himself as an oriental scholar. He wrote a dictionary and grammar of the Hindustani language, and other books in that tongue. He formed the Hindustani or Urdu tongue. His attempt to form a universal writing character, in his 'Missionary's Portable Christmas-box and Cosmopolitan's Seasonable New Year's Gift,' did not succeed; and up till this time it continues a matter of discussion whether in the efforts to diffuse knowledge by means of printed books, the writing characters in use by the peoples of the south and east of Asia should be continued, or whether the Roman letters should be employed to represent them. He bequeathed property for educational purposes, which is being applied as scholarships. He died in 1841, nearly 82 years of age.

GILEAD, a broad belt of country lying between the river Jordan on the west and the great Syrian desert on the east.

GILGIT, a territory in High Asia, in lat. 35° N., and long. 74° E. The Indus river runs through it from N.E. to S.W. It is on the southern declivity of the Hindu Kush, between Chitral on the west and Baltistan (Little Tibet) on the east. In the Bunnu valley there are intermixed races, of whom may be noticed the Dardu of Gilgit and Chulas. According to Burnes, the mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz who occupy the provinces of Kulub, Shughnan, and Wakkan, north of the Oxus, also the hill states of Chitral, Gilgit, and Iskardo, are all held by chiefs who claim a Grecian descent. The whole of the princes who claim descent from Alexander are Tajak, who inhabited the country before it was overrun by Turki or Tartar tribes. To the west beyond Balti, the people of Astor, Gilgit, and Hunza-Nager speak different dialects of Dardu, while the Kashmir people have their own peculiar language. The Balti people of Little Tibet say that Ladakh, Iskardo, Khopalu, Purik Nagyr, Gilgit, and Astor are distinct Tibets.—*Burnes' Bokhara.*

GILL, MAJOR ROBERT, an officer of the Madras army, who devoted nearly twenty years of his life to copying and photographing the fresco pictures in the caves of Ellora and Ajunta. His devotedness, in dwelling in such lonely spots as in the ravine of Ajunta, is unparalleled in modern times. He died at Bhosawul on April 10, 1879, aged about 76. He received his commission in 1824, and was invalided on a brevet-majority in October 1852. He was a noted shikari, and a no less celebrated artist. Several of his copies of the paintings of the Ajunta caves, for which the East India Company liberally rewarded him, were unfortunately destroyed in a fire that took place at the Crystal Palace. His son, Captain Gill, R.E., who travelled across China, was murdered in Arabia in 1882, along with Professor Palmer.

GILLAR. HIND. Goitre. Gillar patr or Gillar-ka-patta, a sea-weed Laminaria, *sp.*, used as medicine for goitre. It is obtained solely *via* Yarkand from the shores of the Caspian Sea. Five or six maunds are imported. The word Patr is a leaf. Dr. Martin Honigberger refers Gillar-ka-patta to Laminaria saccharina, and alludes to a belief that it is found in a salt lake in Tibet, adding that some English physicians maintain it is brought from the Caspian Sea. He says it is useful in scrofulous ulcers in horses.—*Powell's Handbook.*

GILLESPIE. General Rollo Gillespie, an officer of the British army who served in the West Indies, the East Indies, and the Eastern Archipelago. On the occasion of the Vellore mutiny of 1806, he was in command of Arcot, and Sir John Fancourt was in command of Vellore. They were very intimate, having been quartered together at St. Domingo. Gillespie had been invited to dine and sleep at the quarters of Sir John Fancourt, on the very night the mutiny occurred (3 A.M. 10th July), so little was their suspicion of the fidelity of the sepoys. Just as he was about to start on the morning of the 9th July, public despatches were put into his hands, which compelled him to defer his journey; but at daybreak on the 10th July he mounted his horse to gallop over to Vellore in time for breakfast, and was scarcely in his saddle when tidings arrived of the massacre. A troop of the 19th Dragoons was at the time ready for parade. Gillespie ordered them to get ready for the rescue of their countrymen. The 16 miles were soon covered; Gillespie had outstripped his escort, and was attracted by the sound of musketry to a lofty gateway and bastion, where the remnant of the British still stood at bay, their last cartridge almost expended, when Sergeant Brodie, who had known Gillespie at St. Domingo, saw a horseman spurring across the plain, and, turning round to his comrades, said, 'If Colonel Gillespie be alive, here he is at the head of the 19th Dragoons; and God Almighty has sent him from the West Indies to save our lives in the East!' A rope, made of soldiers' belts knotted together, was let down the ramparts, and Gillespie dragged up amidst a shower of balls. The dragoons with their galloper guns (light field-pieces used by cavalry regiments in those days) blew open the gates; a British 'huzza' was heard, accompanied by the rattling of horses' footsteps over the drawbridge, and the mutineers were charged. Some 300 or 400 were cut to pieces, many were taken prisoners, and others escaped by dropping from the walls. Fancourt only lived to see the ensign of Mysore cut down, and the British standard once more float on the ramparts of Vellore. He died that afternoon, having been shot down by some sepoys when trying to join Brodie's main guard. Lady Fancourt and her two children escaped, through the faithfulness of their servants and the timely arrival of Gillespie. The members of Tipu's family who were the chief instigators of the mutiny, were removed to Calcutta. Colonel Gillespie next went through active service in the subjugation of the Spice Islands. The last scene in which he acted was the Gurkha war. He was shot through the heart on the 31st October 1814, while waving his hat and leading his men on to the first fortified position he met at Kalunga, in Nepal.

GILOLO is one of the Molucca Islands. Its north end is in about lat. 2° 23′ N. It has a long mountainous coast, high bold land, with three remarkable peaks. The indigenes live in the north of the island. Their stature, their features, as well as their dispositions and habits, are almost the same as those of the Papuan. Their hair is semi-Papuan, always crisp, waved, and rough, such as often occurs among the true Papuans but never among the Malays. Their colour alone is often exactly that of the Malay, or even lighter. In most cases, the large, somewhat aquiline nose, with elongated apex, the tall stature, the waved hair, bearded face and hairy body, as well as the less reserved manner and louder voice, unmistakingly proclaim the Papuan type. Here is the exact boundary between the Malay and Papuan race. It is only in the Northern Peninsula that these Papuan indigenes exist, the whole of the rest of the island, with Batchian and the other islands westward, being exclusively inhabited by Malay tribes like those of Ternate and Tidore. The Galela race are natives of a district in the extreme north of Gilolo, but they are great wanderers over the Archipelago. They are a very fine race, remarkably energetic and industrious, of light complexion, tall, and with Papuan features, coming near to the drawings and descriptions of the true Polynesians of Tahiti and Owyhee. They build large and roomy prahu with outriggers, and settle on any coast or island they take a fancy for.

They catch turtle and trepang, hunt deer and wild pigs and dry the meat, and cut down the forest and plant rice or maize. Pitta gigas, a large ground thrush of Gilolo, is one of the most beautiful birds of the East. Its plumage is a velvety black above, breast of pure white, shoulders of azure blue, and belly of vivid crimson. Charmosyna placentis of Gilolo is one of the smallest and most beautiful of the brush-tongued lories. Coetia d'Urvillei, a rare and beautiful day-flying moth.—*Horsburgh; Bikmore; Wallace*, ii. pp. 2, 3.

GINDAR. HIND. An insect that destroys growing grain and pulses.

GINDING, a land wind in East Java, occasioned by the S.E. monsoon blowing right over the land through the gap at Klakka, 1000 feet above the sea, between the Jyang and Tengger mountains, 8000 and 9000 feet high.

GINGEE, Ginji, or Ghinji, in the S. Arcot district, in lat. 12° 15′ 19″ N., and long. 79° 26′ 8″ E., a town and fort 35 miles N.W. of Pondicherry. In the contests between the rival French and British, and rival Mahratta and Mahomedan princes, Gingee and neighbourhood were frequently scenes of strife, but it long continued a French possession. In the 17th and 18th century it was taken by Sivaji, was attacked by Aurangzeb, stormed by the French, but finally occupied by the British. The French obtained the grant of Pondicherry in 1674, from a raja of Gingee, who acknowledged the king of Narsinga as his superior; but this latter was at the same time dependent on Visiapor. Sivaji took possession of Gingee about the year 1677, and confirmed the above grant in 1680.—*Rennell's Memoir.*

GINGELLY OIL, Sesamum Oil.

Jiritch, ... ARAB.	Nall-ennai, . . . TAM.
Mitha til-ka-tel, . HIND.	Manchi-nuna, . . TEL.
Kurit, Sehuk, . . PERS.	

Gingelly Seed, Sesamum Seed.

Sumsum, . . . ARAB.	Taila, ... SANSK.
Ellu, ... CAN.	Yellu, ... TAM.
Til, Jingelly, GUJ., HIND.	Nuwulu, ... TEL.
Kunjed, . . . PERS.	

Gingelly is the commercial name for the Sesamum orientale. Three varieties of the plant are cultivated in India,—the white-seeded (Saffed-til), the red or parti-coloured (Kala-til), and the black variety (Tillee). It is the last which affords the greater proportion of the gingelly oil of commerce. A sort of sesame oil, sometimes called rape, is obtained from the red-seeded variety. Black sesame is sown in March, and ripens in May. Red sesame is not sown till June. The black-seeded variety (Tillee) affords a larger percentage of oil than the red-seeded kind. It is extensively cultivated in Southern Asia for the oil expressed from the seeds, which are slightly oval, small, tasteless, and inodorous. The varieties of seed possess the same properties, and in commerce are met with both in a mixed and separate state. Gingelly seed is largely exported to England and France, and the oil is perhaps consumed to a greater extent than any other by the natives of India, and is second only to cocoanut oil in its importance as an article of commerce. The great disparity of colours observed in this oil is attributed to the mode of preparation. The method sometimes adopted is that of throwing the fresh seeds, without any cleansing process, into the common mill, and expressing in the usual way. The oil thus becomes mixed with a large portion of the colouring matter of the epidermis of the seed, and is neither so pleasant to the eye, nor so agreeable to the taste, as that obtained by first repeatedly washing the seeds in cold water, or by boiling them for a short time, until the whole of the reddish-brown colouring matter is removed, and the seeds have become perfectly white. They are then dried in the sun, and the oil expressed as usual. This process yields 40 to 44 per cent. of a very pale straw-coloured sweet-smelling oil, an excellent substitute for olive oil. In India the oil is chiefly used in cookery, in anointing the person, for making soap, and for burning in lamps. In England it is chiefly used for the manufacture of soap, and for burning in table-lamps, for which it is better suited than cocoanut oil, owing to the lower temperature at which it congeals. In different parts of the Madras Presidency the price of this oil varies from Rs. 1·5 to Rs. 6 per maund of 25 lbs. Til or gingelly seed exported from India, chiefly to France, and from Bengal and Bombay:—

	Cwt.	Rs.		Cwt.	Rs.
1874-75,	1,203,222	72,28,920	1877-78,	1,158,802	84,82,262
1875-76,	1,409,908	78,74,782	1878-79,	1,039,687	79,96,210
1876-77,	1,307,815	86,82,937	1879-80,	1,680,185	1,19,79,042

GINGER, Zingiber officinale.

Zangebil, . ARAB., PERS.	Zenzero, ... IT.
Jahetub, ... BALI.	Jasiaking, also Jait, JAV.
Ada (green), . . . BENG.	Sapadas, also Alya, MALAY.
Khyeng-khyuk (gr.), BUR.	Inchiver, . . MALEAL.
Khyeng-dsein (dry), ,,	Gengivre, . . . PORT.
Sunty, ... CAN.	Inbir, ... RUS.
Kan-kiang, Peh-kiang, CH.	Sunthi, Sringavera, SANSK.
Gember, ... DUT.	Inghuru, . . . SINGH.
Gingembre, . . . FR.	Jengibre, Agenjibre, SP.
Ingwer, ... GER.	Inji (green), Shukku, TAM.
Adrak (green), . . HIND.	Shonti, ... TEL.
Sont (dry), . . . ,,	Zenjefil, ... TURK.

Dr. Royle thinks that the Sanskrit name Sringavera is the source of many of its names.

The ginger plant is cultivated in the tropical regions of Asia, America, and Africa. In India it is generally cultivated in gardens, being sown about the commencement of the rains, in beds of about six feet square, and in a rich soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart. It requires a great deal of water, and to be kept clear of weeds. When the stalks dry, the ginger may be taken up, although it is sometimes left in the ground for one or two years. It is better for remaining twelve months, and must be watered during the dry season. The stem reaches generally three or four feet in height, and is renewed yearly; while the root, which is the part known as ginger, botanically termed a rhizome, is biennial. In Jamaica the roots are dug up in January or February when about a year old, and after the stems are withered. They are well washed, freed from dirt, and in some cases, especially with the better kinds, the epidermis or outer coat is stripped off; and hence the division of ginger into white, scraped, or uncoated, and into black, unscraped, or coated. In estimating the quality of ginger, a variety of particulars are taken into consideration, as whether the rhizomes are coated or uncoated, their form, colour, and consistence.

Out of 21 samples of the gingers sold in London, 15 were found by Dr. Hassall to be

adulterated with sago meal, potato flour, wheat flour, ground rice, cayenne pepper, mustard husks, and turmeric powder in various quantities, but in the majority of cases constituting the principal part of the article. A great part of that found in the shops had been washed in whiting and water, under the pretence of preserving it from insects. The dark-coloured kinds are frequently bleached with chloride of lime.

Great Britain imported 33,854 cwts. in 1870, and 32,000 cwts. in 1871. Ginger exported from India—

	Lbs.	Rs.		Lbs.	Rs.
1875-76,	6,333,327	10,09,398	1878-79,	9,190,945	13,05,246
1876-77,	6,427,656	8,61,534	1879-80,	6,960,006	9,94,149
1877-78,	4,547,404	6,93,941			

The Malabar ginger exported from Calicut is the produce of the district of Shernaad, situated in the south of Calicut, a place chiefly inhabited by Moplas, who look upon the ginger cultivation as a most valuable and profitable trade. The soil of Shernaad is so very luxuriant, and so well suited for the cultivation of ginger, that it is reckoned the only place in Malabar where the plant grows and thrives to perfection. The only suitable kind of soil is that which, being red earth, is yet free from gravel, and the soil good and heavy. The cultivation generally commences about the middle of May, after the ground has undergone a thorough process of ploughing, harrowing, etc. At the commencement of the monsoon, beds of ten or twelve feet long by three or four feet wide are formed, and in these beds small holes are dug at three-fourths to one foot apart, which are filled with manure. The roots, hitherto carefully buried under sheds, are dug out, the good ones picked from those which are affected by the moisture, or any other concomitant of a half-year's exclusion from the atmosphere, and the process of clipping them into suitable sizes, for planting performed, by cutting the ginger into pieces of an inch and a half to two inches long. These are then buried in the holes, which have been previously manured, and the whole of the beds are then covered with a good thick layer of green leaves, which, whilst they serve as manure, also contribute to keep the beds from unnecessary dampness, which might otherwise be occasioned by the heavy falls of rain during the months of June and July. Rain is essentially requisite for the growth of the ginger; it is also, however, necessary that the beds be constantly kept from inundation, which, if not carefully attended to, entirely ruin the crop. Great precaution is therefore taken in forming drains between the beds, and letting water out, thus preventing a superfluity. On account of the great tendency some kinds of leaves have to breed worms and insects, strict care is observed in the selection, and none but the particular kinds used in manuring ginger are taken in, lest the wrong ones might fetch in worms, which, if once in the beds, no remedy can be resorted to successfully to destroy them, and thus in a very short time they ruin the crop. Worms bred from the leaves laid on the soil, though highly destructive, are not so pernicious to ginger cultivation as those which proceed from the effect of the soil. The former kind, whilst they destroy the beds in which they once appear, do not spread themselves to the other beds, be they ever so close; but the latter kind must of course be found in almost all the beds, as they do not proceed from accidental causes, but from the nature of the soil. In cases like these the whole crop is oftentimes ruined, The present mode of preparing the land for this crop in the West Indies, is by first carefully hoeing off all bushes and weeds from the piece intended to plant; the workmen are then placed in a line, and dig forward the land to the full depth of the hoe, cutting the furrow not more than from five to six inches thick. The land is then allowed to pulverize for a short time; it is then prepared for receiving the plants, by opening drills with the hoe, from ten to twelve inches apart, and the same in depth, chopping or breaking up any clods that may be in the land. Two or three women follow and drop the plants in the drills, say from nine to ten inches apart. The plants or sets are the small knots or fingers broken off the original root, as not worth the scraping. The plants are then covered in with a portion of the earth-bank formed in drilling. Great care and attention is required to keep them clean from weeds until they attain sufficient age. They throw out a pedicle or footstalk in the course of the second or third week, the leaves of which are of similar shape to that of the Guinea grass.

Ginger is very liable to rot, particularly if planted in too rich a soil, or where it may be subject to heavy rains. The general average of yield is from 1500 to 2000 lbs. per acre in plants, although as much as 3000 lbs. of ginger have been cured from one acre.

Ginger Preserve is made from the young shoots put forth every spring by the perennial rhizome. These shoots are carefully picked, washed, scalded, scraped, peeled, and then preserved in jars with syrup. Dried ginger of good quality, soft and mealy, may be converted into excellent preserved ginger. The rhizomes, selected with care, are to be immersed for three or four weeks in very weak syrup, scarcely stronger than sugar and water, to which a small portion of the carbonate of potash has been added. As soon as the ginger has become sufficiently soft, it is put up in very strong syrup of white sugar. Ginger preserve is imported into India solely from China, in cases containing half-a-dozen of jars each, the capacity of each jar being about 5 lbs. —*Dr. P. Browne; Poole's St. of Commerce; Mason's Tenn.; Hassall's Food; Riddell's Gardening; M'C. Dict.; Faulkner's Dict.; Simmonds.*

GINGERBREAD TREE, or Doom palm of Egypt, is the Hyphæne Thebaica (Cucifera Thebaica), and receives its name from its fruit having the look and taste of gingerbread. It is stated by Dr. Lindley to produce the bdellium. Its wood is used for various domestic purposes, and its kernels turned into rosaries.—*Seeman.*

GIN-RIKSHA. JAP. Literally, man-power carriage, a small two-wheeled conveyance, dragged by two or more coolies.

GINSENG. ANGLO-CHIN. The famed ginseng substances are known to the Chinese as Jin-san, Liau-san, Hwang-san, Shin-tsan, Kwan-tung-jin-san, and Kwan-si-jin-san. The Dutch call it Kraft Wurzel, and the Tartars, Ohrota. That obtained in the provinces of Shen-si, Peh-chih-li, and Shing-king is the product of the Panax ginseng, *Meyer.* A part of this drug is obtained from the Nepal plant, Panax pseudo-ginseng, *Wallich;* and the P. quinquefolium,

which is largely used in Central China, is the American ginseng. The Shing-king plant, called Kwan-tung-jin-san, is almost an imperial monopoly. A plant called Tang-san, which seems to be cultivated in Corea or Peh-chih-li, and substituted for the true ginseng, seems to be a species of Campanula or Adenophora. Corean ginseng ranks next after the Kwan-tung-jin-san of Manchuria,—in fact, constitutes the only available drug in the hands of traders. This, however, is often adulterated with Japanese ginseng, which again is often adulterated with roots of Campanula glauca, etc. The Manchuria wild ginseng is carefully searched for by the Manchu. The pieces, after careful trimming with a bamboo knife, and drying in still air, are made to assume something of the form of the human body or miniature human hand. They are yellowish, semi-transparent, firm, brittle to some extent, and of a sweet mucilaginous taste, inclining to bitterness. It is easily injured by damp and worms, and great care is taken to preserve the true Manchurian plant. It is prepared as an extract or as a decoction, and always in silver vessels. It is prescribed in almost every kind of disease of a severe character, but the stage of each disease in which it is administered is carefully distinguished. It is given in all forms of debility, spermatorrhœa, asthma, hemorrhages, severe dyspepsia, vomiting of pregnant women, chronic malarious affections, and the typhoid stages of epidemic fever; and its effects apparently are of an alterative, tonic, stimulant, carminative, and demulcent nature. Dr. Smith observes that some positive efficacy of a sustaining character does really exist in this species of ivywort. The leaves are sold in bundles, and are said to be emetic and expectorant.

The ginseng that comes to Shang-hai, chiefly from Corea and Tartary, is carefully protected from the air, and sells at from 6 dollars to 300 and even 400 dollars the ounce.

Ginseng, Bastard, Shang-tung-jin-san, CHIN., Tang-san, CHIN., is obtained from the roots of several species of Adenophora, Campanula, Phyteuma, and Platycodon, which are largely used to adulterate and as substitutes for the genuine ginseng; but the Japanese seem to prize the roots of Campanula glauca as highly as the true ginseng. Also the virtues of the true ginseng are exhausted, and the now worthless root re-sold. Plants of Shan-si and other Chinese provinces, called by the Chinese Tang-san, also Fang-tang-san, also Lu-tang, also Ch'uen-tang, and Ming-tang, are often substituted for ginseng.

Ginseng, Black.

Heh-san; Hiuen-san, CHIN. | Yuen-san, . . CHIN.

This Chinese plant is grown in Ho-chau (Nganhwui), and in the N. and N.W. provinces of China. Its black fleshy roots have some resemblance to ginseng; taste raw and sweetish, with little odour, though used by incense-makers.

Ginseng, Extract of, Jin-san-kau, CHIN., is carefully prepared in silver vessels. It is used to make the Tsai-tsau-hwan, or regenerating pills, sold at two taels a-piece in Hankow.—*Smith; Williams' Middle Kingdom*, p. 284; *Sim. Com. Pro.* 436–37; *Hon. Mr. Morrison's Comp. Des.; Lockhart*, 109.

GIRAFFA CAMELOPARDALIS. *Sundev.*

Var. *a.*

Cervus camelop., *Linn.* | Giraffa camelop., *Bresson.*
C. Capensis, *Geoff., Ogilby.* | Camelop. giraffa, *Gmelin.*

Var. *b.* Pale colour.

Camelop. girafa, var. *β.* Æthiopica, *Sunde.* | C. Senaarensis, *Geoff.* C. Æthiopicus, *Ogilby.*

Kamel paard, . . DUT. | Camelopard, . . ENG.

The giraffe, one of the Ruminantiæ, has persistent horns in both sexes; the horns are covered with a hairy skin, with a tuft of hair at the tip. Lip not grooved, entirely covered with hair, much produced before the nostril; tongue very extensive; neck very long, body short; hinder legs short, false hoof none; tail elongate, with a tuft of thick hair at the end.—*Eng. Cyc.*

GIRAH. HIND. A knot, a division of a gaz. Sal-girah, the knot made annually on a birthday.

GIRAR, 36 miles S.E. of Wardah district, is famed for the shrine of Shaikh Khaja Farid. It is on the top of the hill close by, and attracts a continual flow of devotees, Hindu as well as Musalman. He was born in Hindustan, and, after wandering about for some thirty years as a fakir, he came and settled on the Girar hill about the year A.D. 1244. There is a belief that the zeolites on the Girar Hills are petrified cocoanuts and other articles of merchandise belonging to two travelling traders, who mocked the saint, on which he turned their whole stock-in-trade into stones as a punishment.

GIRARDINIA LESCHENAULTIANA.

Urtica heterophylla, *Roxb.*

Neilgherry nettle, . ENG. | Ana shorigenam, MALEAL.

Grows in the Konkans, the Peninsula, Nepal, and is frequent all over the higher range of the Neilgherries. The bark yields a fine, strong, white, flax-like fibre, which the hill people obtain by plunging the plant into hot water, to deprive it of its virulently stinging properties, and then peeling the stalks. The textile material so prepared is of great strength, and the Todawar use it as thread. It is worth £200 a ton in England.—*M. E. J. R.*

GIRASI, a predatory, piratical race on the Mahratta coast, qu. Grassia.

GIRBAR. In Oman, the hides of the sheep or goats are made into leather vessels, called Girbar Those of kids or lambs serve for milk, while the larger are used for either wine or water. They are tanned with the bark of the acacia; and the hairy part, which is left without, is generally, though not invariably, cleansed. The apertures through which the legs protruded are closed up, and the fluid within is discharged through the opening of the neck, which is gathered together and fastened by means of a leathern thong, its extremity being cut in the form of a tongue or spout. They are slung alongside their camels; and a Bedouin, when thirsty, may frequently be observed drinking from them whilst in that position. They answer better than jars, because, if the camel run against trees or its fellow-beasts in the caravan, they are not liable to be broken, and from the evaporation constantly going on, the water is also kept cool; but whilst new, sufficient attention is not paid to cleansing them, and their contents thus acquire a loathsome taste and smell.—*Wellsted, Tr.* i. 89.

GIRDAWUREE, also written Girdawari. Patrolling, inspecting, going the rounds, from the Persian Gird, circuit, circumference, and Aordan, to bring.—*Elliot.*

GIRDHANA, a sacred hill in Vrij, from which Krishna derives one of his principal epithets, Girdhun or Girdhun-nath, 'God of the mount of

wealth.' Here he first gave proofs of miraculous power, and a cave in this hill was the first shrine, on his apotheosis, whence his miracles and oracles were made known to the Yadu race. From this cave (Gopha) is derived another of his titles, Gophnath, 'Lord of the cave,' distinct from his epithet Gopi-nath, 'Lord of the Gopi,' or pastoral nymphs. On the annual festival held at Girdhana, the sacred mount is purified with copious oblations of milk, for which all the cows of the district are in requisition. The worship of Krishna in ancient days, like that of Apollo amongst Greeks, was chiefly celebrated in caves, of which there were many scattered over India. The most remarkable were those of Girdhana in Vrij, Gaya in Bahar, Gophnath on the shores of Saurashtra, and Jalindra on the Indus.—*Tod*, i. p. 545.

GIRDLES are worn by Mahomedans and Hindus. They are alluded to in the Bible, Psalm cix. 19, 'Let it be unto him as a girdle wherewith he is girded continually;' Daniel x. 5, 'Whose loins were girded with the fine gold of Uphaz.' Many of the Hindus, both men and women, wear a silver or gold chain round their loins; and all Mahomedans in full dress wear a muslin girdle, called a kamrband or loin-girdle: Psalm xciii. 1, 'Strength wherewith he hath girded himself.' When an Asiatic is about to set off on a journey, to lift a burden, or to do something which requires exertion, he binds firmly his loose upper garment round his loins.

GIRI, Pabur, and Tons rivers are tributaries of the Jumna, and up the valley of the Giri to Kotkai there is a great consumption of wood and charcoal in connection with the iron-smelting, for which that locality is famous.—*Cleg. Panj. Rep.*

GIRNAR, in lat. 21° 30′ N., long. 70° 42′ E., a hill 3500 feet high, near Junagarh in Kattyawar, and 40 miles to the north of Somnath. The Jaina religionists regard it as sacred, only second in importance to Palitana, and it is also reverenced by Hindus. Of the holy objects on and near it may be mentioned, a rock at the foot of the hill outside the town, and which is covered with a set of Asoka's inscriptions, 250 B.C. Another inscription (150 A.D.) relates how the local ruler, Rudra Dama, defeated the king of the Dekhan; while a third (457 A.D.) records the bursting of the embankment of the Sudarsana tank, and the rebuilding of a bridge which was destroyed by the flood. The principal group of temples at Girnar is situated on a ledge, about 600 feet from the summit, and nearly 3000 feet above the level of the sea. The largest, and possibly the oldest of these, is that of Neminath. About 2700 feet above the sea, and 2500 above Junagarh, are a series of Jain temples on a ledge of the mountain. In a small underground chamber is the Jaina statue of Amijhara, or perspiring idol. The meaning of this is unknown, but it is supposed to be Amrit-jhara, or nectar-drop. On the highest peak at Kalika is Amba Mata, the dread mother, the universal mother, called also Sri Mata Ambika. The famous Bhairava J'hap, or death-leap, is near the Jain temples. It is a huge rock that rises on the edge of the ledge, and slightly overhangs the great precipice. The leap has been forbidden, though even now it is occasionally taken. The peak of Gorukha Natha rises about 3500 feet above the sea, and Datatrya peak is almost the same height; it is sacred to Neminath, whose first convert was king Datatri. There are many ascetic devotees, and in the jungles below there were said to be some of the Aghora. The Jain temples on Girnar Hill are very elaborate and beautiful, much in the usual style of Hindu architecture. The most striking characteristics of their interiors are their fine tesselated marble pavements, their painted domes, their exquisitely shaped and carved pillars,—sometimes of granite and green syenite, — their antique porticoes, beautiful small sculptures and colossal statues. The central dome of the temple to Neminath is curiously painted, and surrounded by female figures. It has beautiful marble pillars composed of alternate black and white marble.

GIRONNIERA RETICULATA, *Thw.*, Koditani, TAM., a large and valuable timber tree found in the Peninsula in the ghat forests, up to 3000 feet elevation, from S. Canara down to Travancore and Tinnevelly, also in Ceylon. The wood is very hard and heavy, and is a valuable engineering timber.—*Beddome, Fl. Sylv.* p. 313.

GIRWA, Girui, Girwi, or Gerwa. HIND. A grain blight of N. India and the Mahratta country, which occurs from late heavy rains and east winds. It is a red fungus which covers the leaves, and, when it adheres to the stems, thrusts its roots through the pores of the epidermis, and robs the grain of the sap as it ascends. It turns the crop of a brick-dust colour.

GISEKIA PHARNACIOIDES. *L. R.*

Et-eilla pala, . . SINGH.	Esukadanti kura, . TEL.
Manall kire, . . TAM.	Isaka dasari kura, . ,,

A plant of N. Africa and Asia, has been recommended for tapeworm. The leaves are used by the natives in the preparation of dholl. Wight in Icones gives also G. molluginoides and G. rubella. —*Jaffrey.*

GISKORI, a Baluch tribe in the Dehra Ghazi Khan district.—*MacGregor, N.W. F.* p. 534.

GITA. SANSK. A song, a hymn. Of these, the most celebrated is the Gita Govinda, an erotic poem by Jaya Deva. It sings the loves of Krishna with Radha and other of the cowherd girls. A mystical interpretation has been put upon it. Sir William Jones and Mr. Edwin Arnold made some translations of it; and Lassen published an edition with a Latin translation. Others are the Gita Girisha, Gita Shankara, Gita Gaurisha, Raga Mala, Sangita Ratnakara, Gana Vidya, Sangita Darpana, and Sangita Rahasya.—*Ward*, iv. p. 409. See Geeta.

GIVOTTIA ROTTLERIFORMIS. *Griff., W. Ic.*

Putalli maram, . . TAM.	Tella, ... TEL.
Butalli, Vendalli, . ,,	Tella poonkee, . . ,,

A very common, middling-sized tree in S. India, one of the Euphorbiaceæ, found in Ceylon, the Circar Hills, and in a very few of the Bombay jungles inland above the ghats. Seed yields an oil valuable for fine machinery. The wood is light, and is used only for making the figures, toys, and models manufactured at Gokak, in the Southern Mahratta country. — *Drs. Wight, Gibson; Beddome; Thw. Zeyl.* p. 278.

GLACIERS are masses of ice which are formed and remain in the valleys and on the slopes of lofty mountains. In every part of the Himalaya and of Western Tibet, wherever the mountains attain a sufficient elevation to be covered with perpetual snow, glaciers are to be found. In the lofty chain of the Cis and Trans Sutlej Himalaya, and of the Kouen Lun, whose peaks rise to a very great height,

and collect in winter enormous depths of snow, the glaciers are of great length. In the central parts of Tibet, which are often lower, and even in their loftiest parts are less snowy than the bounding chains, the glaciers are of inferior dimensions. Where the snow-bed is at once cut off abruptly in an ice cliff, which can hardly be said to be in motion, or rather whose motion must be almost entirely from above downwards, moraines, which on the larger glaciers and among mountains of easily decaying rocks are of astonishing dimensions, form the margins of each glacier, and also occur longitudinally on different parts of their surface, increasing in number as the glacier advances, till at last the several series, whose origin can long be traced to the different ramifications of the glacier, become blended into one. *En route* to Kara-korum, after leaving the Nubra valley, when a sufficient elevation above his encampment had been gained, Dr. Thomson obtained a commanding view of the glacier which occupied the continuation of the main valley. It was nearly straight, and he guessed at least five or six miles long. The inclination of its surface was considerable. On each side, two or three lateral glaciers, descending from the mountains by which it was enclosed, contributed to increase its size, all loaded with heaps of stones, which had at the lower end of the central glacier so accumulated as completely to cover its whole surface. One day he proceeded along the end of the small plain close to which he had been encamped. On the right hand was an ancient moraine, which prevented him from seeing the road in advance. At the upper end of the plain he found a small streamlet running parallel to the moraine; and about a mile from camp reached the end of a small glacier, from which the streamlet had its origin. Crossing the latter, which was still partially frozen, he ascended in a deep hollow between the left side of the glacier and the moraine. The icy mass had not yet begun to thaw, the temperature being still below freezing. After half a mile he ascended on the surface of the ice, and as soon as he did so, was enabled to see that the glacier had its origin in a ravine on the south, and entered the main valley almost opposite to him. The great body of the ice took a westerly direction, forming the glacier along which he had been travelling; but a portion formed a cliff to the eastward, which dipped abruptly into a small, apparently deep lake. At the distance of perhaps 500 yards there was another glacier, which descended from a valley in the northern range of mountains, and, like the one on which he stood, presented a perpendicular wall to the little lake. Right and left of the lake were enormous piles of boulders, occupying the interval between its margin and the mountains, or rather filling up a portion of the space which it would otherwise have occupied. Into this very singular hollow he descended, on a steep icy slope, and, passing along the northern margin of the lake, ascended on the glacier beyond, as before, between the ice, and, on reaching the surface of the second glacier, he found that a similar but smaller depression lay beyond it to the east, in which also there was a small lake, with another mass of ice beyond it. This third glacier also came from the north, and was a much more formidable mass than those which had already been crossed. It was very steep, and was covered with snow, which was beginning to thaw more than was convenient. When at the highest part, he found that though apparently nearly level, it sloped downwards sensibly though very slightly, for nearly half a mile in an easterly direction. It was evident to him that he had now reached the highest part of the ascent, which he assumed to be 17,600 feet, and that the crest of the pass was covered by this glacier.

The existence of glaciers in Western Tibet was first made known by Vigne, who alludes to them in his Travels in Kashmir, ii. p. 285. Colonel Richard Strachey was the first who proved their existence, in 1847, in the Himalaya. On the northern side of the Kara-korum and in the Kouen Lun there are glaciers having forms identical with those of the Alps. Some of them are considerably larger than the glaciers in Europe. In the Himalaya the lowest glaciers go down to 10,500 feet,—the Pindari ending at 11,492 feet, the Timtunna at 11,430 feet, the Tsoji at 10,967 feet, and the Chaia at 10,520 feet. In Western Tibet they descend to about the same elevation; thus the Mustagh to 11,576 feet, the Tap 11,508 feet, the Tami Chuet 10,460 feet, the Bepho glacier near Askoli, even to 9876 feet. The latter is worthy of notice as a remarkable case of low termination. In the Kouen Lun the glaciers end probably at heights not much differing from those in Western Tibet; at least, so may be inferred from the height of the snow limit, as also from the general appearance of the upper part of the glaciers. The glaciers on both flanks of the Elchi pass present, however, no instances of particularly deep descent.

Dr. Hooker could not discover any in the more eastern valleys, even so low as 14,000 feet, though at the hot season extensive snow-beds remain unmelted at but little above 10,000 feet. The foot of the stupendous glacier filling the broad head of the Thlook is certainly not below 14,000 feet, though, being continuous with the perpetual snow (or névé) of the summit of Kinchinjingow, it must have 14,000 feet of ice in perpendicular height, to urge it forwards. Dr. Hooker made frequent excursions to the great glacier of Kinchinjingow. Its valley is about four miles long, broad and flat. Chango-khang rears its blue and white cliffs 4500 feet above its west flank, and throws down avalanches of stones and snow into the valley. Hot springs burst from the ground near some granite rocks on its floor, about 16,000 feet above the sea, and only a mile below the glacier, and the water collects in pools; its temperature is 110°, and in places 116°, or 4° hotter than that of the Yeum-tong hot springs, though 4000 feet higher, and of precisely the same character. A Barbarea and some other plants make the neighbourhood of the hot springs a little oasis; and the large marmot is common, uttering its sharp, chirping squeak. Dr. Hooker (ii. p. 7) found the moraines in the Sikkim valleys at 7000 or 8000 feet elevation. This would show either that the climate has changed, or that the mountain mass has become depressed equal to 8000 feet since the formation of the moraines.

In the Western Himalaya, in the Mustagh range, are two glaciers immediately adjoining one another, possessing a united length of 65 miles. Another in their neighbourhood is 21 miles long and from 1 to 2 miles wide. Its upper portion is 24,000 feet

above the sea-level, and its lower portion terminates in masses of ice 250 feet in height and 3 miles in breadth, and is 16,000 feet above the sea. Glaciers are called Gal by the Bhotia.

There is a glacier in the valley of Brabaldo, in Little Tibet, a short distance from the village of Arindo. Its width is about 450 yards, and nearly a hundred feet high, and a large river flows with velocity from below it.

In 1839, Major A. Cunningham traversed a magnificent glacier which spanned the valley of the Cheli river, below the Kali Debi pass (16,700 feet). It was fissured in all directions, and, looking down the main fissure, which was five feet wide, he saw the stream trickling at a depth of more than 300 feet. The surface was covered with hardened snow and embedded stones; but the mass, as seen in the fissures, was clear, transparent ice, filled with white specks. This glacier was about a mile long and a quarter of a mile broad, with an average depth of 200 or 300 feet. In the same range, Dr. Thomson saw a similar glacier to the north of the Saj pass, about 30 miles to the north-west of Kali Debi. In 1847, Major Cunningham crossed a second and larger glacier to the north of the Parang pass, at 18,500 feet. It extended down the head of the Para river for 2¾ miles. At its termination it was 50 feet high, but a quarter of a mile upward it was fully 150 feet thick.

Dr. Thomson observed a larger glacier on the northern side of the Umasi La, on crossing into Zangskar. It extended from the top of the pass, 18,123 feet, down to a level of 14,500 feet, and was not less than three or four miles in length. In two different parts of the Shayok, above and below Sassar, seen by Dr. Thomson in 1848, the bed of the stream is completely spanned by enormous glaciers. The great glacier is about 30 miles below Sassar, and 20 miles above the junction of the Changchen-mo. Lieut.-Colonel Alexander Cunningham (Ladakh, p. 94), describing the Shayok or Khundan river, a tributary of the Indus, which rises in the Kara-korum mountains to the northward of Leh, in lat. 35° N., and long. 78° E., tells us that in these cold and lofty regions almost every ravine is filled with a glacier; that since 1826 the channel of this river had never been clear, and the accumulated waters had formed a lake of considerable size, called Nubra-tsho. This barrier has burst on three recent occasions,—in 1826, 1833, and 1841. In that of 1841, when the rushing waters reached Torbela, on the Indus, the river came down furiously in an absolute wall of mud, a horrible mess of foul water, carcases of soldiers, peasants, war-steeds, camels, prostitutes, tents, mules, asses, trees, and household furniture, in one flood of ruin, for Syam Singh Atariwala, of raja Gulab Singh's army, was encamped in the bed of the Indus at Kulaithree Coss, above Torbela, in check of Painda Khan, and but that part of the troops were then in hot pursuit, the destruction would have been greater. Only those escaped who took at once to the mountain-side. Throughout the mountain course of the Indus, fields, houses, and trees were swept away, but man and the animals which he had domesticated generally managed to escape. The waters of the Indus below the junctions of the Shayok, rose to a height of 60 feet, and to 30 feet at Skardo.

Chorkonda, a glacier in Balti, in Tibet, is in lat. 35° 36′ N., and long. 75° 58′ E., and 16,900 feet above the sea.

Ibi-Gamin, a glacier in Eastern Tibet, in height 22,260 feet English = 20,886 French feet.

Captain Godwin-Austen, 24th Regiment, writing in 1863 on the glacier phenomena of the valley of the Upper Indus, notices the glaciers in that part of the great Himalayan chain which separates Tibet from Yarkand, in lat. 35° to 36° N., and long. 76° E., and extending over an area about 100 miles from east to west, from Kara-korum peak No. 2 (28,265 feet), to the mountain of Haramosh. Glaciers supply the Hushe river, which joins the Indus opposite Kapelu. Those of the upper portion of the valley take their rise on the southern side of the peak of Masherbrum, and are about 10 miles in length.

The great Baltoro glacier takes its rise on the west of Mausherbrum peak; on the north it is joined by a great ice-feeder, which comes down from peak No. 2; opposite to it, from the south, is another. Both of these extend 9 or 10 miles on either side of the main glacier. This, from its rise to its further end, measures 30 miles; its course is from E. to W.; the breadth of the valley along which it flows is 12 miles. It receives numerous tributaries along its course, some of which are 10 miles and more in length; two of them on the N. lead up to the Mustagh pass into Yarkand (18,000 feet), whence a glacier descends to the N.E. about 20 miles in length.

The Nobundi Sobundi glacier takes its rise from a broad ice-field which lies to the N. of lat. 36°, and has a S.E. course for 14 miles, with numerous laterals; it then turns S., when it bears the name of the Punmah glacier; about 5 miles from the termination it is joined by a glacier from the N.W., 15 miles in length.

The Biafo glacier is perhaps the most remarkable of any of this part of the Himalayan range; it has a linear course of upwards of 40 miles; the opposite sides of the valley are very parallel along its whole length, and the breadth of ice seldom exceeds a mile, except where the great feeders join it from the N.E. From the summit-level of the Biafo Gause a glacier is continued westward to Hisper in Nagayr, 28 to 30 miles in length.

The Chogo, which terminates at Arundu, takes its rise between the mountain of Haramosh and the Nushik pass; it is about 24 miles in length, with numerous branches from Haramosh, 8 miles in length.

The waters from all the glaciers, from that of Baltoro in the E. to Chogo in the W., are collected into the Shigar river, which joins the Indus at Skardo. All these glaciers carry great quantities of rock-detritus. The blocks on the Punmah glacier are of great size. There are groovings and old moraines of a former extension of the glaciers in this region, showing that they have at times reached many miles beyond their present termination, and have risen upwards of 400 feet above their present levels. There are thick alluvial accumulations of the valley of the Indus, particularly in the neighbourhood of Skardo.

The glaciers and peaks of the Sassar pass in Nubra, Tibet, are shown by the brothers Schlagentweit to be in lat. 35° to 36° N., and long. 77° 27′ 35″ E., and 17,753 feet above the sea. Colonel Markham, describing the glacier from beneath which the

Ganges issues, says: 'I beheld it before me in all its savage grandeur, thickly studded with enormous loose rocks and earth. Extensive as my travels since this day have been through these beautiful mountains, and amidst all the splendid scenery I have looked on, I can,' he says, 'recall none so strikingly magnificent as the glacier of the Ganges.'—*Cunning.; Hooker; Thomson; Strachey.*

GLADWIN, FRANCIS, author of a History of Hindostan during the reigns of Jehangir, Shah-jehan, and Aurungzebe, Calcutta 1788.

GLAM. —? A tree of Singapore; furnishes paper-like bark, used in caulking the seams of vessels. A similar substance occurs in Borneo, supposed to be the produce of a species of Artocarpus.—*Royle, Fib. Pl.* p. 341.

GLAPHYRIA, a genus of small trees belonging to the natural order Myrtaceæ. G. nitida is called by the Malays the tree of long life, probably from its maintaining itself at elevations where the other denizens of the forest have ceased to exist. It affords, at Bencoolen, a substitute for tea, and is known by the name of the tea-plant. Various species of Leptospermum and Melalena bear the same name in the Australian colonies. G. sericea has lanceolate acuminated leaves. It is a native of Penang and the west coast of Sumatra.—*Eng. Cyc.*

GLASS.

Kizaz, ...	ARAB.	Sheeshah, . . .	PERS.
Vitre, Verre, . . .	FR.	Steklo, ...	RUS.
Kanch, ...	HIND.	Vidrio, ...	SP.
Vetro, ...	IT.	Kunnadi, . . .	TAM.
Vitrum, ...	LAT.	Addamoo, . . .	TEL.

Glass imported into India consists of sheet and plate glass, glass beads and false pearls, common bottles, and other ware. Between the years 1874-75 and 1879-80 the value ranged from Rs. 28,07,405 in 1876-77, to Rs. 34,99,313 in 1875-76. The sheet and plate glass was valued at two to four lakhs, and the beads and false pearls at Rs. 6,85,314 to Rs. 9,69,595.

The basis of all glass is silica and alkali, of which the former, in the shape of common sand, is to be met with almost everywhere; the latter is to be had cheaply and in abundance in most parts of India. The secondary materials also, indirectly essential to the manufacture of the best quality of glass, namely the fireclays used in the construction of the furnaces, are abundant, and of very superior descriptions. Yet with all these advantages the natives do not appear to have advanced in the manufacture beyond the first and very rudest stages; and although it is one which, if successfully prosecuted, would probably meet with very extended encouragement, the manufacture of the commonest bottles is not yet practised. The chief defects of the native manufacture are the use of too large a quantity of alkali; in fact, in some cases, it is so much in excess, that it might be tasted by applying the tongue to the article. The fault now remarked upon is probably connected with and caused by another, that of the material being melted at too low a temperature and in too small bulk; and these again probably arise from the use of an improper furnace and an unsuitable kind of fuel. The native furnace is usually a rude hole dug in the ground, coated with ferruginous clay, which tends to discolour the glass, and the heat is raised by the use of bellows blast. Hence the temperature is confined to one point of the mass, and is insufficiently diffused; while the body of metal under fusion being small, and the dome and sides above ground being thin, the heat is dissipated from them, and never attains body and elevation sufficient to admit of the mass setting and purifying itself, or of its being freed from air-bubbles by the addition of the proper proportion of silica. What is required is the preparation of the glass in larger quantities at a time, and with this view larger and more carefully constructed furnaces, on the reverberating principle, to be heated by coal; after this, that the process should be attended to more scrupulously, and the materials mixed by weight, instead of being thrown together by measure, as is too commonly the case at present. Country glass is usually made of dhobi's earth, a crude carbonate of soda, with a mixture of a little potash and lime 60 to 70 parts, and yellowish white sand 30 to 40 parts, composed of small fragments of quartz, felspar, iron, and a trace of lime. In 100 parts, for good bottle glass of Europe, are needed sand 58, sulphate of soda 29, lime 11½, charcoal 1½.

Sulphate of soda only contains 45 per cent. of alkali, so that 29 parts contain 13; while the carbonate of soda obtained from dhobi's earth contains between 30 and 40 per cent. of alkali, according to which the alkali used by the natives of India would be to that employed in Europe in the proportion of 23 to 13.

The substances generally used by the natives in colouring glass are iron, which gives green, brown, and black shades; manganese for pink, purple, and black; copper for blue, green, and deep red; arsenic for white; and chromate of iron for a dull green. Bangles for the wrist are the chief articles now made in India, and some of the colours in the Bombay bazar are exquisite. The Chinese manufactures of porcelain, glass, and glazes, their carving and engraving of gems, Chinese agates, rock-crystals, and ivory, excite the admiration of Europe, as also does the Chinese and Japanese lacquer and varnish work.

The art of glass-making is yet in its extreme infancy in the Panjab. The glass sand occurs in the form of a whitish sand, mixed with an alkali, which effloresces naturally. It is there called reh; that only of a good white colour makes glass. This substance is identical with the alkaline efflorescence which appears in many parts, and whose presence is destructive to cultivation. Wherever such an efflorescence occurs over clean sandy soil, there is naturally formed a mixture of sand and alkali, which fuses into coarse lumps of bottle-green glass.

Glass Beads.

Kanch ke'manke,	HIND.	Munnie, ...	TAM.
Butirsacha, . .	MALAY.	Pussalu, ...	TEL.

Coloured glass beads are largely worn in India by several non-Aryan races. Among the curious examples of persistence in art, are the Aggry beads which occur everywhere in Africa, and in many parts of Asia. They are considered to be of Phœnician origin, but are still made for the purpose of being bartered in Africa. They are usually large, not round but spindle-shaped, with alternate indented bands of red and blue, separated by a narrow white line.—*Powell; Hooker; Royle.*

GLAUCUS, a genus of sea lizards. G. hexapterigius, *Cuv.*, occurs in the Indian and S. Pacific

oceans. It is a fragile, delicately-coloured animal, and is about an inch long. Its upper surface is a vivid purple, and its lower is pearly white.—*Ben.* p. 46; *Collingwood.*

GLEDITSCHIA SINENSIS. *Lam.*

Mimosa fera, *Loureiro.*

Tsau-koh, Tsau-kiah, CHIN. | Chu-ya-tsau-kiah, . CHIN.

One of the Leguminosæ met with in China and Cochin-China, with pods 8 to 12 inches long. They contain may flat seeds, and are used in washing the body, also for clothes. Parts of the plant are used medicinally.—*Smith.*

GLENNIEA ZEYLANICA. *Hook. fils.*

Sapindus unijugus, *Thw.* | Nephelium fuscatum, *Gl.*

A large tree growing in Ceylon at Trincomalee, and on the mountains up to 4000 feet elevation. —*Beddome, Fl. Sylv.* p. 133.

GLINUS LITOIDES. *Linn.*

Gandibuti, . . . HIND. | Zakhm-i-haiyat. . PERS.
Porprang, . . . ,, | Kotuk of. . . . SIND.

This plant is given in the Panjab as a purgative in diseases of the abdomen, under the name of Zakhm-i-haiyat, which name, however, is also generally ascribed to Sphæranthus hirtus, also to Cissampelos pareira, and to the creeper Lettsomia.

Glinus trianthemoides, Sharunnay-keeray, TAM., a procumbent herb, with fleshy leaves of a brownish colour, used as spinach; a very abundant and troublesome weed. G. dictamnoides, *Linn.*, is of all India; its tender shoots are eaten in curries.—*Dr. J. L. Stewart; Jaffrey.*

GLOBBA CAREYANA. On shady banks in the Tenasserim Provinces, this pretty orange-flowered globba is not uncommon. Wight in Icones and Roxburgh (i. pp. 80–81) describe several species; and the flowers of G. pendula of Chittagong and G. spathulata of Sylhet are lovely. G. expansa, *Wall.*, is Pa-deing-guo of the Burmese.

GLOBIOCEPHALUS INDICUS. *Blyth.* The Ca'ing whale is closely affined to the European Gl. deductor, but differs externally in being wholly of a black colour. Its intermaxillaries are shorter; the teeth fewer and larger, numbering six or seven above, seven or eight below on each side. The upper view of the maxillaries differs considerably in contour, being broader and less elongated in the Indian species, and there are other discrepancies which are less marked. The Yellow Sea affords the cowfish, G. Rissii, the round-headed cachalot, which the Japanese capture. Other whales resort to the waters east of Manchuria. Seals have been observed on the coasts of Lian-tung, but nothing is known of their species or habits.—*Beng. As. Socy. Journ.* No. 4, 1852; *Williams' Middle Kingdom.*

GLOCHIDION, a genus of plants belonging to the natural order Euphorbiaceæ. There are several species, shrubs or small trees.

G. lanceolarium, *L.*, Bradleia lanceolaria, a useful timber tree of Assam.

G. Neilgherrense, *W. Ic.*, a good-sized and very common tree on the Neilgherries, at the higher elevations about Ootacamund, in flower in May. The male flowers are yellow, the female greenish; Beddome is not acquainted with the timber.—*Roxb.; Bedd.*

GLOCHIDION VELUTINUM. *W. Ic.*

Phyllanthus velutinus, *Mull.*

Koamil; Kalam of BEAS. | Sama, Ambu, of . RAVI.
Bern, ... CHENAB. | Pundna of . . SUTLEJ.
Golkamila sama, JHELUM.

A small tree not uncommon in the Panjab of S. India and Siwalik tract up to near the Indus. The wood is only used as fuel; the bark is employed for tanning.—*Wight, Ic.; Stewart.*

GLORIOSA SUPERBA. *Linn.*

Curculigo superba, *Willde.*

Ulat-chandal, . . BENG. | Katijan; Kartichey, TAM.
Kariari, ... HIND. | Potti dumpa, . . TEL.
Mendoni, . . MALEAL. | Adavi nabhi, Agni sikha, ,,

This beautiful flowering plant grows wild in the Siwalik range up to near the Jhelum, near Punch, also at Ajmir and the Peninsulas of India and Malacca, and in Ceylon. It blossoms at the commencement of the rains. The large, flame-coloured drooping flowers proceed from the upper part of the stalks. The flowers are of a white, yellow, and orange colour, the petals long and fringed. It lasts about eight days, undergoing various changes during that time. The root, Mulim, also Kariart, is a strong poison. Loudon says, 'On account of the glorious colours of its flowers, and the elegance of their form, it is a splendid and curious genus. The flower, large as a lily, hangs down, and the petals, stamens, and style all turn and grow up like a flower turned inside out. Then, to complete the oddity, the leaves prolong their extremities into tendrils, and the plant walks on its toes.'—*Mason; Ainslie; Gen. Med. Top.; Riddell; Stewart.*

GLOSSINA MORSITANS, the tse-tse of Africa, is found between long. 22° and 28° E., and lat. 18° and 24° S. It attacks the horse, the dog, and the ox, but it is harmless to man and wild animals, and even to calves while sucking the cow. The tsaltsalya or zimb of Abyssinia seems identical with the tse-tse fly. It abounds on the banks of the Zambesi river.

GLOSSOPTERIS, a genus of fossil plants, several species of which occur amongst the strata of Nagpur. G. Browniana, danæoides, frondosa, leptoneura, musæfolia, stricta.—*Geol. Soc. Jo.* 1861.

GLOW-WORMS are common in all parts of India. The glow-worm of Ceylon is the female of a Lampyris, and attains a size of nearly three inches. Mr. Morren reports that he has found phosphorus in glow-worms, as well as a system of prisms in transparent lenses above the luminous matter. See Lampyrides.

GLOXINIA. The species are handsome flowering plants, bell-shaped, purple, blue, and white flowers. They require a good light rich soil, and plenty of water, but good drainage, and are propagated by seed.—*Jaffrey; Riddell.*

GLUE.

Colli, ... FR. | Sarisht, ... HIND.
Hwang-ming-kiau, CHIN. | Parakat, Parkat, MALAY.
Niu-p'i-kiau, . . ,, | Vaj'ram, ... TAM.
Leim, ... GER. | Vaj'ramu, . . . TEL.

Is extracted from the parings of hides, hoofs, ears of horses, oxen, calves, and sheep, and it is used for cementing wood. Good glue is hard, brittle, of a semi-transparent and deep brown colour, and free from clouds and spots. That from deer's horns is called by the Chinese Peh-kiau and Luh 'koh-kiau, and is used internally as medicine. Agar-agar is the Malay name for the tenacious jelly or glue made from a marine plant, the Plocaria (Gigartina) tenax. It is imported into China from the Eastern Archipelago, though the Chinese likewise manufacture it for themselves, apply it as size to many useful purposes, and also

use it as food. The bamboo lattice-work of lanterns is covered with paper saturated with this glue or gum, which, when dried, is semi-transparent. It is also used in paper and silk manufacture. It is incomparable as a paste, and is not liable to be eaten by insects. When boiled with sugar, it forms a palatable sweetmeat.—*Faulkner; Williams; Morrison, M. E. J. R.; Smith.*

GLUGA. MALAY. The Broussonetia papyrifera of botanists, the paper mulberry tree; the plant from which, in China and Japan, a kind of paper is made, and clothing in the islands of the Pacific. The Javanese manufacture a paper from the liber or inner bark by a process very similar to that by which the ancients manufactured papyrus; and the ordinary Javanese paper, instead of being costly, like the papyrus, is a very cheap commodity. Its colour is that of parchment; it is very tough, and, except that it is liable to be preyed on by insects, owing to the rice-water used in its preparation, it is very durable. The names of the plant, and that of the paper, Da-lu-wang and Da-lam-bang, are Javanese words, and the Gluga culture and paper manufacture are chiefly carried on in the province of Kadiri, once an extensive seat of Hinduism, and the parties conducting them are the Mahomedan priests. It is prepared by maceration and beating.—*Crawfurd, Dict.* p. 143; *Journ. Ind. Archip.* June–Dec. 1853, p. 276.

GLUTA TRAVANCORICA. *Bedd.* Shenkurani, TAM. A valuable timber tree growing on the South Tinnevelly mountains, and other six species inhabit the Archipelago. Its timber is reddish in colour, weighs 40 lbs. the cubic foot when seasoned, has a fine grain, takes a good polish, and is well suited for furniture. Grows up to 15 feet in girth, of immense height, and with a very straight stem.—*Beddome, Fl. Sylv.*

GLYCINE HISPIDA. *Bentham.* Soja hispida, *Mœnch.*, from Glykys, sweet, the roots and leaves of most of the species being so. An annual herb of India, China, and Japan; a main ingredient of the Soja condiment. G. Soja, *Sieb.*, is said to be distinct from G. hispida.

Glycine Sinensis flowers hang in racemes from the axilla of the leaves, and are violet, yellow, or purple. Fortune found it wild on the hills, where it climbs among the hedges and on trees, and its flowering branches hang in graceful festoons. From the 20th of April to the beginning of May, along with the flowering Viburnum macrocephalum and V. dilatatum, with their large heads of snow-white flowers, Spiræa and its double variety, Weigela rosea, Moutans of various hues of colour, azaleas, particularly the lovely little amæna, Kerria japonica, the lilac and white glycine, roses, Dulytra spectabilis and Primula cortusoides, Chinese gardens are gay indeed. But perhaps the most beautiful sight of all is the Glycine Sinensis, climbing upon and hanging down from other trees. This climber, attaching itself to a tree or a group of trees, entwines itself round the stems, running up every branch and weighing down every branchlet, and in the end of April or beginning of May is covered with flowers. It is often grown in China on a flat trellis in front of the summer-house, or forms a kind of portico, which affords a pleasing shade.—*Riddell; Fortune's Wandering*, p. 66; *Residence*, p. 242; *von Mueller.*

GLYCYRRHIZA, a genus belonging to the natural order Fabaceæ, consisting of herbaceous plants with pinnated leaves, small flowers in axillary spikes, and roots running very much in the soil in which they grow. Species of Glycyrrhiza extend into Afghanistan, whence liquorice-root, jetimadh, is imported into India. The Glycyrrhiza, with both smooth and scabrous pericarps, the Arabs call Soos. Jetimadh is the G. glabra, and is imported from the Red Sea. Taverniera, with a sweet root, has the same name. G. echinata is a native of Apulia, on Mount Gardano, in Greece and Southern Russia, extending into Tartary and Northern China. The whole plant is glutinous to the touch. The roots are horizontal, in taste like the common liquorice. This is sometimes called Russian liquorice.

Glycyrrhiza glabra, *Linn.*, liquorice.

Asl-us-sus, . . . ARAB.	Bekh-mekeh, . . . PERS.
N'wy-k'hyo, . . BURM.	Madhuka, . . . SANSK.
Mithi-lakri, . . . DUKH.	Yestimadhuka, . ,,
Jetimadh, . . . HIND.	Adi-modram, . . TAM.
Urit-manis, . . MALAY.	Ati madhramu, . . TEL.

A native of the south of Europe, Crete, and Candia, also of Cochin-China and China. The roots abound in a saccharine mucilaginous matter, which is slightly bitter, and readily soluble in water. A powder and liquorice, the well-known common extract, are prepared from it. The decoction in different forms is a common remedy for coughs. Mignan found the plant abundant throughout the country, burnt as firewood. Jetimadh is sold in the bazars as a medicine. If imported it is the root of G. glabra; if indigenous, it is obtained from the root of Abrus precatorius.

Glycyrrhiza triphylla.

Zaisi of . . . . AFGH. | Jetimadh, Malathi, HIND.

Inspissated juice, Rab-us-sus. Several species, possibly including that of Europe, G. glabra, are common, wild in Afghanistan, where they are mentioned by Griffith, and where Bellew collected two at 5000 to 6000 feet. The liquorice plant is grown in large quantities about Peshawur. The root is dug up, dried, and cut into pieces; used by the natives as a tonic in fever in doses of gr. lx., as a demulcent in coughs, etc.; also in all diseases consequent upon an undue accumulation of phlegm or bile. Price 1d. per lb.—*Stewart; O'Sh.; Eng. Cyc.; Mignan, Tr.; Royle; Sims; Nees; Bot. Mag.; Powell.*

GMELINA ARBOREA. *Roxb.*

Gumar, Gumber, . BENG.	Kumbula, . . MALEAL.
Gumbari, . . . ,,	At-demmata, . . SINGH.
Yemaneh, . . . BURM.	Cummi, Gumudi, . TAM.
Ky-won-po, . . . ,,	Gumudu-teku, . . TEL.
Jugani-chukar, . . HIND.	Pedda gumudu, . ,,
Seevun, Shewun, . ,,	

This large tree is common throughout India, up to an elevation of 5000 feet. It flowers in February and March. The wood is highly valuable, much resembling teak, as light or lighter, the colour the same, and the grain rather closer, never warps or shrinks, and stands the action of water as well as any wood. The wood is of a pale yellow colour, easily worked, and is well known throughout India; used for picture frames, decking small boats, for making venetian blinds, sounding-boards, palanquin panels, gram measures, etc. It is very commonly used in the Vizagapatam district for the foundation of wells and other purposes, which require to be submerged in water, where it is remarkably durable. On the Bombay side, the wood is in much esteem for carriage panels, and the natives employ it in the construction of palan-

quins. It takes varnish well, and works up nicely into furniture, but is attacked readily by white ants. From its great size, straightness, and general spaciousness in appearance, being a beautiful flowering tree, this is one of the most desirable for propagation throughout the country.—*Wight; Gibson; Brandis; Cleghorn; Stewart; Sankey; Beddome; Cal. Cat. Ex. of* 1862; *Thwaites.*

GMELINA ASIATICA. *Linn., Roxb.*

G. parviflora, *Roxb., Sprenger.*

Kumatha, . . .	CAN.	Gumudu, . . .	TEL.
Shiri gumudu, . .	HIND.	Nela gumudi, . .	,,
Biddarie, . . .	SANSK.	Challa gummudu,	,,
Gatta demata, .	SINGH.	Kavva gummudu,	,,
Nelakumul? . .	TAM.		

A shrub having large orange-coloured flowers. Its leaves slightly bruised under water render it mucilaginous, which property the water retains till the mucilage is decomposed by fermentation. Its root, which is mucilaginous and demulcent, the Vyteans reckon amongst those medicines which purify and sweeten the blood in cases of depraved habit of body.—*Ains.; Jaffrey; O'Sh.; Riddell.*

GMELINA RHEEDEI. *Hook., B. Mag.* This is G. arborea, *W. Ic.*, not G. arborea, *Roxb.* It is the Atdemmata of the Singhalese, and is common in Ceylon up to an elevation of 5000 feet. A tree 45 to 50 feet high, spreading. The bark and roots are used medicinally by the Singhalese.—*Thw. Zeyl.* p. 244.

GNANA. SANSK. From Gna, to know, wisdom, the fourth degree in the Saiva system. Gnana-kanda, the isoteric doctrine of the Vedas. Gnana-ratnavali, from Gnana, wisdom, Ratna, a precious stone, and Avali, a train. Gnana-venpa, a book treating of the Parabaravastu. Gnani, ascetics possessed of mystic knowledge.

GNA-PI. BURM. The balachang of the Eastern Seas, consisting of small fish, with prawns and shrimps, first fermented and then dried. It has a considerable traffic, as no food is deemed palatable without it, and its use extends to every country from China to Bengal. That prepared at Mergui is excellent, only inferior to anchovy paste by being over-powerful.

GNARI or Nari, a Chinese-Tibetan mountainous province, connected with British India by the five Bhot passes in Garhwal and Kamaon. The Chinese viceroys are Tibetans, with 200 Mongol or Turk troops or perhaps Manchu Tartars, as they are said to use horse-flesh, which no Tibetan and no Chinese would do.

GNETACEÆ, an order of plants. Gnetum gnemon, *Linn.*, grows in Sumatra and the Moluccas; its seeds are eaten roasted, boiled, or fried; its leaves are eaten as spinage, and its fibres are made into ropes. G. scandens, *Roxb.*, grows at Kandalla, in Malabar, the Konkan, Assam, Khassya, Chittagong, and the Moluccas. It is the Thoa edulis of Willdenow. Gnemon Gnetum, *Linn.*, the Wagu or Bagu of the Malays. This tree abounds on the S. coast of Sumatra, where its bark is beaten like hemp, and the twine manufactured from it is employed in the construction of large fishing nets, and is in extensive use throughout the Archipelago. The seeds are eaten in Amboyna, and are roasted, boiled, or fried. The green leaves are dressed as curries, cooked and eaten like spinach.—*Crawf. Dict.; Marsden's Sumatra*, p. 91.

GNIDIA ERIOCEPHALA, called also Daphne eriocephala, *Wall.*, is very common on the ghats of the west of India, and in the hilly parts of the Southern Mahratta country and of the Dekhan. It probably might be turned to the same use as the Nepal plant. See Daphne cannabina; Thymelæa.

GNOMON. Ch'haya, HIND. Ch'haya is spelt in a variety of ways in European books which treat of Hindu astronomy; and though there are a variety of elements, these are multiplied by mistakes in consequence of Europeans varying their manner of writing oriental words. The word Ch'haya means a shadow. In Hindu astronomy, Vishuva ch'haya, the shadow of a gnomon, when the sun is in the equinoctial points. Madhyama ch'haya, the midday shadow of the same at any other time of the year. Sama-mandala ch'haya, the midday shadow of the same when the sun is east or west of the gnomon. Ch'haya suta is one of the names of Saturn, meaning born from darkness.

GNYANA. SANSK. Karma is the name of one of the Kanda or general heading of the Vedas; this chaper relates to works. The other two, Gnyana and Upashana, relate to faith and worship. See Gnana; Vaishnava; Vidya.

GNYANA SAMANDAR, a learned follower of Siva, who visited Madura in the reign of the Pandya king Kuna, and gained him over from the Jaina to the Saiva sect. The Samanal (Jaina or Buddhist) followers, to the number of 8000, were then persecuted, and hanged or banished. He seems to have instituted a hierarchy; and several monasteries exist in the south of India, tenanted by monks of the Saiva sect, whose spiritual head has the title of Gnyana Siva Achari. See Gnana.

GO. HIND., SANSK. A cow; hence Gopa, Gopala, Gorakh, Gopini, Gopi, cowherd, herds. Gobar, cow-dung. Gopi, Chandana, cowherd's sandal. Gopi Matti, cowherd's earth.

Goind, manured land, also called Jamai.

Gao-Mukhi, Cow's Mouth, the ravine in the Himalaya where the Ganges issues.

Gopura or Gopuram, a gate, a gateway of a town, the ornamental gateway of a Hindu temple.

Galatians is from Gala, milk, Goala, herdsman, in Sanskrit. Γαλατικοι, Galatians or Gauls, and κελτι, Celts, allowed to be the same, would be the nomade or herd races, the pastoral invaders of Europe. See Goala.

GOA, a city, the capital of the Portuguese territory of the same name, situated near the mouth of the river Mandavi, in lat. 15° 30′ N., and long. 73° 57′ E. The Goa Portuguese settlement on the western coast of the Peninsula of India, lies between lat. 14° 53′ and 15° 48′ N., and between long. 73° 43′ and 74° 24′ E.; area 1062 square miles, and population 392,234. Goa city has seen three great changes. There was an ancient Hindu city before the invasion of the Mahomedans. Goa was the first capital of the Portuguese, and is still the ecclesiastical metropolis of Roman Catholic India; a third town, commonly called Panjim, is the present seat of Portuguese administration. Goa territory is regarded as an integral portion of the Portuguese empire, and, with Daman and Diu, forms, for administrative purposes, one province, subject to a Governor-General, who is appointed directly by the King of Portugal, and holds his office for five years. Goa, Daman, and Diu, with Mozambique, Macao, and Timor, constitute, for judicial purposes, but one district.

To the south of Goa is the Tulu country, and

to the north and east are spoken the Konkani and Gomantaki (locally called Kudali) dialects of Mahrati. According to Mr. Beames, the latter dialect is gradually dying out. The native Roman Catholic Christians in and near Goa speak a patois which contains many Portuguese words mixed with Mahrati. Portuguese is spoken in the territory of Goa in a few families; outside of this it is a corrupted dialect. It is also spoken at Macao. It was a device of the Dutch to circumvent the Roman Catholics of Ceylon, by prohibiting the use of the Portuguese language, being that of the priests educated and sent from Goa. The attempt was, however, unsuccessful; and the Portuguese language is in almost universal use in all the towns in the maritime provinces of Ceylon, while Dutch is not only almost extinct, but the descendants of the Dutch have betaken themselves to speak the language of Portugal. Up to the present day in Madras, the people who are descendants of Portuguese, continue to use that language amongst themselves, and this is also the case in Calcutta and Bombay. The people of mixed European, Portuguese, and Indian descent are generally very dark. Nearly all the Goa population are Christians of the Romish branch. The inquisition was suppressed by royal edict A.D. 1775, but it was re-established in 1779 under certain restrictions, and the burning held privately.—*Imp. Gaz.*

GOAIYAD, a small caste in Benares and Allahabad, somewhat similar to Kahars, employed as cultivators and palanquin-bearers and boatmen.—*Sherring.*

GOALA or Gwala. BENG. A cowherd, a dairyman; one whose business or caste it is to attend cattle and sell milk. The caste of cowherds in Orissa furnishes also palanquin-bearers and domestic servants to European and natives in Bengal. It is from Gala, SANSK., milk, from which also is the Γαλατικοι, Galatians or Gauls, and the κελτι, Celts, the herd or pastoral invaders of Europe. See Go.

GOALPARA is the most westerly district of the province of Assam, forming the entrance to the upper valley of the Brahmaputra. It lies on both sides of the great river, extending from lat. 25° 32′ to 26° 54′ N., and from long. 89° 44′ to 91° E. Its name is said to have been given from a colony of cowherds who early settled in it. It has 97,732 aborigines, 132,095 semi-Hinduized aborigines, 86,000 Hindus. The aborigines are in three tribes, the Rabha 39,124, Mech 29,877, and Kachari immigrants from the neighbouring hills. The Koch'h, who number 118,091, are properly an aboriginal tribe, akin to the Kachari and Mech; but since the high position attained by the conquering rajas of Koch-Bahar, their tribesmen have been admitted within the pale of Hinduism, under the title of Rajbansi, meaning the ruling race. The term Koch'h is also applied to all new converts made by the Brahmans. The Jaliya (19,230) are fishermen, and are supposed to be connected with the Kaibartta of Bengal. The Kolita (11,527) are a caste peculiar to Assam, who exercised priestly functions under the native dynasty before the advent of the Brahmans. Mention is made of a peculiar sect called Mahapurushiya Bhakat, whose members meet at night to eat flesh and drink wine.—*Imp. Gaz.*

GOA POWDER, from the Andiva araroba (*Lancet*, 20th May 1882, p. 817). The active principle is chrysophanic acid. It is used in psoriasis. According to Mr. Smith, Goa powder consists of the powdered thallus of Rocella tinctoria, which he says has long been employed in British India as a remedy for ringworm.—*Smith.*

GOAT.

Mās; Teys; Tuyus, ARAB.	Becco, Capra (f.), . . IT.
Chèvre, ... FR.	Caper, ... LAT.
Ziege, ... GER.	Bebek; Kambing, MALAY.
Kapros, ... GR.	Cabra, ... SP.
Bakra (he-goat), . HIND.	Kechi, ... TURK.

The goat belongs to the order Ungulata, tribe Ruminantia, sub-family Caprinæ, goats and sheep. Their position may be shown as under:—

Sub-Fam. Caprinæ, goats, sheep.

1. Capricorns, or antelope goats, or mountain antelopes. *Gen.* Nemorhœdus, 3 sp.
2. True goats. *Gen.* Hemitragus, 2 sp.; Capra, 3 sp.; Ovis, 8 sp.

Nemorhœdus bubalina is the Serow or forest goat, N. goral is the Gooral or Himalayan chamois, both of the Himalaya, and N. crispus is of Japan; Hemitragus jemlaicus is the Tehr or Himalayan wild goat, and H. hylocrius is the Neilgherry wild goat. See Capra; Ovis.

Goats and sheep are employed in bringing the borax of Tibet, and as the carriage animals for other traffic across the mountains. Coming upon them on the very narrowest, steepest, and slippiest ascent, or on the brink of a precipice, they pursue their way, not turning aside for any one or anything; and flocks of many hundreds meeting, none make a mistake, but follow their own respective leaders. Goats are chosen as the leaders of the carriage animals through the passes of the Himalaya.

The goat has a habit of shivering at intervals, and this is taken by the Hindus to be an afflatus. In the north of India a goat is turned loose along a disputed border-line, and where it shivers there the mark is set up. The Thugs would only sacrifice a goat if their patroness Devi had signified acceptance by one of these tremors. Plutarch mentions that among the Greeks, if the goat intended for sacrifice did not shiver and shake itself when water was thrown over it, the offering was not deemed acceptable to the oracle.

Goats' hair is produced in almost every district of the Panjab, and called jat. It is used for making ropes, also for matting, and for the strong bags wherein grain, etc., is carried on the backs of oxen. Grain dealers use rugs made of it in the shops in which the grain is poured out when being winnowed or weighed out. The Kuki have a large goat breed, with hair upwards of a foot in length. In the northern parts of Afghanistan, the coarse long hair of the goat is woven also into a strong material, used for covering the tents of the nomades.

The Lena shawl-wool is the produce of the goats of the Tibetan Himalaya. It used to be a prevalent opinion that these goats were found in Kashmir, but that valley is far too warm and damp for them. The best shawl-wool is produced in the vicinity of Garo, Manasarowar, and the elevated lands to the eastward. The shawl-wool is the fleece of the goat, next the skin only; the outer coat is coarse hair, and the two colours are white and light brown. The dogs of Tartary

have also a soft down below the hair, very little inferior to that of the goats.

Goat-skins for Britain are principally obtained from British India, the coast of Barbary, and the Cape of Good Hope. They form the best dyed morocco of all colours. Kid-skins supply the finest white and coloured leather for gloves and ladies' shoes.—*MacGregor*, p. 51; *Gerard's Koonawar*, p. 115.

GOAY-PIN-GYEE. BURM. A tree of Moulmein. Its seed is used for weights in weighing gold.—*Cal. Cat. Ex.* 1862.

GOBA GOBA, the stem of the leaf of the sago palm, much used throughout the Moluccas for building and fencing. Atap is thatch made of the fringe or petioles of palm leaves, doubled down and sewed on sticks or laths of bamboo.—*Journal of the Ind. Arch.*, June 1852, p. 306.

GOBARDHAN or Govardhan, *i.e.* the nurse of cattle, is an ancient town and place of pilgrimage in the Muttra (Mathura) district of the N.W. Provinces, in lat. 27° 29′ 55″ N., long. 77° 30′ 15′ E. It lies among the low rocky hills on the western frontier. Near is the sacred tank of Manasi Ganga, where Hindu pilgrims bathe at the close of the rains; and it has the temple of Hari Deva, erected during Akbar's reign by Raja Bhagwan Das of Ambar, governor of the Panjab. —*Imp. Gaz.*

GOBB, in Ceylon, a marine lagoon or back-water, caused by the rivers' mouths being blocked up, and their waters, seeking an exit, traversing the sands adjoining the sea.

GOBI, a great sandy desert in Central Asia. It is in a rainless tract, which lies between lat. 30° and 50° N., and long. 75° and 118° E., and includes Tibet, Gobi or Shama, and Mongolia. Showers of sand fall in China, which the people believe come from the desert of Gobi. In one which occurred on the 26th March 1850, and lasted several days, ten grains to the square foot collected in one day, or about 18 tons per square mile. Gobi is Mongolian for barren, empty desert. See Deserts.

GOBIIDÆ, the Gobi family of fishes of the sub-class Teleostei, order I. Acanthopterygii. The Gobiidæ are arranged into four groups,—Gobiina, Amblyopena, Trypauchenina, and Callionymina, in which are 24 genera. The Gobiidæ include the blennies, the gobies or sea gudgeons, and the dragonet. Many of the species occur in India. All the species of Gobius have two dorsal fins, scaly bodies, and a disc beneath the throat formed by the united ventral fins. By means of this disc they have the power of attaching themselves to rocks. See Fishes.

GOCALAST'HA, a sect of vaishnava Hindus who worship Krishna alone. See Avataram.

GOD, the Anglo-Saxon name of the Supreme Being. The source of this term is doubtful, supposed from Goadem, corrupted into Goden and Woden. The Semitic name of the deity, pronounced as IAO, was indicative of a god of the sun and of fire. Clement of Alexandria calls it IAU; the Samaritans pronounced IABE, *i.e.* IAHVEH. Lydus mentions IAO as a god of the Chaldæans. The Mahomedans use the word Allah to indicate the Supreme Being (Bunsen), but it was a term in use with the Arabs prior to the time of Mahomed, and seems to have been applied to Ilah, one of their deities, Ilahat being a goddess. Many nations use their name for deity as appellations for men. Allah is now of frequent use in men's names with the Mahomedans of S. Asia, as Rahmat-Allah, Abd-Allah, etc., but Rahmat-Allah was a name of the Arabs before the time of Mahomed. Many Hebrew names are compounded with their name of God, as Beth-El, Dani-El, Ezeki-El, Gamali-El. Greeks, Romans, Arabs, and Christians have applied Theos, Deus, Masiha, Christos, as names, as Theophilus, Deodatus, Masih-ud-Dowla, Gilchrist, Christian, Godfrey, Godson, Godwin, etc. The 7th chapter (ver. 179) of the Koran designates the ninety-nine attributive appellations of the deity as Asma-ul-Husaini, comely names. Mahomedans of N. India have Khuda as a frequently occurring name, as Khuda Baksh, etc.; and Hindus appropriate the names of their gods, as Govinda, Eswara Das, Krishna Das, Narayan Das, Deodutt (Theodatus) and Rama Swami.

GODAMA seems to have been a name applied to Sakya Muni after his death. See Buddha; Gaudama.

GODARA. HIND. A subdivision of the Jat tribe, on the borders of Hurriana.—*Wilson.*

GODARI. TEL. The red flowers and leaves of Grislea tomentosa, used for dyeing purposes. In the Northern Circars the leaves are employed in dyeing leather; sheepskins steeped in an infusion of the dried leaves become a fine red, of which native slippers are made. The dried flowers are employed in Northern India, under the name of dhauri, in dyeing with morinda bark, but perhaps more for their astringent than for their tintorial properties. Dr. Gibson states that in Kandesh the flowers form a considerable article of commerce inland as a dye. It grows abundantly in the hilly tracts of the Northern Circars.

GODAVARI, a revenue district of British India in the Madras Presidency, lying between lat. 16° 15′ and 17° 35′ N., and between long. 80° 55′ and 82° 38′ E.; area, 7345 (6221) square miles; population in 1871, 1,592,939. This district, under Hindu rulers, formed part of the Andhra division of the Dravida country. By 1753, Godavari had become a French province; but in that year it was overrun by the Mahrattas, then at the zenith of their power, and afterwards it was ceded to the E. I. Company.

GODAVARI or Godavery is a river of the Peninsula of India, which runs across the Dekhan. Estimated area of drainage basin, 112,200 square miles. The traditional source is on the side of a hill behind the village of Trimbak, in Nasik district, Bombay, only about 50 miles from the shore of the Arabian Sea. At this spot is an artificial reservoir, reached by a flight of 690 steps, into which the water trickles drop by drop from the lips of a carved image, shrouded by a canopy of stone. The Godavari disembogues into the Bay of Bengal by three mouths, after a course of 898 miles, during which it receives the Wain-Ganga, 439 miles; Manjera, 330 miles; Purna, 160 miles; Paira, 105 miles; Indrawati, 140 miles. It has the town of Ganga-khair on its left bank, and the towns of Rajamundry and Coringa at its embouchure. In 1846 the sanction of the East India Company was given to the construction, at an expense of £47,500, of a dam of sufficient height to command the delta, and to supply the rich alluvial soil of which that tract is composed, with the means of constant irrigation.

That dam is seven miles long, and three great barriers have been drawn across the river higher up. The Wardha, Pranhita, Wain-Ganga, Indrawati, Sabari, and Pain-Ganga, are the principal affluents whose waters feed the Godavari.

The Wardha takes its rise in the Baitul district W. of Nagpur, and, after flowing for some distance in a S.E. direction, is joined by the Wunna, which, passing under Hinginghat, flows to the south, and forms its junction with the Wardha at a place called Sweet, 18 miles S. of the latter place. At this confluence are the hills of Zoourate, and under them is the village of Chuhmunder. The Wardha flows on to the S.E., until, a little before reaching Chanda, it is joined by the Pain-Ganga, when, losing the names of Wardha and Pain-Ganga, the united stream continues under the name of Pranhita to its junction with the Godavari, a few miles below the station of Sironcha. Midway between these confluences is situated the third or *Dewalamurry barrier*, extending round in a curve for about 50 miles; and midway down this barrier the Wain-Ganga discharges itself into the Pranhita.

From the confluence of the Godavari and Pranhita, below Sironcha, to the sea, the river carries the former name, although joined at intervals by the Indrawati and other tributaries. Thirty miles below Sironcha is the second or *Enchampally barrier;* and 80 miles below this again is placed the first or *Sinteral barrier*, whence to the sea there are no material obstructions to a partial, though not perennial navigation.

The Godavari has seven mouths, viz. the Tulyabhaga, the Atreya, the Gautami, the Vruddhagautami, the Bharadwajam, the Kausika, and the Vasista. The large town of Narsapur is situated at the mouth of one of the two main branches, the French settlement of Yanān at the mouth of the other. Thirty miles up the river is the famous Dowlaishwaram anicut; 4 miles further is Rajamundry town. Northwards still is the picturesque island of Patapattishim, covered with pagodas, the favourite resort of pilgrims.

The head of the delta is at the village of Dowlaishwaram, where the main stream is crossed by the irrigation anicut. The largest of the three branches, known as the Gautami Godavari, turns eastward, and, after passing the quiet French settlement of Yanān, enters the sea at Point Koringa, not far from the port of Cocanada. The delta has been turned into a garden of perennial crops, by means of the anicut. This great work was finally projected in 1844. Operations were commenced in 1847, and completed according to the original design by 1850. Up to 1853 the total expenditure had been £153,000. The officers whose names are associated with it are Generals Sir Arthur Cotton, Frederick Cotton, Charles Adam Orr. From the anicut or weir at Dowlaishwaram, at the head of the delta, three main canals are drawn off. The total length of the main channels of distribution is estimated at 528 miles, capable of irrigating 780,000 acres. Of the 528 miles of canal, 463 miles are also used for navigation.

The *Upper Godavari* district became British territory on the 5th November 1860, the six talukas of which it is composed having been ceded by His Highness the Nizam, by the treaty of that year. It lies between lat. 17° 25′ and 19° 5′ N., and long. 79° 55′ and 81° 45′ E. The population numbered 54,680. Nearly half the population is composed of wild tribes. The exclusively agricultural classes number 30,367, and consist chiefly of the Yelma, Kamawar, Arawa, Mahratta, Telinga, Koi, and Got. Of these, the Yelma, though Sudra, enjoy a good deal of consideration, as many of the chiefs—among them the Sar Desmukhs of the four upper talukas, and the Rani of Bhadrachallam—are of this caste. The Yelma veil their women, and do not permit them to appear in public; and the men in the lower part of the district, of even the poorer members of the caste, will not put their hand to the plough. The inferior castes, all plying their respective professions, and many of them cultivating land as well, are the Kumbhar, or potters; Meriwar, or tailors; Baljwar, or bangle-makers; Teli, or oil-pressers; Rangrez, or dyers, also work as embroiderers; Dendrawar, or tasar silk weavers; Dhobi, or washermen, besides washing, attend on travellers, carry torches, fetch water, carry loads and palanquins, etc.; Julai, or weavers; Kalal, or distillers and spirit dealers; Dhimar or Bhoi are fishermen, carry palanquins, fetch water, and do other menial work; Hajam, or barbers, also carry torches for travellers; Medariwar, or mat-makers; Upparriwar, or tank-diggers and stone-cutters; Waddawar, boatmen and fishermen.

The Gond tribes are Got and Koi, Sunkariwar, Mannepuwar, and Netkaniwar. The latter weave a coarse cotton cloth. They are the aborigines of the country. Although almost identical in customs and in language, they do not eat together or intermarry, the Koi claiming superiority over the Got. The proper name for the Koi is Koitor, and this is what they call themselves. By the Telingas they are called Koidora, the word Dora meaning gentleman, probably arising from the last syllable of Koitor having been taken for Dora, owing to the similarity of sound. The Koi, where they come into contact with the Telinga population, have adopted many of their customs, and have thereby to a certain extent lost their peculiarity of appearance and character. The Got keeps more aloof from civilisation; but the customs of the two races are very similar, and both belong to the Gond family. They are subdivided into many sects, according to the number of gods they worship, and they practise ancestor worship. They are timid, inoffensive, and tolerably truthful. Their restless habits, however, do not admit of their settling down as good agriculturists; and, generally speaking, they move from one spot to another once in every three or four years. But on the banks of the Sabari, and in the neighbourhood of Sironcha and Dumagudem, there are numbers of them who have settled down, and have accumulated some wealth in flocks, in herds, and in money. It seems that where they can cultivate rice, they will sometimes become attached to the soil, especially if a grove of palmyras be near, as, like all Gonds, they are fond of spirits, and the fermented juice of the palmyra (Borassus flabelliformis) is a favourite beverage with them. The Upper Godavery district has many barrows, cairns, cromlechs, and kistvaens.

GODAVERY PEBBLES, various quartzose minerals, agates, carnelians, chalcedonies, etc.,

found in the bed of the Godavery, water-worn specimens from the volcanic rocks of the Dekhan.

GODDA. CAN.? A Mysore wood, one of the Cedrelaceæ, polishes well, and is good for turning.

GODDESS. Of these there are in the Hindu religion one to each of their chief deities, Brahma, Vishnu, and Siva. They are the Sakti or energies to their respective lords. Their names are Saraswati, Lakshmi, and Parvati. The Ai and Ammuns of Southern India, and Kali, Durga, etc., of Northern India, are goddesses of the non-Aryan races, admitted mostly into the Hindu Pantheon.

GODETIA ŒNOTHERA, the evening primrose; a very pretty single-petalled white flower, blossoming only in the evening, and towards morning turning to a pink, when it closes and withers.

GODINHO. Father Manuel Godinho, of the Society of Jesus, in 1663 returned from Goa to Lisbon overland by Gambroon. He laments the almost total downfall of the Portuguese Indian Empire. He describes Surat as then perhaps the richest city of the world; notices its rising trade under the English, and of its having supplanted Goa as the emporium of Southern Asia.

GODNA. HIND. Tattooing the skin of the legs and arms of Hindu women with a dark dye. See Tattoo.

GODOWN, ANGLO-MALAY, from Gadang, MALAY, an outhouse, a warehouse.

GODRA, in Gujerat. Its chief is of the Bagela race. See Komarpal.

GODUGU GADDI. SANSK. Ch'hatri and Ch'hatra, HIND. Umbrella grass; fragrant grass growing in marshy ground.

GOERA. HIND. of Panjab. Manured land near villages, same as Nyain.

GOEWANS'E, or, as named in the low country, Vellala, constitute by far the larger numbers of the Singhalese. Agriculture, their original employ, is not now their sole occupation. They are a privileged people, monopolize all the honours of church and state, and possess all the hereditary rank in the country.—*Davy's Ceylon*, p. 113.

GOEZ. Benedict Goez, a Portuguese monk, who went from Lahore by Kābul to Kashgar, and across the sandy desert into China, where he died in A.D. 1607; his route was far to the north of Tibet. Another Jesuit, Anthony Andrada, passed through Kamaon to the Manasarowar Lake, and thence went on to Rudak, on the western confines of Tibet. His journey was made in 1624, and is discredited by commentators and geographers, because of his mentioning this lake as the source of the Ganges and Indus, instead of the Sutlej. There is no doubt, however, that the voyage is genuine, though we have no details of it.—*Prinsep's Tibet*, p. 12.

GOG and MAGOG of Ezekiel are the Yajuj and Majuj of Arabian writers, a term applied to the Mongoloid or Turanian races, whose constant irruptions from the earliest periods into the southern lands of Asia have been interrupting Aryan civilisation. The fancy of Arabian writers transformed Yajuj and Majuj into two enormous giants, whom Alexander shut up within a stupendous castle of iron and brass at the extremity of Asia, probably alluding to the mountains of the Altai. See Alliteration.

GOGA, a tree, Encernada Philippensis? found in most of the Philippines. Its woody filaments yield a soapy matter, much used in washing linen, and in the process of gold washing for the purpose of precipitating the metal from the sand. It is a shore or littoral plant, formerly ranked by botanists as an Acacia.—*Crawfurd's Dic.* p. 144.

GOGA PIR, a saint held in much veneration by the agricultural population of Dehli and the Upper Doab, who, in the month of Badhar, present offerings at his shrine, which is at Dudiera, 200 miles S.W. of Hissar.

GOGHA, in Ahmadabad, has the celebrated Makam or Saint's Rest of Piran Pir.—*Wilson.*

GOGHNA. SANSK. Literally, a cow-keeper, a guest. The meaning of the word is cow-killer, from the ancient practice of killing a cow for the entertainment of a visitor on his arrival. Even now, at a Hindu wedding, a cow is produced to be killed for the feast, but the bridegroom intercedes for its life, and it is turned loose at his request.—*Elph.* p. 186.

GOGLET. ENG. In Hindi, Koza. A water-vessel with a bowl-shaped bottom and a long stalk-like neck. They are made of earthenware or of metal or alloys, and are the usual vessels in which Europeans and natives hold their drinking water. Their name is from the gurgling sound produced when the water issues.

GOGO, a seaport town on the coast of Kattyawar, on the west side of the Gulf of Cambay. Its sailors or lascars are remarkably courageous and expert. Its custom-house is in lat. 21° 40′ 40″ N., and long. 72° 15′ 50″ E. It is the chief town of the subdivision of the same name in Ahmadabad district, Bombay.—*Imp. Gaz.*

GOGRA (Ghagra), the great river of Oudh. It rises in the upper ranges of the Himalayas, passes through Nepal, receives several tributaries, and joins the Ganges at Chapra, in lat. 25° 43′ N., long. 84° 43′ 30″ S. Faizabad town is on its bank.

GOGRA. HIND. The open cotton pod.

GOHATTY, in lat. 26° 5′ 8″ N., long. 91° 43′ 8″ E. A large station in Assam, on the Brahmaputra, 69 miles E. of Goalpara. The level of the Brahmaputra is 70 feet above the sea; Kamaikia temple is 825 feet, and the highest point near Gohatty 1002 feet.—*Herm. Schl.*

GOHELWAR, one of the five southern districts of Kattyawar.

GOHILA or Gehlot, a race descended from Bappa, who in A.D. 727 seized Chitor from the Mori tribe, and founded the Newar dynasty. They were driven from Marwar by the Rahtor Rajputs in A.D. 1200, and on that event they were led into Kattyawar, by their chief Sejuk. They were a distinguished race, and claim to be Suryavansi. Their first residence was Joona Khergur, near the bend of the Loony in Marwar. They took it from one of the aboriginal Bhil chiefs, named Kherwo, and had been in possession of it for twenty generations, when expelled by the Rahtor at the end of the twelfth century. Thence migrating to Saurashtra, they fixed at Perumgarh. Afterwards one branch settled at Bugwa, and obtained by marriage Nandan-nagar or Nandote; another branch at Sehore, and founded Bhownaggar and Gogo. The former town, on the gulf of the Myhie, is the residence of the Gohils, who have given their name, Gohilwar, to the eastern portion of the peninsula of Saurashtra. Gohilwar has still some of its Koli and Surweya proprietors. The rawal of Bhownaggar is de-

scended from the eldest son of Sejuk.—*Rajasthan*, i. p. 114.

GOITRE.

Aubi, ...	Beng.	Ghega, Ghenga, .	Hind.
Ba, Ke-ba, . . .	Bhot.	Kunt'h-mala, . .	,,
Ying-tai, Tsoo-po-tsi,	Chin.	G'. beig, . . .	Tib. ?

This disease occurs in Kamaon, among the Abor of the mountains bordering the valley of the Brahmaputra, and other mountain tribes. Goitre is rare in the valley of Kashmir. The natives of India employ for its cure a leaf-looking substance, called Gallur ka putta, Hind., supposed to be dried sea-weed. Mr. Vigne purchased at Ladakh a piece of common sea-weed, which had been no doubt brought there by the merchants trading between China and Turkestan. He saw few cretins. Goitre occurs E. of the Indus at elevations of 4000 feet; but Mr. Bramley states that it is more common on the crest of a high mountain than in the valley of Nepal. The swelling forms immediately below the chin, extending from ear to ear, and grows sometimes to such an enormous size, as to hang from the throat down upon the breast. It prevails among the people inhabiting the Morung, Nepal, and Almora hills. It is particularly met with in the low lands adjacent to these hills, from the frontier of Assam, through Binji. It is prevalent among the natives of the ranges which border the Indian plains. It occurs in Nepal in animals as a congenital ailment. It is said to occur in men who drink the waters of the Gandak river. It is also found in the Himalayan sheep and goats which accompany the salt traders, and whose loads are supported in ascending by a band round the throat. The Lepcha is far more free of this disease than the Bhotia, or than any of the tribes of E. Nepal, and he is both more idle and less addicted to the head-strap as a porter. It is almost universal in some villages of Bhotias, where the head-strap alone is used in carrying in both summer and winter crops, as also amongst those families who carry the salt from the passes to the Nepalese villages, and who very frequently have no shoulder straps, but invariably head-bands. The disease is most prevalent in the mountainous regions of both the old and new world, and in these the practice of supporting enormous loads by the muscles of the neck is frequent. Goitre is common in the Chinese province of Sze-chuen, in the gorges of the Upper Yand-tsze, and sea-weed has long been used in its cure.—*Smith, M. M. C.; Turner's Embassy*, p. 87.

GOKAK. The principal cataracts or waterfalls in India are near Simorri in Rohilkhand; but at Gokak, on the Gutpurba, are the Gairsappa, where from top of fall to surface of basin is 888 feet, and the depth of basin is 300 feet—1188 feet; and from 300 to 600 feet across during the rains. The Yena in Mahabaleshwar is 600 feet; Cauvery, 300 feet. Cataracts of Subunreka, Chutia Nagpur, and Hurrori Ghat,—the falls, 15, 20, and 400 feet respectively; about 500 feet across crest.—*Curiosities of Science*; *Dr. Buist's Cat.*

GOKAL or Gocul, a small town on the banks of the Jumna below Mathura. Radha, mistress of Krishna, was wife of a cowherd of Gokal; hence one of Krishna's titles is Gokal Nath, Lord of Gokal. Gokal is almost an island, and is one of the prettiest spots in the holy land of the Hindus. The scene there is still as pastoral as it had been 3500 years ago. Large herds of heavy-uddered kine remind us of the days of Nanda, though their number is far short of nine lakhs, possessed by that shepherd-chief of old.—*Tr. of Hind*, ii. p. 117. See Krishna; Radha.

GOKAL-ASHTAMI or Jan'm-Ashtami, a Hindu festival in commemoration of the birth of Krishna, an event which is said to have taken place at Mathura, at midnight, about the 22d August, on the 8th of Shravan; but one Vaishnava sect keeps the holiday on the 8th and another on the 9th of Shravan. Krishna is stated to have been born of Devaki, niece of Kans, king of Mathura. Kans having had it predicted that one of his race would destroy him, he endeavoured to compass the death of Devaki's offspring, in which he failed, and on the 9th Krishna was removed to the house of a cowherd named Nanda. The worshippers abstain during the day from certain articles of diet; at night they bathe and ornament the image, and offer the tulsi or Ocimum sanctum. On the following day a Brahman serves as pujari, and afterwards he himself is worshipped. The 8th day is held by all the Gaoli or cowherd race as a great jubilee day, from the circumstance of Krishna having been reared by one of their people, They join hands and dance, and shout Govinda! Govinda! The shrines of Kanoba are much visited at night. The Bhagat of the shrine, by self-flagellation, becomes hysterical, which is deemed by the people to be a possession by the deity, on which they prostrate themselves, burn incense, and present sick people to the Bhagat. On the following day the Bhagat's disciples work themselves into hysterics.—*Bombay Gazetteer.*

GOKALASTHA, Gosain ascetics, teachers of the doctrines of Valabhacharya. See Rudra; Sampradayi.

GOKALNATH, son of Vitala, was a grandson of Valabhacharya, and expounder of his grandfather's tenets.—*Growse.* See Rudra; Sampradayi.

GO-KARNA, lit. Cow's Ear, a place of pilgrimage, sacred to Siva, on the W. coast near Mangalore.—*Dowson.*

GOKATSEKU, a festival, held with much ceremony and enjoyment.

GOKHA. Uria. A caste of fishermen.

GOKHRU. Hind. Caltrops.

Tribulus lanuginosus, *L.*		T. terrestris, *Linn.*	
Khusuk-i-kabir, .	Arab.	Aeknerenchi, .	Singh.
Gokhur, . . .	Beng.	Ana-nerinji, . . .	Tam.
Ghejasudu mustra,	Sans.	Yenuga-palleru, . .	Tel.

The seed, which is highly mucilaginous, as is also the whole plant, is cooling and demulcent, taken in water as a diluent. Very abundant, and troublesome to the naked foot. The form of the gokhru burr is adopted by the Hindus for a bracelet.—*Gen. Med. Top.* p. 135.

GOL, society; whence Mogol (Mogul, Moghul).

GOLA. Hind. A caste employed as rice cleaners, or in salt manufacture. A granary, a store of grain or salt; a low round-shaped hut, in which Bengal farmers deposit corn on a stage.

GOLAKA or Golak. Sansk. A son born of a widow. Among the Mahrattas, the term is considered to apply to a caste supposed to be descended from the illegitimate offspring of a woman of the Brahman caste. Randa-golak is the adulterous progeny of a woman who has a husband; Randa-golak-golak, the illegitimate son of a widow. The Golaka caste at Poona act as astrologers,

agents, money-changers, and are held as no better than Sudras.—*Wilson.*

GOLA-PURAB. HIND. An inferior tribe of Sunadh Brahmans, who cultivate lands in the Agra district.—*Wilson.*

GOLCONDA or Golugonda, the name of a town and of its taluk in the Vizagapatam district in the Madras Presidency; population, 94,782, almost all Hindus. In 1836 the rani was murdered; and in 1845, and again in 1857-58, the chiefs rose in rebellion, and troops were employed against them.

GOLCONDA, a fortress and hamlet on the left bank of the Moosa river, 5 miles W. from Hyderabad, now under the Asof Jahi dynasty. Golconda was formed into a Hindu kingdom in the reign of Muhammad Taghalaq, by a descendant of a royal house of Telingana. A Mahomedan dynasty was subsequently founded here by Kuli Kutub Shah. He ruled for 60 years, during which he was employed in reducing the Hindus eastwards to Masulipatam and Rajamundry. Golconda fell to Aurangzeb in 1677, after a protracted siege. In Orme's time, under the Asof Jahi dynasty, the Golconda sovereignty included Arcot, Kurnool, Cuddapah, Rajamundry, and Chicacole. The town of that name has almost disappeared, but the fortress on a fortified rock remains. It is commanded by a low range of hills to the north. See Hyderabad.

GOLD.

Zahab, ... ARAB.	Zar, ... PERS.
Guld, . . DAN., SWED.	Zloto, ... POL.
Goud, ... DUT.	Oiro, Ouro, . . . PORT.
Or, ... FR.	Soloto, ... RUS.
Zabab, ... HEB.	Suvarnam, . . SANSK.
Sona, ... HIND.	Ponnoo, ... TAM.
Oro, ... IT., SP.	Bungarroo, . . . TEL.
Sol, Aurum, . . . LAT.	Altin, ... TURK.
Amas, Kanchana, MALAY.	

Gold is almost always found native, but seldom perfectly pure, being alloyed with minute quantities of other metals, which sometimes considerably affect its colour. Sometimes it occurs in combination with silver, constituting electrum; with tellurium in native tellurium; with silver and tellurium in graphic and yellow tellurium; and with lead and tellurium in foliated tellurium. A native amalgam of gold has been found in California, especially near Mariposa, and in Columbia; and an alloy of gold and bismuth in Rutherford County, North America. It sometimes occurs in small quantities in metallic sulphides, as in galena, iron pyrites, and copper pyrites, and is occasionally alloyed with palladium.

The finest native gold from Russia yielded—gold 98·96, silver 0·16, copper 0·35, iron 0·05; sp. gr. 19·099. A gold from Marmata afforded only 73·45 per cent. of gold, with 26·48 per cent. of silver; sp. gr. 12·666; 8 to 1 is the most common; 12 to 1 also is of frequent occurrence. Copper is often found in alloy with gold, and also rhodium. A rhodium gold from Mexico gave the sp. gr. 15·5 to 16·8, and contained 34 to 43 per cent. of rhodium. Iron and copper pyrites are often mistaken for gold by the inexperienced in ores; but gold is at once distinguished by being easily cut in sizes, and flattening under a hammer. Pyrites, when pounded, are reduced to powder; iron pyrites are too hard to yield at all to a knife, and copper pyrites afford a dull greenish powder. Moreover, the pyrites give off sulphur when strongly heated, while gold melts without any such odour. Native gold is to a large extent obtained from alluvial washings. It is also found disseminated through certain rocks, especially quartz, gneiss, and talcose rocks, and it is often contained in pyrites, constituting the auriferous pyrites; the detritus affording gold-dust has proceeded from some gold-bearing rocks.

Gold is mentioned as an article of the eastern commerce of ancient times. In the Bible (1 Kings ix. 28), about 1000 B.C., Solomon king of Israel made a navy of ships in Ezion-geber, which is beside Eloth, on the shore of the Red Sea, in the land of Edom. And these ships brought gold, silver, and precious stones from Ophir and Tarshish in such quantities, that king Solomon exceeded all the kings of the earth for riches. Silver was so plentiful at his court, that it was accounted nothing of. The king's drinking-cups were made of pure gold, and his shields were covered with beaten gold. It has never been settled where that Ophir and Tarshish were situated, but we are distinctly told that the navy of Tarshish brought gold and silver, ivory, and apes, and peacocks; and it has been surmised by some writers that Tarshish was either China, or some islands in the China Seas. Ophir has been variously supposed to have been some district or port in the Red Sea, on the east coast of Africa, or on the Malabar coast or coast of Malacca. Some Portuguese historians have supposed that it was Sofala, or some other place near the mouths of the Zambesi, on the east coast of Africa. The Tarshish fleet is, however, said to have arrived at Ezion-geber only once every three years, from which we may fairly infer that the voyage was a considerable one, or that the ships had to go with the S.W. monsoons, and return with the N.E. winds, or that they made a trafficking voyage from one place to another, until the cargo was sold and another shipped. Ships or boats coasting from the Red Sea to the mouths of the Zambesi would scarcely take three years for a trip. Ezion-geber, on the shores of the Red Sea (1 Kings ix. 26), is a little port at the head of the Elamitic or eastern gulf of the Red Sea.

There are at present in the Eastern Archipelago two places called Mount Ophir, one of them a mountain in Sumatra, in the Palimbayang district, 9770 feet above the sea, to which the name was given by the Portuguese, and they gave the same name to a mountain 40 miles N. of the town of Malacca, 5693 feet high. In the vicinity of both of them gold has been obtained.

Africa.—There are gold mines in Africa at Kordofan, between Darfur and Abyssinia; also south of Sahara, in the western part of Africa from Senegal to Cape Palmar; also along the coast opposite Madagascar, between lat. 22° and 28° S. Ethiopia was conquered by the Egyptians, and its gold mines were worked by Egyptian skill. The gold was found in quartz veins within a slaty rock, at various spots in the Nubian desert between Derr on the Nile and Souakin on the coast. They were said to bring in each year the improbable sum of 32 millions of minæ, 70 millions sterling (Diod. Sic. lib. i. 49), as was recorded in the hieroglyphics under the figure of the king in the Memnonium, who is there offering the produce to Amun-ra. To these mines criminals and prisoners taken in war were sent in chains, to work under a guard of soldiers. No other known mines were so rich. From the word

Noub, gold, the country received the name of Nubia, or the land of gold, and gold was shipped from the port afterwards by the Ptolemies named the Golden Berenice, not many miles from the modern Souakin.

In *Arabia*, silver, iron, lead, and copper are met with in different parts, the last recently in Oman; and gold is mentioned by the ancient writers, but at present it is not known to occur in Arabia.

In *Ceylon*, gold has been discovered at Saffragam. Ilam has been said to be the Tamil name of Ceylon, and to signify gold, but gold in Tamil is Ponnu.

In *India*, scales of gold are found in the gravel of river-beds over a great extent of country.

On the *Malabar* coast, in particular, it is widely diffused. The geological formation there is very similar to that which led Sir Roderick Murchison to foretell the existence of gold in Australia. The discovery there in the 19th century, of shafts and adits of unknown miners, shows that the region had long been known as auriferous.

In *South India*, writes Mr. Burr, gold occurs in Coimbatore and the southern declivities of the Neilgherry Hills. Sir Whitelaw Ainslie (Materia Medica, i. p. 514) mentions that the gold discovered by Mr. Mainwaring in the Madura district, occurs mineralized by means of zinc, constituting a blende. The streams running through the Palghat valley, which unite about 15 miles below Palghatcherry, and form the great Ponany river, all contain gold. In June 1832, Lieutenant Nicolson visited Darampuray, at the foot of the Shevaroy Hills, Sattiamungalum, Donagancottah, Addivarum or Stremogoy, and Metapollum, where gold is found. Natives likewise wash for gold at the branch of the Cauvery which runs past Darampuray. Gold mines are mentioned by Heyne (Tracts, p. 342) as being worked at Suttergul, a few miles from Pungumpilly. At Pulkanath, 14 miles north of Dindigul, just under the east end of the Pulney mountains, gold is found in small particles in the alluvium and sand of a plain at the foot of a small mountain. Mr. Burr mentioned the southern declivities of the Neilgherry mountains as gold districts; and Dr. Benza stated that gold had been found on the plateau of the Neilgherry Hills, below Gradation Hall.

In 1831, Mr. Sheffield reported that gold-dust weighing 11,449 fanams had been collected in a few of the taluks of Malabar, and that gold is found in all the rivers of the Malabar Province, from the stream which falls into the sea at Elatur, about 8 miles north of Calicut, as far south as the numerous streams flowing through the Palghat valley, which form their junction about 15 miles below Palghatcherry, to the great Ponany river, and some of which reach the southern boundary between Cochin and Malabar about 110 miles to the S.E. of Calicut. Lieut. Nicolson during 1830 and 1831 traced the source of the gold to its matrix in the rocks of the Kundah and Mokurty Hills, and he found many pits 20 to 40 feet in depth, sunk on the different hills in the neighbourhood of Devalla. Agricultural slaves of the Panier caste had, it is said, on several occasions during the last few years come across nuggets of gold, which were of sufficient value to enable them to cease work for two and three years at a time.

Mr. W. King, deputy superintendent of the Geological Survey, examined a considerable portion of the Wynad, finding quartz reef apparently auriferous through a considerable extent of country, and obtained gold at the rate of 25 dwt. to the ton from some of the surface outcrop. The chain more immediately connected with the gold washing is formed of the Kundah and Mokurty Hills to the S.E. of Calicut and Neilgherries to the east, and the Wynad mountains to the N.E. These send off numerous lateral ranges, between which are chief valleys, in most places closely covered with forest. The most extensive of these is that of Nellumbur, including nearly the whole of the Ernaad taluk, bounded on the E. by the Neilgherries, on the N. by Wynad, on the N.W. by a lateral range running S. from the Ghats called the Wawoot Hills, and on the S. by the Kundah and Mokurty mountains. From these on all sides innumerable mountain streams descend, and, uniting near Nellumbur, form the Beypur river, of considerable magnitude, which falls into the sea about 8 miles to the southward of Calicut. In the mountainous district of Wynad, streams in the same manner descend through every valley, and unite into streamlets and rivers, which fall into the Cauvery in the Mysore and Coimbatore countries, comprising an auriferous tract of 1500 square miles. The part most abundant in gold is at Malealam, near the Mysore frontier, where one grain in every 65 lbs. of earth occurs. In Wynad it is found in the sands of Cherankod, Devalla, Nelyalam, Poneri, and Pulyode.

The Punapoya, or Golden River, rises in the Paral Mallah N.E. of Mokurty, forming part of the main chain of the Neilgherries. The Punapoya descends the mountains between Alliampully and the Carcur Cherum, and long before its formation with the Carambye it receives both the Kellakumpoya and Caracoopoya.

In the Nellumbur valley the washings are innumerable; the principal, however, are in the thickest part of the jungle immediately under the Wynad Hills, and near the villages belonging to the Tirupaad of Nellumbur.

In *Mysore* there is an auriferous tract near Baitmangalam, at the base of the Baterine Hills. Lieut. Warren of H.M. 33d Regiment, in 1802, found it in the small nullahs or ruts or breaks in the ground at Warrigum, a small village 4½ miles S.W. of Baitmangalum, also on the banks of the Palar river, and the Ponian near Caargory; and also at Marcupium, 3 miles south of Warrigum, where mines were worked by natives which had also been worked by Tipu. Heyne likewise (p. 41) stated that gold had been found near the hills to the S.E. of Ooscottah. Betwixt Annicul and Punganore it was found disseminated in quartz, and also in the alluvial soil.

Southern Mahratta Country.—About the year 1840, Captain Newbold (p. 44, vol. xi. of the Madras Lit. Journal) reported gold washings in the bed of a rivulet at Sattoor, a few miles from Dhoni, in the Kuppatgode range of hills near Damul; also in the sands of the Hurti rivulet, in the same range, a few miles to the south of Gudduk; and in the Kir taluk of the Dharwar collectorate, near Chik Mulgund. He also obtained a small button of silver from the auriferous ore collected in the sands near Dhoni, and a grey silver ore in a fragment of quartz. Subsequently, in 1852, Captain Ayton and Mr. Le Souef examined the auriferous tract of the Kuppatgode Hills,

GOLD.

and reported that it occurs in a broad band of chloritic hornblende, argillaceous and hematitic schists, between two stony bands of granitoid gneiss; and native gold-washers after the monsoon wash the heavy deposits of crushed quartz (detritus) which the rains bring down.

In the *Ceded Districts*, black sand mixed with the gold is found in the bed of the river at the village of Canahally, near Bellary. Gold is mentioned as occurring at Suttangul. Heyne, at p. 342 of his Tracts, describes it as having been discovered near Royacottah, not far from Pangampilly, near Hurrydrug. Also a nullah takes its rise about a cos from Bavehully taluk, a hamlet of Mydur, in the Harpunhully taluk, at a hill called Jageracullygoodda; and there is also another nullah, called Sheghahulla, rising in the same hill, and running into the Baegaly tank, where gold sand was formerly washed, but a man cannot procure more gold than will pay him for his day's labour.

In the *Hyderabad* Territories, gold occurs at Goodaloor or Godalore, on the Godavery. Dr. Walker (p. 184, vol. xvi. of Madras Lit. Soc. Jour.) mentions its occurrence where the Ramgher and Cummumet Circars meet, and also in several nullahs that feed the Godavery from the south. It is washed for also in the bed of the river nearly opposite Marrigudum, in the Nuggur taluk, also where the Kinarsani nullah falls into the Godavery a little below Badrachellum.

Northern Circars.—Gold washing is carried on at Sumbulpur and Cuttack, and also in the beds of the Mahanadi and its affluents. The natives obtain a little gold by washing in the streams near Vizagapatam, in the Suvarna Rika or stream of the golden sands, the Lanji, the Godavery, and some parts of the bed of the Kistna.

In the *Central Provinces* gold-dust is found in the beds of rivers at Purnalia, Chutia Nagpur, in the beds of rivers in Manbhum and Palamow, and in the Paiqdhur nullah, in the Seoni district. The little stream rises in the Konye range of hills, and falls into the Wain-Ganga. The natives say they never get more than four annas' worth by a day's work, and would consider it unlucky if they did, as the goddess who is supposed to make it would then leave their locality. It is found in the Balaghat, being washed in the Deo and Sone rivers, in the Sonbera nullah near the Panchera Ghat in the Dhansua pargana, and in the Nara river of the Mau tract, but the quantity obtainable scarcely repays the labourers. It is also washed in the sands of the Banjar river, an affluent of the Nerbadda; likewise in Bastar from the sands of the Kutri river, and towards Prattapur, and in the forks of the Kutri and Indravati rivers; also in some of the nullahs of the Chanda district; and diamonds and rubies were formerly obtained near Wairagurh.

In *Afghanistan*, gold and lapis-lazuli are found at Huladat near Bamian, and at Istalif north of Kābul, also in the Kābul river, and auriferous rocks occur near Kandahar.

Central Asia.—Gold is found on the banks of the Basha stream, in Little Tibet. Vigne had no doubt that the drun or marmot of Little Tibet are the 'ants as big as foxes' noticed by Herodotus as throwing up gold. Nagir is celebrated for its gold washings. Tavernier tells (p. 156) that 'toward the Thibet, which is the ancient Caucasus, in the territories of a raja, beyond the kingdom of Chachmeir, there are three mountains close one by another, one of which produces excellent gold, the other granats, and the third lapis-lazuli.' Thokjalung, in lat. 32°, is the chief gold field of Western Tibet. It is a large desolate plain, about 16,000 feet above the level of the sea, and in 1868 the pandit sent by Captain Montgomerie saw a nugget weighing 75 tolas, nearly 2 lbs. In Tibet the gold fields are said to extend from Rudok to Lhassa, or eleven degrees of longitude. They also extend northerly to between Aksu and Ili. The places mentioned in Tibet are Thok-Jalung and Thok-Daurakpa, Tang-Jong and Sarka Shyar. The gold mines of Sar Chaka are about 100 miles north of the borax mines of Gnari. It occurs in nuggets in quartz. The gold mines of Thok-Jalung, in lat. 32° 30′ N., are north of Kailas; and the mines under the still loftier peaks of Ailing Gangri are said to be especially productive.

There is a gold mine at Dango Bookpa, twelve days' journey S.E. of Manasarowar; and they say one was discovered between Gungeoo and Manasarowar, which was immediately shut up by orders from Lhassa.

Gold-dust is imported into the Panjab from Elache in Khoten. Gold is found in Gnari and Guge, Baltistan and Zanskar. Dr. Cleghorn mentions (Report, p. 178) that a little gold-dust is brought across the higher range through Chilas from the valley of the Indus, where gold washing is carried on to a considerable extent.

Lieutenant Wood mentions a torrent in Wakhan, called Zarzamin, Gold ground, and says (p. 382) all the tributaries of the Oxus are fertile in gold. Gold-dust to the value of £8590 was imported from Turkestan into India in 1871, and a new gold field has been discovered near Khoten.

Indus and Panjab.—Gold is obtained from the sands of the Indus; and between Attock and Kalabagh about 300 persons are employed in washing the sand for gold, which occurs in small flattened grains. The Indus flood of 1842 strewed with gold the fields of Chuch above Attock. Dr. Thomson (Tr. p. 212) found a number of people a little below Khapalu, washing the sand of the Indus for gold; but the work is only carried on during winter, when labour is of no value for other purposes. He purchased for a rupee (paying, he believes, a good deal more than the value) the produce in gold-dust of one man's labour for three weeks. It is found in the districts of Ambala, Kangra, Lahore, Rawal Pindi, Jhelum, Hazara, Bunnu, and Peshawur. It occurs in the form of minutes scales in the sandstone of the Salt Range, a lower range of hills running parallel to the Himalayan chain, between the rivers Indus and Jhelum; it is also found in small quantities in the sands of the Indus, Jhelum, Beas, and Sutlej; but the gains are not more than from 3d. to 6d. a day, and the proceeds of the annual lease of gold washing amounted in one year to but £84. The gold washings of the Salt Range are nearly all in the Jhelum district. In the year 1850, 158 cradles were at work, and they were taxed from Rs. 2 to 5 per troon; the total tax amounted to Rs. 525. In the streams where gold sand is washed, grains of platinum are occasionally found in small quantities; the gold-seekers call it Safed sona, white gold, and reject it as useless. Platinum has also been found in the Tavi river of Jummoo

territory, and in the Kābul river at Naushera. Gold has been found between Ambala and Kalkah. In the neighbourhood of Patiala is a small mountain stream where gold is washed for, and gold-dust can be obtained from sand in the Srinuggur district, and in the rivers of Kamaon.

Hindustan.—Gold is obtained in the sands of the Gumti river, at the Gandak and Ningti, also those of the Raniganga and its tributaries the Koh and the Phika.

In *Assam*, at Heerakhond, diamonds occur. Tavernier tells us (Tr. p. 156) that in his time gold 'comes from the kingdom of Tipra, but it is coarse, almost as bad as that of China.' Gold-dust is washed for in the Tezpore district. The value of the gold on the spot is Rs. 16 the tola of 180 grains. At the junction of the Dohiri stream with that of the Brahmaputra, about 375 oz. are said to be collected annually. The Brahmaputra was followed from Suddya to Paghat. Gold-dust was found along the banks of the stream, particularly at angles or reaches where the alluvial matter is re-deposited.

Burma.—From Assam southwards, and into the Eastern Archipelago, gold is washed for by the Burmese, Malays, and Chinese. Mr. Oldham says, 'The geological structure of the greater portion of the Malay Peninsula, extending to Arakan northwards, so far as is at present known, indicates the probability of auriferous deposits being found throughout the whole extent, on the flanks of the central ranges of high ground. The ascertained existence of gold in more localities than one in the Tenasserim Provinces, at Shoay-gween in Pegu, and the association in all these localities of magnetic iron-sand with the gold, a mineral which is so constantly the accompaniment of gold as to have been frequently called by miners "the mother of gold," confirm this reasoning from analogy; and I have little hesitation in stating my conviction that such auriferous deposits will be found to occur at intervals throughout the whole range, and that locally they will prove to be very rich.' This metal is largely used by the Burmese in the decorative arts; and in former years 400 or 500 viss were annually imported from China. But in the Mo-goung district there is a considerable gold-field. Mr. Golding, of Australian experience, contracted with the king to work one square mile of this field for a sum of Rs. 25,000 annually for 10 years, but Mr. Golding succumbed to fever; he, however, pronounced the fields to be equal to any in Australia, if not better. To the N.E. of Mandalay, in the Shan district, there is another field of gold; but the locality is malarious, and but little gold is procured. At Thayet-pein-yua, near the Myit-Nyay, on the road to Pyoung-shoo, to the S.E. of Mandalay, the gold quartz is found in abundance, the reefs cropping up from the ground. A Shan procured from here a piece of quartz 3 lbs. in weight, that produced exactly 2½ tikals of gold. In the Yaw district, to the S.W. of Mandalay, gold is obtained in fair quantities in the alluvial deposits; it exists at Sagaing, Kannee, Sein-joo; is also obtained from the Kyen-dwen river, also from the sands of most of the streams between Mandalay and Mogoung, and in the sands of the streams in the vicinity of the coal mines of Thinga-dhau. The washings in Burma are principally amongst the streams to the eastward of the Irawadi, though those to the west also yield it. The Kibiung stream is one in which it is thus sought. Gold-dust is found in the Hukong valley, and small solid nuggets of it in the banks of the Kap-Dhoop stream; and along with the gold, khumpok or platina, which the metal-smelters melt and mix with alloys of copper and silver, for bowls, tobacco-pipes, etc. Gold-washers near the coal mines of Native Burma can, it is said, earn 303 yuey = 3s. per diem. The dust is deposited by the Nars rivers, at the mouth of the Martaban stream, a tributary of the Shoay-gween river. The gold-dust and flakes and nuggets found in the surface sands of Shoay-gween are of considerable purity, yielding 92 per cent. of gold and 8 per cent. of silver.

Malay Peninsula and Eastern Archipelago.—The metal is found in sufficient abundance to be worked, in the Malay Peninsula, in Sumatra, the northern, western, and southern sides of Borneo, the northern and south-western peninsulas of Celebes, and in a few parts of the great Philippine islands of Luzon and Mindano or Magindanao. It has been coined for money at Acheen. Mr. Crawfurd (vol. xiv. p. 483) gives a table showing the amount received in Calcutta, from 1801 to 1814, from the west coast of Sumatra, and from Borneo and the rest of the Archipelago, a total of 146,195 ounces, valued at £621,328, 15s. Mr. Logan estimated the total produce of all the Malay Peninsula at 20,000 ounces; it is washed from the sands of the Tenasserim on the south, and the streams that tumble from the high granite mountains between Yay and Monmagon are constantly 'rolling down their golden sand' into the valleys around. It has been collected in small quantities in the tin deposits east of Tavoy. Mr. O'Riley found gold in the tin from Henzai, half a degree south of Yay; and 'almost all the creeks,' says Dr. Helfer, 'coming from the eastern or Siamese side of the Tenasserim river, contain gold. The greatest quantity is obtained close to the old town of Tenasserim, where people wash it, and obtain sometimes one anna's weight each, during the rainy season.' At the head-waters of Tavoy river, it is found in an alluvial or diluvial formation of red earth and pebbles, very similar to that in which gold is found in North Carolina. Mr. O'Riley says that the assay master at the Mint in Calcutta, in 100 parts reported gold 87·895, silver 9·244, base metal 2·864. In the Malay Peninsula, gold is chiefly got at Ulu Pahang, Tringanu, Kalantan, Johole, Gominchi, and Jellye, at Reccan and Battan Moring, and other places, at the foot of Mount Ophir; and in Nanning, near the hill Buket Jalatang. Ophir mountain is about 40 miles east of Malacca; its height is calculated at 5693 feet. Gold-dust is found at Taon and Gominchi, near its base, which at an early period gave it the name Ophir, and later on suggested it as the source of Solomon's wealth, the Aurea Chersonesus of antiquity. It occurs there disseminated and in thin granular veins, in quartz and in alluvial deposits, such as beds of streams. Gold is found in Perak at depths of 30 to 40 feet below the surface.

Siam.—Gold is found in Siam at Bang Taphan, in the province of Xamphon, at the foot of the Three Hundred Peak mountains. On the east side of the mountains at the base of which the deposit rests, 'the Siamese Government,' says Dr. Morton, 'have several hundred men perma-

nently occupied, each of whom, it is said, is expected to deliver one tikal (about one rupee and a quarter) weight of gold-dust per annum. The Burmese authorities in former times also employed people in this work at the streams on the British side of the boundary, but though the quantity then procured was greater than at present, this does not appear to have ever been considerable. The method adopted is that of digging a longitudinal excavation in the sand, and washing from time to time the deposit found therein.'

In *Sumatra*, after the rainy season, Tavernier says (Tr. p. 156) they find veins of gold in the flints (quartz?), which the waters wash down from the mountains that lie toward the N.E. Upon the west side of the island, when the Hollanders come to lade their pepper, the natives bring them great store of gold, but very coarse metal, if not worse than that of China.

Borneo.—The produce of the western side of Borneo, in the neighbourhood of Montradok, is by far the largest. The metal is found in small veins from eight to fifteen feet below the surface. If the depth of the vein be less than ten feet, a trench is dug, the whole of the upper stratum being removed; but if deeper, a shaft of three feet square is sunk perpendicularly into the vein, and the miner works into it about ten feet in both directions, sending the ore up in baskets. When it is all removed, another shaft is sunk into the vein 20 feet beyond the first, and the miner works back into the old excavation, extending his labours ten feet in the opposite direction. The gold is for the most part as fine as sand, and is often adulterated with a glittering sand called passir B'rni, or Borneo, sand. On one occasion rain fell in great quantities in Sarawak, and a considerable portion of the face of the Trian mountain was washed down into the plains below. The deposit was found to abound in gold, and afforded work for fully 2000 men for about a month or six weeks, and it was reckoned that at the smallest average they procured a bunkal a month per man. The gold was in lumps, and not in dust, several of the lumps weighing from three to four bunkal, and they were rarely less than one or two amass in weight.

In *Celebes*, according to Professor Bikmore (p. 378), gold occurs over all the northern peninsula, from the Minahassa south to the isthmus of Palas. Tavernier also relates (Tr. p. 156) that 'Celebes or Macassar produced gold, which is drawn out of the rivers, where it rowls among the land.'

Mr. Lawes says gold has been discovered in the interior of New Guinea.

In *China*, gold is collected in the sands of the rivers in Yunnan and Sze-chuen, especially from the upper branch of the Yang-tze, called Kin-sha-kiang, or Golden Sanded River. The largest amount is said by Sir John Davis to come from Li-kiang-fu, near that river, and from Yung-chang-fu, on the borders of Burma. It is wrought into personal ornaments and knobs for official caps, and beaten into leaf for gilding. Silver also is brought from near the borders of Cochin-China; and the mines in that region must be both extensive and easily worked, to afford such large quantities as have been exported. It is found in the sands of the Min river in Sze-chuen, and in very many of the small streams in Chefoo in Shan-tung; the island of Hainan (Kiung-chau-fu), also Shan-king-fu and Lien-chau in Canton province, several places in Yunnan and in Kwei-chau, all yield gold.

In the *Japanese Islands*, gold-dust has been largely washed for; but that of the Sado district in the northern part of Niphon, and those of Surunga, and Satzuma, and Omura, and Tsi-kun-go, are mentioned as the most productive.

The information given here as to the diffusion of gold in the streamlets of Malabar, the Neilgherries, and Mysore, was also printed in the first and second editions of this Cyclopædia. It showed that the gold-washers were earning at most about 3d. a day, and offered no prospect of profit to skilled workers. But in 1877 to 1882, speculators formed 26 companies, with capital amounting to about £3,000,000, about half of which went to the sellers of estates. It is the second speculation that has occurred in the Madras Presidency since 1860, the first having been coffee. Gold there is, but, as yet seen, by no means sufficient to meet the heavy demands of skilled labour and machinery. The annual imports of gold into all British India from 1872 to 1882 has ranged in value from £1,443,712 in 1877, to £4,856,392 in 1882.

GOLD AND SILVER FILIGREE WORK. The native silversmiths of Cuttack have long been noted for the fineness, neatness, and lightness of their filigree work. This kind of work is executed for the most part, under supervision, by mere boys, whose nimbler fingers and keener eyesight are supposed to enable them to bring out and put together the minute patterns with more distinctness and accuracy than their elders can; comparative cheapness is perhaps another reason for their employment. The ruling rates for this filigree work are from two to two and a half rupees; that is to say, taking the first rate, two rupees or four shillings is charged for every rupee weight of finished silver work, namely, one rupee for workmanship and one rupee as the price of the silver. The filigree work in gold of Dehli and other places is famed. Next to muslins and embroidered fabrics, filigree work is that for which Dacca is most celebrated. The articles usually made at Dacca are ladies' ornaments, such as bracelets, ear-rings, brooches, chains, necklaces, etc., and attar-dans and small boxes for natives. The design best adapted for displaying the delicate work of filigree is that of a leaf. It should be drawn on stout paper, and of the exact size of the article intended to be made. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of forceps for intertwisting it. The gold and silver filigree work of the Chinese equals any ever produced by ancient Venetian masters, and their chasing in silver is unrivalled. The art of enamelling on silver is also brought to great perfection in China, and specimens surpass any ever produced at Genoa.—*Sirr's China and the Chinese; Dr. Watson.*

GOLD AND SILVER WIRE. The drawing of silver and gold wire (*i.e.* silver wire covered with gold), used as thread in embroidery, is extensively carried on in several places, and Benares is celebrated for this art. There are several varieties of silver and gold thread (badla) made at Dacca, as kalabatūn for the embroidery of muslins and silks; goshoo for caps and covering the handles

of chowries; sulmah for turbans, slippers, and hookah snakes; and boolun, for gold lace and brocades. Some of it is drawn almost as fine as a hair. In the time of Aurangzeb, a quantity of this article was made yearly for the court at Dehli. A hundred sticks covered with it, and plain gold and silver badla to the amount of £2000 in value, appear among items composing the Malboos khas nazr, or present of royal clothing annually sent to the emperor. The Trichinopoly filigree work is as light and elegant as that of Malta or Genoa.—*Dr. Taylor.*

GOLD EMBROIDERY. Zardozi, HIND. The oriental races have ever been celebrated for their skill in this art of embroidery, which appears to have been practised in Assyria, and introduced from thence into India. Pliny, however, mentions that it was a Phrygian invention, and in Rome embroiderers were called Phrygiones. In Babylon, clothes were woven of different colours, and called Babylonica. During the early part of the middle ages, Europe obtained its most important embroideries from Greece and the east. Many of the sarees or women's cloths made at Benares, at Pytun, and Burhanpur, in Gujerat; at Narrainpet and Dhanwarum, in the territory of His Highness the Nizam; at Yeokla in Kandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson or yellow, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the E. Indies; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as any lady of Britain or France. India in this manufacture stands unrivalled, and it makes some very gorgeous shamianahs and elephant saddle-cloths. The gold and silver fancy fringes of Hyderabad are well known in India. Solid silver wire fringes and ornaments are made in Madura, but they are surpassed by the silver thread of Hyderabad.

In the embroidered fabrics of India, it may be mentioned as a principle, that patterns and colours diversify plane surfaces without destroying or disturbing the impression of flatness. They are remarkable for the rich diversion shown in the patterns, the beauty, distinctness, and variety of the forms, and the harmonious blending of several colours.

In Burhanpur, most of the people are dependent in one way or other on the wire-drawing and cloth-weaving industries of the place. The value of its fine fabrics depends mainly on the purity of the metals employed in the composition of the wire, and to secure this the wire-drawing has always been kept under Government inspection. A hereditary tester, called the chaukasi, received and assayed all the silver and gold brought to the taksal or mint (where the Burhanpur rupee was also coined), and here the wire was drawn out to a certain degree of fineness before being allowed to pass again into the hands of the manufacturers, an arrangement still continued by the British. The drawing takes place only at Burhanpur and Lodhipura, a suburb of the old city. The silver bars are covered with a thin gold leaf weighing from four to forty-two masha (of fifteen grains troy each) to each pasa, that is, from about half to six per cent. on the amount of the silver. The number of masha employed is called the rang (colour) of the wire. The adhesion appears to be effected purely by mechanical skill on the part of the workmen, called pasa tania. It is then passed by the same workmen through a series of holes in steel plates, of diminishing size, by manual power applied by means of a spoked wheel of the rudest construction. It is passed through forty of these holes before it leaves the taksal, and is then reduced to about the size of an ordinary sodawater wire. Thence it goes into the hands of another set of operatives, called tania, who still further reduce it through a gradation of forty more holes, the last of which is as fine as a human hair.

Their apparatus is of somewhat more delicate construction, but the work requires neither the same skill nor hard work as the first operation. The wire is drawn by them down to various degrees of fineness, according to the work for which it is destined. The round wire is then given to the chapria, who flatten it into an almost impalpable film, by hammering between two polished steel surfaces,—an operation requiring, it is said, superior skill. In this state it is termed badla, and is used for some few sorts of work. The greater part of it has, however, to be spun into a thread along with silk before being woven up. This is done by persons called bitai, who use no sort of apparatus for the purpose, excepting a couple of wooden spindles twirled by the hand. Indeed, the beauty of the result obtained by such primitive implements must strike every one with amazement. The layer of gold on the finest wire must be of almost inconceivable thinness. The mixed thread is called kalabatun, which is woven into the kimkhab and other brilliant fabrics worn by rich natives on high occasions.

The wire-drawers were originally Pathans, introduced from Upper India by the emperor Akbar, but now all castes work at the trade. The fabrics are of many different sorts, many of them of great beauty. Kimkhab (vulgarly kincob), which is of mixed silk and gold thread, is now little made in Burhanpur, the Ahmadabad and Benares articles, from being produced both cheaper and nearer the great markets for such stuffs, having driven it out of the field. The same may be said of mashroo, a fabric of silk warp with the woof of cotton thread, wrought with a pattern in kalabatun; though made to a small extent, it is greatly inferior to the produce of Ahmadabad. The chief fabrics still made in the city are zari, a very light rich stuff, in which the flattened wire is interwoven with silk in the warp with a thread woof, chiefly made up into scarves and sarees worn by females on wedding and other high occasions. Selari is half silk and half thread, with brilliant edging and borders of silk and gold thread, mostly in the form of sarees and do-pattas; pitambar, all silk with the same edging, is a better sort of the same. Turbans, sashes, etc., are made in all these fabrics. The gold thread also is much woven up with silks into rich borders and edgings, exported to be attached

to the cloth manufactures of other places. Silk for these cloths is all imported; it is mostly from China, generally spun and dyed in fast colours at Poona. A little, however, is spun in the city from the material imported raw. The cotton thread used is extremely fine, and is both English and made on the spot. The former costs in Burhanpur exactly one-fourth of the latter, but it is greatly inferior both in strength and cleanness. The closely-twisted native thread breaks with a sharp crack, while the English article, from its fluffy, open character, parts without any noise. The English thread, from its cheapness, has, however, supplanted the native for all but the finest stuffs. The city thread is spun by the families of the weavers and others, the best being produced by the Balahi or Dher caste. A coarser thread is generally spun throughout the country by the women of almost every caste. It is woven into every description of common cloth by the Burhanpur weavers, even the best of them, when out of fine work, having to take to the commoner stuffs. The latter now greatly preponderate in quantity. The supersession by the rough-and-ready Mahrattas of the luxurious Mahomedan princes and nobles, was probably the first blow to the trade. The average earnings of the weavers range from about five to ten rupees a month, besides what their families earn by spinning, dyeing, and odd work connected with the trade.

Among the manifold and various manufactures of China, the gold and silver tinsel cloths of Pekin stand deservedly in high estimation; their chief value arises from the peculiar property which they possess of never tarnishing or becoming discoloured.—*Dr. Watson; J. B. Waring, Masterpieces of Industrial Art, Exhib. of* 1862; *Williams' Middle Kingdom; Royle, Arts of India.*

GOLDEN FOOT, a title of the king of Burma.

GOLDEN ISLAND, or Chinsan, is in the middle of the Yang-tze-kiang, or great river of China, where the width is near three miles. It is the property of the emperor. It is interspersed with pleasure-houses and gardens, and contains a large monastery of priests, by which the island is almost entirely inhabited.—*Macartney's Embassy.*

GOLDEN LILIES, a translation of the name given to the cramped feet of the women of Chinese origin. It is not practised by the Hakka, a race of ancient Chinese stock who emigrated from Northern to Southern China about the 13th century; nor amongst the Manchu, nor amongst the hill tribes of Formosa.

GOLD FISH, Cyprinus auratus, seem to have long been known in China, and were introduced into Britain about the 15th or 16th centuries. They are seldom seen in India, but are very common in the Mauritius. They are supposed to be of accidental production, as they are not found wild, and their fins and tails greatly vary.

GOLDINGHAM, J., for many years the Honourable E. I. Company's astronomer at Madras. He gave an account of the monolith temples of Mahaballipuram in As. Res. iv. p. 407, and published Astronomical and Meteorological Observations, 3 vols. folio, 1827. He wrote on the Measuring the Length of the Seconds Pendulum at the Equator, ibid.

GOLD-LEAF. Kin-poh, CHIN. This is roughly made in China, and largely exported to India. In China suicides swallow it, as also gold-dust: these produce mechanical irritation and death. —*Smith.*

GOLD MOHUR, also called Ashrufee, a gold coin, value about fifteen or sixteen rupees.

GOLD, OXYMEL of. Kin-tsiang, CHIN. The Chinese regard this as an elixir vitæ.—*Smith.*

GOLDSMITH, one of the five artisan castes among the Hindus of India, the other four being the blacksmith, carpenter, brazier, and stonecutter. These all wear the poitu, zonar, or sacred cord, and do not reverence Brahmans. Those in the Malabar country follow the rule of descent by the mother, and their women are polyandrists. In Western India they are distinguished by their country, as Marwari, Gujerati, Cutchi, or Dekhani, and work at ornaments worn by people of their respective castes or countries. The Cutchi are the best workmen. Usually the intending purchaser finds the gold or silver, and the artisan charges from three annas to two rupees and upwards per tola, according to the simplicity or richness of the design. A large number of articles in gold and silver are annually made at Bhooj. Gulabdan, or rose-water sprinklers, are manufactured for native use. The silver and gold used is very nearly pure. The charge is at the rate of 8 annas per tola weight.

GOLD-THREAD is largely used in the embroidery of India. There should not be any alloy whatever in the gold or gilt silver thread used. This alone can preserve it from tarnish; and as gold thread enters very largely into the patterns of most native cloths, it would be impossible to make any of high value acceptable without it. In its manufacture, a small bar, $\frac{1}{4}$ inch diameter and about 6 inches long, of the purest silver, is trebly or quadruply gilt by the highest touch gold; there is no alloy whatever used in the highest kinds, but the value of the thread depends upon the number of times the silver has been gilt with pure gold. The gilt bar is beaten out to a thick wire with carefully polished flat hammers, on a polished anvil, and afterwards drawn through a succession of holes in a plate, until the requisite fineness is obtained, which is hardly more, probably, than a fine hair. The wire is wound round upon reels, and is flattened by a delicate and peculiar manual operation as follows:—Three reels of wire are placed upright on the further side of a steel plate, perforated, through which the wire is drawn; the workman draws these wires towards him over a highly polished steel anvil, placed on a small stool, and as they pass strikes them sharply with a somewhat heavy hammer, the face of which is also perfectly flat and highly polished. The operation is very rapid, and must require great skill so as to ensure uniform flatness and perfection in the wire thus prepared for use. To make it into thread it is twisted upon silk thread of various degrees of fineness, as required, by a simple process as follows. The thread passes over a ring or hook a few feet above the operator, and is wound upon a spindle with a long shank which hangs near the ground. A rapid twist is given to it by the workman, by rolling it sharply on his thigh, and as it spins the gold thread is directed carefully along, so as to cover the whole exactly as high as the man can reach. The spindle is then stopped, the covered thread wound upon it, and the operation resumed. It is doubtful, perhaps, whether any mechanical

means would ensure such perfection as is attained by these simple manual processes, or whether they could ever be imitated by artisans unused to them.—*Exhib. of* 1851.

GOLEEREE, a pass in the Khaibar mountains; forms the great middle route from Hindustan to Khorasan by Dehra Ismail Khan and Ghazni. Crosses the Suliman range in lat. 32°.

GOLLA or Gollar, a race in India who are treasurers, cashiers.

GOLLA. TEL., KARN. A shepherd, grazier, or cowherd. A man of a caste whose duty it is to graze sheep or cattle. See Goala.

GOLLAR. This tribe or race are dwelling in the villages between Hyderabad and Poona, but a very considerable number dwell in Seroor, 10 miles from Kulburga. They call themselves Gol, from Go, a cow, also Hanam Gol; and they claim to be of the Dhangar or cowherd race. The people know them as Adavi Gollar, *i.e.* country or wild Gollar; also as Bai-mandel-wanloo, also Dowai Darman and Dowa dene wala, alluding to their profession. The men are herbalists, collecting roots and plants for the native physicians, but they are unwilling to communicate any of their knowledge. The young and the women beg. Their physical appearance is strikingly like the races from Rajputana,—about the same in colour, but more slender and not so tall. None of them resemble any of the races of Southern India. They speak in Urdu, Teling, and Canarese. They wear ochre-dyed clothes; do not eat the cow or bullock, but eat the goat, sheep, hare, and other creatures.

GOLOKA, the highest world, residence of Krishna; perhaps Go-loka, the cow-place.

GOLUK, a Hindu race in Woon.

GOLUNDA ELLIOTTI. *Jerd.* Bush rat.

Mus hirsutus, *Elliot.*	Mus coffæus, *Kelaart.*
Gulandi, ... CAN.	Sora-panji-gadur, . . TEL.
Dadde-weddeo, . SINGH.	Gulat-yelka of WADDAR.

The Golundi, one of the Muridæ, is found in Southern India and Ceylon. The tail is naked and scaly, somewhat villose. The colour is an olive-brown above. It lives entirely in the jungle, choosing its habitation in a thick bush, among the thorny branches of which, or on the ground, it constructs a nest of elastic stalks and fibres of dry grass, thickly interwoven. The nest is of a round or oblong shape, from 6 to 9 inches in diameter, within which is a chamber about 3 or 4 inches in diameter, in which it rolls itself up. Around and through the bush are sometimes observed small beaten pathways, along which the little animal seems habitually to pass. Its motion is somewhat slow, and it does not appear to have the same power of leaping or springing, by which the rats in general avoid danger. Its food seems to be vegetable, the only contents of the stomach that were observed being the roots of the hurriali grass, Cynodon dactylon. Its habits are solitary (except when the female is bringing up her young) and diurnal, feeding during the mornings and evenings. In Ceylon it ocasionally commits much damage, seemingly to get the bark, for they do not appear to eat the coffee berries. With their long sharp incisors they bite off with great smoothness the smaller and younger branches, generally an inch from the stem; and should the plants be quite young, just taken from the nursery, they bite them right off a few inches from the ground, and carry them to their nests. Their food in the jungles is a species of Strobilanthus, called Nilu or Nilloo in Singhalese, and the rats only issue from their forest residence and attack the coffee estates when their forest food fails. They invade the coffee plantations in swarms, gnaw off the young branches, and divest the trees of buds and bloom. So many as a thousand have been killed in one day on a single estate. Like the lemming of Norway and Lapland, they migrate in vast numbers on the occurrence of a scarcity of their ordinary food. The Malabar coolies are so fond of their flesh, that they evince a preference for those districts in which the coffee plantations are subject to their incursions, where they fry the rats in cocoanut oil, or convert them into curry.—*Nietner; Tennant's Ceylon; Elliot.*

GOLUNDA MELTADA. *Gray.*

Mus lanuginosus, *Elliot.*	Metta-yelka, . . . TEL.
Kera-ilei, ... CAN.	Mettade of . . WADDAR.

The soft-furred field rat lives entirely in cultivated fields, in pairs or small societies of five or six. In 1826, owing to a deficient monsoon, they appeared in multitudes, and destroyed the seed-grain and grain in the ear. The ryots employed the Waddara to destroy them, but thousands were killed without diminishing their numbers. They are eaten by the Waddara race. It has only been found in Southern India.

Dr. Kelaart describes G. newera as occurring in Ceylon.—*Elliot.*

GOMAL, a pass at the head of the Gomal valley, in lat. 32° N., long. 70° 30′ E., and about 100 miles long. It runs 20 miles from the entrance of the road to the N.W., then 80 miles S.W., then N.W. to Ghazni. This pass is of great commercial importance. Every spring large caravans traverse it from Hindustan to Afghanistan.

GOMASHTA. HIND. An overseer, an agent, an accountant.

GO-MEDHA. SANSK. From Go, a cow, and Medha, flesh. A cow sacrifice.

GOMEZ. Lorenzo de Gomez, a Portuguese, was the first of the European navigators who approached the northern part of the island of Borneo. He arrived there in 1518 in the ship *St. Sebastian*, on his route to China. He gave to the country the name of Burne, but he says that the natives term it Brannai or Brunai. The people have, however, no general name for the island.

GOMPHIA ANGUSTIFOLIA. *Vahl.*

Walkera serrata, *Willd.*	G. Zeylanica, *D.C.*
Ochna Zeylanica, *Lam.*	G. Malabarica, *D.C.*
Pua-jetti, . . . MALEAL.	Jokati, ... TAM.
Bokaara-gass, . SINGH.	

This tree grows to the height of 30 feet on the continent of India and in Ceylon, and is common up to an elevation of 3000 feet. The wood is useful for building purposes. The root and leaves are bitter, and employed in Malabar in decoction, in milk or water, as a tonic, stomachic, and anti-emetic.—*Thw. Zeyl.* i. p. 71; *O'Sh.* p. 269.

GOMPHRENA GLOBOSA. *Linn.*

Ma-hnyo-ban, . . BURM.	Gul mukhmul, . . HIND.
Jafferi gundi, . . DUKH.	Lal-gul, ... ,,
Everlasting flower, ENG.	Pedda goranta, . . TEL.

This flowering plant has a red and white variety, and the red resembles red clover. It is cultivated in gardens.—*Roxb.; Mason.*

GOMTI, a small perennial stream of Mewar,

which rises in the Aravalli mountains, and flows near Udaipur. It was dammed across by the rana, and the great Kankraoli Lake formed, 12 miles in circumference, at a cost of one kror and fifteen lakhs of rupees.

GO-MUKHI. HIND. A bag used by Hindu devotees; it contains a rosary, the beads of which are counted by the hand. Literally the two words mean cow's mouth.

GOMUTI. MALAY.

Makse, ... AMB.	Cabo-negro, . . . SP.
Duk or Dok, . . . JAV.	Anu, ... SUM.
Iju, Siji, . . . MALAY.	Scho, ... TER.
Sagwire, . . . PORT.	

The Tree.

Nawa, ... AMB. | Anao, Areng, Indro, MALA.

Gomuti is a fibrous horsehair-looking substance, produced at the base of the petioles of the Arenga saccharifera, and superior in quality, cheapness, and durability to that obtained from the husk of the cocoanut. It has great power in resisting wet, and is used by the natives of the Indian islands for every domestic and naval purpose to which cordage is applied. The coarser parts are used as pens by all the tribes who write on paper, and as the arrows for blow-pipes or arrow-tubes. Gomuti, of all vegetable substances, is the least prone to decay; it is fastened like straw over bamboo thatch round the ends of posts placed in the ground, is mixed with mortar, and is plaited by the Bornoese into ornaments for the arms, legs, and neck. Gomuti fibre is in Europe occasionally heard of by the name of vegetable bristles, but only a portion of the fibres may be likened to stiff bristles, the greater part being more like black horsehair. Dr. Roxburgh, writing in the year 1799, strongly recommended the extensive introduction of this palm into India; and the Arenga now grows in Bangalore, and to some extent in the Nuggur division of Mysore. The palm-wine and the sugar it yields, the black fibres for cables and cordage, and the pith for sago, independently of many other uses, are objects of commercial importance. This palm is to be found in all the Asiatic islands, especially in low moist situations, and along the banks of rivers. The native shipping of all kinds are entirely equipped with the cordage of the gomuti. It undergoes no preparation but that of spinning and twisting,—no material similar to tar or pitch, indispensable to the preservation of hempen cordage, being necessary. The best gomuti is the produce of the islands farthest east, as Amboyna and the other spice islands. That of Java has a coarse ligneous fibre; the produce of Matura is better. Gomuti is generally sold in twisted shreds or yarns. Besides the horsehair-like fibres, there is at the base of the leaves a fine gossamer-like woolly material, Baru, MALAY, Kawal, JAV., much employed in caulking ships, as stuffing for cushions, and as tinder. Eju was sent to the London Exhibition of 1851. The bundles of the coarse and fine fibres were about six feet in length, and about twelve inches in diameter, neatly tied up with split cane. Interspersed among the coarser were some finer fibres, something like black wool. The sinnet is coarse, but strong, and broke with a weight of 85 lbs., when coir of about the same size broke with 75 lbs.; but the comparison was not very exact. Besides making strong and durable cordage, the eju fibre is no doubt applicable to a variety of purposes for which horsehair and bristles are now employed.—*Royle, Fib. Pl.; Seeman on Palms; Voigt; Roxburgh; Morrison's Comp. Desc.*

GONA, also Gonapat. HIND. Gunny; a coarse canvas or sackcloth made from the Corchorus capsularis (pat) and C. olitorius, of which the gunny sacks, cordage, and paper are made.—*W.*

GOND, the province of Gondwana, on the old maps was bounded on the S.W. and W. by the Godavery, Pranhita, and Wardha rivers, and the Kaligong Hills; the Nerbadda separated it from Malwa and Dumoh, and then the boundary line ran N.E. along the Kutne, and on the N.E. side it had Berar and Chutia Nagpur. On the E. and S.E. it extended at least to a line drawn from Gangpur on the Brahmini to Bhadrachalam, about 120 miles from the mouth of the Godavery, and included Sumbulpore, Sonpur, and Patna; but on Hamilton's map of 1820 it includes Kalahandi, Boad, and Singbhum. Its length from S.W. to N.E. was not less than 380 miles, and its average breadth fully 300, whilst its area was at least 115,000 square miles. Gond tribes are scattered over the mountain ranges of this territory, though they do not extend quite so far to the E. as it does. They are found extending into Sirguja on the N.E.; they are found in Karial and Kalahandi or Kharond, along with the Khand and Uriya. In the south, says Mr. Hislop, they form the mass of the population of Bastar, and a portion of the inhabitants of Jeypore (in the Madras Presidency), while they occupy the hills along the left bank of the Godavery, about Nirmul; and on the west they are intermingled with Hindus of Berar for 30 miles from the right bank of the Wardha. The chief remaining sites of the aboriginal tribes of Central India is the Satpura plateau, divided among the British districts of Baitul, Chhindwara, Seoni, and the higher half of Mandla. Commencing from the west, one-half of the population of Baitul is Gond; in Chhindwara, the proportion is as high as three-fourths; in Seoni, which is traversed by the main line of communication through the plateau, it sinks to one-third, rising to one-half in the wild district of Mandla, where the last Gond kings held sway. To the east and west of this region, hill races of a different stock press in upon the Gonds, Kurku, Bhil, Baiga, Kol, and Dhangar.

The name Gond or Gund, says Mr. Hislop, seems to be a form of Kond or Kund. Both forms are most probably connected with Konda, the Telugu equivalent for a mountain, and therefore will signify the Konda-wanlu, hill people. And this name they must have borne for many ages, for we find them mentioned by Ptolemy, the geographer (A.D. 150), under the name of Gondaloi. But it has also been supposed to be a contraction of Govinda, literally cow-keeper. Of their history we know but little. Under all changes they appear to have preserved their own forms of worship and social habits; but some have adopted to a greater or less extent the forms of Hinduism, and a still fewer number have become Mahomedans. The Rajputs from Malwa seem to have pushed their conquests into the country and intermarried with them. Their descendants are still known as Rajputs or Gond Rajputs. They established governments, one of which ruled the Nerbadda valley, and had its capitals at Mandla and

at Garha, near Jubbulpur. It was founded by Jadu Rai, who succeeded his father-in-law Nagdeo, the Gond raja of Garha (A.D. 358). Mandla was conquered by his descendant, Gopal Sa, A.D. 634. Sungram Sa, the 47th in descent from Jadu, inherited only three or four districts in 1480; but at his death, in 1530, he ruled over fifty-two. Ferishta tells us that when Asof Khan invaded Garha in 1563, Bir Narayan was raja. Hirdi Sa, the 54th raja, built the temple at Ramnagar, near Mandla; and Seoraj, the 59th, began to reign in 1742, when Balaji Baji Rao invaded the country. A second kingdom had its seat on the southern slope of the Satpura Hills, at Deogarh in Chindwara, one of the rajas of which, Bakht Baland, was either taken prisoner by one of Aurangzeb's generals, or visited Dehli of his own accord, where he was converted to Mahomedanism, and then permitted to return to his country, where his descendants, says Mr. Hislop, though adhering to this change of creed, have not ceased to marry into Gond families, and hence the present representative of that regal house is not only acknowledged by the whole race about Nagpur as their head and judge, but is physically regarded a pure Raj Gond. A third Gond principality had its capital at Kherla in Baitul, to which belonged the famous forts of Gawilgarh and Narnalla. In 1433, its raja, Narsingh Rai, who is represented as powerful and wealthy, was slain in battle by Hushang Ghori, king of Malwa, and Kherla taken. At a later date it appears to have become subject to Pandu Gauli, the raja of Deogarh, and continued so under his successors. Not far from Kherla we find a hill raja at Saoligadh in Aurangzeb's time, who seems to have maintained his independence till swept away by the Mahrattas between 1760 and 1775. A fourth Gond kingdom was that of Chanda on the Wardha, which extended far to the east and south-east. The four dynasties arose before the ascendency of the Moghuls in India, and have left architectural and other monuments of great interest. The principal architectural remains are at Mandla, at Garha near Jubbulpur, at Chauragarh near Narsingpur, at Deogarh near Chindwara, at Kherla near Baitul, and at Chanda. But besides the preceding kingdoms, there was also a Gond Rajput dynasty at Warangal or Orankal in the Dekhan, to the south of the Godavery, which is said to have been founded by Kakati of the Ganapati family about A.D. 1088. The kingdom became very powerful about the end of the 13th century, and the raja of Orissa, becoming jealous of his neighbour's power, solicited the aid of Ala-ud-Din, who sent an army in 1303, through Bengal, to attack Warangal; but his expedition failed. Malik Kafur was then despatched with 100,000 horse into the Dekhan, and, after a siege of some months, he took Warangal in 1309, and made the raja, Ladder Deva, tributary. In 1321 it was again besieged by Alif or Jema Khan, the son of Ghaias-ud-Din Taghalaq, but he was obliged to retreat with the loss of nearly his whole army. He returned, however, and in 1323 reduced the place, and carried the raja prisoner to Dehli. It is said he was afterwards released and restored; at all events Warangal reasserted its independence in 1344, and assisted Hasan Ganga, Bahmani, in his revolt. From this time the Bahmani kings of Kulburga involved the native rajas in continual wars. Firoz Shah (1397-1422) especially obtained great successes over the raja of Kherla; and finally Ahmad Shah, Wali, took permanent possession of Warangal, forcing the raja to relinquish his ancient capital and flee northward across the Godavery, where he established himself in wild independence among the inaccessible forests. The Gond rajas still maintained their independence, however, and in 1513 we find them joining in a powerful confederacy on the side of Medon Rai against Muhammad II. of Malwa. At the close of the 16th century, Akbar reduced the western portion of Gondwana, but it was not till the middle of the 18th that permanent progress was made. About 1738, Raghuji Bhonsla interfered in a disputed succession in Deogarh, and secured half the revenues; but in 1743 the Gonds raised an insurrection, which Raghuji quelled, and annexed the principalities of Deogarh and Chanda to his own dominions; and in 1751–52 he took the forts of Gawilgarh, Narnalla, and Manikdrug, with the districts dependent on them.

From this period large numbers of Mahrattas settled in these districts, the Gonds became more restricted to the hills, and they do not now form any considerable part of the population of the plain or champaign country. They predominate from Sirguja westward along the line of the Satpura Hills, through all the hilly country of the districts of Mandla, Jubbulpur, Seoni, Chandwara, Baitul, and Hoshungabad, and in some degree to the neighbourhood of Asirgarh. The Gond of Berar is a hill race, occupying the Mailghat and the southern skirts along with the Andh, the Kolamb, and Kurku. All these have a physical resemblance, but each of them speaks a different tongue, and in their features they are quite distinct from the people of the villages. There are 8000 of them in the Amraoti district. In the Central India Provinces the chief Gond tribes are:—Bhatra Gond, Mari Gond, in Chanda; Mariah or Gottawar, Upper Godavery; Khutolwar, in Chanda; Durweh, of Chanda; Aguriah, of Mandla; Hulba, of Upper Godavery. Their numbers have been variously estimated up to two millions, partly under feudatory states, as Bastar, Hyderabad, etc., and partly under the British Government, in the Central Provinces.

The Gonds divide themselves into twelve and a half castes, viz. Raj Gond, Raghuwal, Dadare, Katulya, Padal, Dholi, Ojhyal, Thotyal, Koilabhutal, Koikopal, Kolam, Madyal, and an inferior sort of Padal as the half caste. The census of 1881 names nine of them—Raj Gond, Pardhan, Kolam, Koilabhute, Darwe, Thakur, Bucheria, Boye, and Thoti. The first four, adds Mr. Hislop, with the addition, according to some, of the Kolam, are comprehended under the name of Koitor,—the Gond par excellence. This term, in its radical form Koi, is the name given also to the Meriah sacrificing tribes of Orissa, and to the wild tribes skirting the left bank of the Godavery from Rajamundry to near the mouth of the Indrawati. The Persian word Koh, a hill, approaches this more closely than even the Telugu Konda. The Koitor, as a rule, resent with no small vehemence the imputation of belonging to any portion of the Hindu community. The first three classes generally devote themselves to agriculture; the fourth includes those who have begun to conform to the Hindu religion and ape Hindu manners. The Padal, Pathadi, Pardhan,

or Desai, called Raj Pardhan to distinguish them from the Mahrati-speaking half-caste,—who play on wind instruments of brass, and spin cotton thread,—are the religious counsellors or bhats of the upper classes. The Dholi are musicians; and a subdivision of them in jungly districts are employed as goatherds. The Ojhyal are wandering bards and fowlers. The Thotyal (*i.e.* maimed) or Pendabarya, 'minstrels of God,' are also called Matyal, because their songs are chiefly in honour of Mata, the dreaded goddess of smallpox. They make baskets also. The Koilabhutal are the third wandering caste, and their women are dancing girls. They follow their profession chiefly among the Hindus, it being reckoned disreputable by the people of their own race. The Koikopal, *i.e.* Gondi Gopal, are a settled class devoted to cow-keeping. The Madya, called Jhodia in Bastar, are savages on the Beila Dila Hills, and in the remoter parts of Chanda. The only clothing the women wear is a bunch of leafy twigs fastened with a string round their waists, to cover them before and behind. In this they resemble the Juangar to the south of the Kol country, the Chenchi near the Pulicat Lake and to the north of Ellore, and till about A.D. 1880 a similar custom existed among the Holier near Mangalore. The Kolam extend along the Kandi Konda or Pindi Hills, on the south of the Wardha river, and along the table-land stretching east and north of Manikgadh, and thence south to Danttanpalli, running parallel to the right bank of the Pranhita. They do not intermarry with the common Gond, but the one attend the nuptials of the other, and eat from their hands. Connected with the Gonds, though not included in the preceding classes, are the Madiya between Chindwara and the Mahadeva Hills, who have conformed to the Hindus in their language and some religious observances; the Halwa, pretty numerous in Bastar, Bhandara, and Raipur, who covet the distinction of wearing a sacred thread,—a privilege, till recently, sold to those in Bastar by the raja; the Gaiti Gonds in Bastar, who call themselves Koitor; the Moria Gonds, who are the principal agriculturists in Bastar; and the Naikude Gonds, inhabiting the jungles on the banks of the Pain-Ganga, and especially the tracts between Digaras and Umarkhed, and found about Aparawa-pet, and as far as Nirmul, who have adopted the Hindu dress, and will not eat beef; but they live by the chase, or cut wood and grass, and have been a terror to their neighbourhood by their depredations.

Quite distinct in language at least from the Gond tribes, are the Kur or Muasi and the Korku to the N.W. and W. of the Mahadeva Hills. Of the latter of these, Mr. Elliot gave interesting details in the second number of the Journal of the Antiquarian Society of the Central Provinces. They belong to the Kol or Munda family.

The Gond religion is as distinctively of Scythian origin as is their language and physique. Earthenware figures of the horse are offered instead of the living sacrifice. They propitiate the manes of their ancestors by offerings of these earthenware horses, rice and other grains, eggs, fowls, or sheep. The sacrifice of the cow was prohibited by the Bhonsla government. Children everywhere, and many adults, are buried, but the Madia of Bastar and the Gond races who have conformed to Hindu customs burn their dead.

They have in all about thirty divinities, but two of these, Barra Dewa and Dula Dewa, are most worshipped. The Creator, under the name of Bhagwan, is occasionally worshipped in their houses by prayers, and by burnt-offerings of sugar and ghi, but their chief worship is to the inferior divinities; these are—

1. *Badu Dewa* (great god) or *Budhal Pen* (old (god), who is the same as the Bura Pen of the Kond race, and appears to be the same as Rayetal, or the sun-god, represented by an iron tiger three inches long; and is probably the same as the Marung Bura of the Santal. He is worshipped once a year, at the rice harvest, and a hog is then sacrificed to him. Among the Gaiti he is represented by a copper piece, kept in a tree in the jungle. This they take down at the annual festival, clear a space of about a foot square under a tree, in which they lay the pice, before which they arrange as many small heaps or handfuls of uncooked rice as there are deities worshipped by them. The chickens brought for sacrifice are loosed and permitted to feed on the rice. Goats are also offered, and their blood presented in the same manner. On the blood arrack is poured as a libation to their deities. The pice is now lifted and put in its bamboo case, which is shut up with leaves wrapped in grass, and returned to its place in the tree, to remain there till it be required in the following year. Both Budhal and Matya (about to be noticed) are said to be sometimes of iron, and a foot long.

2. *Matya*, called *Mata* by the Kurku, is both the god (or goddess) of the much-dreaded scourge smallpox and of the town. The Gond of Seoni represent Matya as the attendant or kotwal of Budhal Pen, and they offer him a pig. The Kurku suppose Matya to reside inside the village, and they make offerings of cocoanuts and sweetmeats, but no blood.

The Gond have no images in their houses, and at their religious ceremonies they employ only the rudest symbols,—knobs of mud, stone, iron rods, pieces of wood, chains, bells, etc. Their festivals are associated with their crops, and are celebrated under the saj tree or eim tree three or four times in a year, as on the occasion of the commencement of rice sowing, when the rice crop is ready, and when the mahwa tree (Bassia latifolia) comes into flower. In the south of the Bandara district are to be seen squared pieces of wood, each with a rude figure, carried in front, set up somewhat close to each other. These represent Bangaram, Bangara Bai, or Devi, who is said to have one sister and five brothers, the names of the latter being Gantaram, Champaram, Naikaram, and Potlinga, the sister being known as Danteswari, which is a Hindu name of Kali. These are all deemed to possess the power of sending disease and death upon men, and under these or other names seem to be generally feared in the region east of Nagpur city. At Dantewada, in Bastar, about 60 miles S.W. of Jagdalpur, near the junction of the Sankari and Dankan tributaries of the Indrawati, is a shrine of Danteswari, at which, about 1835, it is said that upwards of 25 full-grown men were immolated on a single occasion by a late raja of Bastar. Since then numerous complaints have reached the authorities at Nagpur of the continuance of the practice, and up to 1883 the conduct of the ruling raja continues

unsatisfactory. Amongst the Moria Gond, Bhawani is worshipped as the smallpox goddess, and as Maoli or Danteswari.

3. *Sale* or *Sali*, or, according to the Gaiti Gond, Saleng, sits on the same gadhi with the great god, to whom he is said to be nearly equal. An offering of a she-goat is made to him, and he is probably the protector of cattle.

4. *Gangara*, Ghagara, Gagaral, Gongara Mal, is the bell god, and is represented by a bell, or by an iron chain of four links.

5. *Palo*, of whom only the name is known. The suitable offering to Gangara and him is a cow.

6. *Gadawa* is the god of the dead, and is perhaps the same as Chawar, and identical with Dichali of the Chaibassa Kol.

7. *Kham* or *Kank*, the last of the seven deities (Sat dewala), is worshipped under the saj tree (Pentaptera tomentosa.)

Kodo Pen is besides these seven, and is the horse-god, common to the Gond and Kur. Mr. Driberg supposes him to preside over a village, and thus he would correspond to Nadzu Pen of the Kond. But Mr. Hislop conjectures he may be the god of crops, Kodo, the Paspalum frumentaceum, being the grain chiefly cultivated by the Gond. In the wilder villages near the Mahadeva Hills, Kodo Pen is worshipped by new comers near a small heap of stones, through the oldest resident, with fowls, eggs, grain, and a few copper coins, which become the profits of the officiating priest.

Mutua or Mutya Dewa, among the Kurku, is a heap of small stones inside the village, besmeared with sandur, red lead. He is associated with the prosperity of the village, and is worshipped with a goat, cocoanuts, limes, dates, and a ball of sandur paste.

Pharsi Pen or Pharsa Pot is represented by a small iron spear-head. This name may possibly be connected with Barchi (Hindi), a spear; and he may be identical with the Loha Pen of the Kond, the iron god or god of war. Pharsa, in Gondi, also means a trident, which is an ancient Tartar weapon. He is worshipped every third or fourth or fifth year, at full of the moon Vaisakh, and on the occasion people assemble from great distances, and offering is made of a white cock, a white he-goat, and a white young cow. The ceremonies are conducted with great secrecy, and no Hindu or Gond woman even is allowed to be present. He is apparently the same as Dula Dewa, the god of the battle-axe of the Gaiti Gonds, who represent Dula Dewa by a battle-axe fastened to a tree. While Barra Dewa requires the sacrifice of a living animal, a fowl, a goat, a pig, on public occasions, Dula Dewa is a household god, to whom at all times rice, flowers, and oil can be offered.

Hardal, at Amarkantak, is worshipped as the cholera god; but Mr. Hislop supposed this to be another name for Budhal Pen. The Kurku style him Lala Hardal, and he possibly is the same as the Gohem of the Chaibassa Kol.

Bangaram is probably the god of fever, as among the Kol of Chaibassa, where he is associated with Dichali and Gohem, as also with Chondu, the god of itch, and Negra, of indigestion.

Bhiwasu or Bhim Pen is, in the Mahadeva Hills, the god of rain, where a festival lasting for four or five days is kept in his honour at the end of the monsoon, when two poles, about 20 feet high and 5 feet apart, are set up, and a rope attached to the top, by means of which they climb to the top of the pole, down which they then slide. Offerings of fowls, eggs, and grain are presented to him. All over Gondwana he is generally worshipped under the form of an unshapely stone covered with vermilion, or of two pieces of wood standing from three to four feet above ground, like those set up for Bungaram. Before these the Moria Gond regularly perform worship previous to sowing. A little S.W. from Bajar Kurd, however, and north of Parsenni, is a formed idol of Bhiwasu, 8 feet high, with a dagger in one hand and a barchi (javelin) in the other. A Bhumuk is the pujari or officiating priest, and the people worship on Tuesdays and Saturdays, making offerings of hogs, he-goats, cocks, hens, cocoanuts. At an annual feast the potail gives two rupees, and Hindu cultivators rice; the pujari takes a cow by force from the Gowar and offers it to Bhim Sen, in presence of about twenty-five Gonds.

Sasarkand is a pool in the Mahur jungle, where the Pain-Ganga is said to be engulfed. The Naikude Gond repair there, in pilgrimage, at the month Chaitra, to a huge stone that rises in a gorge, and goes by the name of Bhim Sen, before which Naikude Gond mingle with Raj Gond and Kolam in worship. Towards evening the worshippers cook a little rice, and place it before the god, adding sugar. Then they smear the stone with vermilion and burn resin as incense; after which all offer their victims, sheep, hogs, and fowls, with the usual libations of arrack. The pujari appears to be inspired, rolls his head, leaps wildly about, and finally falls down in a trance, when he declares whether the god has accepted the services or not. At night, drinking, dancing, and beating tomtoms goes on, and in the morning they return home after an early meal. Those unable to leave home perform similar rites beneath a mahwa tree.

Waghoba, the tiger god, is worshipped by the Naikude Gond, and under the name of Bag Deo by the Kurku.

Sultan Sakada is worshipped by the Kur.

Sakal Deva or Sakra Pen, the chain god, is worshipped in Seoni and elsewhere.

Sanyal Pen or Sanalk, the spirits of the departed, are worshipped or propitiated for a year after death; but persons of note, headmen of villages, or priests, are treated as gods for years or generations, and sacrifices are usually offered at their sthapana or shrines of earth.

The Gonds of Mandla have the Lamjina Shadi, in which the betrothed lad serves an apprenticeship for his future wife. A Gond girl, however, may exercise her own will and run off with a man; but it is quite allowable for her first cousin or the man whom she has deserted to abduct her from the man whom she has chosen. The Shadi Bandhoni is a compulsory marriage. In the Shadi Baitho, a woman goes to a man's house. Widows remarry either to a younger brother of their deceased husband, or to some other man.

To burn dead men is deemed the most honourable mode of disposing of the remains; women are always buried. When the father of a family dies, if well to do, they clothe the corpse in a new dress, and bury or burn the remains; his spirit is supposed to dwell in the house till it be released. Till released, the spirit is the only object of worship in the house. After the funeral, a piece of turmeric and a pice are tied up in a cloth and suspended to

one of the beams of the house. When the time comes to lay the spirit, the cloth is removed, and, with a portion of the flesh of a goat or a pig, is offered to the village deity. A feast is given to the relatives and elders, and the release is complete.—*Central Provinces Gazetteer; Sir Walter Elliot, in Journal Ethn. Soc.; Coleman, Myth. Hind.* p. 297; *Latham's Ethnol.; Mr. Logan, in Jo. Ind. Arch.*, 1853, p. 201; *Malcolm's Central India*, i. p. 361; *Dalton's Ethn. of Bengal; Mr. (Sir George) Campbell, Ethn. of India, in Jo. B. As. Soc.; Report of Ethn. Committee of the Central Provinces*, 1868, p. 7; *Rev. Mr. Hislop's Notes; Wilson.*

GONDA, a town in Oudh, in lat. 27° 7′ 30″ N., and long. 82° E., is 28 miles from Faizabad. It gives its name to a revenue district with a population over a million. The great cultivating castes are the Ahir, 122,106; Kori, 110,916; and Kurmi, 92,321. The Kahar, mostly servants and palanquin bearers, number 44,978. The Barwar are a predatory tribe of Hindus.—*Imp. Gaz.*

GONDANA. MAHR., KARN. Called also Gondli or Gondhal. A tumultuous assembly in honour of the Hindu goddess Devi, celebrated in Mysore by Mahratta Brahmans, with music, dancing, and the recitation of mythological stories, the performers being a low caste named Gondhali, who sing and dance. In some places the Gondhali is the village drummer; sometimes he is a vagrant musician, dancer, etc. In Berar, also, the Gondhali is the village musician.—*W.*

GONDAR, the capital of the Amhara kingdom, stated by Heuglin (1862) to have contained from 6000 to 7000 inhabitants, but it is said to have been totally destroyed by the emperor Theodore.—*Par. Paper.*

GONDNI. HIND. Cordia angustifolia, C. obliqua, and C. Rothii. The fibre of the bark is made into rope. The fruit of C. angustifolia is an orange-coloured, sweet, and rather mucilaginous berry.

GONDOPOI.A. URIA.? A tree of Ganjam and Gumsur, extreme height 45 feet. Bandy wheels and ploughshares are occasionally made of the wood.—*Captain Macdonald.*

GONG or Loo, a musical instrument of the south and east of Asia, composed of a mixed metal resembling bronze in appearance. It is in the form of a large flat basin, with a ridge, and when beaten with a mallet, covered with woollen cloth or twist, emits a strong reverberating or ringing bell-like sound. Its value is in proportion to the quantity of metal it contains. In China, gongs are suspended at the doors of courts of justice, where applicants for justice attend and sound. The gongs of China are made of mixed metals,—in 100 parts, copper, 82; tin, 17; iron, 1; nickel, traces. The metals are melted in a crucible, and poured out on an iron mould with a clay rim, and hammered while still red. The gongs are hard, but brittle, and are struck with a padded bamboo and gradually brought to the full sound. The Kayu kutoh of the Malay is a wooden gong. It resembles the teponaztli of the Mexican Cordilleras.—*Crawfurd; Burbidge.*

GONI. HIND. Gunny. Goni cloth, gunny of Crotalaria juncea.

GONIKAR. HIND. A low caste employed to gather the areca nut from the gardens of the husbandmen in Mysore.—*Wils. Gloss.*

GONIOTHALAMUS HOOKERI. *Thw.* A middle-sized tree of Ceylon, at Hinidun and Reigam Corles, at about 1000 feet. G. Thwaitesii, *H. F.*, and T. caloocaara, not uncommon in the central province, at an elevation of 2000 to 4000 feet.—*Thw. Zeyl.* pp. 6, 7.

GO-NYEN. BURM. A vine producing a pod 3 or 4 feet long, containing 10 or 12 beans, 10 inches in circumference. These beans, well boiled, are sometimes used for food.—*Malcom*, i. p. 182.

GONZALES. Ruy Gonzales de Clavijo, an officer of the court of Henry III., king of Castille, went to Samarcand as an ambassador in 1403, and returned A.D. 1408.

GONZALEZ de Mendoca (Jo), author of a History of China, published at Rome A.D. 1585, at Antwerp 1596. It was translated into Italian and published by M. Fr. Avanzo at Genoa in 1586, and put into French by L. de la Porte, Paris 1600.

GONZALEZ. Sebastian Gonzalez de Tibao arrived in Bengal in 1605, where he engaged in the salt trade, but took to piracy, and commanded a fleet of pirate ships; seized Sundwa in the Sunderbuns. He had a large force, and frequently ravaged Arakan and the Sunderbuns. He married the sister or daughter of the king of Arakan, but after a chequered career he sank into obscurity.

GOOAL or Kowar. HIND. A cereal which, in the N.W. Provinces, is frequently sown with cotton, and given as fodder to cattle.—*Elliot.*

GOODA, also Goora. HIND. A temporary place of refuge; hence the designation of many towns in India.—*Tod's Raj.* i. p. 298.

GOOGA or Goga. In the Lower Himalayas of the Panjab there are many shrines to this mythological being. In one account he was a chief of Ghazni, who was slain in war against his brothers Urjun and Surjun, but a rock opened, and Goga sprang forth armed and mounted. Another account makes him the lord of Durd-Durehra, in the wastes of Rajwara, who died fighting against the armies of Mahmud.

GOOGUL, HIND., is met with in all the bazars of India. It much resembles myrrh; and is said by some good authorities to constitute the bulk of the article exported from Bengal as East Indian myrrh. Royle considers the Googul identical with the b'dellium of commerce, and he ingeniously traces in Budleyun and Madelkhon, the Greek synonyms of Googul, the βδελλιον and μαδελχον of Dioscorides. A tree in the Saharunpur garden, pointed out as the Googul tree, had scaly bark exactly conformable to Dr. Roxburgh's description of his Amyris. Dr. Ainslie (i. p. 29) adduces as synonyms of b'dellium, Kukul, TAM., Googulu, TEL., Googul, CAN., HIND., Aflatun, ARAB., and Mukul, PERS. He describes the gum-resin as semi-pellucid, yellowish, or brown; inodorous and brittle; softening between the fingers; in appearance not unlike myrrh, of bitterish taste, and rather strong smell. He stated, however, that it was all brought from Arabia and from Persia, where the tree is called Darakht-i-mukul, but in the bazars of India it is said that the Googul comes from the hills.

Under the term Googul, however, the resinous exudations of several trees seem to be classed. Under the Canarese and Mahratta names Dhoop and Googul, Dr. Gibson mentions two species of Canarium, one in Canara and Sunda, on the ghats above, and the second species of great size

cultivated near Bilgil and at Siddapore. The choice gum-resins afforded by these trees are extensively used in the arts, and exported both inland and to the coast. Several plants undoubtedly yield the b'dellium of Scripture, and amongst others Balsamodendron Roxburghii, *Arn.*, B. pubescens, *Stocks*, of Sind, B. Mokul, *Drury*, B. glabra, *W. and A.*, B. Africanum of Senegambia.

Olibanum is produced from species of Boswellia, described by Avicenna, evidently referring to the λιβανος of Dioscorides, who mentions both an Arabian and an Indian kind. The latter, Mr. Colebrooke proved to be the produce of Boswellia serrata, *Roxb.* (B. thurifera, *Colebr.*), the Salai or Saleh, GOND., of the Hindus, common in Central India and Bundelkhand, especially about the Bisrumgunge ghat. It is probably also produced by B. glabra, which has the same native name, and though extending to a more northern latitude, is distributed over many of the same localities. To this kind, according to Dr. Ainslie, the term Googul is applied by the Telugu people. The resin of both species is employed as incense in India. Central India alone furnishes the greatest portion of the Indian olibanum of commerce, as it is chiefly exported from Bombay.—*W. Ill.; Roxb.; O'Sh.* p. 287; *Royle, Prod. Res.; Ainslie; Gibson; Birdwood.*

GOOGUL, a fibre supposed to be obtained from the Isora corylifolia, the Valumbri-kaya of the Tamil language.

GOOHA. SANSK. A secret place, from Gooh, to hide or cover; hence Goohya, requiring to be concealed. See Guhya.

GOOR. DUKH. Jaggary, HIND.; Nulla vellum, TAM.; Bellum, TEL. A coarse sugar obtained from the sugar-cane and the various palm wines, particularly that of the Phœnix dactylifera. Twelve pints of the sap are boiled down to one of goor, and four of goor yield one of good powder sugar. It is not sugar, nor is it molasses, but both together.—*Simm.*

GOOR. Bahram Goor was famous for his liberty, gallantry, and love of the chase. He was the monarch whom the Greeks and Romans styled Varanes, and was the fourth monarch of the family. The famous impostor Mani, founder of the sect of Manichæans, made his appearance in this king's reign, and was put to death by the king. Bahram Goor is said to have visited India in the fifth century, and to have left progeny there by a princess of Kanouj. See Gor.

GOORAKOO, Goodakoo, or Goodak, HIND., called in Bengal Tambaku, the name given in the Peninsula of India to the compound of tobacco for the hookah; from Goor, raw sugar, and Akoo, TEL., leaf.—*Herklots.*

GOOSE.

Wazzat, ... ARAB.	Anser, ... LAT.
Gans, . . . DUT., GER.	Gansi pato, . . . PORT.
Oie, ... FR.	Ghus, ... RUS.
Cheu, ... GR.	Hansa, ... SANSK.
Kaz, ... HIND.	Ganso, Ansar, . . . SP.
Oca, ... IT.	Gas, ... SW.

In its position in natural history, the goose is of the order Natatores, tribe Lamellirostres, and family Anseridæ, comprising the Anserinæ or true geese, Cereopsinæ or N. Holland geese, Plectropterinæ or spurred geese, Nettapodinæ or anserine teal, and the shieldrakes or Tadorninæ. The goose was domesticated in ancient times; it is mentioned in Homer, and was kept in the Roman capital B.C. 328, sacred to Juno. There are three or four closely-allied wild species, but the prevailing belief is that the wild grey-leg goose is that from which the domestic breeds have come. The A. albifrons may have crossed. The rock goose, Bernicla antarctica, does not seem to have crossed. With the Egyptians, the egg of the goose was the emblem of Seb or Chronos (Bunsen). The goose was deemed the bird of wisdom in ancient Europe; in Asia it was the symbol of stupidity.

Anser cygnoides is domesticated in China.
A. cinereus (A. ferus), 'Grey-leg goose' of Europe and Asia, is common in India. The domestic goose of India is a hybrid between A. cygnoides and A. cinereus.
A. brachyrynchus, 'Pink-footed goose,' of Europe, N. Asia, and Panjab (rare)?
A. albifrons of Europe, N. America, N. Asia, and Panjab.
A. Indicus, *Blyth*, 'Barred-headed goose' of North and Central Asia; visits India in the cold weather.
Bernicla ruficollis (A. ruficollis), 'Red-breasted goose,' of N. Asia chiefly; rare in N. India.

The pied goose of Australia is Anseranas melanoleuca. The maned goose of Australia is Bernicla jubata; blackbacked, A. melanonotus.—*Darwin; Bunsen; Burton's Scinde; Hooker; Catal. Cal. Museum.*

GOOSEBERRY.

Guldum, ... BHOT.	Uva spina, ... IT.
Stikkelsbœr, . . DAN.	Kryzhovink, . . . RUS.
Groseille verte, . . FR.	Grosella, ... SP.
Stachelbure, . . GER.	Stickelbar, ... SW.

The European gooseberry grows in the Himalaya, but does not thrive or give much fruit. The Himalayan gooseberry is the Ribes grossularia, *Linn.*, or rough gooseberry; is not uncommonly wild in the arid parts of the Upper Sutlej, Chenab, Jhelum, and in Tibet, at from 8000 to 12,000 feet, and was seen by Dr. Bellew near the Safed Koh, at about 10,000 feet; but its fruit is small and intensely sour, and hardly ever eaten even by the natives. Ribes uva-crispa is the smooth gooseberry. The country gooseberry of the Peninsula is the Cicca disticha, *Linn.*; its fruit, the size of a gooseberry, is round, succulent, and subacid; is eaten raw, and made into pickles and preserves, and is cooling and wholesome. The fruit of Zizyphus jububa is also so named. The Cape gooseberry, Physalis Peruviana, is a perennial herb, widely cultivated in tropical and subtropical countries. The fruit is much esteemed for tarts, preserves, etc. As a preserve it is remarkable for its viscous or glutinous substance, rich deep golden colour, and peculiar quite sui generis flavour.—*Lowe's Madeira Flora.*

GOOTHOOBI. BENG. One-headed cyper-grass, Anosporum monocephalum.

GOOTY, a town and hill fort in the Bellary district of the Madras Presidency, 48 miles from Bellary, in lat. 15° 6′ 53″ N., long. 77° 41′ 32″ E. In 1758 it was taken by Morari Rao, who subsequently capitulated to Hyder Ali and disappeared. It was besieged and taken by General Bowsar from Tipu's Killadar in 1799. Two large tanks are near the town. Sir Thomas Munro, governor of Madras, died of cholera near Gooty, at Putticonda on the Adoni road, and was temporarily interred here. Population, 6730.

GOP, also Gopa, Gopala, also Kop. HIND. A

herdsman. Gopi, a herdwoman. From Go, SANSK., a cow. Immense numbers of the Ahir or Gopa of Northern India still cling to the nomadic life of their ancestors. Seeking the high grazing grounds of Central India and Western Bengal, they form encampments on the pasture lands, where they reside with their wives, families, and herds, till the grass in the neighbourhood is exhausted, subsisting entirely on the proceeds of their milk and butter. The houses they use are constructed of large bamboo mats; they can be taken to pieces and removed like tents. A large section of the tribe have settled down as farmers, and are only distinguishable from other agriculturists by a possession of larger herds of cattle, by the greater care bestowed on them, and in profiting more by the sale of butter and milk. As the Doljatra festival begins on the 14th day of the light half of Phalgun, or about the middle of March, the image of Krishna is put into a swing at dawn, noonday, and sunset. The caste of Gopas or cowherds is everywhere prominently conspicuous in this ceremony, especially so amongst the Uriya; and they renew their own garments and all the harness equipments of their cattle. They also bathe them, and paint their foreheads with sandal and turmeric.

The race known to Europeans as Goala in Singbhum and the adjoining Tributary Mahals of Katak (Cuttack) and Chutia Nagpur, especially in Keonjhar, are the most flourishing of the peasantry, though the Bhuiya or Kol are the dominant races. In Behar there are several subdivisions, as Bhota, Bunarusya, Kanoujia, and Choutaha. It is pronounced as Gwal. The Sadgop, literally chief or superior Gopa, are now more an agricultural than a pastoral race. The Gareri are a shepherd race, to which the Gaekwar belongs.—*Dalton's Ethnology of Bengal*, p. 314; *Elliot.*

GOPADITYA, the successor of Deva Twashta, and grandson of king Yudishtra.

GOPALA and Govinda, common names of Krishna. Gopala is from Go, a cow, and Pala, nourishing; a herdsman. See Chaitanya; Krishna; Rudra Sampradayi.

GOPAMOW, a town in Oudh, from which the Nawabs of the Karnatic came. Anawar, the father of Anwar-ud-Din, died there; his son, Anwar-ud-Din, was killed in battle at Ambur. Anwar-ud-Din's son, Muhammad Ali, died at Madras in 1795. Muhammad Ali's son, Oomdut-ul-Umra, died 1801. Azim-ud-Dowla, the nephew of Oomdut-ul-Umra, succeeded, and died in 1818. His son, Azam Jah, died 1824; and the last nawab, Muhammad Ghous, died 1855. The family were then designated with the title of Prince of Arcot.

GOPANG, a Baluch tribe in Dehra Ghazi district.

GOPASHTAMI, the eighth day of the light half of the month Kartik (Oct.—Nov.), when cattle are fed, and decorated with garlands in commemoration of Krishna's passing his youth among the cow pastures of Brindavan. On this day, as well as on the Godhun (Govardhun), the day after the Dewali, garlands are suspended from the necks of cows; their horns, hoofs, and bodies are painted; and salutations are made to them. The whole ceremony reminds us of that observed on St. Anthony's day at Rome, when the beasts are sprinkled with holy water, and blessed by priests, as Elliot in Supplementary quotes:—

'Yet to me they seemed crying, alack and alas!
What's all this white damask to daisies and grass?
Then they're brought to the Pope, and with transport they're kissed,
And receive consecration from Sanctity's fist.'

GOP CHANDANA, a common magnesian clay, used by Hindus to make the sectarian marks on their faces, breasts, and arms. Vaishnava Hindus employ a white earth from Dwarka, said to be the soil of a pool in which the Gopi drowned themselves on hearing of the death of Krishna. It is also described as an aluminous yellow earth, brought from the Ganges at Hardwar, and used to mark the foreheads. It is also given in medicine.—*Gen. Med. Top.* p. 131. See Tripundra; Vibhuti.

GOPESWARA and Barahat are two towns in Garhwal, from which were received two bronze tridents, respectively 21 and 16 feet high, with an inscription in semi-barbarous Sanskrit without date. In the more recent inscription on the Gopeswara trident, the invocation is Aum Svasti; and the spot is called sacred to Mahadeva. The tridents are precisely of the form of the trident on the Indo-Scythic coins, with the axe attached to the shaft. The oldest inscriptions—which, however, from the form of the Deva Nagari, cannot be before the 7th century—are in relief upon the shaft, and make no mention of Mahadeva or Hinduism; but the more recent are cut into the trident, which must have been taken down to admit of the incision. In one of these is the Aum and the name of Mahadeva, which had no association originally with the tridents.—*J. B. As. Soc.* v. pp. 347 and 485.

GOPHER WOOD, of which the Hebrew ark was built, is supposed by some to be the wood of Cupressus sempervirens, or common cypress. But some commentators have supposed this term to be squared or planed wood; others the cedar, others pitched wood.

GOPI or Gopin, a milkmaid, a herdwoman, generally applied to designate the herdwomen of Brindrabhan or Vrij, the native country of Krishna, with whom Krishna associated while a young man. Radha, daughter of Nanda, a pastoral chief, was Krishna's first and favourite love, and the stories of his Gopi life are much read by the Hindus. It is said that on one occasion, when the girls went to bathe in the river, Krishna stole away their clothes from off the river bank; and up to the present day, the Vrijma women, when they go to bathe, like the Gopi of old, leave behind their garments on the steps of the ghat, and make a rush to the water, thus giving a colouring of truth to the story. Gopini are the Gopi herdwomen. It is believed that the Rasmandala is typical of the zodiacal phenomena,—that the nine Gopini are the personifications of the Nouragini, the nine nobles of music, or the Nourasa, the nine passions, excited by the powers of harmony. There is much in the Hindu mythology that is founded on an astronomical basis,—much that perpetuates the early Vedic worship of the elements under a figurative garb.—*Tr. Hind.*

Gopi-Nat'ha. SANSK. A name of Krishna, from Gopi, the wife of a milkman, and Nat'ha, a lord.

GOPURA, also called Gopuram, a gate, a town gate; in Hindu temple architecture, the tower over the porch. There are numerous beautifully sculptured gateways attached to the larger

temples of the Hindus. On days of festivals, the figures of the deities are brought out of the temples through the Gopuram, and placed in small open temples called Mantopa, to receive the adoration of the multitude.—*Cole. Myth.*

GOR, PERS., and Gad'ha, HIND., mean the wild ass; and Bahram, the Varanes of the Greeks, was surnamed Gor from his partiality to hunting that animal. Various authorities state that Bahram Gor entered India in the 5th century, and left progeny by a princess of Kanouj.

GOR, a celebrated tribe, amongst the most illustrious of the Chauhan feudatories. A branch, until latter years, held Soopur, and about nine lakhs of territory. The Gor tribe was once respected in Rajasthan, though it never there attained to any considerable eminence. The ancient kings of Bengal were of this race, and gave their name to the capital, Luknowti. Colonel Tod has no doubt that the Gor appanage was west of the Indus, and that this tribe on conversion became the Ghor. Ferishta writes concerning the proselytism of all the Afghan tribes; but Colonel Tod is of opinion that the Afghans are converted Jadoon or Yadu, not Yahudi or Jews.—*Annals of the Bhatti; Tod's Rajasthan.*

GORAH BUNDAR river flows between lofty hills, beautifully wooded, and studded here and there with antique ruins, and huge masses of dark rock. The river abounds with crocodiles.—*Postans' Western India*, i. p. 179.

GORAI. HIND. A clan of Rajputs in the Agra district.—*Wilson.*

GORAKH or Gorakhnatha, the founder of the sect of Kan-phata Jogi. He was contemporary of Kabir, and was personally known to him, and, like Kabir, Gorakhnath is peculiarly an Oudh saint. The chief seat of his teachings was at the town of Gorakhpur, named after him; and he was the founder of the numerous sect of the Jogi or Kan-phata Jogi, who in Oudh, in 1868, numbered 8642. Gorakhnath's teaching, like that of Ramanand, was addressed to the people, and his followers may be of any caste. His chief tenet was the possibility of acquiring even in life entire command over elementary matter, by means of certain ascetic practices. This state is called Yoga or Joga, and the method of acquiring it is taught by the Patanjala school of philosophy.—*J. Charles Williams; Oudh*, p. 121.

GORAKHNATHA, at Gorakhpur, is a temple, which, according to local tradition, was founded by Siva, in the second of Treta age. It was converted by Ala-ud-Din into a Mahomedan mosque. It was subsequently rebuilt in another place, but again appropriated by Aurangzeb to the Mahomedan religion, but subsequently restored. It is the most celebrated of the temples of the Jogi sect.—*Wilson.* See Jogi or Yogi; Naga Kuli.

GORAKHPUR, in lat. 26° 42′ N., long. 83° 23′ E., a town on the right bank of the Rapti, in the N.W. Provinces of British India, which gives its name to a revenue district lying between lat. 26° 5′ 15″ and 27° 28′ 25″ N., and between long. 83° 7′ and 84° 29′ E., with an area of 4578 square miles, and a population in 1872 of 2,019,361 persons. Among the inferior castes, the Ahir are the most numerous, numbering 242,383 souls; but the Chamars nearly equal them, with a total of 210,108. The western part of Kosala—that is, Gorakhpur—continued some time under the Cherū, after other portions of that territory had fallen into the hands of the people called Gorkha (hence Gorkhapur, Gorakhpur?), who were in their turn expelled by the Tharu, also from the north. The Tharu have left numerous monuments in Gorakhpur, and a few of them still remain in the district and in Mithila. They claim to be of the family of the sun, *i.e.* the Aryan, but are said to have strongly-marked Mongolian features. One of the rajas of this dynasty had for his chief priest a man named Rasu, of the impure tribe of Musahar. In Shahabad, also, the most numerous of the ancient monuments are ascribed to the Cherū, and it is traditionally asserted that the whole country belonged to them in sovereignty. Buchanan suggests they were princes of the Sunaka family, who flourished in the time of Gautama, about the 6th or 7th century before the Christian era. The Cheru were expelled from Shahabad, some say by the Savara or Sura, some say by a tribe called Hariha, and the date of their expulsion is conjectured to be between the 5th and 6th centuries of the Christian era. Both Cheru and Savara were considered by the Brahmans of Shahabad as impure or M'hlechas, but the Hariha are reputed good Kshatriyas.

The overthrow of the Cheru in Mithila and Magadha seems to have been complete. Once lords of the Gangetic provinces, they are now found in the Shahabad and Behar districts only, holding the meanest offices, or concealing themselves in the woods skirting the hills occupied by their cousins the Kharwar, but in Palemau they retained till a recent period the position they had lost elsewhere. They invaded that country from Rohtas, and, with the aid of Rajput chiefs, the ancestors of the Thakurai of Ranka and Chainpur, drove out and supplanted a Rajput raja of the Rakshail family, who retreated into Sirguja, and established himself there. It is said that the Palemau population then consisted of Kharwār, Gond, Mar, Korwa, Parheya, and Kisans. Of these, the Kharwar were the people of most consideration. The Cheru conciliated them, and allowed them to remain in peaceful possession of the hill tracts bordering on Sirguja; all the Cheru of note who assisted in the expedition obtained military service grants of land, which they still retain. It is popularly asserted that at the commencement of the Cheru rule in Palemau they numbered 12,000 families, and the Kharwar 18,000; and if an individual of one or the other is asked to what tribe he belongs, he will say, not that he is a Cheru or a Kharwar, but that he belongs to the 12,000 or to the 18,000, as the case may be. The Palemau Cheru now live strictly as Rajputs, and wear the poita or caste thread. They do not, however, intermarry with really good Rajput families. Intermarriages between Cheru and Kharwar families have taken place.—*Dalton, Ethnol. of Bengal*, 126; *Imp. Gaz.*

GORA-LOG. HIND. Literally, white people; a term applied to Europeans by natives of India, who call themselves Kala-log, or black people, also Kala-admi, black man.

GORAM, a group of three islands in the Eastern Archipelago. S.E. of Goram is a high group, composed of raised coral reefs 300 or 400 feet, with a volcano on the island of Teor, which broke forth in 1659. In the Goram group, at Manowolko, east of Ceram, a slight infusion of Papuan

on a mixture of Malay and Bugi has produced a good-looking people. The Goram people are wholly traders. Every year they visit the Tenimber, Ke, and Aru Islands, the whole N.W. coast of N. Guinea from Oetanata to Salwatty, and the islands of Waigyu and Mysol. They also extend their voyages to Tidore, Ternate, Banda, and Amboyna. Their prahus are all built by the Ke islanders, who annually turn out hundreds of neat boats. The Goram people trade in trepang, medicinal Mussoi bark, wild nutmegs, and tortoiseshell, which they sell to the Bugi traders at Ceram Laut and Aru. —*Wall.* ii. pp. 53, 60; *Bikmore*, p. 243.

GORAYAT. HIND. The village watchman of Hindustan. See Pasban.

GORDI, a fine race of Central India. Their features and manners show them to be decidedly Aryan, of a type less alloyed than that of most castes. The old remains of former greatness, so common in Central India, especially the curious cairns and stone circles, are attributed to them.—*Sir G. Campbell, J. F. S.*

GORDONIA FLORIBUNDA. *Wall.* The A-nan-pho and Theet-ya of the Burmese. A conspicuous tree of Moulmein, Chappedong, Tavoy, and Martaban. There is some difference between the Tavoy and Moulmein trees; that of Moulmein has leaves precisely like G. obtusa, with shallow serrature, but the leaves of the Tavoy tree are quite entire, and the Burmese have different names for them. The compact timbers of Gordonia floribunda and Gordonia integrifolia are called itch-wood by the Tavoyers, from the itching which the chips or bark occasion when brought in contact with the skin. The timber is used for house-posts, and for rice mortars.—*Mason.*

GORDONIA OBTUSA. *Wall.*

Gordonia parviflora, *W. Ill.* | Nagetta, NEILGHERRIES.

This very beautiful tree is very common on the Neilgherries, the Wynad, and throughout the Western Ghats of the Madras Presidency, from 2500 to 7500 feet elevation. Its timber is white, with a straw tint, even-grained, and pleasant to work, and not unlike beech. It is very generally in use for planks, doors, rafters, and beams, but warps if not well seasoned.—*Beddome, Fl. Sylv.*

GORDONIA SPECIOSA. *Thw.* Garria speciosa, *Gardn.* A large tree, 40 to 50 feet high, rather uncommon, in damp forests of the central province of Ceylon at an elevation of 5000 feet and upwards.—*Thw. En. Pl. Zeyl.* i. p. 40.

GORDONIA WALLICHII is a common tree in the Eastern Himalaya and in Sikkim; much prized for ploughshares and other purposes requiring a hard wood. It is the Sing-brang-kun of the Lepcha, and in Sikkim ascends to 4000 feet. Oaks at this elevation occur as solitary trees, of species different from those of Darjiling. There are three or four oaks with a cup-shaped involucre, and three with spinous involucres enclosing an eatable sweet nut; these generally grow on dry clayey soil. Gordonia Wallichii is an erect and singularly handsome tree. It ascends 4000 feet on the mountains. In very dry soils it is replaced by sal (Vateria robusta), and more rarely by the Pinus longifolia.—*J. As. Soc. Bengal*, No. xxix. p. 425; *Hooker, Him. Jour.* i. p. 157.

GORDONIA ZEYLANICA. *Wight.*

Var. *a.* lanceolata. | Var. *b.* elliptica.

Grows in forests of the central province of Ceylon, at an elevation of 4000 to 7000 feet.—*Thw. Zeyl.* i. p. 40.

GORGARI. HIND. In Chutia Nagpur, a method of settling village boundary disputes. The watchmen of the two villages are buried up to the waist in two holes, and whoever holds out longest is the victor.—*W.*

GORGHEN, a river which rises in Kurdistan, and, after a course of 120 miles, falls into the Caspian. The Yomut Turkoman occupy its valley. —*Collett, Khiva* (*C. Asia*).

GORI, a dynasty that ruled at Mandu, in Malwa.

Sultan Dilawar governed the province from	A.D.	1387
but assumed independence		1401
Sultan Hoshang Gori,		1405
Ghazni Khan,		1432
Mahmud Khan, contemporary of Rana Khumbo of Chittore,		1435
Ghaias-ud-Din,		1469
Mahmud II.,		1512
Malwa incorporated with Gujerat,		1534
Malwa annexed by Akbar,		1568

GORIWAR, an agricultural tribe in the Northern Circars.

GOR-KHAR, or wild ass, Equus onager, has been often confounded with the Kiang or wild horse, E. hemionus; it inhabits chiefly the rather hilly districts of Baluchistan, part of the sandy plains of Sind; and another animal is to be found to the westward of Baluchistan, in Persia, which is called Kulan (Equus hemippus). Dr. Barth has mentioned that, according to the description given to him, he thinks the asses he saw in Africa identical with the Gor-khar, or wild asses of Sind and Baluchistan. The Gor-khar is also called Khar-guddha. Though an inhabitant of the Sind desert, it most abounds in the southern part, about Dhat, and the deep rooè which extends from Barmair to Bankasirr and Buliari, along the north bank of the Great Runn or Salt Desert.—*Tod's Rajasthan*, ii. p. 328. See Kiang.

GOROWA, a Hindu caste who wear the janava, yotnai, poitru, SANSK., and claim to have a gotra. They are styled saiva Brahmana. They worship the lingam as Siva or Mahadeo. They are engaged in all civil avocations, and as agriculturists; are never soldiery. They are of a bamboo-yellow colour, and are burly men. They do not know where they came from, but reside in the Western Dekhan. Qu. Gurao?

GOROWLI, a feudatory chieftaincy in Bundelkhand, with an area of 50 square miles, a population of 5000 souls, and a revenue of Rs. 15,000.

GORRE CHIMIDI. TEL. Andrographis echioides, *Nees.* The name means sheep's mucus, the whole plant being very viscous. Gorre pentika, Leea, *sp.*, signifies sheep's droppings.

GOSAIN, Goswami. From Go, SANSK., sense or passion, and Sen, master. One who masters or restrains his passions; modified vernacularly, as Gosain. Sects of Hindus, whose disciples are styled Gosami, Sami, Swami, Gosali, Gosavi, Gosayi, etc. A religious mendicant in general. As a special name, it is applied to very different classes of persons, identified only by their professing a religious and mendicant life. The most respectable are the reputed descendants spiritually of Sankaracharya, of whom there are ten chief branches, and who are thence also called the Das-nami, or ten-named Gosains, attaching to the ordinary Hindu appellation one of the terms,—

Tirtha, or shrine; Asrama, an order; Vana and Aranya, a wood; Saraswati, the goddess of eloquence; Bharati, the goddess of speech; Puri, a city; Giri and Parvata, a hill; Sagara, the ocean;—as Awanda-gir, Vidyananya, Puran-gir, Rama-asrama. These, although they are occasionally vagrants, are usually assembled in maths, or conventual residences under a superior. Some of their establishments are liberally endowed, and of great reputed sanctity, particularly that of Sringeri in the Western Ghats, near the sources of the Tungabhadra, said to have been founded by Sankara himself. Individuals of the three pure castes are admissible, and in some cases Sudras also; but as they profess celibacy, their numbers are in part recruited by the purchase or adoption of boys at an early age.

The Das-nami Gosains worship preferentially Siva, of whom Sankara is said to have been an avatara, but many have been distinguished as advocates of the Vedanta doctrines. One division of them, termed Atits, differs from the more rigid Dandi Gosains, in following secular pursuits as traders and ministrant priests of temples. Some of them marry and settle, when they are termed Samyogi or Gharbhari. These Gosains, although met with in Upper India, are most numerous and influential in the south.

In Hindustan the term is more correctly applied to two different classes, both worshippers of Vishnu,—the Gosains of Gokul, who are descended from Valabhacharya, and, although religious characters, are allowed to marry and follow secular pursuits; and the Gosains of Bengal, who are the disciples of Chaitanya, a native of Bengal, who instituted a new form of Vaishnava worship at the end of the 15th century. They also marry, and, like the Gokulashta, lead domestic and respectable lives. The term is also applied loosely to mere vagrants, some of whom wandered about formerly in armed gangs, and levied contributions forcibly on the villages, plundered them; or now, coming singly or in small bodies, extort money by inflicting disgusting tortures upon themselves; these sometimes go naked.

Gosavin, female Gosain, MAHR., one who, on arriving at years of discretion, adopts a life of continence and mendicancy.

Dauri Gosavi, MAHR., a class of religious vagrants said to be disciples of Gorakhnath, in which case they are not properly Gosains but Jogis. They sing hymns in honour of Bhairava, playing on the daura, or a small drum shaped like an hour-glass, whence their name Dauri, a player on the daura.

The ceremony observed at the initiation of a Gosain is as follows. The candidate is generally a boy, but may be an adult. At the Siva-ratri festival (in honour of Siva), water brought from a tank, in which an image of the god has been deposited, is applied to the head of the novitiate, which is thereupon shaved. The guru, or spiritual guide, whispers to the disciple a mantra or sacred text. In honour of the event, all the Gosains in the neighbourhood assemble together, and give their new member their blessing; and a sweetmeat called laddu, made very large, is distributed amongst them. The novitiate is now regarded as a Gosain; but he does not become a perfect one until the Vijaiya Hom has been performed, at which a Gosain famous for religion and learning gives him the original mantra of Siva. The ceremony generally occupies three days in Benares. On the first day the Gosain is again shaved, leaving a tuft on the top of the head, called in Hindi Chundi, but in Sanskrit Shikha. For that day he is considered to be a Brahman, and is obliged to beg at a few houses. On the second day he is held to be a Brahmacharya, and wears coloured garments, and also the janeo or sacred cord. On the third day the janeo is taken from him, and the chundi is cut off. The mantra of Siva is made known to him, and also the Rudri Gayatri (not the usual one daily pronounced by Brahmans). He is now a full Gosain or Wan-Parast, is removed from other persons, and abandons the secular world. Henceforth he is bound to observe all the tenets of the Gosains. The complete Gosains who have performed the ceremony of Vijaiya Hom are celibates. It is customary, therefore, for men not to perform it until they are forty or fifty years of age, as it involves the abandonment of their wives and families. Gosains will eat food in the houses of Brahmans and Rajputs only. At death their bodies are not burned, but are either buried or thrown into the Ganges.

The Vaishnava Gosai observe none of the Hindu festivals except those of Krishna; but the anniversaries of the deaths of their founders are observed as such. They do not, says Mr. Ward, reject the mythology or the ceremonies of the Hindus, but they believe that those of Hari (Krishna) only are necessary. On the nights of their festivals, the initiating incantation may be heard resounding through the stillness of the night: 'Hari, Krishna; Hari, Krishna; Krishna, Krishna; Hari, Hari; Hari, Ram; Hari, Ram; Ram, Ram, Hari, Hari!'

In Northern India, the Vaishnava Gosain worshippers of Vishnu, called Gokul Gosai, followers of Valabhacharya, marry and follow religious pursuits; and in Bengal, Gosai who follow the doctrines of Chaitanya also marry.

Vaishnava Byragi and Saiva Gosain have occasionally come in conflict, and at Hardwar, on the Ganges, a celebrated place of pilgrimage, soldiers of the Bengal army had to keep the peace, long after a battle that occurred, about the middle of the 18th century, in which they fought almost to extirpation. The descendants of Nityananda are Gosains of Khurdah. The descendants of Adwaita are Gosains of Santipur, and there the principal idol is Shamchand. But one-third of the people of Santipur are Vaishnava.

The Gosai of Gujerat worship Siva. They wear orange-tawny clothes, and the tilak or sectarian mark upon their foreheads is horizontal.

The priests of Eklinga are Gosain or Goswami. The high priest and his order are celibates, and the office is continued by adopted disciples. Of such spiritual descents they calculated 64 since the sage Harita, whose benediction obtained for the Gehlot Rajput the sovereignty of Chittore when driven from Saurashtra by the Parthians. A numerous class of Gosains have adopted celibacy, who yet follow secular employments both in commerce and arms. The mercantile Gosains are amongst the richest individuals in India, and at Udaipur were thus useful when the Mahrattas demanded a war contribution, as their privileged character did not prevent their being offered and

taken as hostages for its payment. Gosains who profess arms, partake of the character of the knights of St. John of Jerusalem. They live in monasteries scattered over the country, possess lands, and beg, or serve for pay when called upon. As defensive soldiers, they are good. Siva, their patron, is the god of war, and, like him, they make great use of intoxicating herbs, and even of spirituous liquors. Mewar could always muster many hundreds of the Kanp'hat Jogi, or 'split-ear ascetics,' so called from the habit of piercing the ear, and placing therein a ring of the conch shell, which is their battle-trumpet. The poet Chand gives an animated description of the body-guard of the king of Kanouj, which was composed of these monastic warriors. The Rana of Mewar, as the diwan or vicegerent of Siva, when he visits the temple, supersedes the high priest of Eklinga in his duties, and performs the ceremonies. The shrine of Eklinga is endowed with twenty-four large villages from the fisc, besides parcels of land from the chieftains.—*Tod's Rajasthan; Tr. of Hind.; Cole. Myth. Hind.; Rasamala, Hindu Annals*, ii. pp. 312; *Elliot, Sup.; Wilson's Glossary; Sherring's Hindu Tribes and Castes*, p. 257.

GOSHA. HIND. Concealed. A Gosha woman means a woman who carries out the Mahomedan law of concealing herself from the sight of men, except certain near relatives. Many Hindu women, however, follow this rule. A Mahomedan ascetic is called a Gosha Nashin, who has withdrawn from the world and become an ascetic, or who lives a recluse life. It means sitting in a corner; and the term is applied to a woman of rank or respectability, though the term for her is properly Gosha, or Parda, Nashin.

GOSHOO. HIND. Gold thread used to embroider caps.

GOSSYPIUM, cotton plant.

Gossypion, ... GR.	Karpasa, . . . SANSK.
Kapas ka jhar, . HIND.	Punji, ... TAM.
Carbasus, ... LAT.	Patti chettu, . . TEL.

The genus Gossypium, belonging to the natural order Malvaceæ and its species, from the hair or wool which surrounds their seeds, are, next to food plants, the most important of the vegetable kingdom. Taking the population of British India and allied states at 250 millions, and allowing 10 pounds of raw cotton per man annually, the produce and yield of this plant annually exported may be taken at about 22 million cwt. There are several recognised species. De Candolle admits 13, and notices others. Two others were described by Dr. Roxburgh, one by Rœusch, and another in the Flore de Senegambie. Of varieties, Mr. Bennett says that he knows more than one hundred kinds, and they appear to him never ending. Dr. Royle was of opinion that the species may be reduced to G. Peruvianum (G. acuminatum), G. Indicum (G. herbaceum), G. arboreum, and G. Barbadense. Baron Fred. von Mueller (1880) notices as species —G. arboreum, *Linn.*, the tree cotton; G. Barbadense, *Linn.*, West India or Sea Island cotton, with its tall Egyptian variety called Bamia cotton; G. hirsutum, *L.*, upland or short-staple cotton; G. religiosum, *Linn.* (G. Peruvianum, *Cavan.*), kidney cotton, Peruvian or Brazilian cotton; G. Taitense, *Parlatore* (G. religiosum, *Banks* and *Solander*), and G. tomentosum, *Nuttal* (G. Sandvisense, *Parlatore*, G. religiosum, *A. Gray*).

There can be no doubt that the cotton plant is indigenous in America, and the species of the old world appear to be Indian and Chinese. Cloth manufactured from cotton has been brought from the tombs of Peru; and cotton seeds have been obtained by Rosselini from the monuments of Thebes. The Sanskrit name Karpasa has been taken into different tongues. The Hebrew word Karpas of the book of Esther (i. 6) and the Latin Carbasus are derived from it; and the Karpasus mentioned in the Periplus of Arrian has been rendered by Dr. Vincent fine muslin. Pliny (lib. xix. c. 1) mentions the cultivation in Upper Egypt of a small shrub, called by some Gossypion, by others Xylon, bearing fruit like a nut, from the interior of which a kind of wool is produced. The species of the cotton plant grow in the warm tropical regions of America and Asia, but they are likewise extra-tropical; and Baron Humboldt mentions having seen it growing at 5500 feet in Mexico, and 9000 feet of elevation in the equinoctial Andes. It is largely grown in China. Dr. Royle mentions that it is cultivated in small quantities at 4000 feet of elevation in 30° N. in the Himalaya; and Dr. Stewart tells us that it is grown in many places all over the Panjab as a hot-weather crop, ripening up to Christmas, and that it is cultivated up to the Kashmir valley (5000 feet), but the quality does not appear first rate.—*Roxb.; Dr. Stewart's P. Pl.* p. 27; *Cleghorn, Report, Br. Ass.; Eng. Cyc.; Royle, Prod. Res. of Ind.; Von Mueller.*

GOSSYPIUM ACUMINATUM. *Roxb.* The Brazil or Pernambuco cotton.

Wa-ku-la, . . . BURM.	Pamidi patti, . . TEL.

This species is indigenous, growing in the mountains of Bengal and in Malacca. It is not cultivated; but as the wool is separated easily from the seeds, it is very desirable to make trial of it in agriculture.—*Roxb.; Royle; Voigt.*

GOSSYPIUM ARBOREUM. *Linn.* This tall perennial species, Nu wa, BURM., tree cotton, is found in Celebes and in every part of India. It is noticed among lists of the plants of Arabia, and also of Egypt. It is the New Orleans cotton (G. sanguineum, *Hassk.*). According to Dr. Wight, almost the only distinction between G. religiosum and G. arboreum is that the former has a yellow and the latter a purple flower.—*Eng. Cyc.; W. Ic.*

GOSSYPIUM BARBADENSE. *Linn., Roxb.* G. vitifolium, *Cavanielles.*

This cotton plant, a native of the West Indies, is cultivated in India. It is called Barbadoes, Bourbon, Sea Island, West India, long-stapled, Upland Georgian, and short-stapled cotton. Swarz described this species as extensively cultivated in the West Indies. It is also one of the cultivated cottons of Egypt. M. Delchevalerie has noticed a new and almost branchless tall plant, exceedingly prolific, raised in Egypt, called Bamia cotton, which Sir Joseph Hooker considers to be a variety of G. Barbadense. It is more than probable that the Sea Island or long-staple cotton is a variety of this species, as its seeds agree in character. More than this it is not possible to say.—*W. Ill.; Royle, Ill.; Roxb.; Voigt; Eng. Cyc.; V. Mueller.*

GOSSYPIUM HERBACEUM. *L.; Roxb.; W. Ic. Ill.; Royle.*

Kotn, ... ARAB.	Cay-haung, Hoa-mien, CH.
Kapase, Tula, . . BENG.	Bomold, ... DAN.
Wa, ... BURM.	Ketoen, Boomwol, . DUT.
Bari of . . . CHENAB.	Coton, ... FR.

Kattun, Baumwolle, GER.	Algodno, Algodeiro, PORT.
Boubaki, ... GR.	Chlopts chateja, . . RUS.
Kapas, Rooi. . . HIND.	Karpasa, Karpasi, SANSK.
Cotone, Bombagia, . IT.	Algodon, ... SP.
Paruti, . . . MALEAL.	Bomull, ... SW.
Kobung, . . MONGOLIA.	Van parati, Parati, TAM.
Pambah, ... PERS.	Patti, Karpasamu, TEL.

Var. α. Daccanense; β. Berarense, Berar cotton; γ. Chinense, China cotton; *var.* δ. Cawnporeense, Cawnpore and Doab cotton.

This species grows in the Peninsula of India, in Hindustan, Sind, Kābul, Bengal, the Malay Peninsula, and the Archipelago. It is grown as a hot-weather crop in many places all over the Panjab, ripening up to Christmas, and is cultivated up to the Kashmir valley (5000 feet), but the quality does not seem to be first rate. It has large sulphur-yellow flowers, with a dark blood-red eye, and fruits nearly all the year through.—*Stewart; Voigt.*

GOSSYPIUM HIRSUTUM. *Swarz.* This is the green-seeded, short-staple, and upland cotton of America, and French cotton of the W. Indies. Shrubby, about 6 feet high; young pods very hairy. This species is cultivated in Jamaica and the East Indies, according to Swarz.—*Eng. Cyc.; Roxb.*

GOSSYPIUM RELIGIOSUM. *Linn.*
G. Peruvianum, *Cavan.*

This is called kidney, Peruvian, Brazilian, and Nankin cotton. There is considerable confusion with respect to the species which should be called G. religiosum. The distinguishing characteristic of what is considered such at present, is the having tawny-coloured instead of white wool. There are, however, at least two distinct localities for this kind of cotton, one Siam, the other China. From the latter country it was introduced both into India and America, under the name of Nankin cotton. Dr. Royle is of opinion that two distinct species yield tawny-coloured cotton,—one with small velvety-looking leaves, and much dotted in every part, of which he had seen specimens from Macao, Tahiti, and Gujerat; the other is a much larger plant, with the general appearance and leaves of G. Barbadense, of which there are specimens in the East Indian Herbarium. Mr. Wilkinson also brought specimens from Egypt of a rather tawny-coloured cotton, with brownish seed, free from fur, which he says is there called Gotun Hindi. —*Bombay Products; Eng. Cyc.; Voigt; Roxb.*

GOSTĀNI DRAKSHA, SANSK.; also Gostani chettu, TEL. Vitis vinifera, *Linn.*; also Hatahura. The purple grape, which is of elongated shape like a cow's teat, in Sanskrit Gostani.

GOSWAMI, a name of the Gosain, from Go, sense, and Swami, master, one who controls his passions.

GOT. HIND. A family, a race; a family of Brahmans, bearing the common name of some ancient rishi or sage, their supposed progenitor or primitive spiritual head. The term is also applied to any branch or subdivision of a tribe or caste, and also to a caste collectively.—*Elliot.* See Gotra.

GOTA. HIND. Narrow gold lace; silver lace is Safed gota.

GOTA-CHOBI. HIND. A piece of wood cut to an edge, used in polishing leather.

GOTAMA, a name of Sakya Sinha, applied to him after his death, when he had become a Buddha. It is by this name that he is usually known in Burma. Also written Godama, Gaudama.

GOTAMA, founder of the Nyaya school of philosophy. He is called also Satananda, also frequently Gautama. He was author of a Dharma-sastra or law book.—*Dowson.*

GOTAMA SWAMI, a Brahman of the Gautama family, whose personal name was Indra-Bhuti. He became a disciple of Mahavira, often represented in Jaina sculptures, especially in Karnatica, and on the Malabar coast. A statue at Sravana Belgola in Mysore is 56½ feet in height; another at Yenur is about 35 feet; one at Karkala, 24 miles west of Yenur, is 41½ feet high. An inscription is on the last. See Hoisala.

GOTE. HIND. Presents given at the birth of a child.

GOTHI, the high priest of a Jaina temple.

GOTHIC, a branch of the Indo-Germanic stock of languages. The Goths consulted the heart of victims; had oracles, had sybils; had a Venus in Friya, and Parcæ in the Valkyrie.

GOTRA. SANSK. A hurdle, a pen, a fold, a tribe. Professor Wilson explains the term Gotra as meaning a family, lineage, relationship by descent from a common ancestor of the same name, or from some saint, or regard him as their primitive spiritual head, and whose designation they bear, as the Bharadwaja-gotra, Kasyapa-gotra, Sandilya-gotra, etc. In vol. ii. p. 12, of the Hindu Theatre, Professor Wilson says it is asserted that thirteen Gotra or families of Brahmans owe their origin to as many divine sages called after their name. Kasyapa (Kusip) is one of the number. The Aswalayana Sutra of the Rig Veda contains the enumeration of the Gotra, and their subdivisions, but in a very involved and unintelligible style. The popular enumeration of them, however, is not uncommon; but it is nearly, if not wholly, confined to the south of India, where several of the reputed representatives of these tribes yet exist. Throughout the entire Peninsula every Brahman claims his own Got; every marriage is regulated by the Got, and no Brahman marries into his own Got. Gotra, Vansa, Varna, Paksha, and Gana are all used, in a similar sense, to indicate the larger as well as the smaller families descended from the eight rishi. The care taken by all Brahmans in the S. of the Peninsula in making their marriage selections, justifies the conclusion that the genealogical lists of the Brahmans at the present day furnish in their general outlines a correct account of the priestly families of the Hindus. The eight rishi have eight Gotra, which are subdivided into 49 Gotra, and these 49 into a still larger number of families. In common parlance, Got has the same meaning as the more classical Gotra of Wilson's Glossary. Properly, those only are Got which bear the name of some rishi progenitor, as Sandilya, Bharadwaja Vasisht'ha, Kasyapa; but it has become the custom to call each subdivision of a tribe a Got, and, according to the Nirnye Sind, there are no less than ten thousand. Early genealogies of the Rajputs frequently exhibit them as abandoning their martial habits, and establishing religious sects or Gotra. Thus Reh was the fourth son of Proorwa, of the Lunar race; from him, in the fifteenth generation, was Harita, who with his eight brothers took the office of religion, and established the Kausika Gotra, a tribe of Brahmans. According to Colonel Tod, both Got and Kaup denote a clan, and in Rajputana its subdivisions have the patronymic

terminating with the syllable ote, awut, sote, in the use of which euphony alone is the guide: thus, Suktawut, sons of Sukta; Kurmasote, sons of Kurma; Mairawut or Mairote, mountaineers, sons of the mountain.—*Elliot; Wilson's Hin. Theatre; Wilson's Glossary.*

GOTTI GADDA. TEL. Spathium Chinense, *Lour.*, syn. of Aponogeton monostachys, *Linn.* The roots are much prized as food by the Yanadi.

GOU-CHUNA or Go-chunee is a field of wheat and chuna, or Cicer arietinum, sown together. The practice of sowing culmiferous and leguminous plants together is advantageous to the land as well as to the crop. Dew readily forms on the leaves of the chuna, which would not form on the wheat, and this in seasons of drought is often the means of preserving both crops. Agriculturists in Europe sow clover with barley, flax, and oats, and Lent-corn.—*Elliot.*

GOUGH, HUGH, VISCOUNT, born in 1779, was the son of George Gough, Esq. of Woodstown, county of Limerick, Ireland. He entered the British army in 1791, served at the capture of the Cape of Good Hope and of the Dutch fleet in Saldanha Bay, 1795, and afterwards in the West Indies, including the attack on Porto Rico, the brigand war in St. Lucia, and capture of Surinam. He proceeded to the Peninsula in 1809, and commanded the 87th regiment at the battle of Talavera, where he was dangerously wounded. Had horses shot under him both at Barossa and Vittoria and Nivelle; again severely wounded at Nivelle; for which engagements he received the gold cross. He also commanded this regiment at the sieges of Cadiz and Tariffa, where he was wounded in the head. At Barossa his regiment captured the eagle of the 8th French Regiment, and at Vittoria the baton of Marshal Jourdan. He was nominated to the Mysore division of the Madras army in 1837, and in 1840–41 went in command of the land forces against China, for which services he was made G.C.B. and a baronet. On the 11th August 1843 he was appointed Commander-in-Chief in India; and on the 29th of December 1843, with the right wing of the army of Gwalior, he defeated a Mahratta force at Maharajpur, and captured 56 guns, etc.; and on the same day General Grey, commanding the left wing of his army, routed another body of Mahrattas at Punniar. In 1845 and 1846 the army under his personal command defeated the Sikh army at Moodkee 18th December, Ferozshah 21st and 22d October, and Sobraon 22d February 1846, for which services he received the thanks of both Houses of Parliament, and was raised to the peerage. During the last desperate struggle with the Sikhs in 1848–49, he subdued the enemy at a great expenditure of human life. The next year he received from his sovereign additional rank in the peerage, from the East India Company a pension of £2000, and a similar sum from Parliament for himself and his next two successors. Sir Henry Hardinge, who was Governor-General, had voluntarily served under him as second in command at the battle of Ferozshah. He was gifted with great powers of combination and strategy; but his impulsive personal bravery, rushing into the midst of the battle, and by hurrying on one movement before the previous arrangement could be carried out, disarranged and rendered useless his own valuable plans. General Havelock said he was a man with a lust for danger. He excited the warmest attachment in his soldiers, and his zeal succeeded almost as well as Suwarrow's. He never lost a battle,—for Chillianwalla, though a terrible destruction of life, was not a lost battle; and at Gujerat, where, for the first time in his life, he took advice and let artillery have fair play, he destroyed the most dangerous enemy, save Hyder Ali, the British ever encountered in India. The victory was due in no slight degree to the reckless daring with which he inspired all under his command.—*Lond. Spectator, Men of the Times.*

GOUGHIA, a curious large evergreen laurel-like tree, found by Dr. Hooker at Chating, in the Lachen valley of Sikkim. It is very similar in foliage to a fine rhododendron. Wight gives G. Griffithiana and G. Neilgherrensis.—*Hooker.*

GOUL, amongst the Persians, a fabulous spirit, sometimes represented as in the form of a beautiful young woman, that resorts to churchyards. They affirm that it entices the traveller by its cries, and then tears him to pieces with its claws.—*De Bode's Tr.* p. 23. See Ghoul.

GOUR or Gaur, called also Lakhnauti, the ancient capital of Bengal, and its territory, supposed to be the Gangia Regia of Ptolemy. It stood on the left bank of the Ganges, on a stone embankment about 25 miles below Rajmahal. It was the capital of Bengal 730 years before Christ, and was repaired and beautified by Akbar, who gave it the name of Jannatabad, which name is still borne by a part of the circar in which it was situated. According to Ferishta's account, the unwholesomeness of its air about the middle of the sixteenth century occasioned it to be deserted soon after, and the seat of government was removed to Tondah or Tanrah, a few miles higher up the river; then to Rajmahal. Three causes, however, viz. the removal of the capital, the desertion of its old bed by the Ganges, and the unwholesomeness of the region, all contributed to turn Gour into a wilderness. No part of the site of ancient Gour is nearer to the present bank of the Ganges than four miles and a half; and some parts of it which were originally washed by that river, are now 12 miles from it. Taking the extent of the ruins of Gour at the most reasonable calculation, it was not less than 15 miles in length (extending along the old bank of the Ganges), and from two to three in breadth. The first rulers who have been identified, were the family of Bhupala. Abul Fazl, however, enumerates three dynasties as prior to this family. The first of the Vaidya rajas was Suk Sen, in A.D. 1063. Its last Hindu king was Lakshmanan. He had been placed on the throne in infancy, and during his long reign had been a just and liberal ruler. In A.D. 1203 Bengal was overrun by Bakhtiar, a general of Muhammad Gori, and the last Hindu king escaped to Orissa. Gour is also by many supposed to have been founded by one of the physician dynasty of Bengal, not long before the Mahomedan invasion, though Dow and Rennell state that it was the capital of Bengal, 730 years before Christ.—*Tr. of Hind.* i. p. 94; *Rennell's Memoir*, p. 55; *Prinsep's Antiquities.*

GOUR or Goura. Sanskrit pandits of old divided the colloquial languages of India into two classes, each containing five dialects, denominated respectively the five Gaura and the five Dravida. By the term Gaura or Gauda is meant the Bhasha or Prakrit or spoken tongues in Northern India,

some old ones of which have long ceased to be spoken, or have merged into others. At present the languages which may be considered Gaura are Bengali, Hindi with its neighbour the Hindustani, Panjabi, Gujerati, Mahrati, and the languages of Kashmir and Nepal, altogether nine. The pandits named the five Dravida or Dravira, viz. Telinga, Karnatika, Mahrati, Gurjara, and Dravira or Tamil proper; but at present Dr. Caldwell displaces the Gurjara or Gujerati and the Mahrati, and considers the Dravida proper or Tamil, the Telinga, and Canarese, to be the three principal languages of the Dravidian family; and he adds thereto the Malealam, the Tulu, and the uncultivated Toda, Kota, Gond, and Ku, altogether nine Dravidian or Tamil tongues. The Gaur alphabet is the immediate parent of the modern Bengali, and it is to be seen in the ancient inscriptions at Buddha Gaya in the Nag Arjuna cave, also in an inscription from Bhuvaneswar in Orissa, and in one from Brahmeswar in Cuttack. —*Dr. Caldwell's Comparative Grammar.*

GOUR, a race on the east of the Gond, who extend into the borders of the Chutia Nagpur agency in Udaipur and Sirguja. They are the dominant tribe in Sirguja; and the Sirguja raja is supposed to be a Gour, through claiming to be a Rajput. They are much Hinduized.—*Sir George Campbell*, p. 32.

GOURA CORONATA and G. Victoriæ are noble pigeons of New Guinea and adjoining islands.

GOURAHUR, an obscure tribe of Rajputs in Saheswan, Gungeri, Puchlunah, Budurea, and Bilram, on the borders of Budaon and Alighur.

GOURAMI, the Osphromenus olfax, a fresh-water fish of Cochin-China and China, which has been introduced into Penang, Malacca, Bengal, Neilgherries, Mauritius, Bourbon, Cape of Good Hope, Australia, and Cayenne. Like all the Labyrinthidæ, it is provided with an apparatus for retaining water, so that when out of the water it can keep its gills moist, and can run to some distance by means of its fins and tail, and even leap upon the near plants to catch insects; grows to 20 lbs. in weight. It is esteemed of more delicate flavour than the salmon or turbot.

GOURD. ENG. Karat, ARAB. Gourd is a term, like that of melon and pumpkin, applied as a suffix to the fruits of species of the natural order Cucurbitaceæ or gourd tribe, and of the genera Cucurbita, Cucumis, and Lagenaria. The Cucurbitaceæ is a group of prostrate or climbing plants, with palmately-lobed leaves and tendrils, chiefly tropical, with but few species extending into cool regions. Many of the species are acrid and purgative.

Cucumis melo is the melon.
Benincasa cerifera, pumpkin or white gourd.
Lagenaria vulgaris, bottle gourd or white pumpkin.
Tricosanthes anguina is the snake gourd.
Cucumis sativa, the cucumber.
Cucurbita maxima, squash gourd or red gourd.
Cucurbita aurantia is the orange gourd.
Cucurbita ovifera, vegetable marrow.
The wild gourd of 2 Kings iv. 39 is the bitter cucumber, Citrullus colocynthis.

Towel gourds (Luffa Ægyptiaca, *D. C.*) are grown in the West Indies and West Africa. The close vascular network of the inside of this gourd serves as scrubbing brush and sponge.

GOURKANI, the name of the tribe to which Timur belonged, also Baber and his descendants. —*Ferrier, His. of Afghans*, p. 71.

GOUR-KAYET, one of the twelve subdivisions of the Kayasth race; they are chiefly to be found in Bengal.—*Elliot, Supp. Gloss.*

GOUROOA, also Gaurua, an inferior class of Rajputs in Rehur and Nugeena of Bijnore, Iradatnagar of Agra, and Suhar, Shergarh, and Huzur Tahsil of Muttra.—*Elliot, Supp. Gloss.*

GOVARDHAN, a mountain which the Yadu race worshipped. It is celebrated in Indian poetry, and is still a great place of Hindu pilgrimage. Nothing less than that it is the personification of Krishna himself is the opinion in which Govardhan is held by his followers. Devout votaries perform the circuit of the mount, by going round its base, prostrating themselves at each step on the way, and marking the space covered by their bodies. This penance can be completed only in several years, and one devotee has been heard of who had been able to go round but half the mountain in seven years. No Hindu dares to bring home any stone from Govardhan; it is said to be endued with life. The Luka-Luki, or hide-and-seek tank, near Govardhan, speaks of the early age of that game among the Hindus, having been played by Krishna with the Gopini. Govardhan mountain is fabled to have been reared by Krishna, who

'With one finger reared the vast Goverdhen.'

—*Sir W. Jones' Hymns to Indra*, xiii. p. 274; *Tr. of Hind.*

GOVERNOR, the official designation in British India of the President in Council of the Governments of Madras, of Bombay, of Ceylon, and of the Straits Settlements, all of whom rule with a council for administration and legislation. The rulers of Bengal and the Panjab are Lieutenant-Governors. Governor-General is the official designation of the chief ruler of British India. These have been in succession,—Warren Hastings, Sir John Macpherson, Earl Cornwallis, Sir John Shore, Sir Alured Clarke, Marquis of Wellesley, Marquis Cornwallis, Sir George Barlow, the Earl of Minto, Marquis of Hastings, Mr. John Adams, the Earl of Amherst, Mr. Butterworth Bayley, Lord William Bentinck, Sir Charles Metcalfe, the Earl of Auckland, the Earl of Ellenborough, whom the Court of Directors recalled, Lord Hardinge, Marquis of Dalhousie, Earl Canning, the Earl of Elgin, Sir Robert Napier, Sir William Denison, Sir John Laurence, the Earl of Mayo, Lord Napier and Ettrick, Lord Northbrook, who resigned, Lord Lytton (1877), who resigned 1880, and Lord Ripon. Governors-General have been Viceroy and Governor-General since Earl Canning, 1st Nov. 1858, and have under them 2 Governors, of Madras and Bombay; 3 Lieutenant-Governors, of Bengal, N.W. Provinces or Agra, and the Panjab and its dependencies; 5 Chief Commissioners, Oudh, Central Provinces, Burma, Sind, Hyderabad, Assigned Territories; as also 2 Residents, of Hyderabad and Nepal; 2 Agents to Governor-General, for Rajputana and Indore. Every order is issued in the name of the Governor-General in Council, but Lord Canning rearranged the Council into the form of a cabinet, with himself as president.

The Act for the Better Government of India (1858) enacts that India shall be governed by and in the name of the Queen of England,

through one of her principal Secretaries of State, assisted by a Council of fifteen members. By the Indian Councils Act (1861), the Governor-General's Council, and also the Councils of Madras and Bombay, were augmented by the addition of non-official members, either natives or Europeans, for legislative purposes only; and by another Act passed in the same year, High Courts of Judicature were constituted out of the old Supreme Courts at the presidency towns.

A Governor-General also rules the Portuguese Possessions of India; another Governor-General rules the Dutch East Indies, known as the Netherland Possessions in India; the Spanish East Indies in the Philippines have another Governor-General; and the French Possessions in India have a Governor.—*Imp. Gaz.* iv.

GOVIND, the tenth Guru of the Sikhs from Nanuk.

GOVINDA, Gopala, and Gokala are names of Krishna, derived from his pastoral avocation of herdsman, from Go, a cow. Gopinath, husband or lord of the Gopi, another name, is derived from his association with the Gopi herdwomen. Mr. Garrett says that Govinda was given by Indra as a name to Krishna after he had raised Govardhan. It is a frequently recurring name amongst the Hindus. The Gita Govinda are songs of Krishna; also a pastoral drama by Jayadeva, in praise of Krishna. Jayadeva, the bard of the Yadu race, in the opening of 'the songs of Govinda,' says, 'If thy soul be delighted with the remembrance of Hari, or sensible to the raptures of love, listen to the voice of Jayadeva, whose notes are both sweet and brilliant.' Jayadeva opens the first interview of Krishna and Radha with an animated description of a night in the rainy season, in which Hari or Krishna is represented as a wanderer, and Radha, daughter of the herd chief Nanda, is sent to offer him shelter in their cot. Nanda thus speaks to Radha: '"The firmament is obscured by clouds, the woodlands are black with tamala trees; that youth who roves in the forest will be fearful in the gloom of night; go, my daughter, bring the wanderer to my rustic mansion." Such was the command of Nanda the herdsman, and hence arose the love of Radha and Madhava.' The poet proceeds to apostrophize Hari, which the Hindu bard terms Rupaca, or personal description:—'O thou who reclinest on the bosom of Camala, whose ears flame with gems, and whose locks are embellished with sylvan flowers; thou from whom the day-star derived his effulgence, who slewest the venom-breathing Caliya, who beamest like a sun on the tribe of Yadu, that flourished like a lotus; thou who sittest on the plumage of Garuda, who sippest nectar from the radiant lips of Pedma, as the fluttering chacora drinks the moonbeams. Be victorious, O Hari.'—*Malcolm's Central India.*

GOVINDGHUR, a huge fortress built in 1809 by Ranjit Singh, at Amritsar. It is garrisoned by British artillery and infantry.

GOWARI, a tribe of agriculturists speaking the Mahrati language, dwelling in the more civilised parts of the Central Provinces. They resemble Raj Gond, but are fairer.

GOWDAH, Gowdam, or Gounden, also written Gouda, Goura, the title of all respectable farmers and the headmen of villages in the Canarese and Coorg districts.

GOWHATTY, a town in Kamrup, 335 miles from Calcutta; it is on the left bank of the Brahmaputra river, in lat. 26° 11′ N., and long. 91° 48′ E., and is 130 feet above the sea-level. Pop. 11,492.

GOWLA. GUJ., HIND., TAM. A brown-coloured seed, about the size of, and having much the same appearance as, the coriander seed, but more oval. They have a pleasant, sub-aromatic, and mucilaginous taste, and are considered by native practitioners as cordial and stomachic. They are imported from the Persian Gulf, and are distinguished in the bazars either with or without husks.—*Faulkner.*

GOYOSOO. JAP. A custom-house or town-hall, where all foreigners transact business and see Japanese officials.

GRACILLARIA COFFEIFOLIELLA. The larva of this mines the coffee leaves; it is very common, but of no importance to the planter.—*Nietner.*

GRACILLARIA LICHENOIDES. *Greville.*

Gr. confervoides, *Greville.*	Gigartina lichenoides, *Lamouroux.*
Fucus lichenoides, *Turner.*	Sphærococcus lichenoides, *Agardh.*
F. amylaceus, *O'Sh.*	
Plocaria candida, *Nees.*	
Aysana, Aytsana, . AMB.	Mousse de Celyon, . FR.
Lattu-lattu, . . ARCHIP.	Billung, ... JAV.
Callocane, . . . ,,	Dongi-dongi, MACASSAR.
Ceylon moss, . . . ENG.	Rumi yarwakar, MALAY.
Edible sea-weed, . ,,	Sajar karang, . . ,,

A small and delicate fucus, well known for the amylaceous properties it possesses, and the large proportion of true starch it furnishes. The fronds are filiform, the filaments much branched, and of a light purple colour. It grows abundantly in the large lake or backwater which extends between Putlam and Calpentyn, Ceylon. It is collected by the natives principally during the south-west monsoon, when it becomes separated by the agitation of the water. The moss is spread on mats, and dried in the sun for two or three days. It is then washed several times in fresh water, and again exposed to the sun, which bleaches it; after which it is collected in heaps for exportation. 100 grains weight yielded the following proportions:—Vegetable jelly, 54·50; true starch, 15·00; ligneous fibre, 18·00; sulphate and muriate of soda, 6·50; gum, 4·00; sulphate and phosphate of lime, 1·00; with a trace of wax and iron. For a decoction of Ceylon moss, take Celyon moss ground to fine powder two drachms, water one quart; boil for twenty minutes, strain through muslin. By increasing the proportion of the ground moss to half an ounce, the filtered solution on cooling becomes a firm jelly, which, when flavoured by cinnamon or lemon-peel, sugar, and a little wine, is an excellent article of light food for sick children and convalescents. The whole thallus of this one of the algæ is sometimes imported from Ceylon and the East Indies, and used in Britain for dressing silk goods. The agar-agar is a sea-weed exported from the islands of the Indian Archipelago as a portion of the cargo of every junk. It form a gelatinous mass with water, to which the Chinese add sugar, and use it as a sweetmeat.—*Beng. Phar.* p. 276.

GRACILLARIA TENAX.

Fucus spinosus, *Linn.*	Gigartina tenax.
F. tenax, *Turner.*	Gracillaria spinosa.
Eucheuma spinosa.	Gigartina spinosa.
Bulung, ... JAV.	Karang, Agar-agar, MALAY.
Dongi-dongi, MACASSAR.	Sajor-karang, . ,,

Gracillaria tenax, one of the algæ of the order

Rhodymeniaceæ. Mr. Williams and the Hon. Mr. Morrison say that the Chinese people collect this sea-weed on the coast to a great extent, using it for food, and also in the arts, affording an excellent material for glues and varnishes. It is boiled, and the transparent glue obtained is brushed upon a porous kind of paper called sha-chi, which it renders nearly transparent. It is also used as a size for stiffening silks and gauze, and extensively employed in the manufacture of lanterns and in the preparation of paper for lattices and windows. This and other kinds of fuci are boiled down to a jelly by the islanders on the south, and extensively used for food. About 27,000 lbs. are annually imported into Canton from the provinces of Foh-kien and Che-kiang, and sold for 6d. to 8d. the pound. The Chinese make it the basis of an excellent glue and varnish, and employ it chiefly in the manufacture of lanterns, to strengthen or varnish the paper, and sometimes to thicken or give a gloss to silks or gauze. Mr. Neill thinks that the gummy substance called chin-chou or hai-tsai in China and Japan may be composed of this substance. Windows made of slips of bamboos and crossed diagonally, have frequently their interstices wholly filled with the transparent hai-tsai glue.—*Mr. Neill; Williams, Middle Kingdom*, p. 275; *Morrison's Comp. Sum.*

GRACULUS, a genus of birds of the order Natatores, tribe Piscatores, and family Graculidæ or cormorants, which comprise the Gr. carbo, Gr. Javanicus, Gr. Sinensis, the large, little, and lesser cormorants. Gr. Sinensis, *Shaw*, the leu-tze or fishing-bird of China (Phalacrocorax Sinensis) is bred and instructed in the art and practice of supplying his owner with fish. Around the gunnel of their light boats their cormorants perch. On each boat or raft are ten or a dozen birds, which at a signal from the owner plunge into the water; and it is astonishing to see the enormous size of fish with which they return grasped between their bills. They are so well trained, that it does not require either ring or cord about their throats to prevent them from swallowing any portion of their prey, except what the master was pleased to return to them for encouragement and food. The boat used is of a remarkably light make, and is carried to the lake, together with the fishing-birds, by the men who are there to be supported by it.—*Jerdon; Fortune.*

GRAHA. Sansk. A planet; a moveable point in the heavens. In Hindu astronomy the planets have each a great number of names or epithets. The following number are known to every Indian, because they serve to give names to the seven days of the week:—Ravi, or Surya, the sun; Chandra, or Soma, the moon; Mangala, or Cuja, Mars; Budha, Mercury; Curu, or Vrihaspati, Jupiter; Sucra, or Bhrigu, Venus; Sani, or Saturn. Besides these, the Hindu astronomers consider Rahu, the moon's ascending, and Ketu, her descending nodes, as obscure planets, which occasion the eclipses of the sun and moon. Graha, when the terms Madhya and Sphuta are prefixed to it, signifies the mean and apparent place of the planet in the Hindu sidereal or fixed zodiac. Graha laghava is the name of a treatise on astronomy, written about the 4657th year of the Cali yug (A.D. 1555). The Graha, or planets of the Hindus, are sometimes worshipped together, and at others separately. Graha Parivrithi is an account of time used by the inhabitants of the southern provinces of the Peninsula of India. It consists of a cycle of 90 solar sidereal years of 365d. 15g. 31v. 30p. Indian, or 365d. 6h. 12m. 36s. European time. Its epoch is A.A.C. 24, and it is constructed of the sum of the products of revolutions of Mars (15), Mercury (22), Jupiter (11), Venus (5), Saturn (9), and sun (1).—*Cole. Myth. Hind.* p. 38; *Warren, Kala Sanhita.*

GRAHAM, JOHN, a servant of the Bombay Government, author of a catalogue of the plants growing in Bombay and its vicinity, 1830, in which he was assisted by Mr. Joseph Nimmo of Bombay. Mr. Graham was a native of Dumfriesshire, and arrived in India in 1828. He died at Khandalla on the 28th May 1839, at the age of 34. The catalogue has unfortunately been of little use, owing to the absence of descriptions rendering it impossible to identify in a satisfactory manner the species referred to.—*Hooker f. et Th.*

GRAHILOTE or Gehlote, a Rajput tribe of the Suryavansi, the chief of which is the Maharana of Mewar. By universal consent, as well as by the gotra of this race, its princes are admitted to be the direct descendants of Rama, of the Solar line. A pedigree is deduced from him, and connected with Sumitra, the last prince mentioned in the genealogy of the Puranas.—*Tod's Rajasthan.*

GRAINS OF PARADISE, Shuh-sha-jin and Si-sha-tau, Chin., are small fruits produced by species of Amomum, the Amomum grana paradisi, *Linn.*, and A. grandiflorum. They are hot, acrid, and aromatic, and used for medicinal and other purposes as stomachic and cordial stimulants. Those of the Amomum xanthioides and of the Elettaria cardamomum are also known by the same Chinese names.—*Smith.*

GRALLATORES, the Grallæ of Linnæus, the wader order of birds, which some naturalists arrange as under:—

a. The young when hatched able to run at once.
1. Tribe Struthiones, comprising the ostriches, emus.
2. Tribe Pressirostres, bustards, plovers, cranes.
3. Tribe Longirostres, snipes and sandpipers.
4. Tribe Latitores, rails and water-hens.

b. With the young helpless when hatched.
5. Tribe Cultirostres, storks, herons, and ibises.

Many of these are migratory, and come annually into India across the Himalaya. Mr. Hodgson says the grallatorial and natatorial birds begin to arrive in Nepal from the north towards the close of August, and continue arriving till the middle of September. The first to appear are the common snipe, the jack snipe, and Rhynchæa; next, the scolopaceous waders (except the woodcock); next, the great birds of the heron and stork and crane families; then the Natatores; and lastly the woodcocks, which do not reach Nepal till November. The time of the re-appearance of these birds from the south is the beginning of March, and they go on arriving till the middle of May. The first which thus return to Nepal are the snipes; then come the teal and duck, then the large Natatores, and lastly the great cranes and storks. The Grallatores which visit Nepal or pass over it are much more numerous than the Natatores. The wild swan was once seen in Nepal in the mid-winter of 1828.

None of the Natatores stay in Nepal beyond a week or two in autumn (when the rice-fields tempt them), or beyond a few days in spring, except

the teal, the widgeon, and the coot, which remain for the whole season upon some few tanks whose sanctity precludes all molestation of them. There are cormorants throughout the season upon the larger rivers within the mountains, but none ever halt in the valley beyond a day or two. For so long, however, both they and pelicans may be seen occasionally on the banks.

The larus and sterna are birds which usually affect the high seas; but Mr. Hodgson had killed both the red-legged gull and a genuine pelagic tern in the valley of Nepal. But so had he fishing eagles; and in truth, he adds, who shall limit the wanderings of these long-winged birds of the ethereal expanse? See Birds; Migration.

GRAM, a word supposed to be derived from the Portuguese Grao, grain, but applied by Europeans in India to the pulses from species of Cicer, Dolichos, and Phaseolus.

Cicer arietinum furnishes that called Bengal gram, and is the Chenna or Chuna of Bengal.

Madras gram, generally known as Kulti, is the Dolichos uniflorus, *Lam.*, the D. biflorus, *Roxb.* It has a pale yellow and a jet black variety, and is both used for cattle, and by people in curries. It has been tried in England, but unsuccessfully.

Phaseolus mungo, Linn., furnishes the green gram of all India; it is the Ph. max., *Roxb.* There are several varieties, one of them with black seeds, called black gram. It is a very important crop, and is largely exported. Its chemical composition is, starchy matter, 59·87; nitrogenous, 24·12; moisture, 11·05; fatty or oily matter, 1·29; and mineral constituents, 3·66.

Manilla gram is the ground nut, the Arachis hypogea, which is eaten as a fruit, and yields an edible oil. Gram exported from India,—

Year.	Cwt.	Rs.	Year.	Cwt.	Rs.
1874–75,	322,661	11,29,187	1877–78,	408,728	49,81,892
1875–76,	316,592	9,97,635	1878–79,	288,506	13,86,314
1876–77,	339,272	9,60,470	1879–80,	285,956	13,34,443

GRAM or Grama. SANSK. A village and its lands, modified into the Hindi, Gam, Gaon, Gaum, and in Telugu Gramamu. The village lands are held under several tenures in the different parts of India, either one individual being responsible for the revenue, or it is paid by a number of individuals as a coparcenary. In the Tamil portions of the S. of India, the Ekabhogam gramam (sole enjoyment) or Ijaman gramam (Yajamana, householder) is usually the property of a single individual. There are in N. India, Bhaya chara or brotherhood villages, called also Pattadari (share), in the Sanskrit, Pasung rarai and Pangu-vali, or by the Sanskrit terms Samohi or Samudayam. The Pattadari or share tenures in the south are called Arudi-karai, Achandrarham, Bhattavritti or Bharttvarti and Palabhogam.

Grama Deva, SANSK., a tutelar deity of the Hindus, who protects the fields, villages, and towns from evil spirits and from all evils. In the extreme south of India, Ayenar with his two wives are frequently the Grama Devata, the genii loci. In many parts of India the Grama Devata are the most popular objects of worship with the mass of the people. See Dehwar.

Gramani, in Travancore the headman of a village, is also the honorific suffix of the Shanar, a race who cultivate the palms for their palm-wine. In Bengali, Uriya, Tel., Karn., and Mal., it denotes the village barber.—*Wilson.*

Grama Peraverticum, TAM., a village senate or council which ruled the village republics of India prior to the introduction of the present system.

GRAMMAR is a favourite study among all Hindus. It is a tradition that Agastya wrote the first Tamil grammar, but it perished on account of the curse of his pupil Tolkappiyanar. The latter wrote what is called the Tolkappiyam, the oldest treatise on the subject now in existence. It contains 1276 sutras, or rules in verse. Pavananti wrote the Nannul, in 462 sutras, considered the standard work on Tamil grammar. It is greatly admired for its logical arrangement and comprehensive brevity. The Tamils boast that its sutras do not contain a single redundant word. Though intelligible to good scholars, others will think that the remark of Sir William Jones applies to them in some measure, 'dark as the darkest oracles.'

GRAMMATOPHYLLUM, a gigantic epiphytal orchid peculiar to the Archipelago. Its clusters of leaves and flower-stems are ten or twelve feet long.—*Wallace.*

GRANADA, a town in Spain. Its Alhambra, the ancient palace of the Moorish kings, in point of workmanship perhaps the most beautiful extant, and justly the pride of Granada, stands on a lofty eminence between the rivers Doura and Xenil, and derives its name from the red colour of the materials with which it is built. The words Al hamra signify the red house.

GRANADILLA, Passiflora quadrangularis, the Jamaica passion-flower, flourishes well on the Tenasserim coast, and is very prolific. The smooth oblong fruit grows nearly as large as a cucumber, and contains a succulent pulp, which makes a cooling, delicious dish, and, when prepared in tarts, can scarcely be distinguished from green apple. The Rev. Mr. Bennett of Tavoy introduced it among the Karens, by whom it is highly esteemed, and much sought for. It possesses all the attractive qualities of fine fruit, handsome fragrant blossoms, and, when trailed over an arbour, a rich, pleasing shade.—*Mason.*

GRANARIES or Grain Pits. Kalanjeum, TAM., Patra, TEL., are underground pits in which grain is stored. Grain pits in India are in elevated dry spots, their size being according to the nature of the soil. All the preparation they undergo is the incineration of certain vegetable substances, and lining the sides and bottom with wheat and barley stubble. The grain is then deposited in the pit, covered over with straw, and a terrace of earth about eighteen inches in height, and projecting in front beyond the orifice of the pit, is raised over it. This is secured with a coating of clay and cow-dung, which resists the ordinary rains, but is renewed as the rainfalls injure it. Grain can be kept in these for years without injury.

GRAND LAMA, the chief lama or priest of Buddha, in Tibet, who is supposed to be a Bodhisatwa, who abstains from accepting Buddhahood, and is re-born again and again for the benefit of mankind. See Buddha; Lama; Sakya.

GRAND MOGHUL, a title given in Europe to the last dynasty of Mahomedan rulers in India, who reigned at Dehli. See Moghul.

GRANGEA MADERASPATANA. *Poir.*

Gr. Adansonia, *Cass.*	Artemisia maderas., *Willd.*
Namuti, ... BENG.	Mashiputri, . . . TAM.
Nelam pata, . . MALEAL.	Mustaru, ... TEL.

Grows in Bengal and peninsular India; its leaves are used in medicine.—*Wight's Icones.*

GRANT'HA means book. Adi Grant'h, first book, is a name given to the first religious book of the Sikh religionists, to distinguish it from the Dasama Padshah-ha-Grant'h, or Book of the Tenth King, composed by Guru Govind.

GRAPES.

Anub, ... ARAB.	Angur, ... PERS.
Pu-t'au, ... CHIN.	Uvas, ... PORT.
Raisins, ... FR.	Dracha, SANSK., TAM., TEL.
Trauben, ... GER.	Ubas; Racimos, . . SP.
Darakh, Dak'h, . HIND.	Kodimundri pallam, TAM.
Grappi; Grappoli, . IT.	Uzum, ... TURK.
Uvæ, ... LAT.	

Grapes, the fruit of the vine, are grown in most parts of British India and in China. There are many species of the genus Vitis, but the V. vinifera is the only one known as the grape vine. V. Indica, the Amclouka of the Indian Peninsula, Bengal, and Himalaya, produces beautiful clusters of round purple berries, and a large grape which is very fair eating; and the common vine of Europe is probably from this plant. The wild grapes of Isaiah v. 2 are a species of Solanum.

The vine seems to have been known in China from the earliest times, but varieties appear to have been re-introduced from Farghana, Ladakh, and other western countries. The wild V. Amurensis, *Ruppius*, of the Amur, has been supposed to be identical with the cultivated plant. Quantities of grapes are grown in Peh-chi-li and Shan-si provinces, green grapes in Sze-chuen and Foh-kien, and a very excellent sultana raisin in Tien-tsin.

Grapes dried before being ripe, and pounded, are used in Kābul as a pickle. In the Panjab several varieties of grapes are recognised,—Kandahari, a purple grape; Kishmishi, a small seedless grape, producing what are called in England sultana raisins,—these are of the varieties called Sahibi surkh and Sahibi ablak; Khatan grapes produce the large common raisins, called munakka; Fakhri, sometimes called Askari, a black grape; Munakka and Abjosh munakka are grapes dried in the sun; Rish baba; Dida-i-gau, a white grape, with some spots on the skin, which are said to resemble a cow's eye, hence its name; pious Hindus refuse to eat this grape on that account; Karghani (white), called from the name of a place; Angur Jalalabadi, called also Khatta angur, grown at Charbagh, a few miles from Jalalabad; Charangur, grown also at Jalalabad. The common sorts of grapes are Rocha-i-surkh and Rocha-i-safed, also Toran. Green grapes sold in the plains in the winter time, are the Hosaini or Shaikh kalli varieties; they are of large size, pale green colour, and of delicate flavour. They are picked before being quite ripe, and packed between layers of cotton wool, in round boxes made of white poplar wood, and tied up with a string of goat's hair; these are exported in thousands, and called Angur khatti. There is yet another, the Akta grape, which produces bloom raisins, called Dagh, or more properly Kishmish-i-daghi, which are prepared by dipping the ripe bunches of fruit into a boiling solution of quicklime and potash (hence called Abjosh, lit. infused in water) before drying in the shade.

In the Indian Peninsula there are several varieties, but the common leek-green is the most esteemed, though many persons like the Habshi grape. In the arid regions of Rajputana, where they depend entirely on the heavens for water, and where they calculate on a famine every seventh year, nothing that can administer to the wants of man is lost. The seeds of the wild grapes, as the bhoorut, buroo, herraro, sewun, are collected, and, mixed with bajra flour, enter much into the food of the poorer classes. They also store up great quantities of the wild ber, khyr, and kharil berries; and the long pods of the karjra, astringent and bitter as they are, are dried and formed into a flour.

GRAPE SUGAR, also called Glucose, is found in the fruits of most plants. It seems to act on the system in precisely the same way as cane-sugar. The result of the fermentation of grape-sugar is the production of alcohol, which does not differ much in composition from sugar.

GRAPHIC SLATE, that 'soils and writes,' is found east of Tavoy, and another and softer variety is found in Moulmein.—*Mason.*

GRAPHITE, also called Black Lead and Plumbago, occurs in Travancore, Ceylon, Vizianagram, at Gurjoli, and at Almorah. It occurs in Travancore, and also in the corresponding parallels on the eastern sides of the ghats in Tinnevelly, in both sites the rocks apparently coinciding in direction with the strata in Ceylon, in which this mineral occurs. Graphite is found in the districts of Simla. In Upper Burma it is found in large quantities to the east of Nat taik, on a low range of hills near the village of Nyoke toke.

GRAPSUS, a genus of the Crustaceæ.

Grapsus strigosus, *Edws.*, Red Sea, Indian Ocean, New Holland.
G. variegatus, *Edws.*, New Holland, Chili.
G. messor, *Edws.*, Red Sea, Indian Ocean.
G. plicatus, *Edws.*, Sandwich Islands.

GRAPTOPHYLLUM HORTENSE. *Nees.*

Justicia picta, *Roxb.*

Gnwæ-ban, . . . BURM.	Soorkh-vasooka, . HIND.
Sa-lat-nee, . . . „	Judi mara, . . MALEAL.
Face plant, . . . ENG.	

A handsome flowering plant with large crimson flowers, native of Java, commonly cultivated in gardens in India.

Var. *b.* G. lurido-sanguineum, the Sa-lat-nee of the Burmese, is larger.

Some varieties have red and dark red spots. The leaves are used for the decoration of the dessert after dinner, and other ornamental purposes. Few leaves can be found on which some grotesque resemblance to the human countenance may not be fancied or traced.—*Riddell; Jaffrey; Voigt*, 488.

GRAS, the griffin of Rajputana. The Naguni is half serpent, half woman. At Barolli the Gras and Naguni are represented in a highly finished sculpture.—*Tod's Rajasthan*, ii. p. 716.

GRASIA. HIND. Garasio, GUJ. In Malwa, Gujerat, Cutch, and Rajputana, a chief of a tribe claiming revenues from villages. In Mewar, the Grasia is of mixed Bhil and Rajput descent, paying tribute to the Rana of Udaipur. In Western India, a military chief. The term is derived from Grass, a Sanskrit word which signifies a mouthful, and has been metaphorically applied to designate the small share of the produce of a country which these landowners claim.—*Malcolm's Central India.*

GRASS.

Myek-ping, . . . BURM.	Erba, ... IT.
Gras, ... DUT., GER.	Herva, ... PORT.
Herbe, Gazon, . . . FR.	Traba; Travu, . . RUS.
Ghas, ... HIND.	Yerba, ... SP.

In England the grasses have received great and deserved attention. In some places hay grasses are cultivated; in some, those adopted for pasturage or for catch-meadows; while in other localities preference is given to varieties which yield early or late pasturage, or have the recommendation of being suitable to some peculiarity of the soil. In India, however, the subject has received no such minute consideration, although deserving accurate investigation and careful experiment. The pasture lands are everywhere left to nature. There is generally a right of common pasturage, and there is nothing to prevent the village cattle from roaming at discretion.

The populations of Central and Southern Asia are largely pastoral and agricultural, and the grasses useful for cattle are therefore of vital importance. Nomades shift with the seasons of the year to their summer and winter grazing grounds; and in India, partly in this manner, and in part trusting to their natural grasses, they are still able to rear large herds and flocks, though the waste lands of India are yearly becoming more tilled to meet the wants of the increasing populations. Grass is but seldom cut and stacked as hay. The rapid growth and subsequent dryness render many natural Indian grasses unfit for pasture at the end of the year; and grass-cutters, who provide horses, usually search for and collect the dubh grass, the Cynodon dactylon.

Sir W. Jones observes (As. Res. iv. p. 242) 'that it is the sweetest and most nutritious pasture for cattle, and its usefulness, added to its beauty, induced the Hindus, in their earliest ages, to believe that it was the mansion of a benevolent nymph.' Even the Veda celebrates it, as in the following text of the A't'harvana: 'May Durva, which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth a hundred years.'

In the east coast of the Peninsula of India, the vegetation of most plants is interrupted for a longer period by the dry season, than in Europe by the winter. The sandy tracts about Madras remain perfectly arid, only a little relieved by partial showers during the south-west monsoon. This alternation of drought and heat at one season, and of heavy rains at another, necessarily precludes the pasture grounds of the Karnatic from attaining the verdant, flourishing condition observable in extra-tropical countries. At the same time, however, the temperature of the cold weather admits of the production of a considerable quantity of serviceable grass.

No grasses are cultivated in China for food for animals. The country produces many species fitted for rearing flocks and herds, and are extensively cultivated in the south of China for weaving floor matting of various degrees of fineness, the coarser kinds of which are used also to construct sheds to screen workmen when building houses, and even the walls of the huts tenanted by the poor; the best comes from Lien-tan, west of Canton.

Of the grasses eaten by cattle, Sir A. Burnes mentions that three are cultivated in Kābul,—Rishka or Medicago sativa, the common lucerne; Shaftul, a kind of trefoil; and the Si-barga (three leaves), a clover new to Europe, which from its great yield was named Trifolium giganteum. Another plant, the Melilotus leucantha, or Bokhara clover, differs much from the Trifolium giganteum in its properties, though, like it, of luxuriant growth.

In the Rakhs of the Panjab, and in the 'bar' tracts during the rains, the whole surface of the plain is covered with grass. Thirty sorts—each with its distinctive name—were collected in the rainy season near Lahore.

Dr. Royle mentions that the grasses of Hurriana (Sirsa and Rohtak)—and it is true of the rakhs generally—consist of species of Panicum, Pennisetum, Cenchrus, Chætaria, Dactyloctenium, Chloris, Eleusine, Acrcahne, Poa, Eragrostis, and Andropogon, and to these, species of Saccharum and Rottbollia should be added. In one place a clover or lucerne, Shaftul, is grown, also Sinji, but this principally by Europeans for their horses and other cattle. Cattle in India are usually fed (besides grass) on Bhusa, or, as it is called in Panjabi, Turi, the chopped straws of wheat and barley; besides which they get Karbi, the dried stalks of Jowar (Sorghum vulgare); this latter when green and fresh is called Charri. Chopped leaves of the Ber (both Z. vulgaris and Z. nummularia), called Mulla, are much used, and are said to be fattening. Dr. Henderson mentions that in Shahpur, and one or two other districts, turnips are grown very extensively for feeding cattle during the cold weather, and they often attain a larger size than in Europe. A few of these are used in times of famine for food, as the Markan grass, the wild Sawank, and Phog. The seed of Calligonum polygonum is used as human food in the Panjab in times of famine. Dhaman or Anjan (Pennisetum cenchroides) is considered the best grass for cattle, rapidly improving their condition, and increasing their produce in milk. Jhang is a scented grass, probably Andropogon schœnanthus; and the root of A. muricatum forms the khaskhas used in matting tatties and screens for cooling purposes.

The Durva or Hurriali grass (Cynodon dactylon), unquestionably the best species which India possesses for forage, has been cultivated with great success at Vellore by Major Ottley, who has given an interesting account of this grass in the Madras Journal of Literature and Science, 1849, xv. p. 477. In upland districts rye-grass and clover grow; and both these exotics, when sown fresh, have been found to answer exceedingly well on the Shevaroy, Pulney, Neilgherry, and Baba Booden Hills. The Guinea grass has been strongly recommended in Bengal.

Inoculating Grass.—In poor soils such as that of the Karnatic, grass seeds do not take so well as in rich land, and there is great difficulty in procuring a good sward. In this case recourse must be had to planting, or, as some call it, inoculating grass. This is done by taking pieces of turf from the banks of a river or tank, and spreading them over the land to be laid down, after it has been prepared in the same manner as it would have been to receive the seed. The turf should be taken up in little square pieces, and spread over the surface of the ground, leaving small interspaces between each piece. A stone roller or a wooden beater should then be employed to press them into the ground. In a few days the interspaces will be found to be filled up, and a complete carpet of turf to have formed.

Before putting down the turf, poor stiff lands must be divided by ditches, ploughed in deep furrows, and exposed as much as possible to the wind and sun. Such soils may with careful culture and irrigation become permanent meadow land, but it is essential to get them into a sound state by most carefully clearing them of nuth grass and weeds before laying down grass seeds, and subsequently by keeping the land free of coarse grass by hand weeding. Paring and burning the surface have been found useful, and if beneficial in the first instance, the operation may be repeated with advantage.

Lespediza striata, *H. and A.*, the Japan clover of China and Japan, is much valued in N. America as a grass for cattle.—*Von Mueller; Powell; Royle, Ill.; Mason; Williams; Hooker's Him. Jour.*

GRASS-CLOTH, the Hia-pu or Chu-ma of the Chinese, is fabricated from the fibre of the Urtica nivea of Linnæus, the Boehmeria nivea of Gaudichaud. It is met with bleached and unbleached. It is extensively used by the Chinese, being woven into narrow pieces and into handkerchiefs, the export being chiefly to India and the United States, many handkerchiefs being sent to the latter country. Clothes are sent from the Chinese market to South America, made from grass-cloth and nankeen. No account of the quantity has been kept. Coarser sorts of China grass-cloth are furnished by the fibres of Sida tiliæfolia and Dolichos bulbosus.—*Smith.*

GRASSHOPPER.

Sauterelle, Cigale, . Fr.	Grillo, ... It.
Grashüpfer, . . Ger.	Langostino, ... Sp.
Tiddi, ... Hind.	

One of this tribe, a species of Deticus, is kept by the Chinese in cages for fighting. The Greeks ate grasshoppers, and liked them amazingly; the aborigines of New South Wales eat them raw, first taking off their wings.

GRASS OILS are obtained from species of Andropogon,—A. citratum, A. Martini, A. iwarancusa, and their allies. They are fragrant essential oils. In the south of the Peninsula of India, in Madura, are three grasses or sorts of grass, named Poathapil, Seegompil, and Komatchpil, which are employed to furnish grass oils. The stalks are cut into pieces a span in length, and put into earthen pans with water, and exposed to the action of fire. In the south of India and Ceylon they are known to the British as the lemon grass oils, also citronelle oils, ginger grass oil, essence of verbena.

The grass oil of Nemaur, Roosa-ka-tel, Hind., was first brought to notice by Dr. Maxwell in 1824, and was further described by Dr. Forsyth in 1826. This oil is obtained from the Andropogon Martini by distillation. 250 to 300 small bundles of the grass are placed in a boiler, covered with water, and distilled. About a seer of oil is obtained in the receiver. It is volatile, extremely pungent, of a light straw colour, very transparent, with a peculiar rich and agreeable odour. As a rubefacient, it is very highly esteemed by the wealthy natives of India for the cure of rheumatism, especially that of the chronic kind. Two drachms of the diluted oil are rubbed over the pained part in the heat of the sun, or before a fire, twice daily. It causes a strong sensation of heat or pricking, lasting for two hours or longer. The natives also regard it as an efficacious remedy in slight colds. They anoint the soles of the feet with the oil, and it is stated that slight diaphoresis is thus produced. It is also known as the ginger grass oil. It is employed as a substitute for cajaput oil. The grass has a strong aromatic taste, scenting the milk of those animals which feed on it. The oil is very fragrant and aromatic, and the colour is a pale straw. Much used in perfumery, and medicinally as a stimulant and diaphoretic. It has the power in a most remarkable degree of preventing the hair of the head from falling off after acute diseases, such as fever, or after confinement or prolonged nursing. It even restores it after it has fallen off, but it must be strong and pure.—*Royle, Useful Plants; Trans. Med. and Phys. Soc.* iii. p. 219; *O'Sh.*

GRASS TREE, or Australian Grass Tree or 'Black Boy' (Xanthorrhæa, *sp.*). Some of the grass trees are from 5 to 7 feet high, and as many in circumference. They have leaves 3 to 4 feet long, and flower-spikes 5 to 10 feet high, thickly clothed with hard scales and small white star-like flowers, except for about 1½ feet at the base, which is bare. Abundance of red resin is exuded by them.—*J. Backhouse.*

GRASS-WRACK, Zostera marina, *L.*, belongs to a small group of grass-like marine plants. It is common on the British coast, and in most parts of the world, near low-water mark. Used for packing and to stuff beds.

GRATIOLA SERRATA. *Irvine.*

Notched hyssop, . Eng. | Bhoomia-neem, . Hind.

Grows wild during the rains; used as a bitter by the poor.—*Genl. Med. Top.* p. 173.

GRAUCALUS, a genus of cuckoo shrikes, of the family Laniadæ and sub-family Campephaginæ.

GRAVET, a term in Ceylon applied to the space outside the principal forts in the island. The Singhalese word Cadawetta describes the enclosure or boundary of a temple or city, or a royal chase. It was adopted by the Portuguese, after the erection of these fortresses, to define the limits of the lands they had been permitted by the native princes to appropriate, and the word Garvetta is still used in the patois of the Portuguese descendants. When the Dutch seized the forts, the word passed into Gravette, which appears on their records; and from the British, in turn, took the present term Gravet.—*Tennant's Christianity in Ceylon*, p. 291.

GRAY, J. E., author of Illustrations of Indian Zoology, chiefly from the collection of Major-General Hardwicke, Lond. 1830.

GREASE FOR RAILWAYS. The mixture used by the East Indian Railway for axle-grease is,—tallow, 50 lbs.; country soap, 20 lbs.; castor-oil, 30 lbs.; water, about 10 gallons. Melt the tallow in a large vessel, cut the soap in slices and put into the water when the latter is warm. When the soap is fully dissolved, pour the water containing it into the tallow, after which add the castor-oil; immediately after the latter is added, take the mixture off the fire, and while it is cooling let it be stirred constantly till cool. The mixture may require a little more or less water, according to the temperature of the weather.

GREAT MOGHUL, a designation employed by the nations of Europe as the title of last dynasty emperors of Dehli, most of whom were descendants of Baber.

GREAT WALL OF CHINA was built by the

GREECE.

emperor Chi-hoang, of the Tsin dynasty, about B.C. 260. It was done by forced labour,—every third labouring man was compelled to work for his bare food as a remuneration. It extends from the sea to the most westerly province of Shen-si, about 1500 miles. It was built of earth faced with brick. From the west shore of the Gulf of Liau-tung, in lat. 39° 58′ N., long. 119° 51′ E., originating within 100 yards of the beach, and having a masonry pier jutting out into the sea, it crosses mountains, valleys, and rivers, and was finished in five years. Its breadth admits of six horsemen riding abreast, and has a tower every hundred yards. It was Chi-hoang-ti who introduced yellow as the colour of the royal family. The route between Pekin and Western Asia and Europe issues from the western end of the Great Wall, to cross the desert of Gobi.

GREECE, a celebrated country in Europe, famed for the military exploits, learning, and arts of its inhabitants. The people of Greece call their country Ionia. It is the Yunan of the Mahomedans, whose people the Hindus style Yavana. It has produced many men famed throughout the world,—Alexander the Great, his teacher Aristotle, Socrates, Hippocrates, Plato, who are not mentioned by Hindus, although known to all the Mahomedans of Asia, as Sikander Rumi, Aristu, Sokrat, Bukrat, and Aflatun. The following Greek and Roman writers were known to the Mahomedans, viz.:—

Herodotus,	B.C. 450	Clemens Alexandrinus,	A.D. 200
Ctesias,	400	Eusebius,	320
Onesicritus,	325	Festus Avienus,	380
Megasthenes,	300	Marcian,	420
Strabo,	A.D. 20	Cosmas Indicopleustes,	525
Pomponius Mela,	20	Stephen of Byzantium,	560
Pliny,	77	Ravennotis Anonymi Cosmographia,	7th cent.
Periplus Mari Erythræi,	80	Georgius Syncellus,	800
Dionysius Periegetes,	86	Eustathius,	12th cent.
Ptolemy,	130		
Arrian,	150		

But the first Greek historian who speaks clearly of India is Hekataios of Miletus (549-486 B.C.); the knowledge of Herodotus (450 B.C.) ended at the Indus; and Ctesias, the physician (401 B.C.) brought back from his residence in Persia only a few facts about the products of India,—its dyes and fabrics, monkeys and parrots. India to the east of the Indus was first made known to Europe by the historians and men of science who accompanied Alexander the Great in 327 B.C. Their narratives, although now lost, are condensed in Strabo, Pliny, and Arrian. Soon afterwards, Megasthenes, as Greek ambassador resident at a court in the centre of Bengal (306-298 B.C.), had opportunities for the closest observation. The knowledge of the Greeks and Romans concerning India practically dates from his researches, 300 B.C. Alexander the Great had entered India early in 327 B.C. He crossed the Indus above Attock, and advanced without a struggle over the intervening territory of the Taxiles to the Jhelum (Hydaspes). Having drawn up his troops at a bend of the Jhelum, about 14 miles west of Chillianwalla, the Greek general crossed under shelter of a tempestuous night. The enemy had 30,000 efficient infantry, 4000 horse, 300 chariots, 200 elephants; and Alexander's army numbered about 50,000, including 5000 Indian auxiliaries under Mophis of Taxila. Alexander found the Rawal Pindi district in possession of the Takka or Takshak, a Scythic race; and, 1300 years afterwards, Mahmud found it in the possession of the Ghakkar, who are still there. It was from the Takshak that the Greek name of Taxiles was derived. Alexander advanced southeast through the kingdom of the younger Porus to Amritsar, and, after a sharp bend backward to the west to fight the Cathæi at Sangala, he reached the Beas (Hyphasis). The country was hostile, and the Greeks held only the land on which they encamped. At Multan, then as now the capital of the Southern Panjab, he had to fight a pitched battle with the Malli, and was severely wounded in taking the city. His enraged troops put every soul within it to the sword. Further down, near the confluence of the five rivers of the Panjab, he made a long halt, built a town, which he called Alexandria, and which is the modern Uchh.

Alexander, in his advance towards the Indus, had formed military stations in Bactria, and after his demise, when the generals of his armies set up for independence, Bactria was carved into kingdoms, which, with varying limits, lasted from B.C. 256 to A.D. 207. Lassen supposes the existence of four Greek kingdoms, viz. first, that of Bactria; a second eastern kingdom under Menander and Apollodotus, comprehending the Panjab and valley of the Indus, with Kābul and Arachotia or Kandahar added in times of its prosperity; a third, western, at Herat and in Seistan; a fourth, central, of the Paropamisus, which latter region Mr. Prinsep is inclined to give to Bactria, because of the bilingual as well as the pure Greek coins, of Heliocles and Antimachus, kings of Bactria. Mr. Thomas, in Prinsep's Antiquities, gives Major Cunningham's table. The countries over which the Greeks ruled were seemingly Bactria, Sogdiana, Margiana, Paropamisidæ, Nysa, Aria-Dranga, Arachosia, Gandharitis, Peukelaotis, Taxila, Patalene, Syrastrene, and Larice; but their limits were incessantly varying. The dynasties in Asia, founded after the death of Alexander the Great, by his generals, etc., were as under:—

I. *Syria.*

B.C.		B.C.	
334.	Alexander the Great; born 356, died 323.	137.	Antiochus VII. Sidetes
312.	Seleucus I., Nicator.	128.	Alexander II., Zebina.
280.	Antiochus I., Soter.	125.	Seleucus V.
261.	Antiochus II., Theos.	125.	Antiochus VIII. Grypus
246.	Seleucus II. Callinicus.	112.	Antiochus IX., Cyzicenus.
226.	Seleucus III. Ceraunus	96.	Seleucus VI., Epiphanes.
223.	Antiochus III. Magnus (Achæus).	95.	Antiochus X. Eusebes. Antioc. XI. Epiphenes. Philip and
187.	Seleucus IV., Philopator.	94.	Demetrius III. Eucærus
175.	Antiochus IV., Epiphanes.	88.	Antiochus XII. Dionysius of Josephus.
164.	Antiochus V. Eupator.	83.	Tigranes of Armenia.
162.	Demetrius I., Soter.	69.	Antiochus XIII. Asiaticus.
150.	Alexander I., Bala.	65.	Syria became a Roman province.
147.	Demetrius II. Nicator.		
144.	Antiochus VI., Theos.		
142.	Tryphon.		

Antiochus Soter succeeded Seleucus Nicator, and, in the reign of his successor, Antiochus Theos,

Arsaces, a Scythian, who came from the north of the Sea of Azof, induced the Persians to throw off the Greek yoke, founded the Parthian empire, and made Rhages his capital. This was likewise the period of the foundation of the Bactrian kingdom by Theodotus, the governor of it, who,

finding himself cut off from Syria by the Persian revolution, declared his independence.

Arsaces is called Asteh by Eastern writers, and is said to have been a descendant of the ancient Persian kings. When he gained the kingdom, it is said he promised to exact no tribute, and merely to consider himself as the head of a confederacy of princes, united for the double object of maintaining their independence and freeing Persia from a foreign yoke. This is the commencement of that era of Persian history called by Eastern writers Muluk-ut-Tuaif, or commonwealth of tribes. In A.D. 906 Rhages was taken by Ismail, founder of the Samani dynasty. It ceased now to be a seat of empire, and in A.D. 967 became the capital of the house of Shemgur, a race of petty princes who maintained a kind of independence, while the dynasties of Saman and Dilemee divided the empire of Persia. In A.D. 1027 Rhages was the last conquest of Mahmud of Ghazni.

II. *Bactria.*

The sole evidence of the long line of Bactrian kings exists in the emanations from their mints, exumed from time to time in and around their ancient seats of government. In the almost total absence of annals, whether occidental or oriental, their coins furnish nearly all the testimony at present available with which to reconstruct the story of the survival, re-institution, and extinction, of the dominant Hellenic element on the site of Alexander's furthest conquest in the East, and of those potentates who swayed the dynasties of these lands for upwards of two centuries. Professor Wilson gives a list of them from Theodotus I., B.C. 256, to Pantaleon, B.C. 120. Then of Barbaric kings, Su Hermæus, Kadaphes and Kadphises, from B.C. 100 to B.C. 50. Of an Indo-Parthian dynasty; the Indo-Scythian princes of Kābul; and a classification of their contemporaries. Mr. Thomas, in Prinsep's Antiquities, quotes Major Cunningham's table :—

B.C.
256. Diodotus I., . } Bactriana (including Sogdiana,
243. ,, II.,. } Bactria, and Margiana).
247. Agathocles, . } Paropamisidæ and Nysa.
227. Pantaleon, . }
220. Euthydemus—Bactriana, Ariana (including Aria, Drangia, Arachosia, and Paropamisidæ), Nysa, and subsequently Gandharitis, Peukelaotis, and Taxila.
196. Demetrius, do., do., and later in his reign, Patalene, Syrastrene, Larice.
190. Heliocles—Bactriana and Paropamisidæ.
190. Antimachus Theos—Nysa, Gandharitis, Peukelaotis, and Taxila.
185. Eucratides—Bactriana, Ariana, besides Patalene, Syrastrene, and Larice, as well as Nysa, Gandharitis, Peukelaotis, and Taxila.
173. Antimachus Nikephoros—Nysa, Gand., Peuk., and Taxila, contemporarily with Eucratides' retention of the rest of his dominions.
165. Philoxenes succeeds to Antimachus Nikephoros' kingdom.
Nicias, do., with the exception of Taxila.
165. Apollodotus succeeds Eucratides in Ariana, as well as Pata., Syr., Larice.
Zoilus, . . } follow Apollodotus in Ariana alone.
Diomedes, }
Dionysius, }
159. Lysias succeeds these in Paropamisidæ, and obtains Nicias' dominion of Nysa, Gand., Peuk.; while Mithridates I. possesses himself of Ariana, having previously gained Margiana from Eucratides.
Antialcides succeeds to Lysias' kingdom.
Amyntas.
Archebius follows Antialcides.

B.C.
161-140. Menander reigns in Paropamisidæ, Nysa, Gand., Peuk., Taxila, Por., Reg., Cath., Patalene, Syr., Larice.
135. Strato succeeds, with the exception of the countries of Pata., Syr., Larice, which fall to Mauas.
Hippostratus, Telephus Theophilus, follow Strato.

Of all the kings who followed Eucratides, Menander and Apollodotus alone are mentioned by classical authorities. Menander advanced furthest into N.W. India, and his coins are found from Kābul as far as Muttra on the Jumna.

B.C. *Barbaric Kings.*
126. Hermæus rules over Parop., Nysa, Gand., Peuk. (The Su-Saka race obtain Aria., Drangia, and Arach. from the Parthians.)
Mauas has Taxila, Por., Reg., Cath., Patalene, Syrastrene, Larice.
105. Kadphises (Yu-chi) takes possession of Hermæus' kingdom, and Taxila from Mauas (Kozola Kadaphes).
Vonones, Spalygis, Spalirises—Paropamisidæ.
110. Azas succeeds Mauas, obtaining also, in 90 B.C., Nysa, Gand., and Peuk.
80. Azilas succeeds Azas in the three latter, adding Taxila and the Paropamisidæ.
80. The Soter Megas obtains the dominions of Azas, and subsequently those of Azilas.
60. The Yu-chi again possess Paro., Nysa, and Taxila, etc.
26. Gondophares reigns in Ariana, Abdagasses (and
A.D. Sinnakes or Addinigaus) do. in do., less the Parop.
44. Arsaces (Ornospades or Orthomasdes), do. do.
107. Pakores Monnesses, do. do. (Hiatheleh) in Bactriana.
207. Artemon—in Aria, Drangia, Arachosia.

III. *Parthia.*

A.D.
255. Arsaces I.
253. Tiridates I.
216. Artabanus I.
196. Phraapatius.
181. Phrahates I.
173. Mithridates I.
136. Phrahates II.
126. Artabanus II.
123. Mithridates II.
87. Mnaskires.
77. Sinatroces.
70. Phrahates III.
60. Mithridates III.
54. Orodes I.
37. Phrahates IV.
(Tiridates) II.
(Phrahates) IV.

A.D.
4. Phrahates.
5. Orodes II.
5. Vonones I.
13. Artabanus III.
(Tiridates) III.
(Cinnamus.)
(Artabanus) III.
42. Bardanes.
45. Gotarzes.
50. (Meherdates).
51. Vonones II.
51. Vologeses I.
62. (Artabanus) IV.
77. Pacorus.
108. Chosroes.
115. (Parthamaspates).
116. Chosroes.
121. (Vologeses) II.
148. Vologeses III.
192. (Vologeses) IV.
209. (Vologeses) V.
Artabanus V.
235. Artaxerxes, king of Persia, first of the Sassanidæ.

The family name Arsaces was that applied to all the kings of Parthia, hence called the Arsacidæ.

There were military colonies of Macedonians established at Alexandria ad Caucasum, Arigæum, and Bazira, and garrisons at Nysa, Ora, Massaga, Peukelaotis, and at Aornis, a mountain range, supposed to be the mountains of Mahaban in the Pir Panjal or mid-Himalayan range. Megasthenes mentions that India was divided into 118 kingdoms, some of which, such as that of the Prasii under Chandragupta, exercised suzerain powers. In the inscriptions of Asoka, five Greek princes appear,—Antiochus (of Syria); Ptolemy (Philadelphos, of Egypt); Antigonas (Gonatas, of Macedon); Magas (of Kyrene); Alexander (II., of Epirus).

It would appear that the Greek colonists in the

Panjab had first been placed under Philip, while the civil administration of the country remained in the hands of its native princes, Taxiles and Porus. Afterwards, on the murder of Philip by the mercenary soldiers, Alexander (Anabasis, vi. 2, vii.) directed Eudemos and Taxiles to govern the country until he should send another deputy. It is probable, however, that they continued to retain the charge; for, after Alexander's death in B.C. 323, Eudemos contrived by his general Eumenes to make himself master of the country, by the treacherous assassination of king Porus (Diodorus, xix. 5). Some few years later, in B.C. 317, he marched to the assistance of Eumenes with 3000 infantry and 5000 cavalry, and no less than 120 elephants. With this force he performed good service at the battle of Gabiene. But his continued absence gave the Indians an opportunity not to be neglected, and their liberty was fully asserted by the expulsion of the Greek troops and the slaughter of their chiefs,—Justin, xv. 4—'Præfactos ejus occiderat;' again, 'Molienti deinde bellum adversus præfactos Alexandri.' Chandragupta was present when Porus was murdered, and he became the leader of the national movement, which ended in his own elevation to the sovereignty of the Panjab. Justin attributes his success to the assistance of banditti; Justin, xv. 4—'Contractis latronibus Indos ad novitatem regni solicitavit.' But in this Colonel Cunningham thinks he has been misled by a very natural mistake; for the Aratta, who were the dominant people of the Eastern Panjab, are never mentioned in the Mahabharata without being called robbers (Lassen, Pentapot. Indica), —'Aratti profecto latrones,' and 'Bahici latrones.' The Sanskrit name is Arashtra, the 'kingless,' which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala or Sakala, a fact which points to their Sanskrit name of Arashtra, or 'kingless.' But though their power was then confined to the Eastern Panjab, the people themselves had once spread over the whole country,—'Ubi fluvii illi quini . . . ibi sedes sunt Arrattorum' (Lassen, Pentapot. Indica, from the Mahabharat). They were known by the several names of Bahika, Jarttika, and Takka, of which the last would appear to have been their true appellation; for their old capital of Taxila or Takka-sila was known to the Greeks of Alexander, and the people themselves still exist in considerable numbers in the Panjab hills. The ancient extent of their power is proved by the present prevalence of their alphabetical characters, which, under the name of Takri or Takni, are now used by all the Hindus of Kashmir and the northern mountains, from Simla and Subathu to Kābul and Bamian. On these grounds Major Cunningham identifies the banditti of Justin with the Takka, or original inhabitants of the Panjab, and assigns to them the honour of delivering their native land from the thraldom of a foreign yoke. This event occurred most probably about 316 B.C., or shortly after the march of Eudemos to the assistance of Eumenes. It was followed immediately by the conquest of Gangetic India, Justin, xv. 4; and in 316 B.C. the rule of Chandragupta was acknowledged over the whole northern Peninsula, from the Indus to the mouths of the Ganges. According to Colonel Tod, the Yavan or Greek princes, who apparently continued to rule within the Indus after the Christian era, were either the remains of the Bactrian dynasty, or the independent kingdom of Demetrius or Apollodotus, who ruled in the Panjab, having as their capital Sagala, changed by Demetrius to Euthydemia. Beyer says, in his Hist. Reg. Bact. p. 84, that according to Claudius Ptolemy there was a city within the Hydaspes yet nearer the Indus, called Sagala, also Euthydemia; but he scarcely doubts that Demetrius called it Euthydemia, from his father, after his death and that of Menander. Demetrius was deprived of his patrimony A.U.C. 562. Sagala is conjectured by Colonel Tod to be the Salbhanpura of the Yadu when driven from Zabulisthan, and that of the Yuchi or Yuti, who were fixed there from Central Asia in the 5th century, and, if so early as the 2d century, when Ptolemy wrote, may have originated the change to Yuti-media, the 'central Yuti.' Numerous medals, chiefly found within the probable limits of the Greek kingdom of Sagala, either belong to these princes or the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sassanian character on the reverse. The names of Apollodotus and Menander have been deciphered, and the titles of Great King, Saviour, and other epithets adopted by the Arsacidæ, are perfectly legible. The devices, however, resemble the Parthian. These Greeks and Parthians must have gradually merged into the Hindu population. Recent travellers—Burnes, Masson, and Ferrier—met with tribes who claim a Grecian descent. According to Burnes, the Mir of Badakhshan, the chief of Darwaz in the valley of the Oxus, and the chiefs eastward of Darwaz who occupy the provinces of Kulab, Shaughnan, and Wakhan north of the Oxus, also the hill states of Chitral, Gilghit, and Iskardo, are all held by chiefs who claim a Grecian origin.

According to Ferrier, however, the whole of the princes who claim descent from Alexander are Tajak, who inhabited the country before it was overrun by Turki or Tartar tribes. The Tajak, now Mahomedans, regard Alexander as a prophet. The Badakhshan family are fair, but present nothing in form or feature resembling the Greek. They are not unlike the modern Persian, and there is a decided contrast between them and the Turk and Uzbak.

According to some writers, the fair complexion and regular features of the Siahposh Kafir, the variously coloured eye and shaded hair, indicate them to belong to the European family of nations, and disconnect them from the Tajak, the Hazara, the Uzbak, or the Kirghiz. It also merits consideration that the region now inhabited by the Siahposh is surrounded by the countries in which the Greek dynasties ruled, and is encircled by the colonies, posts, and garrisons which they are known to have established; and by the fact of the establishment of military colonies of Macedonians at Alexandria ad Caucasum, Arigæum, and Bazira, and of the garrisons of Nysa, Ora, Massaga, Peukelaotis, and Aornis. General Ferrier, on reaching Gazergah, found there a small encampment of persons in the Uzbak dress, but whose configuration of features clearly indicated quite another origin. They stated that they were the descendants of the Yunani (Greeks) whom Alexander the Great (Sikander Rumi) had left in these

countries; and from the replies he received to the numerous questions he put to these people, he was convinced of the existence of the real descendants of the ancient Greeks in those countries. These Yunani, he says, are not isolated and dispersed here and there, but united in tribes, occupying a considerable tract of country; nothing, however, either in their language or their habits betrays their origin. They are Mahomedans, and have the reputation of being somewhat fanatical, and are not held in much consideration by the Tartars, amongst whom they are settled; but they are respected, for, like their ancestors, they are brave, and the consequences of their hatred are terrible to those who are the objects of it.

It is stated in the Dabistan that Callisthenes sent to his uncle a technical system of logic (naya), which was the basis of the Aristotelian system. We also observe a close affinity between Aristotle's theory of the soul as regards its organism, and the Vedanta-darsana; and Plato's ideas as to the detachment of the soul from the world of sense, constituting the true subjective condition, bear an analogy to the Sankhya philosophy. The Greek kings as well as the Scythians adopted a language closely allied to the Sanskrit. The inscriptions for more than two centuries, during the Greek and Scythian connection, invariably contain the Greek with a vernacular translation. The coins of the Sah kings of Saurashtra have an imperfect Greek and Sanskrit inscription, while those of the Guptas (2d to 4th century A.D.) have an emblem of the Greek and Pali, showing the gradual disappearance of the Greek from the Indian coins. The Greeks adopted the Indian symbol of Swastika.

Greece and Asia Minor seem to have been parcelled out among a number of deities, each of whom was the paternal god of some city or race, having not only separate rites, but a form of worship widely different. Each deity had his favourite abode, and local attachment to some valley or grove or town, to which the power and presence of the divinity especially belonged; and hence in Bœotian Thrace we trace the orgies of Bacchus, in Northern Thessaly the worship of Apollo, on the Corinthian shores the rites of Neptune, in Argos the temples of Juno, and in Ephesus the worship of Diana. Though acknowledged to be divine out of their own peculiar domains, yet their worshippers were rather averse to proselytism, fearing lest, by an extended communication, the local influence of the deity should be weakened. The sacred object of Ephesian worship was carefully preserved from the period of its first formation, through the ages which intervened, till the demolition of pagan temples which followed upon the rise of Christianity. The image consisted of a large block of wood of beech or elm, but, according to some, of ebony or vine, shaped into a likeness of the goddess, and evidencing its remote antiquity by the rudeness of its workmanship. The first statues were unshaped blocks and stones; and hence the word column was generally used by the Greeks to denote a statue. Greeks identified Baal with Zeus, as they did Astarte with Venus. The heaven-fallen idol of Ephesus was not a representation of the elegant huntress of classic fable, but an Egyptian hieroglyphic, a personification of nature. In this character she was pictured as a woman having a number of breasts, to denote, according to Jerome, that, as nature, she was 'the nurse, the supporter and life, of all living creatures.'

The Greek people are now Christians; but until the time of Jesus Christ both Greece and Rome were worshippers of idols, of spirits of deified men, of gods residing in a higher sphere, and of demons in a hell below; and the gods of ancient Greece and Rome have been reckoned at not fewer than thirty thousand. These gods were in their characters simply exaggerated men, with human virtues and vices on an enlarged scale. The common people of Greece continued to believe in these gods until Christianity displaced them; but philosophers early appeared doubting their existence. Xenophanes, B.C. 534, denounced the accounts of the deities as godless fables; but he frankly admitted that he knew not God. About a century later lived the philosopher Thales, followed by Socrates, Plato, the Pyrrhonists, the Academics, the Peripatetics, Epicurus, and the Stoics, all of whom saw the absurdity of the popular creeds, and put forth philosophic views. Milton says of them (Paradise Regained, book iv.):—

'The first and wisest of them all professed
To know this only, that he nothing knew;
The next to fabling fell and smooth conceits;
A third sort doubted all things, though plain sense;
Others in virtue placed felicity,
But virtue joined with riches and long life;
In corporal pleasure he, and careless ease;
The Stoic last, in philosophic pride,
By him called wisdom.
Much of the soul they talk, but all awry,
And in themselves seek wisdom; and to themselves
All glory arrogate,—to God give none.'

In Homer's time the manners were rude and coarse; in subsequent centuries, immorality and vice grew. The Romans copied the Greeks in religion and manners, though Cato the Censor warned his countrymen against Greeks as the parents of every vice. For two centuries before the birth of Christ, immorality and infidelity greatly increased. From the time of Augustus superstition began to reappear, chiefly in the form of wild oriental rites. Human sacrifices were offered as late as the reign of Augustus; slavery was universal; in the public shows gladiators appeared,—sometimes more than 20,000 men perished in these exhibitions in one month. Both Greek and Roman authors complained that the characters of the people were as grossly corrupt as that of the deities they worshipped.

It was from Chaldæa that the germs of Greek art and of much of the Greek pantheon and mythology originally came. Columnar architecture reached its first and highest development in Babylonia. The lions of Mykenæ are distinctly Assyrian in character; and the Greek Herakles, with his twelve labours, finds his prototype in the hero of the great Chaldæan epic.

Grecian mythology is largely mixed up with the mythology of India.

Yama or Dharmaraja is the Grecian Pluto.
Vaitarini of the Hindu pantheon has its supposed analogue in the river Styx.
Cerberus has corresponding dogs.
Durga is the analogue of Juno.
Narada, god of music,—Mercury.
Krishna,—Apollo.
Bhawani,—Venus.
Kali or Durga,—Proserpine.
Agni,—Vulcan, fire, ignis.
Swaha, wife of Agni,—Vesta.
Aswini-Kumara,—Castor and Pollux.

Aruna,—Aurora.
Ata Deva,—Diana.
Kuvera,—Plutus, god of riches.
Indra,—Jupiter, god of the firmament.
Varuna,—Neptune, god of the water.
Prithivi,—Cybele, goddess of earth.
Viswakarma,—Vulcan, architect of the gods.
Kartikeya or Skanda,—Mars, god of war.
Kama,—Cupid, Eros, god of love.
Surya or Arka,—Sol, the sun.
Hanuman, the monkey god, son of Pavana,—Pan.
Rama,—the Grecian Dionysius.
Heracula, an Indian deity,—Hercules.
Aswiculapa,—Esculapius, Genii.
Vaya,—Æolus.
Sri, Lakshmi,—Ceres.
Anna-Purna,—Anna perenna.

The Greek Charites must be compared with the Sanskrit Harits, the coursers of the sun; and both received their name from a root, Ghar, to shine or glisten. Zeus seems to be the Sanskrit Dyaus, and Erinys is Saranyu.

Scythian coins exhibit Greek and Hindu divinities, and those under the Yu-chi have an image of Siva and the Nandi bull. The affinity between the Greeks and the Hindus was so great as regards the languages, literature, and religion, that the process of giving and receiving must have been reciprocal. Varaha Mihira, in his Brihat Sanhita astronomy, says 'the Greeks indeed are foreigners, but with them this science is in a flourishing state.' We find that the later Greek physicians availed themselves of the Hindu medical works.

The Takshaks and Nagas were the tree and serpent worshippers, whose rites and objects of adoration have impressed themselves deeply on the architecture and sculptures of India. The names were applied in a confused manner to different races of Scythic origin.—*Imp. Gaz.; Tod's Rajasthan; Prinsep's Antiquities by Thomas; Smith's Biog. Dict.; Ed. Ferrier's Journal; General Cunningham, Anc. Geog. of India; Calcutta Review*, No. 109; *Malcolm's Persia; Weber, Hist. Ind. Lit.; Wilson in J. R. A. Soc.* xii., 1850; *Milner's Seven Churches of Asia; the Rev. J. Murray Mitchell, Letter to Indian Youth; Burnes.*

GREEN COPPERAS or Green Vitriol.

Sulphate of iron, . .	ENG.	Solfate di ferro, . .	IT.
Sulfate de fer, . .	FR.	Taroosee, . . .	MAL.
Schwefelsaures eisen,	GER.	Zunkur madnee, .	PERS.
Heracassis, . . .	HIND.	Tootiya-sabz, . .	,,
Hera-tutia, . .	,,	Anna bugdi, . .	TAM.

A principal ingredient in dyeing, in the manufacture of ink, and of Prussian blue. It is also used in tanning, painting, medicine, etc.—*M'C.; Faulkner.*

GREEN DYE. In the Comptes Rendus, xxxv. p. 558, there is an account by M. J. Persoz of a green colouring matter from China, of great stability, having the appearance of indigo, which communicates a beautiful and permanent sea-green colour to mordants of alumina and iron, and which is not a preparation of indigo or any derivative of this dyeing principle. It was in thin plates of a blue colour, resembling Japanese indigo, but of a finer grain, differing also from indigo in its composition and chemical properties. On infusing a very small quantity of it in water, this fluid soon acquired a deep blue colour, with a greenish tinge. Upon boiling and immersing a piece of calico, on which the mordants of iron and alumina had been printed, it was dyed a sea-green colour of greater or less intensity according to the strength of the mordant, the portions not coated remaining white. Dr. R. F. Thompson, civil surgeon of Malda, wrote as to a green dye as follows:—'One maund of the dried leaves will dye 1280 yards of cloth of a fine apple-green colour. The supply cheap and unlimited; cultivation easily extended from cuttings or seed; requires little care or watching, as no animal will eat it. The plant is doubly valuable from the seeds yielding a fine clear limpid oil for burning purposes, sample of which I also forward. It takes half an hour to dye a whole t'han of cloth. An oil obtained from the seeds of the plant yielding the green dye, and expressed in the ordinary bazar fashion in the common kolu, has a beautiful colour, limpid, and burns well. This plant is the Jatropha glandulifera. See Dyes; Rhamnus.

GREENHEART, Nectandra Rodiœi, *Schk.*, a remarkably hard timber of British Guiana, classed among the first eight woods at Lloyd's. It might be introduced into India.

GREENSHANKS of India, of the genus Totanus, family Scolopacidæ. T. glottis and T. stagnatilis are known. T. fuscus and T. calidris are the redshanks of India.

GREENSTONE, a volcanic rock common in the Peninsula of India. Some of it is exceedingly hard and difficult to work, but it takes a most beautiful and durable polish, as in the magnificent mausoleums of Golconda, the tombs of Hyder Ali and Tipu Sultan at Seringapatam, parts of the temples at Bijapur, and in many of the sculptures of the Karnatic pagodas. It is much used for building and ornamental purposes in Madras, for round millstones, pestles and mortars, door-posts, lintels, etc. Greenstone dykes of the Peninsula break through the clayslate of the eastern ranges of the Ceded Districts, in many places convert it into flinty slate, or turn it to a crystalline or horn-blendic rock, whilst the dyke acquires a distinctly slaty structure, and so much modified in mineral character as scarcely to be distinguished from the altered clayslate of the vicinity.—*Carter's Geol.*

GREGORY ABUL FARAGIUS, the name by which Europeans designated Mar Gregorius.

GREVILLEA ROBUSTA, *Cunningham*, a noble tree, the silk oak of Moreton Bay in Australia; attains the height of 50 to 70 feet, and a circumference of 6 to 8 feet. Its timber has a beautiful grain, and is used for staves of casks.—*G. Bennett.*

GREWIA, a genus of plants of the natural order Tiliaceæ, the linden tribe. In the East Indies the principal species are:—

abutilifolia.	microcos.	sclerophylla.
Asiatica.	multiflora.	sepiaria.
calophylla.	occidentalis.	sinuata.
columnaris.	oppositifolia.	trichodes.
denticulata.	paniculata.	tiliæfolia.
floribunda.	pilosa.	ulmifolia.
humilis.	polygama.	umbellata.
elastica.	populifolia.	vestita.
hirsuta.	rotundifolia.	villosa.
lævigata.	salvifolia.	viminea.
microstemma.	sapida.	

The bark of G. oppositifolia is employed in the Himalaya for making ropes; and G. elastica, Dhamnu of the natives, is valued for the strength and elasticity of its wood. Cattle are fed on the leaves of some species. The pleasant-tasted sub-acid fruit of several species is eaten by the natives of India, but principally used for making sherbet. G. affinis, rigida, and salicifolia, *Stocks*, are trees of Sind, the edible fruits of which are called gangi

or gango, which might be improved by cultivation. At Tavoy, when vessels require spars, they are usually furnished from a small tree which grows on the seaboard, belonging to this genus. The Mai-va of the Burmese in Tavoy, and the Tha-ran of the Burmese of Moulmein, are species of Grewia. The wood of a species in the Madras Provinces makes good walking-sticks.—*M.E.J.R.; Eng. Cyc.; Mason; Voigt; Roxb.; Gamble.*

GREWIA ASIATICA. *Linn.*

Dhamni, Falsa, . . HIND. | Dowaniya, . . . SINGH.
Pharaho, ... SIND. | Putiki, ... TEL.

Grows in the Peninsula of India, in Bengal, Northern India, and the Panjab, and is a large tree of Pegu, like G. floribunda, but not so plentiful. It is commonly cultivated in the plains of the Panjab for its pleasant, subacid, small berry-like fruit, eaten, and used for making sherbet. A spirit is said to be distilled from it, and the fruit is much prized by Mahomedans, who prescribe it to cool the body in fevers. Cultivated at Ajmir, both large tree and small bush varieties; the large tree is very beautiful when in new foliage. The fruit, containing one or two small stones, is generally made into sherbet by pouring boiling water on it, and when cool adding sugar to the taste. The plants are grown readily from the seed. They are generally cut down almost to the ground in November, and even the leaves are burnt round the stalks, after which the roots are opened and manured, and watered occasionally, when new shoots spring out, and the fruit is borne near the axilla of each leaf; when of a dark purple, they are ripe and fit for use. The appearance of its leaves has caused Europeans to mistake it for the hazel. The leaves and buds are officinal. In the Panjab there are two kinds, one sweet, called Shakari, and other acid, Sharbati. G. Asiatica and G. tiliæfolia both yield a useful bast. Wood white colour, and adapted for every purpose of house-building.—*Roxb.; M'Cl.; Stewart; Ainslie; Irvine; Riddell; Cleg. Rep.; Powell.*

GREWIA BETULÆFOLIA. *Juss.*

Gangi, Inzare, TR.-IND. | Khircha, . . . TR.-IND.

A small shrub growing N.W. from Dehli, on the hills beyond the Indus, and up to 3000 feet on the Salt Range. Its small tasteless fruit is eaten by the natives.—*Stewart.*

GREWIA FLORIBUNDA. *Wall.*

Myat ya, ... BURM. | Ta-yau, ... BURM.
Mya ya gyee, . . ,,

A very common tree throughout the Rangoon, Pegu, and Tounghoo districts. It is a good serviceable timber for all ordinary purposes of house-building. The bark affords a coarse, strong fibre, not much employed, however, by the Burmese.—*Dr. M'Clelland; Cal. Cat. Ex.*, 1862.

GREWIA HOOKERII. *M'Clelland.* Phet-woon, BURM. Attains a girth of about 3 to 4 feet, and grows up tall and remarkably straight. It is found with teak in the forests of Pegu and Tounghoo. Wood white coloured, and adapted for every purpose of house-building,—*M'Cl.*

GREWIA MICROCOS. *Linn.*

G. ulmifolia, *Roxb.* | M. mala, *Ham.*
G. affinis, *Lindl.* | M. Stauntoniana, *G. Don.*
Microcos paniculata, *L.* | Arsis rugosa, *Lour.*
Mya-ya, ... BURM.

A shrub in the Peninsula of India, and found as a small tree on elevated ground of British Burma. Wood not used. A cubic foot weighs 51 pounds.—*Dr. Brandis, Cal. Cat. Ex.*, 1862.

GREWIA OBLIQUA. *Gibson.*

Darsook mara, . . CAN. | Damun, ... MAHR.

A small tree of Canara and Sunda, found mostly below. Wood used in agriculture, house-posts, etc.—*Dr. Gibson.*

GREWIA OPPOSITIFOLIA. *Buch.*

Daman, ... HIND. | Pastu-wanna, SIND., PANJ.
Bihull, Biul, SIND., PANJ.

Grows in the Kheeree pass, in the Dehra Doon, and in the Sutlej valley between Rampur and Sungnam, at an elevation of 5000 feet. The branches are periodically cut in winter time as provender for the cattle. Its inner bark is employed in the Himalaya for cordage and coarse cloth, and a kind of paper. The wood is tough and elastic, valued for handles and shafts and bangy sticks, and for the ring for supporting the seat of the single-rope bridge. The leaves largely serve as fodder wherever it is common, and are said to increase the quantity of milk. The bark is made into sandals, etc.—*Roxb.; Royle; Cleghorn.*

GREWIA ROTHI. *D. C., W. and A.*

G. salvifolia, *Roxb.*

Bather, Bekhar, . PANJ. | Siri jana, ... TEL.
Garges, Nikki, . ,, | Jibilika chettu, . . ,,
Kolupu, ... TEL. | Tadika chuvva, . . ,,

A tree of the Panjab, Circars, and of the Cuddapah Nullamallay; has a light ash-coloured wood, with a straight grain, hard and strong; is much used and very serviceable, and makes good walking-sticks.—*Capt Beddome; Mr. Latham.*

GREWIA SPECTABILIS. *M'Cl.* Phet woon, BURM., Very plentiful; attains a girth of about 3 to 4 feet, and grows up tall and remarkably straight, with teak, in the forests of Pegu and Tounghoo. Wood white coloured, and adapted for every purpose of house-building.—*M'Cl.*

GREWIA TILIÆFOLIA. *Roxb.*

G. arborea, *Roxb.* | G. elastica, *Royle.*
Thadsal, Butale, . CAN. | Tharra, Thada, . . TAM.
Dhaman, . . . HIND. | Charachi, ... TEL.

A large and very common tree all over India and Ceylon. It ascends the mountains to about 4000 feet, and is often of large size in favourable localities. The berries are eaten, having an agreeable acid flavour; the timber is highly prized for strength and elasticity, and is used for building purposes, bows, buggy shafts, walking-sticks, and a variety of other uses. It is light and rather soft, flexible and fibrous, coarse-grained and durable, of a light pinkish colour, turning to light-brown, and easily worked; unseasoned it weighs 45 to 50 lbs. the cubic foot, and 34 lbs. when seasoned; its specific gravity is ·544. The leaves make a good fodder, and the bark, like that of all the Grewias, is used as cordage.—*Beddome, Roxb.; Voigt; Wight; Gibson; M. E. J. R.*

GREWIA VESTITA. *Wall.* The dhaman.

Gr. elastica, *Royle.* | Gr. Asiatica, *Linn.*
Tang-li, ... CHIN. | Pin-ta-yau, . . . BURM.
Farri, Phalwa, . . HIND.

A tree, 15 to 20 feet high, found in the Sutlej valley between Rampur and Sungnam, at an elevation of 4000 feet; common in the Himalaya at moderate elevations, and in Kimmedy, Ganjam, and Gumsur, also in China. Its timber is highly valued for its strength and elasticity, and much used for bows, buggy shafts, and bangy

sticks. Its fruit is used to make sherbet. In China, the young branches, leaves, and berries are used in dyspepsia and diarrhœa. In the N.W. Himalaya, the branches are periodically cut in winter time as provender for the cattle.—*Cleghorn; Royle's Ill.; Smith.*

GRIFFITH, WILLIAM, F.L.S., a medical officer of the Madras army, author of numerous works on Indian botany. He accompanied the army which marched in 1838–39 from Sind through Quetta and Kandahar to Ghazni and Kābul. From Kābul he crossed the chain of the Hindu Kush to Bamian and Singhan, and spent some time in the Kuner valley; his collections there amounted probably to about 1000 species, many of which are deposited in the Royal Herbarium at Kew. His collections from Malacca, Tenasserim, the Khassya mountains, and the whole Assam valley, Mishmi and Naga Hills, and Upper Irawadi, Calcutta, Bhutan, Simla, Sind, and Afghanistan, are probably not under 9000 species, which is by far the largest number ever obtained by individual exertions. He also made a collection of birds in Afghanistan. His posthumous notes and journals were published in Calcutta, edited by Dr. M'Clelland, under the auspices of the Indian Government. A mural tablet, erected to his memory in the cathedral church of Madras, says he was born at Ham, in the county of Surrey, March 1810. He had attained to the highest eminence in the scientific world, and was one of the most distinguished botanists of the age. He acquired his knowledge by personal investigation in the different provinces of British India and in the neighbouring kingdoms, from the banks of the Helmand and Oxus to the Straits of Malacca, where, in the capacity of Civil Assistant Surgeon, he died 9th February 1845, in the 35th year of his age, and the 13th year of his public service in India. 'His early death is deeply deplored by numerous private friends; and his loss to the cause of science elicited a public and emphatic expression of regret from the Governor-General of India. This tablet is erected as an humble tribute to his memory, by a few of his medical brethren of the Madras service.'—*Hooker f. et Thomson.*

GRIGI, Gurji. BENG., HIND. A Christian church, corruption of Ecclesia.

GRIHA. SANSK. A house.

Griha Kutumbine, literally, the head of the house or of the family.

Grihast'ha, SANSK., a Hindu married householder, from Griha, a house, and St'ha, to remain.

Grihast'ha-Dharma, SANSK., from Ghrihast'ha, situated in a house, and Dharma, religion.

Griha-Yajna, SANSK., domestic worship, especially the oblation of clarified butter on the household fire.—*W.*

Grihya, the sacred fire or altar on which it is kept, first lighted by a Brahman husband on the day of his marriage.—*Müller.*

GRIMM, JACOB, author of Deutsche Mythologie, published 1835; under the designation Teutonic Mythology, it was translated from the 4th edition, with notes and appendix, by James Stephen Stallybrass.

GRINDSTONES.

Meule, ... FR.	Mola, ... IT.
Chikki, ... HIND.	

The natives of India prepare a lap or grindstone composed of shell-lac as its basis, and corundum powder or other hard mineral as the grinding material. In Coimbatore, persons of the barber caste are the manufacturers of these. The stone being pounded and reduced to the form of fine-grained gunpowder, is heated in an earthen pot (chatty). The lac is then added, and the two stirred together until the mass is of the consistence of dough, when it is turned out, and beat and kneaded into the required shape. Not using a mould, the operation is tedious, and the finished article, when completed, not by any means of first-rate excellence. The principal objection to them seems to be the extreme hardness, which renders them less effective than if the lac, by a small admixture of a softer substance, were rendered somewhat more yielding. As made there, it is a rather rude though durable machine. At the Hunsur farm, where pearl barley was prepared, English grindstones for making it required frequent renewal, but a lap of this description had been in use five years. The stone used in Coimbatore is powdered coarse garnet sand, found in the beds of the neighbouring hill streams. The corundum stones met with for sale in the bazars are usually small, generally more rounded and water-worn on the edges, as if collected in the beds of mountain streams, from among the pebbles they bring down.

Coarse grindstones are found at Verdachellum in S. Arcot, Triputty, and Ootramaloor in Chingleput, Kurse Mungalum near Vellore, Woontimetta and Chellumacoor in the Cuddapah district, and Podelay and Woodingherry in Nellore. Hard gritty kinds, like the bhurrstone of France, occur in the Pedda Redapully Taluk of Nellore, and near Ghooty. Some of the sandstones of the Guntur, Bellary, Madura, and Mysore districts are very similar to those used as grindstones and flour-mill stones in Europe. Good dry whetstones are those of Nuggur, Matoor hill in Guntur, Triputty, Arnee, and Needacheria in Bellary. Fine-grained sandstones of a sharp cutting quality occur at Gootemokoda and Dyda in Guntur, at Chellumacoor and Chettywarreepully in Cuddapah, and in the Pedelay Taluk and Woodingherry Hill in Nellore. A stone resembling the Ayrstone or snakestone occurs at Koopookonda, eight miles west of Vinacondah in Guntur. Good substitutes for Turkey stone occur at Cuddapah, Woontimetta, Chellumacoor, and Humpsagur; and varieties of green and grey granular felspar at Seringapatam, Nellore, and on the banks of the Godavery. The latter are well suited for putting a fine edge on razors and gravers. Hones, silicious and slaty limestones of every quality, accompany the extensive beds of lithographic marble near Kurnool, Guntur, Bellary, Datchapilly, and Gooty.

Grinding of grain in India is still done by the hand-mill, as in Isaiah xlvii. 1, 2, Matthew xxiv. 41.

GRISLEA TOMENTOSA. *Roxb.*

Lythrum fruticosum, *L.*; Woodfordia floribunda, *S.*

Dhae, Dhub, Dhanga, BENG.	Agni-jwala, . . SANSK.
Dhaiti, Dhauen, BOMBAY.	Dhatri-pooshpika, . ,,
Chota dhaon, . . HIND.	Dhataki-kusumamu, TEL.
Dhai, Dhau, Dhawa, ,,	Gadda-pisinka, . . ,,
Tawi, Gul-dhawi, . ,,	Gaji, Godari, . . . ,,
Gul-bahar, . . . ,,	Rayyi pappu jaji, . ,,
Jave, ... PUSHTU.	Jateko, ... URIYA.

This very beautiful flowering plant is a shrub or small tree, and is found in the islands of the Indian Ocean, in China, and in every part of the continent of India, especially in the jungly tracts

at the foot of its several ranges of mountains. It grows in the N.W. Himalaya up to 4000 feet, is common in exposed places in the Maturatte and Oova districts of Ceylon up to an elevation of 4000 feet, and is very common in the Prome district. Its bright red calyx retains its colour till the seeds are ripe, gives the whole plant a very showy appearance, and points it out to the collectors of its flowers, which form an article of commerce, and are used for a red dye. In the bazars of Bengal they are found in a dry state, under the name of Datoke. Sheep-skins steeped in an infusion of the dried leaves take on a fine red, of which native slippers are made. The dried flowers are employed in N. India, under the name of Dhauri, in dyeing with morinda bark. In Kandesh the flowers form a considerable article of commerce, inland, as a dye. It grows abundantly in the hilly tracts of the N. Circars. Its gum, called Dhaura or Dhau-ka-gond, is brought from Mewar and Harowtee, and is abundant, white in colour; and, like the katira and tragacanth gum, swells in water. In cloth-dyeing it is applied to those parts that the dye is not wished to touch. It is eaten in Luddoo; one maund costs ten rupees. Its wood is used for fuel, and by liquor distillers for fermenting liquor; its leaves are used in infusion as tea.—*Irvine; O'Sh.; M'Cl.; Stewart; Cleg.; Thw. Zeyl.*

GRITACHEE. Sansk. In Hindu mythology, a celestial courtesan, from Ghrita, clarified butter, and Anch, to worship.

GRITSA-MADA, the author of many hymns in the second mandala of the Rig-Veda.

GROBAGAN is in Burma. Here, in the limestone district, is a mud volcano, 16 feet in diameter. The black mud every two to five seconds bubbles up and subsides; it rises to a height of 20 to 30 feet, then explodes with a dull noise, scattering a shower of warm black mud in every direction. Round about are warm brine springs, from which salt is extracted. Its eruptions are most frequent in the rainy season. It is called Kuwu, the place of abode; and an old legend is, that it is the residence of a monster snake, whose writhings cause the eruptions.—*Oldham in Yule's Embassy.*

GROSE, author of Voyage to the East Indies, with an Account of the Mogul Government, and of the Mahometan, Gentoo, and Parsee Religions, their Customs and Antiquities, London 1772.

GROSSULARIACEÆ, the currant worts or currant tribe of Lindley. They are unarmed or thorny shrubs, arranged in five genera, one of which, the genus Ribes, occurs in India. R. grossularia is the gooseberry; R. rubrum is the red currant, and R. nigrum is the black currant. Dr. Royle regards the Himalayan Ribes as a distinct species, and names it R. Himalense.—*Voigt.*

GROUND FISH, the Bora-chung of Bhutan. It inhabits the jhils and slow-running streams near the hills, but lives principally in the banks, into which they penetrate from one to five or six feet, and are found generally two in each chamber, coiled concentrically like snakes; the entrance is generally a few inches below the surface, so that the fish can return to the water at pleasure. It is believed that they take possession of holes made by land-crabs. The bora-chung would appear to be a species of Ophiocephalus, probably the O. barka described by Buchanan as inhabiting holes in the banks of rivers tributary to the Ganges.—*Dr. Campbell; Tennant's Ceylon.* See Fish.

GROUND-NUT, Earth-nut; Japan, China, pulse.

Bhooi mung,	Beng.	Mani-manoti,	Sp.
Mung phalli,	,,	Cacahuete,	,,
Pindar nut,	Eng.	Ver kadale,	Tam.
Manilla nut,	,,	Veru shanagalu,	Tel.
Bhoysing,	Guj., Hind.		

The ground-nut is the fruit of the Arachis hypogea. The plant has somewhat the appearance of the dwarf garden pea, though more bushy. It is cultivated in the S. of Europe, largely in America, Africa, Asia, Australia, and the Archipelago, and is named from the circumstance of its introducing its fruit or pod into the earth, for the purpose of ripening its seed. The flowers, leaves, and stems are produced in the ordinary manner seen in the pea tribe. When the yellow flower has withered and the seed fertilized, there is nothing left but the bare stem which had supported it. This stem, in which is the germ of the future fruit and pod, now grows rapidly in a curved manner, with a tendency to arrive shortly on the surface of the ground, into which the now naked stem penetrates several inches. In this obscure position the fruit takes its ripened form, and is either gathered from its hiding-place, or left to the future season, when its time of rising into new existence calls it from its natural position. When mature, it is of a pale yellow colour, wrinkled, and forms an oblong pod, sometimes contracted in the middle; it contains generally two seeds, a valuable article of food in the tropical parts of Africa, America, and Asia. They are sweetish and almond-like, and yield an oil when pressed, not inferior in quality to that obtained from the olive. The leaf resembles that of clover, and, like it, affords excellent food for cattle. The cake, after the oil is expressed, forms an excellent manure. The Arachis seeds are usually sown in the dry, warm weather from May to June, and are placed at the distance of eighteen inches from each other. Insects are fond of them; and if the season is cold and unfavourable to them, or the growth retarded, they become musty and bad, or are eaten by insects. In some parts of America it yields from 30 to 80 bushels of nuts per acre. On the western coast of Africa it is planted to a great extent. In South Carolina the seed is roasted and used as chocolate. The leaves are used medicinally; it is greedily devoured in the green state by cattle. Two varieties are grown in Malacca, the white seed and the brown seed; and also in Java, in the vicinity of sugar plantations, the oil-cake being used as manure. It is there known as Katiang. The seeds are consumed as a cheap popular luxury, being half roasted, and then eaten with salt.

Ground-Nut Oil, Manilla nut oil. This valuable oil is obtained by expression from the ground-nut, and, under favourable circumstances, the Arachis will produce half its weight of oil. When heated and pressed, the quantity is very considerably increased. This oil is good for every purpose for which olive or almond oil is used. For domestic purposes it is esteemed, and it does not become rancid so quickly as other oils. In lamps, the brilliancy of its light is superior to that of olive oil, and its durability is seven minutes per hour beyond the combustion of the best olive oil, with the additional advantage of scarcely any smoke. Under the term ground-nut oil, or Manilla oil, there was exported from the Madras Presidency, in the four years 1852-53 to 1855-56, chiefly to the United Kingdom, Bom-

bay, and the Indian French ports, to the amount of 334,024 gallons, valued at Rs. 2,12,896. 1950 parts of seed, separated from their coverings and blanched, give 1405 of kernels, from which, by cold pressure, 703 parts of oil are procured. For machinery the naval steam cruisers on the African coast adopt it. Ground-nuts from the river Gambia and from Sierra Leone, at £10 per ton, sell in London at £11. From France the oil finds its way over the world in the shape of olive oil,—the skill of the French chemists enabling them to imitate the real Lucca and Florence oils, so as to deceive the nicest judges.—*Eng. Cyc.; Ed. Phil. Mag.; Simmonds; Jury Rep. Mad. Ex.; Useful Plants; O'Sh.*

GROUND RATANS. The excellent walking-sticks known to the British under this name, are made from the Rhapis flabelliformis, which grows in Lin-kin and Southern China. See Calamus.

GROVES of trees were planted by the ancient Egyptians within the courtyards of their temples, but the law of Moses (Deuteronomy xvi. 21) forbade the Hebrews to plant any tree near the altar of the Lord, though the Alexandrian Jews, in later times, planted groves near their synagogues. Individual trees, throughout India, are regarded as habitations of spirits, both good and bad, and noon is the particular period at which their evil influence is believed to be exercised. In the Fiji Islands a fine grove exists in the Rewa district, near the mission station of Mataisuva. These sacred groves and trees are not worshipped as gods, but, as in the Odin religion, are looked upon as places where certain gods had taken up their abode. Hindu kings formerly planted mango groves as acts of merit, and gave them to Brahmans or to the public.—*Fiji Islands; Ward*, iii. p. 107.

GRUB, a term familiar to coffee planters in Ceylon and the Peninsula of India, applied to insects which injure the coffee plant and coffee berry. Mr. Nietner tells us that the brown and white bug and the black and white grub are the only important enemies of the coffee tree, and that the destruction caused by Arhines, Limacodes, Zeuzera, Phymatea, Strachia, and the coffee rat, appear to be of a more local and occasional nature.

Bug.—The appearance and disappearance of the coffee bug, he tells us, is most capricious. It comes and goes,—now rapidly spreading over a whole estate, now confining itself to a single tree amongst thousands; here leaving an estate in the course of a twelvemonth, there remaining permanently; sometimes spreading over a whole estate, sometimes attacking a single field, then leaving it for another and another. But the white bug prefers dry, and the brown, damp localities, the latter being found more plentiful in close ravines and amongst heavy rotting timbers than on open hill sides, and it is probably to this predilection that the shifting of the insect is attributable. The bug of course seeks out the softest and most sheltered parts of the tree, the young shoots, the undersides of the leaves, and the clusters of berries. The injury done by the white bug seems more severe than that from the brown, but, not being so plentiful as the latter, it is of less general importance. The white bug is especially fond of congregating amongst the clusters of berries, which drop off from the injury they receive, and trees often lose their entire crop in this manner. The injury produced by the brown bug is the weakening of the tree, and is thus more general, but the crop does not drop off altogether nor so suddenly. With white bugs on an estate the crop can hardly be estimated; with brown bugs it can.

White Grub.—Under this name are included the larvæ of various Melolonthidæ, the cockchafers of Ceylon, which do much harm to coffee plantations, young and old, by eating the roots of the trees. Mr. J. L. Gordon of Rambodde considers the white grub to be by far the greatest enemy of the coffee trees which the planter has to contend with, as he never knew a single tree recover after their attack; and he adds that they had destroyed at Rambodde, in two years, between eight and ten thousand trees of fine old coffee. Mr. Gordon used to dig up the soil at the foot of the trees and take out such grubs as he could find.

Black Grub.—The larvæ of the moth called Agrotis segetum is the very destructive black grub. This pest is about an inch long, and is most abundant from August to October. The caterpillar lives in the ground, but comes out at night to feed, and is very common and injurious. They attack not only coffee trees, but all sorts of vegetables and flowers, and are very destructive to gardens and in the field, as they eat everything that is artificially raised, despising grass and weeds. They generally appear only on certain fields, and will not go over an estate. The insect is not confined to Ceylon; its ravages are well known in India, at the Cape of Good Hope, and in Europe, where it injures the grain and beet-root crops. In Ceylon it only attacks young coffee trees, gnawing off the bark round the stem just above the ground. Where the trees are very small, they are bitten right off, and the tops sometimes partially dragged under the ground, where the grubs may easily be discovered and dislodged. The damage which they inflict on plantations may be estimated, when it is mentioned that Mr. Nietner lost by them in one season, in certain fields, as many as 25 per cent. of the young trees he had put down.—*Nietner on the Enemies of the Coffee Plants.* See Bug; Coffee; Leaf Disease.

GRUEBER and Dorville, two Jesuit fathers, who in A.D. 1661 travelled from China via Tibet. They were the first Christians from Europe who are known to have penetrated into the populous parts of Tibet. Marco Polo in his journey in the 13th century, was to the N.W. by the sources of the Oxus.—*Prinsep, Tibet*, p. 11.

GRUNDLEY. John Ernest Grundley, an eminent missionary at Tranquebar, to whom George I. of England, in a letter dated 23d August 1717, addressed an autograph letter.

GRUNTH is the name of the books of the Sikh religionists. Grunt'hee, from Gruntha, a book, one who is learned in the Grunth. The Adi Grunth compiled by Nanak and his immediate successors was translated by Professor Trumpp. Nanak quotes largely from Kabir. The Grunth of Guru Govind Singh of a later date is written in pure Hindi of that date.—*Cust.*

GRUS, a genus of birds belonging to the family Gruidæ, in which are the genera Grus and Anthropoides. The words Crane, Grus, Geranos, with the Hindustani Saras, Kakarra, Karrach, etc., all have reference to the loud trumpeting voices of the birds in question, which form a very distinct group by themselves, that should be confounded with no other. The so-called gigantic crane or

adjutant is not a crane, and can merely clatter its mandibles together. The word Crane is often used vaguely.

Grus Antigone, *Linn.*, Saras, Sarhans.

G. torquata, *Vieillot.* | G. orientalis, *Pallas.*

The saras is found throughout the greater part of India and Burma. It breeds on some island or spot nearly surrounded by water. Its fine trumpet call, uttered when alarmed or on the wing, can be heard a couple of miles away. In the territories of Holkar it is almost venerated. It breeds south of the Himalaya, and birds too young to fly are occasionally brought for sale to Calcutta. Turner, describing the lake Ramtchu, says prodigious numbers of the saras are seen here at certain seasons of the year. Instances are known of the saras breeding in captivity. A pair was allowed the range of a large walled garden (protected from jackals), containing shallow inundated enclosures for the growth of rice. Their nest was commenced under water, and raised for some inches above the surface; the eggs are two in number, about $3\frac{3}{4}$ inches long by $2\frac{1}{2}$ inches broad, of a bluish-white, with a few distantly-placed rufous specks and blotches.

Grus Australasiana, *Gould*, is the native companion of the Australian colonist; has more of the aspect of G. vulgaris, *Pallas*, but is considerably larger. It is only found in N. Australia and N.S. Wales. It evinces great aptitude for domestication, and gets its name native companion from the docility with which it accommodates itself to the society of man.

Grus Cinerea, *Bechstein.*

G. antigone, *Sykes.* | Ardea grus, *Linn.*

Common crane, . ENG. | Kalam, . . . MAHR.
Kalang, ... HIND. | Kulangi, ... TEL.

The crane of Europe, Asia, N. Africa, is migratory; now rare in Britain. In Scandinavia it usually breeds in extended morasses, far away from the haunts of men. It makes its nest, consisting of stalks of plants and the like, on a tussock, and often amongst willow and other bushes. The female lays two eggs. The European crane is equal to any in the majesty of its gait, and even in the beauty of its plumage, if we except the Manchurian. It is the most widely distributed of the whole family; visits India in numerous flocks during the cold weather. In the Dekhan and Central India it is generally seen in parties of from eight to twenty, but sometimes in much larger numbers, especially in the N.W. Provinces. It feeds chiefly on grain, and commits great havoc in the wheat-fields and rice-fields.

Grus Leucogeranos, *Pallas*, is the large white crane; visits several parts of N.W. India, and the interior of the Himalayas in the winter season.

Grus Monacha, *Temminck*, is from N.E. Asia and Japan, as also is Grus vipio, the white-necked crane, an ornamental species.—*Blyth.*

GRYLLOTALPA VULGARIS, Mole cricket.

Goorghoorga, . . HIND. | Ghoorghooria, . HIND.

Occurs in the temperate and tropical regions of the Old World. It is of nocturnal habits, and is a destructive creature of all vegetable products. In Dinapur and Bankapur, in November and December, it attacks the young poppy plant.

GRYLLUS CAMPESTRIS, in China, about midsummer are made to fight with each other. They are sold at rates from a few cash to tens of dollars, and there is much gambling and betting on them amongst all classes. Gryllus migratorius is the common locust. There are, however, other locusts, one of them of a red colour; species of Gryllus (Ghudya and Phunga, HIND.) attack the young poppy plant in November and December in Lower Bengal.

GUAIACUM OFFICINALE, Lignum vitæ.

Gayac, Bois-saint, . FR. | Guajaco, ... IT.
Pockhalm, . . . GER. | Guagaco, ... SP.

This plant was introduced into the Madras Gardens, and found to thrive remarkably well. It is a native of Jamaica and Hispaniola. Both the bark and wood are used as sudorifics in the treatment of gout, rheumatism, and chronic or secondary syphilis. The resin is obtained by spontaneous exudation.

GUALAMA, the Singhalese devil-bird, supposed to be an owl or a night-hawk. Its shout is clear, resembles that of a human being in agony, and can be heard to a great distance.—*Tennant.*

GUANA, iguana lizard.

Zib, ... ARAB. | Ghoda-sala, . . SANSK.
Ghore-pore, HIND., DUKH. | Udumba, . . TAM., TEL.
Biyawak, Bewak, MALAY. | Udumu, . . ,, ,,
Manuvak, ... ,,

The iguana, a reptile of India, found about old walls and ruinous buildings. It is about two feet long; tail long, round, and tapering; back, tail, and throat are serrated; its whole surface is covered with shining scales. The flesh is eaten by the Mahomedans of India, and in the West Indies it is salted and barrelled for exportation. In India the body of the dried guana is made into an electuary, with a certain portion of ghi, and used as a strengthening medicine in consumptive complaints. An animal oil is obtained from it.—*Faulkner.*

GUANO, the accumulated dung of sea-birds, found on many islands. The white layer of the first year is considered the best. A variety of guano found in the limestone caves on the Tenasserim coast is much used as a manure by European and Chinese planters in Pinang and Province Wellesley. M. A. Ramonde, Professor of Natural History at Lima, was sent in 1853 by the Peruvian Government to the Chincha Islands. In some places he found the guano deposit 30 metres in depth. From the bodies of animals as well as from various manufactured articles found in it, he concluded that the deposit belongs to the present epoch of the earth's history. The birds observed during his visit were—Pelecanus majus, *Molin;* Carbo Gaimardii, *Lesson;* C. albigula, *Brandt;* Sula variegata, *Tschudi;* Spheniscus Humboldtii, *Meyen;* Plotus anhing, *Linn.;* Rhyncops nigra, *Lem.;* Larus modestus, *Tschudi;* Puffinaria Garnotii, *Lesson;* Sterna inca, *Lesson.* Some of them only appear at the breeding seasons. The pelicans do not seem to produce much guano, as they almost always inhabit the cliffs, and their excrement falls into the ocean. The same may be said of the species of Carbo. The species of Sula contribute more to the deposit, their number being greater, and their habitations being more in the interior of the islands. The species of Plotus and Rhyncops are very rare, those of Larus more numerous. The Sterna only visit the islands to lay their eggs, but their numbers are so very great that they must contribute in a great measure to the formation of guano. The Spheniscus abounds in the southern island,

which is inhabited. These birds not being able to fly, hollow out habitations for themselves in the guano. The birds which produce the largest quantity of guano are the Puffinaria; their number is incalculable.—*L. Institut.* May 1856; *Ed. New. Phil. Jour.* November 1856.

GUARAPO, a drink prepared from sugar-cane.

GUARDAFUI, the Ras Jard Hafūn of the Arabs, meaning the Highland or Crest of Hafun. A cape or headland of the coast of Africa, nearly opposite Aden. It is the Opone of Ptolemy.

GUARD FISH, eaten at Penang. It is the Hemiramphus Russelli, *Cuv.*, the Toda pendex of the Malays. See Fish.

GUAREA TRICHILIOIDES. Its bark is a violent emetic and purgative. Wight in Icones gives G. paniculata.—*W. Ic.*; *O'Sh.*

GUATTERIA, a genus of plants belonging to the Anonaceæ, a tropical order of plants, chiefly inhabiting America and the East Indies. There are nine species of Guatteria known in India,—

anonæfolia, Tavoy.	longifolia, India, Java.
cerasoides, India.	sesquipedalis, Khassya.
cinnamomea, Singapore.	suberosa, India, Khassya.
badajamba, Chittagong.	villosa, Monghir.
fasciculata.	

Guatteria Cerasoides, *Duval.*

Uvaria cerasoides, *Roxb.*	Polyalthya ceras., *Benth.*
Hoom, ... MAHR.	Chitta duduka, . . TEL.
Nulœli? maram, . TAM.	Chilka? dudugu, . ,,
Duddaga, Dudduka, TEL.	

This moderate-sized tree grows in the Bengal and Madras Presidencies, and is common in the Bombay coast and Ghat forests. It may be easily recognised by its great straightness and handsome appearance. Its wood is reddish and close grained, useful in carpentry, as well as for naval purposes, as boat masts, small spars, etc. The natives on the Godavery do not use it, and say that it is soft.

Guatteria Longifolia, *Wall.*, *Willde.*

Uvaria longifolia, *Roxb.*	Polyalthia longifolia, *Bent.*
Debdari, . . . BENG.	Deva-daru, . . . TAM.
Mast tree, . . . ENG.	Asoka, Asokam, . TEL.
Asok maram, . . TAM.	

A very handsome, erect growing, large tree of India and Java, but with a soft and useless wood. It is much grown in Madras as a highly ornamental avenue tree, and it should be planted in avenues more than it is at present. The true asok, Jonesia asoka, is rarely seen in Southern India.—*Roxb.*; *Voigt*; *Wight*; *Beddome.*

GUAVA TREE, White and Red.

Psidium pomiferum, *Linn.*	P. pyriferum, *Linn.*
Jam, Jam amrood, HIND.	Jambu klampuk, MALAY.
Safri am, ... ,,	Loue kiae, . . . SIAM.
Jambu biji, . . MALAY.	Goia, . . . TAM., TEL.

There are two kinds of guava fruit largely grown in India and in the islands of the E. Archipelago, —one white within, the other red. The wood is extremely close grained, tough, and compact; is preferred for making wooden mallets, and other things required to stand hard knocks; and it is also used for wood engraving. Loudon says 'the fruit ripens freely in Britain, but is of little merit.' The white guava is the species more usually cultivated, but the red is not uncommon. —*Mason*; *Ains. Mat. Med.* p. 211.

GUAZUMA TOMENTOSUM. *H. B.*

G. ulmifolia, *Wall.*	Bubroma guazuma, *Willde.*
Bastard cedar, . . ENG.	Rudraksha chettu, TEL.

The Guazuma is a genus of the family Sterculiaceæ; and G. tomentosum, sometimes known as bastard cedar, the gunstock tree, was introduced by Dr. Anderson about the end of the 18th century from America. It grows in Ceylon; common in the Dekhan, pretty common about Madras. The fruit is tubercled, about the size of a cherry. Between its outer bark of sap-wood is a fibrous mass about half an inch in thickness, richly impregnated with mucilage, which is extracted by macerating for twelve hours in warm water; and is greatly employed in the West Indies and in South America in clarifying sugar, as a Kydia is in India. Its wood is light and loose grained, and of a light-brown colour, and is used for furniture, coach panels, for packing-cases, panelling, etc. It weighs about 40 to 45 lbs. per cubic foot unseasoned, and 32 lbs. when seasoned, and its specific gravity is ·512. It was largely cultivated at one time in the Madras Presidency, under the name of bastard cedar, as fodder for cattle. The fibres of its straight, luxuriant young branches were submitted to trial by Dr. Roxburgh; and while the sown hemp broke when dry with 160 lbs. and 209 lbs. when wet, that of the bastard cedar broke with 100 lbs. when dry, and 140 lbs. when wet.—*Cleghorn, M. E. J. R.*; *Thw.*; *Voigt*; *Riddell*; *O'Sh*; *Royle, Fib. Pl.*

GUDA, Gode, Gudi, as in Nanjangode, Methagoody, is probably from the Telugu and Karnatica Gudi, a temple, a pagoda. Gud, MAHR., a house.

GUDA, a mixed race in Sind, from Sindians and Sidi women; they were equally slaves with their mothers, and could be bought or sold at will.—*Postan's Sind*, p. 359.

GUDARA. SANSK. A beggar, so named from their carrying a metal pan containing scented wood. See Hindu; Ukhara.

GUDBA, a Kolarian tribe, numerous in the eastern part of Bastar and Jeypore, but scarce to the west of Bastar. Some of their most important words are identical with those used by the Kurku in the W., and by the Kol and Santal on the E. —*C. I. P. C. Rep.* p. 6.

GUDDEE, a tribe resembling the Ghosi. They are now mostly Mahomedans, and have a few scattered communities in Gurhmooktesur and Surawa of Meerut, and in the Rampur territory. It is not unusual to call any converted Hindu a Guddee, which is looked on by a Mahomedan as a term of reproach. A Guddee tribe occupy the Kangra Hills. *Elliot, Supp. Gloss.* See Gudha.

GUDDI PADVA, flying of paper kites at the new year on the new moon of Chaitra, about the 5th April.

GUDEER, a feast celebrated by Shiah Mahomedans. See Ghadir.

GUD'HA. HIND. An ass, a donkey. Gadheka-hal, a donkey's plough. Before the British domination in India, it was not uncommon to yoke donkeys in a plough and drive them over the ruins of a captured fort, as a mode of showing supreme contempt for the vanquished enemy. The furrows thus raised were levelled by the loheki-mye, or iron harrow. Horace says (Carm. i. 16):

'Exitio gravi
Stravere, et altis urbibus ultimæ
Stetere causæ, cur perirent
Funditus, imprimeretque muris
Hostile aratrum exercitus insolens.'

This mode of wreaking vengeance has been in especial favour with eastern nations, and was

practised by Chengiz Khan and Timur with unrelenting severity. Hence the common expression, 'I shall sow barley where you now stand,' as in the vaunt of the bandit minstrel Kurroglow, at p. 138 of Popular Poetry of Persia.

Gadhe-par-Charhana, literally, to seat upon a jackass, is a punishment more commonly known by the Arabic Tashheer, publication, celebration; which is rendered by Golius, 'Per urbem duci jussit sontem in exemplum; fere asino aut camelo impositum.'—*Elliot, Supp. Gloss.*

GUDHI or Gurhi, a ceremony amongst the Mahrattas. A pole is erected on the first day of the year before the house-door, and ornamented with cloth, mango sprigs, etc.—*W.*

GUDI. TEL. A temple. This may be the word from which Pagoda has been obtained. Pai-gudi, a devil temple.

GUDIGAR. KARN. A caste at Nagar in Mysore, carvers in sandal-wood, horn, and ivory.

GUEST. Amongst several of the eastern nations, the duties of hospitality to a guest are still regulated as in ancient times. Luke x. 7 says, 'Go not from house to house;' and it would be a great offence among the Hindus if a guest, after being made welcome at a house, were to leave it and go to another. Also Luke xiv. 16, etc., 'A certain man made a great supper, and bade many.' Messengers are sent to invite guests to a Hindu feast, when not only relations, but all persons of the same division of caste in the neighbourhood, are invited. A refusal to attend is considered as a great affront. Mark xiv. 14 says, 'Where is the guest-chamber?' Respectable Hindu householders have a room which they call the stranger's room (Atit'hee-shale), and which is especially set apart for the use of guests. Lane, in his Modern Egyptians, i. p. 443, answering the question, What does a musafir (traveller) expect and receive?' says, 'By a Sunneh law, a traveller in the desert may claim entertainment for three days unquestioned.' Most Bedawi will suffer almost any injury to themselves, rather than allow their guests to be ill-treated. In the great tribe of the Bishaseen which inhabits the desert between the Nile and the Red Sea, unmarried daughters are offered to guests.

GUETTARDA SPECIOSA. *Linn.*

Cadamba jasminiflora, *L.*	Jasminum hirsutum, *Willde.*
Nyctanthes hirsuta, *L.*	
Pannir, DUKH., TAM., TEL.	Himma, ... SANSK.
Rava-pu, . . . MALEAL.	Nil-pitcha, . . . SINGH.

A small but very handsome tree, with large white and very fragrant flowers, in blossom throughout the year. It grows at Caltura and near Galle in Ceylon, and is cultivated in Indian gardens. Amongst Hindus the tree is sacred both to Siva and Vishnu.—*Roxb.; Riddell; Ain.; Thw. Zeyl.* ii. p. 153.

GUEVO UPAS, or Valley of Poison, is at the side of the volcano Papandayang, in Java. It is 500 feet below the run of the old crater, which is now the Telaga-bodas, or White Lake. It is a small bare place, with many crevices from which carbonic acid is poured; and many dead animals, dogs, cats, squirrels, rhinoceros, tigers, birds, and snakes, are said to be seen in it, but this has lately been discredited.—*Bikmore*, p. 53.

GUGAL, a term applied in India to the fragrant resins of several trees, also to the trees themselves. The resin, Gugalam Telugu, is also called Gugal-ka-Gond, also Indian B'dellium, and its synonyms are given as Mooql (Arabic), Raughan turb, and Aflatun. In Syrian, the Makhzan-ul-Adwyia says it is called Badliyun, which is like a corruption of βδελλιον, B'dellium. It is the fragrant gum-resin of Balsamodendron Roxburghii, the Amyris agallocha, a tree which is plentiful in the Ajmir Hills, and which yields a fragrant gum-resin used in sacred fumigations by the Brahmans; it is no doubt the B'dellium of the ancients. It has a similarity to myrrh; is used also in flatulencies, taken in ghi; is one of the ingredients in the incense or dhoop. The word Gugal in combination, when applied to a tree, indicates particular plants yielding resins, as Guggelam chettu, Ægiceras fragrans, *Kon.;* Guggulu or Sala is Vatica robusta; and Guggilapu chettu is Boswellia glabra.—*Elliot, Fl. Andhr.* See B'dellium.

GUGE or Hundes, 120 miles long and 15 to 60 broad, is commonly known as the plain of Tibet. It is comprised between the Himalaya and its Cis-Sutlej branch. It extends from the lakes of Manasarowar and Rakastal down the course of the Sutlej to Kanawar. It is wholly under Chinese influence. Its undulating surface is covered with an alluvial deposit, declining from 15,200 feet, the level of the lakes, to 10,000 feet at the confines of Kanawar. The Sutlej and its feeders traverse it, flowing in deep narrow ravines 1000 to 3000 feet below its mean level.—*H. f. et T.* 223.

GUGLI, a class of Brahmans at Vaishnava shrines.

GUHA or Gooha, in Sanskrit a secret place, from Gooh, to hide or to cover; hence Guhya, parts requiring to be concealed. In Hindu mythology, when the goddess Sati burst, and the gods in her womb came forth, this part of her body fell in Nepal, where, at a place called Guhyast'han, they continue to be devoutly worshipped.

GUHURWAR, also written Gaharwar, a tribe of Rajputs found in Dehra Mungulpur, Bithur, Gajmow, Kanouj, and in the Central Doab. The Guhurwar of K'hera Mungrore in Mirzapur have been converted to Mahomedanism, and those of Mahaich in Ghazipur are reckoned an inferior branch. The chief of the Guhurwar resided at Bijapur, a few miles to the west of Mirzapur, where the liberality of the British Government enabled him to keep up some show of respectability. At the time of the first occupation of Benares by the British, he was a fugitive from the tyranny and oppression of the Goutum Bhuinhar, who had expelled the Guhurwar family in A.D. 1758. The Guhurwar are recorded among the 36 royal tribes of Rajputs, and are said to be of the same family as the Rahtor, with whom it is said they never intermarry.—*Elliot, Supp. Gloss.*

GUHWARA. HIND. A swinging cradle.

GUHYAKA are cave-dwellers, Hindu demigods; the servants of Cuvera, the deformed deity of riches, and into such beings the dark souls of men, addicted in this world to selfish gratifications, transmigrate.—*Moor*, p. 108; *Wilford.*

GUI, amongst the Oraon, a sworn friendship between two girls. They each say,

'Tu aor main gui jurabi;
Amren phul lagabi.'

Then each plucks flowers and arranges them neatly in the other's hair, exchange necklaces and embrace, and give a joint feast. See Brother-making; Munh bola-bhai.

GUIA KHATAI. A Bokharian Hakim presented Dr. Honigberger with this hard, pitch-like plaster spread on a small piece of red linen, which he stated had been prepared in China, and which was capable of removing every kind of pain, simply by application. One and the same plaster serves for several cases. The form is square, three or four inches in diameter; each of them bears a Chinese seal. According to the assertion of the Hakim, its constituent parts are sweet-oil and litharge; the latter, as an impalpable powder, is added to the former. The Bokharian doctor stated that it should be applied as near as possible to the affected part. It acts as a rubefacient, without blistering.—*Dr. Honigberger*, p. 282.

GUILANDINA BONDUC. *Linn.*

Cæsalpinia bonduc, *Roxb.*	G. bonducella, *Flem.*
Nata karanja, . . BENG.	Karetti, Kulunji, MALEAL.
Gutchka, Gudgega, DUKH.	Kirbut, ... SIND.
Katkalija, . . . HIND.	Koombooroo wel, SINGH.
Katkaranga, . . ,,	Kalumawul ætiya, ,,
Katkaranj, . . . ,,	Kalichi maram, . . TAM.
Sagargota, . . . MAHR.	Gachcha chettu, . TEL.

A great thorny climber, with yellow flowers, and with long briar-like trailing and climbing shoots. It grows in the East and West Indies, and the Eastern Archipelago. The bonduc nut is an irregularly round grey seed; the almond or kernel is white, very hard, and intensely bitter; gets a blood-red colour from nitric acid. Mr. Piddington detected in the nuts, oil, starch, sugar, and resin. Bonduc nut is the commonest anti-periodic in the bazar medicines of Bengal, and it is undoubtedly one of considerable utility, especially in convalescence from fever. If it do not stop the paroxysm the first time, it seldom fails the second. The common way of exhibiting this substance is to give of the nut finely powdered and of black pepper each 6 to 20 grs. three times daily. In the Panjab, asafœtida is added to the black pepper. In Chittagong it is administered in pills, 4 grains of the pounded kernel with 4 grains of the black pepper. It is a very effectual remedy, but to make it so the pills must be given fresh. If the seeds are not broken they will keep good for years; but if broken, and the kernel kept for four or five days, they become useless as a medicine for fever. Bonduc nut oil is mentioned by Ainslie as useful in convulsions and palsy.

GUILIELMA SPECIOSA, *Mart.*, is the Piritu or Pirijao of Venezuela, the Pupumba of the Amazon district, and the Paripou of Guiana. It is a palm of an intensely hard wood; sharp needle-like spines are thickly disposed in rings or bands round its slender cylindrical trunk. The Indians subsist for months on its farinaceous fruit.—*Seeman.*

GUINDY, a hamlet and country-seat of the Governor of Madras.

GUINEA-FOWL, Numida meleagris, *Linn.*, is believed to be descended from the Numida ptilorhyncha of the hot, arid parts of E. Africa, but it has become wild in Jamaica and St. Domingo, and has there become small, with black legs. The guinea-fowl is the Bohemian of the barnyard. They are hardy and prolific, and are valuable in gardens, as they rarely scratch the ground, are eager in their search for insects, and with a scraping motion of their bill gather the seeds of grasses.—*Darwin.*

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GUINEA-WORM, Filaria [illegible]

Farentit, ... ARAB.	Drac[illegible]
Drakontion, . . . GR.	Pejunk[illegible]
Naru, Narambo, . HIND.	Soungoui, [illegible]
Narampoo chalandi, ,,	

It occurs in Africa, Arabia, Persia, India, [illegible] Turkestan, most frequently appearing in the feet and legs. It has been supposed to be transmitted by means of the cyclops, a little fresh-water crustacean, received by means of the drinking water. At the end of six weeks the presence of the animal is revealed by tumours; then wounds appear, caused by the dissemination of the eggs. Gordius ornatus occurs in the Philippines.

GUITAR, a musical instrument similar to the cithera, supposed to have obtained its name from the Sih-tara, the three-stringed.

GUIZOTIA OLEIFERA. *D. C., W. Ill.*

Guizotia Abyssinica, *Cass.*	Tetragonotheca Abyssinica, *Ledeb.*
Polymnia Abyssinica, *L.*	Jagera Abyssinica, *Spr.*
P. frondosa, *Bruce.*	Helianthus oleifer, *Wall.*
Verbesina sativa, *Roxb.*	Ramtilla oleifera, *D. C.*
Parthenium luteum, *Spr.*	
Heliopsis platyglossa, *Cas.*	
Kala-til, Ramtil, . HIND.	Ulisi, Valisi, Valasalu, TEL.
Oochellu, . . . TAM.	

This plant is grown in Egypt, Abyssinia, and throughout the East Indies. It has large bright yellow-coloured flowers, and it ripens its seed in February and March. The seed in shape is like the black cummin seed, and a sweet-tasted oil is

manufactured from it, and used for nearly the same purposes as the sesamum or gingelly oil. The seeds yield about 34 per cent. of oil, which sells at about 10d. per gallon. It is exported under the name of Niger seed. It was first shipped to London experimentally in 1851. It is a favourite crop, of easy cultivation, and giving good returns.—*Mad. Ex. J. Rep. Cal. Cat.*, 1862.

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[illegible] Burs[illegible] [illegible]val.

[illegible] Ramay[illegible] [illegible]ur. Khare[illegible] [illegible]n. Nagree[illegible] [illegible]n. [illegible]otkur[illegible] [illegible]kana[illegible]

to the plough. The Gujuru of Kashmir are shepherd proprietors, and said to have come from Gujerat in the Panjab; they live in log houses, in recesses at the foot of the Panjal, and in the woods. The Gujar tribe in the Panjab are probably of primitive antiquity. They have not lost the pastoral habits of their race, though they devote much attention to agriculture, and they are more industrious and less predatory than their brethren of Hindustan. Many of the thieves in Hindustan are of this tribe.

In 1857, in the revolt in India, the whole of the Gujar villages around Dehli, after fifty years of compulsory quiet, broke out and plundered all over that district within a few hours of the outbreak of the mutiny. And whenever any fugitives during the mutiny came to a Gujar village, they were invariably plundered. The instant the strong arm of a government was removed, these and other predatory races resumed their ancient habits. They are cultivators and keepers of cattle and buffaloes, living in separate villages of their own and are numerous about Dehli and in the Meerut and Saharunpur districts of the Doab. They are numerous in the Panjab, on the northern frontier of British India, in Swat and the adjacent hills and in the hills about Kashmir; and they are said to have preceded the Swat tribe as the inhabitants and owners of part of the Hazara district on the Indus. In the hills about Kashmir they have pastoral vagrant habits. In all the north, if not in all the Jat country, the Gujar are mixed with the Jat, and form a considerable part of the population. They are numerous in Northern Rajputana, and extend into [illegible] the adjoining parts of Central India as far as Bundelkhand, one of the chiefs in which is a Gujar. The last Nagpur prince is stated to have been a Gujar, but at present there are none in Gujerat. Those located in the east indicate their origin from the west.

[illegible]e Gujar have no resemblance to the [illegible] races. They are a handsome [illegible]d women are remarkable for [illegible] and fair complexions. [illegible] are remarkably good [illegible] carriage and demeanour [illegible]ike the Jat, they [illegible] or bullocks [illegible]

GUIA KHATAI. A Bokharian Hakim presented Dr. Honigberger with this hard, pitch-like plaster spread on a small piece of red linen, which he stated had been prepared in China, and which was capable of removing every kind of pain, simply by application. One and the same plaster serves for several cases. The form is square, three or four inches in diameter; each of them bears a Chinese seal. According to the assertion of the Hakim, its constituent parts are sweet-oil and litharge; the latter, as an impalpable powder, is added to the former. The Bokharian doctor stated that it should be applied as near as possible to the affected part. It acts as a rubefacient, without blistering.—*Dr. Honigberger*, p. 282.

GUILANDINA BONDUC. *Linn.*

Cæsalpinia bonduc, *Roxb.*	G. bonducella, *Flem.*
Nata karanja, . . BENG.	Karetti, Kulunji, MALEAL.
Gutchka, Gudgega, DUKH.	Kirbut, ... SIND.
Katkalija, . . . HIND.	Koombooroo wel, SINGH.
Katkaranga, . . ,,	Kalumawul ætiya, ,,
Katkaranj, . . . ,,	Kalichi maram, . . TAM.
Sagargota, . . . MAHR.	Gachcha chettu, . TEL.

A great thorny climber, with yellow flowers, and with long briar-like trailing and climbing shoots. It grows in the East and West Indies, and the Eastern Archipelago. The bonduc nut is an irregularly round grey seed; the almond or kernel is white, very hard, and intensely bitter; gets a blood-red colour from nitric acid. Mr. Piddington detected in the nuts, oil, starch, sugar, and resin. Bonduc nut is the commonest anti-periodic in the bazar medicines of Bengal, and it is undoubtedly one of considerable utility, especially in convalescence from fever. If it do not stop the paroxysm the first time, it seldom fails the second. The common way of exhibiting this substance is to give of the nut finely powdered and of black pepper each 6 to 20 grs. three times daily. In the Panjab, asafœtida is added to the black pepper. In Chittagong it is administered in pills, 4 grains of the pounded kernel with 4 grains of the black pepper. It is a very effectual remedy, but to make it so the pills must be given fresh. If the seeds are not broken they will keep good for years; but if broken, and the kernel kept for four or five days, they become useless as a medicine for fever. Bonduc nut oil is mentioned by Ainslie as useful in convulsions and palsy.

GUILIELMA SPECIOSA, *Mart.*, is the Piritu or Pirijao of Venezuela, the Pupumba of the Amazon district, and the Paripou of Guiana. It is a palm of an intensely hard wood; sharp needle-like spines are thickly disposed in rings or bands round its slender cylindrical trunk. The Indians subsist for months on its farinaceous fruit.—*Seeman.*

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GUINEA-WORM, Filaria Medinensis, *Gmel.*

Farentit, ... ARAB.	Dracunculus, . . . LAT.
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Chumayen.	Khare.	Bursoee.	Rowal.
K'hutana.			

In the Doab—

Sookul.	Dede.	Ramayn.	Khoobur.
Bysle.	Jindhur.	Khare.	Moondun.
Mavee.	Peelwan.	Nagree.	Kudahun.
Rat'hee.	Butar	Chotkune.	Touhur.
Bhuttee.	Adhuna.	Budkana.	Gorsee.
Kusounee.	Cheche	Kusane.	Kunana.
Bulesur.	Kulseean.	Rouse.	

In Rohilkhand—

Butar.	Jattee.	Poorbur.	Muhynsee.
K'hhoobur.	Motle.	Jindhur.	Kusane.
Khare.	Sooradne.		

All these tribes intermarry on terms of equality, the prohibited gotra or tribe being only those of the father, mother, and paternal and maternal grandmother. A great part of the district of Saharunpur was called Gujerat during the 18th century. By the Gujar themselves it was said to consist of three parts, and the division is known amongst them to this day, and is usually adopted in ordinary converse. In 1811 Colonel Tod's duties called him to a survey, amidst the ravines of the Chambal, of the tract called Gujargar, a district inhabited by the Gujar tribe. Turbulent and independent, like the sons of Esau, their hand against every man, and every man's hand against them, about the middle of the 18th century, their nominal prince, Suraj Mull, the Jit chief of Bhurtpur, had pursued exactly the same plan toward the population of these villages, whom he captured in a night attack, that Janmeja did to the Takshak, as described in the Mahabharat. He threw them into pits with combustibles, and actually thus consumed them. The Gujar race has largely pressed into the Central Provinces of India, and have settled down to agricultural pursuits; and those in Hoshangabad and Nemur are fair farmers. They are agriculturists in the N.W. Provinces, but, whether of the Hindu or Mahomedan faith, they everywhere prefer pasturage to the plough. The Gujuru of Kashmir are shepherd proprietors, and said to have come from Gujerat in the Panjab; they live in log houses, in recesses at the foot of the Panjal, and in the woods. The Gujar tribe in the Panjab are probably of primitive antiquity. They have not lost the pastoral habits of their race, though they devote much attention to agriculture, and they are more industrious and less predatory than their brethren of Hindustan. Many of the thieves in Hindustan are of this tribe.

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The Gujar have no resemblance to the pre-Aryan races. They are a handsome tribe, and both men and women are remarkable for their powerful figures and fair complexions. The women in particular are remarkably good-looking, and have a bold, free carriage and demeanour. Widows can re-marry. Like the Jat, they eat all flesh except that of cows or bullocks, and are particularly fond of wild hog. They drink spirits also, smoke tobacco, ganja or hemp leaves, and their women use opium, as well for themselves as their children. They are wholly uneducated, and affect to despise learning as unmanly. They are dishonest, untrustworthy, and lawless in a high degree; mulish, revengeful, and wrong-headed, professing no loyalty to any one; notorious as successful cattle-lifters, pursuing this branch of robbery with determination and skill, taking great pride in their lawless achievements, and loving to hear of past deeds.

Those to the north of Dehli are Mahomedans, but to the east and south they are sometimes half Mahomedans, sometimes half Hindus, but so very lax as to be considered a sect apart.—*C.* p. 101–123.—*Tod's Rajasthan; Elliot, Supp. Gloss.*

GUJERAT, a town in lat. 32° 32′ N., long. 74° 3′ E., in the Jech Doab of the Panjab, on the Rotas road between the Chenab and Jhelum, at eight miles from the right bank of the Chenab. It is also the name of a district in the Panjab.

Gujerat gives its name to a British revenue district, lying between lat. 32° 10′ 30″ and 33° N., and between long. 73° 20′ and 74° 31′ E., with an area of 2029 square miles, and a population in 1868 of 616,347 persons. There are numerous relics of antiquity in this district, and mounds of ancient construction yield considerable numbers of early coins. General Cunningham has identified one of these shapeless masses, now occupied by the village of Moga or Mong, with the site of Nikæa, the city built by Alexander on the field of his victory over Porus. This mound is about six miles west of the Pabbi range, and has a height of 50 feet, with a superficial dimension of 600 by 400 feet. Copper coins of all the so-called Indo-Scythian kings are found in abundance. While the siege of Multan (Mooltan) still dragged slowly on, Sher Sinh established himself at Ramnagar, on the Gujranwala side of the Chenab, 22 miles below Gujerat, leaving the main body of his army on the northern bank. Here he awaited the attack of Lord Gough, who attempted, unsuccessfully, to drive him across the river, 22d November 1848, and withdrew with heavy loss; but, sending round a strong detachment under Sir Joseph Thackwell by the Wazirabad ferry, he turned the flank of the enemy, and won the battle of Sadullapur. Sher Sinh retired northward, and took a strong position between the Jhelum and the Pabbi Hills. The battle of Chilliauwalla followed (13th January 1849). On 6th February, Sher Sinh again eluded Lord Gough, and marched southward to make a dash upon Lahore; but the British-Indian army followed, and on the 22d of February Sher Sinh turned at Gujerat, and the decisive engagement which ensued broke irretrievably the power of the Sikhs. The products of the district are grain, cotton, opium, safflower, tobacco, indigo, goor, wool, and ghi. About half the grain is exported on camels, mules, bullocks, and donkeys, but chiefly by boats to Pind Dadun Khan, and from thence by boat to Multan and Sind. Koftgari, or gold-inlaying in iron, is peculiar to Gujerat, and a very brisk business is carried on by the workmen. Under former rulers, this inlaid work was used chiefly in ornamenting weapons, but, under the peaceful rule of the British Government, the craftsmen now make principally baskets, trays, paper-weights, paper-knives, bracelets, and ornaments.—*Rennell's Memoir*, p. 85; *Cunningham, Ancient Geog. of India*, p. 179; *Imp. Gaz.*

GUJERATI, a term applied to a mercantile race from Gujerat. They are of Rajput origin, and are principally of the Jain religion. See Marwari; Guzerat.

GUJI. HIND. Wheat and barley sown together.

GUJ-PIPAR or Guj-Pipal, according to Dr. Irvine, is supposed to be the root of Borassus flabelliformis, brought from Kābul; is astringent, and is given in medicine to promote digestion; one seer costs two rupees. According to other writers, it is the sliced dried fruit of Scindapsus officinalis, *Schott.*

GUJRA or Sumurrun, bracelets made of coloured thread, worn at the Maharram.

GUJRANWALA, a British revenue district in the Panjab, lying between lat. 31° 32′ and 32° 33′ N., and between long. 73° 11′ 30″ and 74° 28′ 15″ E., with an area of 2563 square miles, and a population in 1868 of 550,576. The Jats number in all 237,600 persons, or 43·15 per cent. of the whole population. Farther north, their fellow-tribesmen have almost all become Mahomedans.

GUL. HIND., PERS. A rose, but compounded with many words to indicate other flowers and flowering plants. Gulab, rose-water; Gulab-pash or Gulab-dan, a rose-water sprinkler; Gulab ka atr, the otto, an essential oil from rose leaves.

Gul, fire-balls for the hookah; a piece of hot charcoal for lighting the pipe or hookah; also the cinder or refuse that comes from a hookah, pipe, or chilam when smoked out.

GULAB SINGH, raja of Jummoo in the time of Ranjit Singh, was a Dogra Rajput, brother of raja Dhian Singh, and raja Suchit Singh. He was cruel, tyrannical, and exacting, but tolerant in religious matters. After the Sutlej campaign, the treaty of Lahore, dated 9th March 1846, left the British in possession of the hill and plain country between the rivers Beas and Sutlej, and of the hill country between the Beas and the Indus, including the provinces of Kashmir and Hazara, and they conferred on Gulab Singh, territories in the hills, and recognised his independence. He began life as a horseman in a troop commanded by jemadar Khushal Singh, then the favourite chamberlain of Ranjit Singh. He soon raised himself to an independent command, in which he distinguished himself by making prisoner Agur Khan, chief of Rajaori. For this service the principality of Jummoo was conferred on his family. He took up his residence in Jummoo, and soon extended his authority over his Rajput neighbours, and eventually into Ladakh. He took an important part in the negotiations which followed the battle of Sobraon. A separate treaty was concluded with him at Amritsar on 16th March 1846, which put him in possession of all the hill country and its dependencies between the Indus and the Ravi, including Chumba and excluding Lahoul, on payment of 75 lakhs of rupees, and in exchange for the Cis-Ravi portion of Chumba. By a subsequent arrangement in 1847, Chumba came again entirely under the British Government. In 1857, Maharaja Gulab Singh died, and was succeeded by his son, Runbir Singh, to whom the right of adoption was guaranteed by sunnud, and the family now hold sway over Kashmir, Jummoo, Kishtwar, Zangskar, Ladakh, and Balti.—*Prinsep's Antiquities by Thomas; Aitcheson's Treatises.*

GULAL. HIND. A red powder, formed of barley flour, or rice or wheat flour, or flour of the water-nut, Trapa bispinosa, tinted with sappan wood or sanders wood, much thrown about in the Ram Naomi and in the Holi festivals of the Hindus.

Gulali are pill-like balls of cosmetic dyes used by women of India, made with arrow-root coloured with alito, and cotton dipped in it is sold in Indian bazars under the name of Pothi. The colour is called also Alaktaka.

Gul-Ambari is a sort of bright lilac, in which the crimson and the blue are not thoroughly combined, so that there is the effect of a shot.

Gul-Anar are the flowers of Punica granatum, of scarlet colour; pomegranate flower.

Gul-Badan is a red silk cloth for Mahomedan ladies' trousers; a striped silk piece.

Guldastah is a bouquet; silver-golden tree decorated with imitations of jewels and precious stones, used at ceremonials and on state occasions as a kind of epergne.

GULANCHA, also Gudancha. HIND. Root and stem of Cocculus cordifolius. It is intensely bitter. A transverse section is very porous and radiated. A decoction is a valuable bitter tonic and alterative; dose, one ounce flavoured with honey, thrice daily. Is the Pachana preparation of the native physician.—*O'Sh.; Beng. Phar.* p. 277.

GULBHANGA. HIND. The flower-bearing or female plant of the hemp. Gulbhanga-i-bihisht, a sweetmeat.

GUL-CHETUR, a famous field at Tanessur, close to the Grand Trunk Road, about 30 miles south of Ambala.

GULERI. HIND. An iron from Gwalior used for wire-drawing.

GULF of AKABAH. The Red Sea at its northern end separates into two branches, the Gulf of Suez to the west and the Gulf of Akabah to the east. Akabah is a continuation of the valley of the Dead Sea and the river Jordan. It is a desolate and deserted sea, useless to commerce, and shunned by the native craft on account of the violent northerly winds which almost constantly prevail there, raising the sea into a deep and turbulent swell.—*Findlay.*

GULF of CAMBAY is about 72 miles long, 30 miles wide at its mouth, and 14 miles at its head. The Nerbadda and the Tapti rivers disembogue into it; and the smaller rivers are the Sabarmati, Mhye, and Dhardur. The mass of alluvial matter brought down by these rivers, and the peculiar action of the tides, has thrown up many enormous sand-banks; the flood-waves come in the form of a bore. At Perim, 26 miles from the entrance of the gulf, the tidal stream is forced through a space four times less than it occupied before; and again, 27 miles farther north, below the Bore Rocks, it flows into a channel only one-ninth its original width, from which circumstances the velocity of the tide is greatly increased. At the head of the gulf, where it separates into the channels of the Mhye river and the Cambay Creek to the east, and into those of the Sabarmati on the north-east, the accumulated waters of the flood-wave assume the form of a bore, the wave coming in perpendicularly. The eastern or principal bore rises five miles to the W.S.W. of Cambay Creek, and is not perceptible in the neap tides, unless the previous springs have been unusually high, when it may be observed slightly through the quarter. It generally commences when the winds begin to lift, the waves increasing daily in height as the tides gain strength, and it is at its greatest height about two days after new and full moon. It also varies with the night and day tide, which differ in height six or eight feet, the night tide both of new and full moon being the highest; as the highest tide must have the greatest velocity, so the wave of the bore will be highest with the greatest tide. At about 14 miles below Cambay, the high springs were found to rise 33 feet. And the flood runs at six miles and the ebb at seven miles an hour. The bore first shows itself in the channel at eight miles below Cambay, as a wave 3½ feet high, with a rate of seven knots. In the first hour the water rose six feet during the first ten minutes. Above Cambay the wave breasts in seven feet high, with a velocity of ten knots. The western bore, running into the Sabarmati river, is almost precisely similar to the eastern bore, but it washes away by its force very large portions of the shore and adjoining sandbanks. In places where the force of the wave is directed to one point, it frequently flows quite perpendicularly, having the appearance of a wall, when it curls and breaks with a thundering roar. In the centre of the channel in the main line of the rush of the bore there is less danger than near the shore, where the wave curls along the banks.—*Findlay.*

GULF of CUTCH, an extensive inlet of the Arabian Sea, running eastward 90 or 100 miles, and separating Cutch from Kattyawar, and terminating at its head like the Kori, in the flat desert of the Runn. At its mouth, between Dwarka and the Cutch coast, it is 30 miles broad.—*Findlay.*

GULF of MANAAR lies between Ceylon and the Peninsula of India, and has a width of 130 miles, extending to the line of islands and banks separating it from Palk's Straits, and a breadth of 200 miles from Point de Galle to Cape Comorin. In the 19th century the British deepened it, to admit ships of greater draught.—*Findlay.*

GULF of MARTABAN is the north-east angle formed by the delta of the Irawadi and the Martaban, Amherst, and Tenasserim coasts. Between Baragu point and Kalegouk island it is 130 miles wide, and recedes to the banks of the Sitang river.—*Findlay.*

GULF of OMAN is the funnel-shaped entrance to the Persian Gulf, included between the province of Oman and the opposite coast of Makran. The south coast of the Gulf of Oman, from the Ruweis ul Jabal nearly to Muscat, is fertile and well covered with date trees. It extends in a wide plain to the foot of the mountains, and increases in breadth from 29 miles at Cape Musendom to 110 miles at its eastern end. From Muscat to Musendom it is 200 miles in length, and within these limits its area is 14,000 square miles. The coast on the Persian side is mountainous, with deep water close to it; but the Arabian coast, excepting the Ruweis ul Jabal mountains, is low, fronted by reefs and shoals to a great distance from the shore for nearly its whole length, forming the celebrated pearl banks.

GULF of PEH-CHI-LI, on the E. coast of China, is at the mouth of the Pei-ho river, and is separated from the Yellow Sea by the Miau-tau group of rocks. The shore is low and flat.

GULF of PERSIA, or Khalij-ul-Fars, is the large inland sea bounded on the N.E. by Persia and on the S. by Arabia. The Persian Gulf, from the coast of Oman to the Basra river, is 450 miles. Inside its breadth varies from 100 to 180 miles, but at its entrance at the narrowest part it is only 29 miles. Within a line drawn due east from Ras Musendom, it comprises an area of nearly 70,000 square miles. The northern or Persian side presents in its whole extent, from the delta of the Euphrates to the Makran coast, a series of rugged precipitous mountain ranges, one behind the other, running nearly parallel to the coast and to each other, and increasing in height as they recede from the sea. A belt of low land of varying width runs between the mountains and the sea, called by the Persians the Garm-sair, hot and uninviting, with a few date groves. The small seaport towns are occupied by Arabs. The southern coast, from the mouth of the Euphrates (Shat-ul-Arab) to the Ruweis-ul-Jabal, is generally of white sand, a perfect desert, with extensive uninhabited tracts. Water scarce and bad, though there are date

groves near villages. The population is exclusively Arab. Along its northern or Persian coast are numerous towns and villages, with a mixed Arab and Persian population; the Arabs are fishermen and seamen, and the Persians are cultivators.—*Findlay.*

GULF of SUEZ, at the N. end of the Red Sea, abreast of Tur, is 17 miles broad.

GULF STREAM of the eastern seas, issues from the Bay of Bengal, passes through the Straits of Malacca, and sweeps to the north along the Asiatic coast, modifying the climate. It is called by the Japanese Kuro-Siwo, and debouches to the Philippine Islands, and thence rushes into the great Pacific, describing an arc of a great circle as far as the Aleutian Isles, on which it leaves strange weeds. The waters of this eastern Gulf Stream are of an indigo tint. The Sargasso weed occupies the centre of the stream.

GULF-WEED (Sargassum bacciferum, *Agh.*), in enormous quantity, floats in an eddy of the Atlantic to the west of the Azores, from lat. 20° to 36° N., and again west of the Bahamas, its utmost eastern limit extending to long. 36° E. It occurs also in the streams in the Pacific. It is of a greenish-yellow colour; is abundant on the reefs, but continues to vegetate as it floats about in the circular currents after it has been torn from its attachment. The masses give shelter to a great number of fish, molluscs, and crustacean animals. Travellers to and from India meet with the Gulf-weed in the Atlantic.

GUL-GAJUBA. HIND. Flowers of gajuba from Bombay; cooling, in various mixed prescriptions. One seer costs two and a half rupees.—*Gen. Med. Top.* p. 136.

GULGEEAN, or Gulguleean, Gulgully, swollen rice mixed with molasses formed into balls.

GULGULA, a town near Bamian, destroyed by Chengiz Khan. From some cause, not now remembered, being highly exasperated with the people, he came upon them suddenly, put them without mercy to the sword, and overturned and demolished the place. There are innumerable excavations or caves in the mountains of the valley of Bamian, which still form the residences of a great part of the population; a detached hill in the middle of the valley is quite honeycombed with them, and is called the city of Gulgula. Caves are in greater numbers on the north side of the valley, where the idols occur, on all sides of which are excavations. It is said that at a day's journey from Bamian, to the south-west, were the remains of an extensive fortress, called Band-i-Berber, erected near a large lake.—*Moorcroft's Travels.*

GUL-i-GULAB, a series of fortresses which have a communication with each other. They are situated near the Persian Gulf, about five farsangs from Behbehan, and the river Kheirabad, the Ab-i-Sherin or Indian river, flows close to the foot of the rock on which they are built, one fort above the other.

GULLAR, a race in the Raichore Doab, with several sections. There are two branches of this tribe, the Adavi Gullar and Gaddha Gullar, about 2000 in number. The Adavi Gullar are dwelling in the villages between Hyderabad and Poona, but a very considerable number dwell in Seroor, 10 miles from Kulburga. They call themselves Gol, from Go, a cow, also Hanam Gol; and they claim to be of the Dhangar or herd race. But the people know them as Adavi Gullar, *i.e.* country or wild Gullar; also as Bai-mandel-wanloo, also Dowai Darman and Dowa dene walay. The men are herbalists, collecting roots and plants for the native physicians; the women beg. Their physical appearance is strikingly like the races from Rajputana,—about the same in colour, but more slender and not so tall. None of them had resemblance to any of the races of Southern India. They speak in Hindi, Telugu, and Canarese. They wear clothes dyed red with red ochre; they seem poor. They do not eat the cow or bullock, but use the goat, sheep, hare, and other creatures; and the village Gullar are goatherds. Like the Baidar, they eat the crocodile. They do not intermarry with the Gaddha Gullar. The Gaddha Gullar dwell in the neighbourhood of towns and villages. The men wear beards, and rear dogs and asses; they hunt wild animals, and eat the jackal, crocodile, porcupine, guana, and the women beg. They are alleged to be thieves and dacoits.

GULLI-MILNA. HIND. Properly Galli-milna. A form of salutation,—the embracing described in Scripture as falling on the neck.

GUL-MEDAK. HIND. Jacinth; but generally understood to be an imitation gem of a deep orange colour.

GULPISTA. PERS. Bazgand., GUJ., HIND. Galls produced on the pistachio tree (Pistacia vera), a native of the south of Europe and of Asia. They are imported in Bombay from the Persian Gulf, and are used in medicine by the natives of India.—*Faulkner; Birdwood.*

GULU or Gooloo. HIND. The pod of the mahwa tree, Bassia latifolia. It yields a very useful oil, and is sometimes eaten by the poorer classes.

GUM.

Gomme, ...	FR.	Gatah pulut, . .	MALAY.
Gom, ...	DUT.	Goma, ...	SP.
Gummi,	DAN., GER., SW.	Pisini, ...	TAM.
Gond, . . .	GUJ., HIND.	Banka, Jigata, . .	TEL.
Gomma, . .	PORT., IT.	Zamk, ...	TURK.

Gums and resins are divisible into gums, gum-resins, and resins.

Gums are soluble in water, but not in alcohol.

Gum-resins, being compounds of gum and resins, are partially soluble in water, partly in alcohol; the gummy matter being separated by one, and the resinous matter by the other.

Resins are soluble in spirits, from which they are in a considerable proportion separated by water. The resins melt on the application of heat, but not so the gums. The chief gum and gum-resin producing plants of Southern Asia are—

Abies Smithiana.
Acacia Arabica.
A. catechu.
A. ferruginea.
A. lebbek.
A. leucophlæa.
A. modesta.
A. odoratissima.
A. serissa.
A. speciosa.
A. sundra.
A. vera.
A. xylopyra.
Ægle marmelos.
Agate grandiflora.
Ailantus excelsus.
A. Malabaricus.
Aloe perfoliata.
Amygdalus Persica.
Amyris commiphora.
Anacardum occidentale.
Armeniaca vulgaris.
Artocarpus integrifolia.
Astragalus, *sp.*
Augia Chinensis.
Azadirachta Indica.
Balsamodendron mukul.
B. agallocha.
B. myrrha.
B. pubescens, *Stocks.*
B. myrrha.
B. Roxburghii.
Bassia elliptica.
B. longifolia.
Bauhinia emarginata.
B. parviflora.
B. retusa.
B. Vahlii.

Bombax heptaphyllum?
B. Malabaricum.
Borassus flabelliformis.
Boswellia floribunda, *Endl.*
B. glabra, *Roxb.*
B. papyrifera.
B. thurifera, *Coleb.*
Buchanania latifolia.
Butea frondosa, *Roxb.*
B. parviflora, *Roxb.*
B. superba.
Calophyllum calaba.
C. inophyllum.
Calotropis gigantea.
Canarium commune, *L.*
C. strictum.
Cassia auriculata.
Cedrela toona.
Celtis orientalis.
Cedrus deodara.
Cerasus puddum.
Chloroxylon Swietenia.
Citrus aurantium.
C. decumana.
C. limetta, *Resso.*
C. medica.
Cochlospermum gossypium
Cocos nucifera.
Conocarpus latifolia, *R.*
Convolvulus scammonia, *L.*
Cordia Rothii.
Cryptostegia grandiflora.
Cycas circinalis.
Dammara orientalis, *Lam.*
D. Australis.
Diospyros embryopteris.
Dipterocarpus turbinatus.
Dorema ammoniacum, *Don.*
D. aureum, *Stocks.*
Elate sylvestris.
Emblica officinalis.
Eriodendron anfractuosum
Erythrina Indica.
Euphorbia cattimandu.
E. tirucalli.
Feronia elephantum.
Ferula Persica.
Ficus elastica.
F. Indica.
F. racemosa.
Garcinia elliptica, *Wall.*
G. mangostana, *L.*
G. morella, *Desv.*, *var.* pedicellata.
G. pedunculata, *Roxb.*
G. pictoria, *Roxb.*
Gardenia gummifera.
G. lucida.
Garuga pinnata.
Grislea tomentosa.
Holigarna longifolia.
Hopea micrantha, *Hook.*
H. odorata.
Hymanæa verrucosa.
Icica resinifera.
Inga, *sp.*
Isonandra gutta.
Liquidambar altingia.
Macaranga Indica, *Wight.*
M. tomentosa, *Wight.*
M. Roxburghii.
Mangifera Indica.
Marsdenia tenacissima.
Melia azedarach.
Melanorrhœa usitatissima.
Michelia champaca.
Mimusops elengi.
M. kaki.
Moringa pterygosperma.
Morus Indica.
Narthex asafœtida.
Odina wodier.
Opoidea galbanifera, *Don.*
Opuntia rubescens.
Penæa mucronata.
Phyllanthus turbinatus.
Pinus excelsa.
P. longifolia.
Pistacia Atlantica.
P. Cabulica, *Stocks.*
P. Khinjuk, *Stocks.*
P. lentiscus, *L.*
P. vera.
Plumieria acuminata.
Poinciana elata, *Burm.*
P. regia.
Prosopis spicigera.
Prunus alucha.
P. Armeniaca.
P. puddum.
Pterocarpus Dalbergioides.
P. draco, *Linn.*
P. marsupium.
P. Wallichii, *W. and A.*
Punica granatum.
Rhus, *sp.*
Salix capræa.
Salmalia Malabarica.
Sapindus acuminatus.
P. emarginatus.
Schleichera trijuga.
Semecarpus anacardium.
Siphonia, *sp.*
Soymeda febrifuga.
Spondias mangifera.
Sterculia urens.
Stereospermum suaveolens.
Styrax benzoin.
S. officinale.
Swietenia chloroxylon.
S. febrifuga.
S. mahogani.
Syzygium jambolanum.
Tamarindus Indica.
Tamarix Indica.
Terminalia alata.
T. angustifolia.
T. belerica.
T. catappa.
Uncaria gambier.
Vachellia farnesiana.
Vateria Indica.
V. lanceæfolia.
Vatica robusta.
V. tumbuggaia.
Wrightia antidysenterica.
W. tinctoria.
Xanthoxylon hostile.
Zizyphus jujuba.

There are two leading modifications of gum, one of which is represented by gum-arabic, and the other by gum-tragacanth. There are many intermediate varieties, amongst which cherry-tree gum may be distinguished; and the different kinds of gums have been classed under the generic terms of arabine, tragacanthine, and cerasine.

Gum-arabic, gum of the cherry, gum-tragacanth, and others, flow spontaneously from the branches and trunks of the trees producing them. The gummy matter resides in the bark and albumen; it is the nutritive juice of the plant. But as the wood absorbs more moisture from the air than the bark, and hence swells more, in consequence of its enlargement it distends the bark, which by the internal pressure of the wood gives way, and gummy matter escapes.

Artificial Gum.—In the process of calico-printing and for stiffening different goods, an artificially prepared gum has for some years been employed. Starch or fecula is, by the action of diastase—a peculiar azotised substance formed during the germination of seeds—converted into a gummy mucilaginous substance named dextrine. It is also known in commerce under the name of British gum and torrefied starch. The term leiocome has been applied by Payen to a modified dextrine, whiter and more soluble than can be obtained by torrefication. It is formed by moistening 1000 parts of dry starch (potato starch is generally used) with very dilute nitric acid, consisting of 2 parts of concentrated acid and 300 of water. The mixture is divided into small blocks, which, when dried in the air, are rubbed down, and exposed in a proper drying stove to a current of air heated to about 150° or 160°; the powder is afterwards well dried at a temperature not exceeding 230°. When well made, it dissolves in cold or tepid water as easily as gum-arabic.

Gum-Arabic.

Samagh Arabi,	ARAB.	Gomma Arabica,	IT.
Shu-kiau,	CHIN.	Kapitha,	SANSK.
Arabische gom,	DUT.	Goma Arabigo,	SP.
Gomme arabique,	FR.	Pisini,	TAM.
Arabische gummi,	GER.	Banka,	TEL.
Gond,	HIND.		

Gum-arabic is the produce of species of Acacia growing in Arabia, India, Upper Egypt, Senegal, etc. Acacia seyal, A. Ehrenbergii, A. tortilis, A. vera of Africa, all yield the gum-arabic of commerce. That known in commerce as the finer gum Senegal is said to be the produce of A. vera. A. albida (the A. Senegal of Willde.), A. seyal, and A. Arabica also yield it, and the inferior reddish varieties from A. Adansonii. Barberry gum is said to be the produce of A. gummifera.

Gum Senegal is exported from Portendic, Sierra Leone, and the French settlements on the Senegal, being produced chiefly in the desert country to the north of the Senegal. A. vera is stated by the authors of the Fl. de Senegambie to yield the pale and fine varieties, A. albida (A. Senegal, *Willde.*) and A. Adansonii the inferior reddish varieties. A. Seyal, A. vera, and A. Arabica are found in Senegambia.

Barbary Gum is exported from Mogador on the west coast of Africa. It is of inferior quality, and, moreover, a mixture of two or three kinds.

The East India Gum of commerce is the produce of A. Arabica, A. serissa, Ægle marmelos, Feronia elephantum, Azadirachta Indica, Melia azedarach, Odina wodier, and Prosopis spicigera. It is known as Gond, Babul gond, and Ghatti gond. It occurs in rounded pieces or tears, and in fragments, up to the size of a walnut or larger. It dissolves almost completely in water. The solution is purer when made with cold water, and keeps better.

East India Gum is exported to Europe chiefly from Bombay, having been previously conveyed there from the coast of Arabia, and is largely of African origin. Some is also exported from Calcutta and Bombay by the names of Babul and

Ghatti gum, and is of good quality, but is yielded also by Acacia serissa, and by species of other genera.

A gum is also obtained at the Cape from the Acacia karroo, A. horrida, and A. giraffe, and from the A. decurrens of New Holland.

According to the locality producing it, gum-arabic is known as Turkey or Arabic gum, Barbary or Morocco gum, Senegal, East India, and Cape gum. The mucilage of each of these varieties of gum is employed to give lustre to crapes and silks, and for cementing into cakes the various pigments used by artists in water colours.

Cherry-tree Gum, including that of peach and apricot trees and other species of Prunus, resembles inferior gum-arabic in its external characters, but is only partially soluble in cold water.

Mastic Resin is produced in Scio from the Pistacia lentiscus, the lentish tree. That which collects on the branches of the trees is called mastic in the tear, and fetches the highest price, while that which falls to the ground constitutes the common mastic. Mastic varnish is well known from its transparency, and its peculiar toughness and tenacity even when spread in the thinnest coat on wood or on canvas. This is due to the presence of a peculiar resin, which does not possess any acid properties.

Olibanum was the frankincense used by the ancients in their religious ceremonies. Moses speaks of it in Exodus; and it long formed a constituent in the preparation of incense. It is produced in India from the Boswellia thurifera, but there are also African and Arabian varieties.

Myrrh.—This gum-resin was an object of trade more than 3500 years ago. It is produced in various parts of Asia and Africa, one myrrh tree bearing the scientific name of Balsamodendron myrrha. Turkey myrrh is considered the finest, the East Indian being the second in quality. It is employed medicinally as a dentrifrice, and in the preparation of fumigating pastilles.

Tragacanth is gathered in Crete from the Astragalus tragacantha. It is largely employed in calico printing, and has many uses in the arts.

Catechu is an extract rather than a gum, obtained from the Acacia catechu.

Gambier has similar properties to catechu. It is obtained from the Uncaria gambier, and both of these are employed in calico printing, dyeing, etc.

Gum Kino of commerce is obtained from Pterocarpus erinaceus and P. marsupium, and Eucalyptus resinifera. It is used in medicine, and has been proposed to be employed in the arts. The dragon's blood is from P. draco.

Gamboge is obtained in Ceylon, Malabar, Siam, from species of Garcinia. It is much used as a pigment, and in miniature painting it is employed to colour varnishes and lacquers.

Elemi gum-resin is the product of a tree still undetermined, and although it is of considerable importance, and is imported in large quantities, the locality producing it is not distinctly known. It forms an essential ingredient in many of the finest varnishes.

Copal resin exudes spontaneously from two trees, Rhus copalinum, and Elæocarpus copalifer, the first being an American and West Indian, and the second an East Indian tree. A variety of copal is obtained from the coasts of Guinea. The American kind comes to Britain in flat fragments, the East Indian in roundish masses, and the latter furnishes the finest varnishes. Fresh essence of turpentine dissolves it completely, but old turpentine will not do so. It is stated that essence of turpentine, digested upon sulphur, will dissolve double its own weight without letting any fall. The oil of rosemary also dissolves copal with great readiness. An excellent varnish may be made by dissolving one part of copal and one of essence of rosemary, with from two to three parts of pure alcohol.

The employment of the gums and resins in the arts has been greatly facilitated by the discovery of new solvents, such as the new alcohols and ethers, naphtha, benzole, chloroform, and others.

Gum-ammoniac.

Ushek, Feshuk, . ARAB. | Samugh b' sherin, PERS.
Astruck, ... HIND. |

This is a bitter, nauseous, bad-smelling gum-resin, and used in medicine. Dorema ammoniacum, Ferula ammonifera, *Fee*, F. orientalis, and F. Persica, have all been named as its source.

Gum-anime is a gum-resin the product of the Hymenæa courbaril, the courbaril locust tree of South America, introduced into Tenasserim, and easily propagated. This gum-resin is of a pale brownish colour, and is met with in commerce partly in translucent and somewhat unctuous grains or tears, and partly in large brittle masses. But the commercial article is doubtless the product also of the Vateria Indica or gum-copal tree, which yields almost a precisely similar resin. For ordinary purposes these may be used indifferently, but where purity is demanded, copal is almost insoluble, while anime is wholly soluble in alcohol.

Dekamallee is the gum of Gardenia lucida; it exudes in amber-coloured transparent drops at the ends of young shoots, from which it is collected. It is a strong, disagreeable-smelling gum-resin, procurable in most Indian bazars, and much used by native physicians as an external application, when dissolved in spirits, for cleaning foul ulcers. It is also used by some European practitioners in cases of worms in children. It is most useful in preventing vermin breeding in wounds, keeping away flies from sores, on account of its strong aroma; and it is an article in the materia medica of the village farrier. Its effect in preventing the access of flies to festering wounds and running sores is remarkable.

Dammer is a vernacular term for the resins of various trees growing in India and in the Eastern Archipelago. In Bombay the term Dammer is also applied to pitch. Throughout India, Ral and Rala are terms applied to all resinous substances; but the Ral of Northern India, and exported from the Panjab, is not similar to that of the resins of Vatica robusta and of V. tambugaia, which form the chief part of the dammers of India. These are very brittle, and are amber-coloured.

Sal-tree Dammer is the resin of V. robusta and of other species. It occurs in sticks much resembling in shape the black dammer, but differing widely in colour and consistency. In colour it varies from a light yellow to a dark brown, the two colours being very frequently found in the same lump, and giving it the appearance of having a regular 'grain.' It is friable, and differs from the white dammer of the western coast in its inferior hardness, opacity, and its peculiar form,

and from the black dammer in its colour. There are extensive tracts of Gugulam (Vatica) jungles in the Gumsur and Cuttack provinces. The Khond and Uriya races living in and near these jungles, wound trees in several places, the resin issues, and is collected when sufficiently solid. The dammer collected from the decayed parts of the tree is of a dark colour.

Piney Resin of the Vateria Indica is amber-coloured and very tough. It is known as Piney dammer, white dammer of Malabar, Indian copal, and Indian gum-anime. This resin when soft is Piney varnish. It is largely exported from the forests of Travancore and Western Ghats.

Black Dammer of Malabar is the product of Canarium strictum.

White Dammer of Singapore occurs in fragments of variable size, marked with reddish streaks, transparent, amber-like, brittle, with brilliant fracture, very inflammable, inodorous, and tasteless. This resin flows from the Dammara orientalis which grows on the lofty mountains of Amboyna. It hangs from the branches, and resembles stalactites, the pieces being sometimes as large as the hand, and 4 to 8 inches long; some pieces are like anime resin. This substance, in conjunction with wood-oil, makes a useful coarse varnish for doors, windows, etc. It is also sometimes employed as a pitch in dockyards, and by farriers in the preparation of certain plasters. When melted with gingelly oil, it is used for covering corks in bottles.

Cowdie or *Kaurie Gum*, called also Australian dammer of New Zealand, is the product of Dammara Australis.

The dammer of the Tenasserim Provinces is the product of three different genera, belonging to the wood-oil tree family,—the Vatica, the Hopea, and the Dipterocarpus.

Gum Elemi of commerce is said to be yielded by several species of Amyris.

Brazilian Elemi is called also Acouchi balsam. It is obtained from the Icica heterophylla.

American Elemi comes from Icica icicariba; resin of courina from I. ambrosica.

Gum Galbanum is referred to Ophoidia galbanifera, *Don*, Galbanum officinale, *Don*, and Ferula galbaniflua, *Buh.* There appear to be two kinds of galbanum, Levant and Persian. The Persian, which is the one which comes to India, is yielded by Ophoidia galbanifera.

Gum-elastic, caoutchouc, or India rubber, is obtained in S.E. Asia from several milky-juiced plants, belonging to different families (Sapotaceæ, Apocynaceæ, Moraceæ, and Euphorbiaceæ). Assam in particular furnishes large quantities of India rubber from Ficus elastica; whilst supplies from Labuan are of the Urceola elastica; and from the Peninsula, of Cryptostegia grandiflora.

Isonandra gutta yields the famous gutta-percha of commerce, which, like India rubber and caoutchouc, rapidly rose in demand after its first discovery, and merchants anxiously look for new sources of supply.

Gum Sagapenum, believed to be the produce of an umbellifer of Western Asia, perhaps Ferula Persica, *Willd.* See Sagapenum.

The *Turpentines* are oleo-resins obtained from coniferous plants. Pinus palustris and P. tæda yield turpentine. Canada turpentine, or Canada balsam, is from the Abies balsamea. Spirits of turpentine is obtained by distilling the crude turpentine. Camphene is the rectified spirit. Turpentine is extensively employed as the solvent of the other resinous bodies in the formation of varnishes. Its solvent powers in this respect render it exceedingly valuable to the artist, and also to the manufacturer. The rectified oil of turpentine has been much used as a solvent of caoutchouc. It has been stated by Bouchardt that the unrectified oil dissolved India rubber with great difficulty, whereas the oil rectified without water was an excellent solvent, but that it was rendered still better when it was distilled from bricks.

Scio Turpentine, called also Chian and Cyprus turpentine, is the product of a Pistacia in the island of Scio. It is obtained by cutting cross-ways with a hatchet the trunks of the largest trees; the turpentine runs down on flat stones placed to receive it, each tree yielding about eight or ten ounces.

The *Oleo-resins* or wood-oils, the Gurjun oils of the genus Dipterocarpus, also the black varnish from the genus Melanorrhœa usitata, are all largely used in the arts and manufactures of S.E. Asia. The export of gums from India during the ten years 1871-72 to 1880-81, ranged in value from £147,336 in the first-named year, to £476,950 in the last. In 1881-82, exports 332,393 cwts., value £294,685. In the eleven years 1850-51 to 1860-61, gum-lac, etc., to the value of from £78,642 to £171,646 was exported, nearly all from Bengal. From 1872 to 1881, the value of its exports ranged from £203,680 in 1873, to £755,748 in 1876.—*Ainslie; Crawfurd; M'Clelland's Tenasserim; Pereira; Royle, Prod. Res.; Eng. Cyc.; Hamilton's Senai, Hedjaz*, p. 278; *Roxb.; Morrison, Comp. Descr.; Mason; O'Sh.; Faulkner; Vegetable Kingdom; Poole; Drury's Useful Plants; Birdwood's Bombay Products; Powell.*

GUMADI. Tel. Gumar, Hind. Species of Gmelina, G. arborea, G. parviflora; Tella gumadi is G. Asiatica. Tagumuda, Gmelina parviflora, is a large timber tree, a native of the mountainous parts of India. The wood of such trees as will square into logs from 18 to 24 inches, resembles teak. The colour is almost exactly the same, the grain rather closer; at the same time it is as light or lighter, and is as easily worked. It is used for the decks of pinnaces about Chittagong, Dacca, etc., and is found to stand the weather without shrinking or warping, better than any other wood known there. It seems to be the Gm. Asiatica. Gm. arborea has a light-coloured wood, close-grained and light, grows in the Santal jungles, but scarce. It is used for planks, and in constructing palkees. It is this wood with which the beautiful lac ornaments are made, such as workboxes, envelope cases, pen-trays, etc., for which Suri is celebrated.—*Cal. Engineers' Journal*, July 1860; *Rohde, MSS.; Roxb.*

GUMATTI. Hind. Mines in Mandi, Kangra Hills, etc., a dirty-grey rock-salt is obtained.

GUMBAZ. Hind. A dome, a mausoleum. The gumbaz covering the tombs of the Adal Shahi kings at Bijapur and Gogi are of magnificent dimensions, and in good preservation. Those at Kulburga are also large, but are greatly dilapidated. Those at Golconda, near Hyderabad in the Dekhan, over the Kutub Shahi kings, are in good order, though of small dimensions. Those over

the Imad Shahi of Berar are remarkable. Over the Barid Shahi of Beder there are large gumbaz, but mostly in ruins; and those at Roza, between Dowlatabad and Ellora, are small and mean in appearance, though the emperor Aurangzeb, who died at Ahmadnaggur, is buried there.

GUM DRAGON TREE of the Canary Islands, the Dracæna draco, affords a concrete, astringent, resinous juice, called dragon's blood. A tree growing at Orotava, in Teneriffe, attained much celebrity. Its hollow trunk had been used from time immemorial by the Guanches for their religious rites. The approximate circumference of the trunk in 1867 was about 78 feet, its height not exceeding 75 feet. It was greatly injured, if not destroyed, by a gale in the autumn of 1867. Gum dragon is a name of tragacanth.

GUM GHATTY, in Bombay, is a commercial term for mixed gums from forest trees, from species of Acacia called Baba, the wood-apple tree, Feronia elephantum, the mango tree, the nim or margosa trees, species of Melia and Azadirachta, the Vachellia farnesiana, the Moringa pterygosperma, and the cotton trees, Cochlospermum gossypium; picked pieces are sold as gum-arabic.

GUMKA. Hind. Slight fermentation of ears of corn, induced to facilitate threshing.—*W.*

GUMPI KAMLU or Kamawaru. Tel. A Sudra caste in Southern India, who do not permit any stranger to enter their houses.

GUMSUR, a hilly tract lying between lat. 29° 40′ and 20° 25′ N., and long. 80° 10′ and 85° 5′ E., in the neighbourhood of Ganjam and Vizagapatam. For a long period after British occupation of the Peninsula, the zamindar held the Gumsur country on payment of rent. The native Chief in 1835 claimed exemption from civil process, also refused to pay arrears of revenue, and the territory was annexed by the British. In 1871 the population of Gumsur was 158,061. It is now a taluk of Ganjam.

GUMTI, a tributary to the Ganges. It rises in a small lake or morass 19 miles east of the town of Pilebhit, in lat. 28° 35′, long. 80° 10′, 520 feet above the sea. It runs S.S.E. into the Ganges, joining 30 miles below Benares, after a course of 482 miles. In the rainy season boats of 4000 or 4200 maunds burden are sometimes seen proceeding down the river to Lucknow. It runs near Lucknow, Juanpore, Sydapur, and near Chougong in Comillah.

GUM TREES of Australia are of several genera. The grass gum trees, Xanthorrhœa, *sp.*, and Kingia Australis, *R. Br.*, plants of Australia, bear some outward resemblance to each other, but belong respectively to the lily and the rush families. The blue gum tree of Tasmania (Eucalyptus globulus) and its ally E. corynocalyx of South Australia, and other species; also Cordyline congesta, Moreton Bay; Seaforthia elegans, Dammara robusta, of Queensland.

GUN. Several of the old cannon in the Peninsula of India are of great size. That with the largest diameter is at Bijapur. It was cast at Ahmadnaggur about A.D. 1549, by a supposed native of Constantinople, named Rumi Khan, also Husain Khan, and the bed of its foundry was still unlevelled in A.D. 1839; it was close to Rumi Khan's mausoleum, which had been converted into a dwelling-house. The gun was dragged to Bijapur by means of elephants and bullocks. Rumi Khan was the Mir-atish, or commandant of artillery, under the Nizam Shah Bhairi dynasty of Ahmadnaggur. The length of this gun is 15 feet, and calibre is 2 feet 4 inches, and a full-grown man can creep into it. It remains on a bastion of Bijapur, and Hindus have besmeared it with red-lead and worship it. Another gun may be seen not far off, on the summit of the high tower called the Oopuri Boorj, measuring 30 feet in length, and composed of bars of iron welded or rather bound together. The legend current regarding the Oopuri Boorj is that one of the kings, wishing to get his city fortified with as little expense to himself as possible, gave each of his nobles a certain portion of wall and rampart to build, and excited the greatest emulation among them as to whose work should be best done. One of the chief nobles was absent at this time, and on his return found the city completely walled in, and his peers rejoicing in their patriotic endeavours. Stung at being excluded from such a grand work, he expostulated with the king, who, to comfort him, promised him that he should build one that would surpass in height and splendour the work of the others. Hence this bastion. A built gun 27 feet long is now lying on the top of Gawilgarh Hill, and one 21 feet long was on the walls of Beder in 1869.

GUNA. Sansk. Merit, virtue; a property, a quality, of which, metaphysically, three are principal.

Satya guna, the property of truth, purity, and wisdom.

Rajo guna, the property of foulness, the source of passion and error.

Tamo guna, the property of darkness, the source of inertness and ignorance.

Nir guna, deity abstractedly, without any of the three properties.—*Wilson.*

GUNA-DOSHA. Maleal. From Guna, good; Dosham, bad. A form of marriage amongst the Nair people; the words mean for better for worse. See Polyandry, p. 109.

GUNCH. Hind. Roots of Abrus precatorius, a substitute for liquorice root. The seeds are used as weights by jewellers, also for necklaces, bracelets, and other trinkets. They are of various colours, red, and red and black, and almost wholly black.—*Simmonds' Dict.*

GUND, a plateau in N. Canara near Dandilli. It has a considerable forest tract, and near Dandilli is a Negro race. There is a succession of small rapids, amounting to a fall of 120 feet, in the Black River, but the timber can be floated down, though not without some difficulty.—*Clegh.*

GUNDA, four of anything. Like the Dam, the Gunda of accounts and the Gunda of practice do not coincide. See Ganda.

GUNDA BAROSA. Hind. Boswellia thurifera resin.

GUNDAL. Sansk., Tel. Cyperus hexastachys, *Rottl.* Wight says the true name is Gundra, a fragrant grass; also a plant bearing a fragrant seed, which, with the addition of La, 'what eats,' becomes Gundala, a name of the Chakor or Perdix chakor, *Gray*, which is said to eat the seeds above mentioned.—*Elliot, Fl. Andhr.*

GUNDGURH. This mountain, prior to British supremacy, was a stronghold of banditti, who infested the high road passing through Husan Abdul to Peshawur. At the foot of one of its northern spurs, opposite to Hurripur, is the

strong village of Murree, where the Sikhs were several times repulsed by the mountaineers, and where Major Abbott found an asylum during an insurrection.—*Rec. Gov. of India*, No. 11.

GUNDICOTA, a town and fortress in lat. 14° 51′ N., and long. 78° 22′ E., between Gooty and Cuddapah. It is on the summit of a precipice, forming the southern wall of a fissure that cleaves a range of sandstone hills from their summit to their base, and the Pennar river passes through the gap into the plains of Cuddapah. The district was ceded to the British by the Nizam in A.D. 1800.

GUNGADHARA. SANSK. From Gunga, and Dhara, to hold. Gungadhara-Shastri, he who knows the Shastra is called a Shastri.

GUNGAPUTR or Gangapootr, a tribe of inferior Brahmans (literally sons of the Ganges), found chiefly in Benares, Bit'hur, and Sheorajpur in Cawnpur.—*Elliot.*

GUNGAVULLY, a river of the plain of Dharwar, rises in lat. 15° 45′ N., long. 75° 10′ E., and runs S.S.W. into the Indian Ocean; length, 100 miles.

GUNGAWALLY and Sadashewghur are shipping ports on the W. coast of India. Gungawally was at one time the chief place of export for Canara timber, consequent on its position nearest to the Mogadda jungle above, and to the south of the Arbyle Ghat.—*Gibson's Bombay Forest Report.*

GUNGHRU, little bells fastened to a string, which is wound round the wrists and ankles, and which jingle at every motion of the limbs.

GUNKARI. HIND. Pewter anklets of Kulu.

GUN-METAL.

Stuck-goed, . . .	DUT.	Metallum tormentorum,	LAT.
Stuckgut, . . .	GER.		
Bronzo, ...	IT.	Metal de canones, .	SP.

It is used for casting statues, cannon, bells, frames, stands for argand lamps, ornaments, etc. Bronze is an alloy of copper and tin, the quantity of tin employed varying according to the effect desired to be produced. Analysis has shown that ancient weapons and tools contained 8 to 15 per cent. of tin, medals from 8 to 12 per cent. tin, with 2 parts zinc added to each 100, for improving the bronze colour. The modern alloys of copper and tin have led to the production of a variety of metals bearing different names, as soft gun-metal, brass ordnance metal, with 8 to 12 per cent. tin, the various bell-metals, and the Chinese gong with 20 per cent. of tin, and speculum metal of 126·4 of copper to 58·9 of tin.—*Tomlinson.* See Alloys.

GUNNERA SCABRA, used for tarts, like the stalks of a species of rhubarb.

GUNNY.

Guni, ...	BENG.	Koni, ...	TAM.
Gunpat, Gunipat, .	HIND.	Gona, ...	TEL.

A strong, coarse sackcloth manufactured largely in Bengal, for making into bags, sacks, and packing generally. The material from which this is manufactured is the fibre of two plants, Corchorus olitorius and C. capsularis, both of which, but particularly the former, are extensively cultivated throughout Lower Bengal. Besides a large domestic consumption of gunny, the whole rice, paddy, wheat, sugar, saltpetre, etc., of the country, as well as the pepper, coffee, and other foreign produce, are exported in gunny bags or sacks. The kind of cloth of which the gunny bags are made is called in Bengal Chata, in Tamil Koni, and in Tel. Goni, also Tat. It is of three different kinds, and was formerly woven in pieces from three-quarters to one cubit wide, of which two or three were sewn together at the sides, into one piece, before offering it for sale. *The first kind*, intended for bedding, is 4 to 5 cubits long and from 2¼ to 3 cubits wide, and sells at about 8 rupees per 100 pieces. *Secondly*, that intended for covering bales of cloth is of the same dimensions, but is thicker than the former kind, and costs from 6 to 10 rupees per 100 pieces. *Thirdly*, that intended for making rice and sugar bags is 5 cubits long and 1½ or 1¼ cubits wide, and ten bags cost 4 or 5 rupees. The exports from British India of gunny bags and gunnies have vastly increased. From 1850 to 1882 they were of the following value:—

1850-51, . .	£158,421	1856-57, . .	£376,253
1851-52, . .	299,720	1857-58, . .	217,092
1852-53, . .	201,667	1858-59, . .	392,424
1853-54, . .	174,926	1859-60, . .	333,977
1854-55, . .	215,346	1860-61, . .	359,043
1855-56, . .	302,340	1881-82, . .	1,097,588

Gunny Bags exported from India.

1874-75, . . .	No. 8,010,824	Rs. 23,36,723
1875-76, . . .	,, 19,258,250	44,28,603
1876-77, . . .	,, 32,859,545	64,64,808
1877-78, . . .	,, 26,406,539	72,96,686
1878-79, . . .	,, 45,354,044	1,04,26,891
1879-80, . . .	,, 55,902,481	1,13,20,504

Gunny Cloths exported from India.

1874-75, . . .	...	Rs. 20,271
1875-76, . . .	...	4,47,542
1876-77, . . .	...	6,94,643
1877-78, . . .	2,965,559 yds.	3,56,100
1878-79, . . .	4,670,691 ,,	5,25,646
1879-80, . . .	5,219,256 ,,	6,08,188

Gunny Rope and Twine exported from India.

	Cwt.	Rs.		Cwt.	Rs.
1874-75, .	5,009	29,404	1877-78, .	4,428	54,431
1875-76, .	1,362	14,632	1878-79, .	2,768	28,298
1876-77, .	4,535	34,759	1879-80, .	2,053	16,754

GUNNYGULL, a hill ridge south of Kurnool, which is seamed with great veins of pure specular iron ore. See Iron.

GUNONG API. MALAY. Literally, fire mountain. There are three volcanoes in the Eastern Archipelago of this name,—one within the circle of the Banda Islands, which is a conical active volcano 2300 feet high. Another is north of Wetta; and the third is near the W. end of Sumbawa, at the northern entrance to the Supi Strait. Gunong Api, north of Wetta, rises six or seven thousand feet above the sea. It is an uninhabited volcano, and is a great landmark for ships trading with China, who pass up the Ombay passage and come down the Flores Sea. Nila is an active volcano 1700 feet high, in the E. Archipelago. It is E. of the Gunong Api that lies north of Wetta. In 1694 a great eruption occurred, part of the crater fell in, the whole island was a sea of lava, and the people fled to Banda; and a similar eruption occurred in September 1824, when all similarly fled.

Gunong Api of the Banda group is called by the French the grenade of Banda. It is a single island or cone of volcanic matter rising from a rocky base, and separated from Great Banda by a narrow channel. Since the Banda Islands were discovered, there have been at least 13 great eruptions of this volcano. That of 1820 was very severe; and another occurred in 1824. The strongest eruptions were in the following years:—1598, 1615, 1632, 1691, 1711, 1749, 1798, 1820. That of 1691 was a terrible one. The most fatal earthquakes took place in 1629, 1683,

1686, 1743, and 1816. Its height is about 2000 feet. It is covered with magnificent vegetation, commencing at the line where the waves cease to beat, and continuing upwards to the point where the lava ceases to flow, being cooled by the air. This volcano is the curse of the group. The nutmeg is not cultivated, and the island is occupied by a few emigrants from Timor.

Gunong Bernum is a lofty mountain 100 miles north of the Lulumut group of the Malay Peninsula. The upper part of the rivers and many of their feeders are occupied by five tribes of aborigines, viz. the *Udai* or *Semang*, who appear to be the same people who are known to the Binua of Johore under the name of Orang Pago, are found on the Segamet, Palungan, and Kapi, tributaries of the Muar, and in the vicinity of Gunong Ledang. The Udai or Semang have not any other weapons than the sumpitan. This is the most savage of the aboriginal tribes that roam the mountains and forests in the centre of the Malay Peninsula, and upon the borders of the Malacca territory.

The *Jakun* partially frequent the same territory, the lower part of Palungan, Gappam, etc., and extend N. and N.W. within the British boundaries. They are found at Tidong, Ayer Chirmin, Ayer Itam, Darat Yassin, Ulu Kissang, and Bukit Singer.

The *Mintira*, the largest tribe, dwell around Gunong Bermun and the adjacent mountains. G. Rissam, Licha, Singwang, Kamuning, Kayu Libet, and G. Garun possess the higher part of both the western and eastern streams.

The *Sakai* succeed to them in the interior, frequenting the neighbourhood of Gunong Kinabui.

On the N.W. the Mintira march with the *Besisi*, one of the most numerous tribes, who occupy all the streams flowing in that direction from Gunong Bermun and the mountains lying to the southward of it.

These five tribes (as well as those inhabiting all the interior of the Peninsula to the north) are sometimes by the Malays called Orang Binua.

Another group are the Bermun tribes, so called from the circumstance of most of the streams on which they are found rising in the Bermun mountain system, receiving accessories from it, or joining rivers which have their source in its ravines.

Gunong Bedong, in the Natunas Islands in the China Seas, in lat. 4° 3′ N., also called Quoin Hill. Another mountain in the Natunas is called Gunong Ranay.

Gunong Gedeh, or the Blue Mountains, a high range in Java, about 30 miles inland from Batavia. Pangeango rises 9954 feet, Salak 7322 feet, and Kanrang 6014 feet above the sea.

Gunong Gedung, about 7000 feet high, is about 30 miles E. by N. ½ N. from Malacca, and is also called Queen's Mount, also Mount Ophir.

Gunong Gerai, also called Quedah Peak, is the highest hill on the Quedah main. Its summit is estimated at 5000 feet above the level of the sea.

Gunong Mar-opi, a sulphureous mountain in Java, 2000 feet high.—*Bikmore; Horsburgh.*

GUNPOWDER.

Ho-yoh,	CHIN.	Sandawa, Masiyu,	MALAY.
Krudt pulver,	DAN.	Proch,	POL.
Buskruid,	DUT.	Poroch,	RUS.
Poudre,	FR.	Polvora,	SP., PORT.
Schiesspulver,	GER.	Krut,	SW.
Barut, Daru,	HIND.	Topaika marindu,	TAM.
Ubat, Ubat badil,	MALAY.	Mandu,	TEL.

Gunpowder is a compound of sulphur, charcoal, and nitre. The sulphur and charcoal in a state of fine powder are mixed with the saltpetre moist as it comes from the refinery. This compound, known as green charge, is long and carefully ground under iron and stone runners. This green charge mixture is then milled into gunpowder under large iron runners, that used for Enfield or Snider for six, and fine sporting powder for twelve hours. It leaves the mill in a state partly of soft cake or mill cake, and partly of dust. These are then pressed into a hard cake at the rate of 70 tons on the square foot, and by the corning and granulating processes it is broken up into the grain, dried and glazed to the form in which it is sold as gunpowder.

The gunpowder made in Madras is sun-dried on a black drying terrace, on which, in 1854, the temperature ranged as under at noon :—

Jan.,	130°–156°	May,	130°–154°	Sept.,	130°–164°
Feb.,	130 –156	June,	132 –154	Oct.,	136 –150
March,	136 –154	July,	150 –160	Nov.,	136 –146
April,	132 –156	Aug.,	120 –150	Dec.,	96 –120

Sir John Davies is of opinion that the art of printing, the composition of gunpowder, and the magnetic compass had their first origin in China. Gunpowder was known in England in A.D. 1330. A discovery of Augendre, which Dr. Pohl turned his attention to, is an explosive substance composed of 28 parts of prussiate of potash, 23 of cane sugar, and 49 of chlorate of potash. This mixture is white, and may be used as gunpowder; it is lighter than common gunpowder, but its strength is greater in the ratio of 167 to 100 for an equal weight of each, and in the ratio of 129 to 100 for equal volumes. Hence only 60 grammes of white powder are necessary to produce the effect of 100 grammes of black, which, moreover, leaves a residue of 68 grammes, while the former only leaves 31½ grammes. White gunpowder has further the advantage of not heating the gun so fast as the other, because the temperature of its flame is much lower. It is easier to manufacture, less hygroscopic, less inflammable by percussion, and more economical than black gunpowder. In India the charcoal used for making gunpowder is made from the stalks of the Cajanus Indicus. In China it is made from the Cunninghamia excelsa and C. excelsis. Gunpowder Play is the Laab-ul Barut, firing matchlocks in the air in the East to rejoice.—*Davies' China.*

GUNT. HIND. Rent-free lands.

GUNT. HIND. A hill honey or Tartar honey.

GUNTA. HIND. A small tank or small pond.

GUNTA BARINGA. TEL.

Bhui jamb,	BENG.	Sirri-tekku,	SINGH.
Gund barunghi,	DUKH.	Chirru-dekku,	TAM.
Barunghi,	SANSK.	Ghantu bharangha,	TEL.
Bhoomi jombuka,	,,		

Gunta baringa is the root of a plant growing in the hills about Lamsingi to the W. of Vizagapatam. It is mentioned by Ainslie (p. 112, 1st ed. 4to) under its Tamil name Chiru-dekku. It is used in Southern India by native practitioners as a febrifuge. Ainslie says it is a small, knobby, somewhat warm, and slightly bitterish-tasted root, which the natives prescribe in fever and catarrhs. The Vyteans consider an infusion or decoction of the leaves and tender shoots of this plant as attenuant and diaphoretic. They are said to be slightly bitter and not unpleasant to the taste. Mr. W.

Fergusson of Colombo is of opinion that Premna herbacea, *Roxb.*, is the plant that produces the Gunta baringa.—*Elliot, Flor. Andh.; M. E. J. R.; Ind. Anns.; Med. Sci.*, 1856.

GUNTHER, Dr. A., a learned naturalist. In 1860, Lieut.-Colonel Playfair and Dr. A. Gunther published a work on the fishes of Zanzibar. Dr. Gunther, in addition to all that he had written in the proceedings of the Zoological Society and other journals in the years 1860 to 1868, brought out seven volumes of a Catalogue of the Fishes in the British Museum.

GUNTUR, a town in lat. 16° 12′ N., and long. 80° 20′ E., which gives its name to a revenue district of the Madras Presidency. A hilly tract of 1000 square miles is known as the Palnad, but an extensive plain surrounds the Condaveed range of hills, rising 1725 feet above the sea. The Innaconda hills rise 1920 feet above the sea. Bellumconda, 35 miles N.N.W. of Guntur, is a conspicuous hill on which, as also on the Condaveed hills, are remains of fortresses. The town of Khondinipuram, at the foot of Condaveed, is a place of much sanctity. Arzampatam and Cottapallam are seaports. A raised beach extends from N. to S. from Chinna Ganjam towards the Kistna, and a tradition says the sea once reached that spot, near the town of Chinna Ganjam, and that Europeans traded, in A.D. 1224, to the town of Frangaloodinni, now in ruins. Earthquakes are of frequent occurrence. The Kistna river winds round the Palnad, and at Bezwara it has been dammed by an anicut 3750 feet long, to irrigate 1,000,000 acres in this and the Masulipatam district. Several marine lagoons run along the coast. The Buddhist temple of Amraoti on the Kistna is in ruins. Compact crystalline limestones occur. Guntur was thirteen years subject to British authority previous to the possession of the remaining four districts of the Northern Circars, viz. Ganjam, Vizagapatam, Rajamundry, and Masulipatam; these were acquired in 1765. But by the treaty concluded with the Moghul by Lord Clive, Guntur remained in the possession of Bazalet Jung, the Nizam's brother, to be enjoyed by him as a jaghir during his life, and it was not until the year 1788 that the country was finally transferred to the E. I. Company. In the district of Guntur, in one year, in consequence of drought, a famine destroyed one-half of the population, and caused a loss in revenue, for ten years, estimated at £800,000. The agricultural population are Teling.

GUNYA, the gnomon, or carpenter's square.

GUPTA, a Sanskrit word meaning concealed or hidden, hence Guptavadhoota, from Gupta and Avadhoota, to renounce. Gupti-Para, from Gupta, and Para, a division of a town.

GUPTA, a dynasty that ruled in India from A.D. 319 to 465. They succeeded to the power of the Andhra. When in the plenitude of their power, the whole of Northern India, with the province of Gujerat, was under their rule, and Samudra Gupta recorded on the Allahabad pillar that the whole of Southern India as far as Ceylon, also Assam and Nepal, were subject to them. About A.D. 465, Skandagupta lost Saurashtra and all their western provinces by the rebellion of his senapati Bhatarka, the founder of the Balabhi family. Two years after this event Skandagupta died, and the Gupta race were dethroned by foreign invaders, supposed to have been the White Huns. The Gupta dynasty were Buddhists, and one of them, Chandragupta II., made gifts to the tope at Sanchi which are recorded on its rail; but their other inscriptions on the lats at Allahabad and Bhitari show a decided tendency towards Brahmanism. The following are tables of the Gupta kings, according to the views of writers who have made them a subject of special study:—

Messrs. Fergusson and Burgess, p. 190.

I. Gupta, . .	A.D. 318	VI. Kumaragupta,	A.D. 415
II. Ghatotkacha, . .	335	VII. Skandagupta, . .	449
III. Chandragupta I.,	355	IX. Mahendragupta, .	470
IV. Samudra Gupta, .	380	X. Buddhagupta, .	470
V. Chandragupta II.,	395	XI. Banugupta, . .	510

Colonel Cunningham, continuous Series.

I. Gupta, ...	319	VII. Skandagupta, Kramaditya, .	440
II. Ghatotkacha, . .	340	VIII. Skandagupta, Ladraditya, or Lokaditya, . .	452
III. Chandragupta I.,	360	IX. Buddhagupta, .	480
IV. Samudra Gupta Parakrama, . ,	383	X. Taktagupta, . .	510
V. Chandragupta II., Vikramaditya, .	400	XI. Naragupta, Baladitya, ...	540
VI. Kumaragupta, Mahendra, . .	430	XII. Vajra, ...	570

Professor Lassen, Elder Guptas.

I. Gupta, Cor. . .	160	VII. Skandagupta, or Kumaragupta, .	270
II. Ghatotkacha, . .	168	VIII. Mahendragupta, and Narayanagupta, . . .	280
III. Chandragupta I.,	195		
IV. Samudra Gupta,	230		
V. Chandragupta II.,	240		

Later Guptas.

I. Devagupta, . .	400	V. Tathagatagupta, .	505
II. Chandrapriya, .	435	VI. Baladitya, . . .	530
III. Sakraditya, . .	460	VII. Vajra, ...	540
IV. Buddhagupta, .	490		

—*Fergusson*, pp. 725-6; *J. R. A. S.*, 1880.

GUPTA VADHUTA, a mendicant branch of the Sakta sect of Hindus. An ascetic Hindu who does not avow his profession of mendicancy, or who observes its practices in secret.—*Wilson.*

GUPTESWARA, a title of Siva.

GUR. Hind., Dukh. Unclarified sugar; raw sugar with treacle or molasses, whether the product of the sugar-cane or of any of the palms; written Goor, also called Jagari. Gur-aku or Gud-aku, tobacco for the hookah, from Gur, and Aku, a leaf.

GUR, an epithet applied to Vrihaspati, Lord of the Bull, the Indian Jupiter, from Gur, preceptor or guardian.

GURÆNDA. Singh. A tree in Ceylon, the wood of which emits an offensive stench. Thunberg stated that it is neither the Sterculia fœtida nor the Anagyris fœtida.—*Tennant.*

GURAKHI. Mahr. A cow-keeper, a cow-herd; from Go, a cow, and Rakhna, to keep, the source of the Gurkha name.

GURAL. Hind. The chamois of Kangra.

GURAN, a Kurd tribe of N. Persia. Ali-Ilahi sectarian belief in Persia is chiefly confined to the genuine Persian tribes of Lak descent, also among the Guran Kurd, and around the higher parts of Zagros. Other Mahomedans accuse them of practising rites at night; and it is generally allowed that they preserve their customs a secret. They make use of wine and spirits, and eat swine's flesh.—*MacGregor*, p. 21.

GURAO. Mahr. According to Wilson, a mixed caste usually employed as the servant of the village temple, sweeping it, and decking the village idol; he is also the village trumpeter. In the Dekhan,

the Gurao is supposed to be the illegitimate offspring of a Brahman with a woman of another caste. They are now in very varied employ.—*Wilson.* See Baluta.

GUR-BATAS, medicinal root of a climber brought to Ajmir from Dehli. Has a bad smell; is considered astringent and cooling; much used in horse mesalih.—*Gen. Med. Top.* p. 135.

GURCHANI, a tribe of Afghans on the N.W. frontier, many of whom live in the hills, and some in the plains. They can muster about 2000 fighting men. Their hill frontage is not more than 20 miles long, but it is intersected by about 30 passes. Towards their southern limit stands the fort of Hurrund, a strong masonry structure, erected by Sawun Mull for restraining them. Near Hurrund is an important pass leading towards Kandahar. Raids of theirs were reported in 1850, 1852; and in 1853 it was proclaimed that any of their hillmen found in the British territory would be seized and placed in confinement. In 1854 their headman entered into engagements to protect the passes, on which account they received an allowance of Rs. 1000 per annum. A section of the Gurchani tribe are termed Lishari, who were always ready to join in forays with the Murree, a more powerful tribe. In 1850 one raid was reported against them; in 1852, one; in 1853, four; and in 1854, four. These raids were not, however, successful. In front of the Gurchani and Lishari hills, and between Hurrund and Mithunkote, are plains inhabited by the Dreshuk, British subjects.

GURDASPORE, a district in the Amritsar division of the Panjab, with 906,200 inhabitants. The town is 44 miles from Amritsar.

GURDEZ, a country between Ghazni and India.

GURDEZI, properly Gardezi, a class of Syuds in Jowlee of Muzaffarnagar. They claim connection with the Barah Sadat.—*Elliot.*

GURGAN, the modern Vehrcan or Hyrcania.

GURGAON, a British revenue district in the Panjab, lying between lat. 27° 39′ and 28° 30′ 45″ N., and between long. 76° 20′ 45″ and 77° 35′ E.; area, 2015 square miles; population in 1868, 696,646. Of these are — Brahmans, 55,402; Bania, 38,214; Gujar, 21,818; Rajputs, 12,867; and Ranghar, 5883. The two last are indolent and thriftless cultivators. The Mina in the Gurgaon district are notorious for their thieving propensities. Devi, under the name of Sitala, as goddess of smallpox, forms the chief object of Hindu worship throughout the district.—*Imp. Gaz.*

GURGHURGA or Ghurghurya. HIND. The mole cricket, Gryllotalpa vulgaris. See Insects.

GURGUZ, a kind of battle-axe.

GURJARA, the ancient name of the tract between Jambuka or Jambusir on the Nerbadda and the Tapti river. The capital was named by Hiwen Thsang, Pi-lo-mi-lo or Balmer. This is exactly 300 miles N. of the ruins of Balabhi.

GURJA-RASHTRA, also Gurjara or Gujarathi, a name of Gujerat.

GURJI, a Georgian. To say that a Persian lady resembles a Gurji or Georgian, is one of the highest compliments to her beauty. The harams of Persia contain many lovely Circassians.—*Ouseley's Travels,* ii. p. 51.

GURJUN OIL, an oleo-resinous liquid afforded by several species of Dipterocarpus, deep brown, transparent, of nauseous odour, sometimes thick and white. The tree grows with a straight stem to the height of 30, 40, and 50 feet before it throws out branches, which grow horizontally, and produce flowers and seeds during the rainy season. If the seeds fall when there is a breeze of wind, they are carried a considerable distance, but very few of them germinate in a natural state. The oil is obtained by cutting a hole in the tree, about 3 feet from the ground, and about 4 to 5 inches deep, and the base is hollowed out to retain the oil. The whole of the hollow is cleared with fire, without which no oil exudes; after it is cleared, the oil exudes, collects in the hollow at the base, and is removed at intervals. The oil is thus extracted year after year, and sometimes there are two or three holes in the same tree, and the tree does not die. The oil is allowed to settle, when the clear part separates from a thick portion, which is called the Guad. If a growing tree be felled and cut into pieces, the oil exudes and concretes on the stem and ends of the pieces, very much resembling camphor, with an aromatic smell also. It is said that the tree yields from 3 to 5 maunds yearly, *i.e.* 240 to 400 pounds, and the same tree will yield oil for several years. It is a good balsamic medicine, and is very generally used as a substitute for copaiba; but it would be more valuable as a varnish. It is preservative to wood, to which it gives, with little trouble of application, a fine surface and polish; it becomes, however, white and milky if exposed to wet. It can be had in Chittagong in large quantities at Rs. 10 per maund.—*Local Committee, Chittagong.*

GURKHA, a race in Nepal, with broad Chinese or Tartar-like physiognomy, small eyes, flat nose, and meagre whiskers, as well as of stout square make and sturdy limbs. The Gurkha, in every description of costume, and in all degrees of raggedness, are to be seen mingled with inhabitants of Kamaon, Sirmore, and Garhwal. The name is said to be derived from the Sanskrit Goraksha, or from Gao and Rakha, cowkeeper, and that the founder of the dynasty emigrated in the 14th century A.D. from Tirhut.

The present inhabitants of Nepal are the descendants of successive tides of invaders from beyond the Himalayan range, and of fugitives from the plains of Rajputana and of Oudh. But when the Mahomedan invasions of India began in the 11th century of our era, many Hindu princes fled beyond the Terai, to find a safe place of shelter in the valleys and recesses of the country round the sources of the rivers Gogra and Kosi. It is from the alliance of these Hindus with the women of the Gurung, Magar, and other Mongol tribes, that the warlike race of Nepal, the celebrated Khas or Gurkha, is supposed to have sprung. They had been settled at the town of Gurkha considerably to the west of Khatmandu for some centuries before the year 1768, when the crisis in their history arrived. Their chief was on terms of friendship with, and nominally subordinate to, the kings of Nepal. He appears to have taken his share in the defence of the state when Muhammad Taghalaq strove to subject it to his dominion. On this occasion a Chinese army appeared upon the scene, and thoroughly discomfited the invading force. The division of the kingdom into several independent districts by the last of the great princes of the Mal dynasty, about the year 1600, had paved the way for the ultimate success of the Gurkhas, but it was not until more

than a century and a half after this occurrence that the opportunity presented itself. The interval had been taken up by feuds between the rival chiefs or kings of Bhartgaon, Khatmandu, and Lalita Patan, from all of which the Gurkhas had kept studiously aloof. At this conjuncture Prithi Narayan, who claimed descent from the ranas of Udaipur, was chief of Gurkha, and his authority was also recognised in Kamaon and Nayakot. The king of Bhartgaon, hard pressed by his opponents, came to him with a request for assistance, and this Prithi Narayan willingly consented to give. But the Bhartgaon chief soon found that Prithi Narayan aspired to be his master rather than his ally, and the three kings made up their feuds, and opposed the Gurkha invader as the common enemy of all. One capital after the other, however, surrendered to Prithi Narayan. One of the kings was slain on the field of battle, a second died in prison, and the third fled to India. A small force was sent by the Governor-General to their assistance, but was recalled without effecting any result. After Prithi Narayan's death the task of conquering the whole of the country was brought to a satisfactory conclusion by Bahadur Shah, the regent of that ruler's youthful grandson, and from that time down to the present the supreme administrative authority in the kingdom has been in the hands of a regent rather than in those of the king.

Bahadur Shah, the regent, undertook an invasion of Tibet in the year 1791. A Gurkha army of at least 20,000 well-trained soldiers crossed the Himalaya and advanced towards the Sanpu. It captured and plundered Teshu Lumbo, but beat a hasty retreat on the approach of a large Chinese army. The Gurkhas were beaten in several battles, pursued to within sight of Khatmandu, and compelled to acknowledge themselves vassals of the Chinese emperor. The Gurkhas then turned their attention to the districts south of the mountains, when their encroachments in the direction of Sikkim brought them into collision. War broke out between the British and the Gurkhas in 1814, and at first the advantage was with the latter. But Sir David Ouchterlony, during the following year, restored the balance, and in February 1816 a treaty of peace was signed, by the terms of which Nepal was deprived of its more recent conquests, and reduced to its present dimensions. The Chinese sent an army on this occasion to assist the Gurkhas, but it arrived too late. One of the stipulations of this treaty was that the British were to have the right to station a resident at Khatmandu. During the Afghan wars of 1840–42, the resident, Mr. Brian Hodgson, averted a collision at the time when the Sikh question had reached a crisis. On the accession to power, in the year 1846, of Sir Jung Bahadur, who was the great-nephew of the regent, Bhim Sen Tappa, a more friendly attitude was observed towards the British Government, and stanch support was rendered during the Indian mutiny, and was rewarded in 1860 by the cession to Nepal of the Oudh Terai.

Mr. Hodgson, the resident, in the year 1833 wrote a paper on the advantages that would accrue to the British Government from inviting recruits from Nepal. 'The Gurkhas see,' he said, 'in foreign service nothing but the prospect of glory and spoil.' Their individual courage was represented as not more remarkable than their innate sense of discipline. They possess 'all that individual confidence, each in all, which grows out of national victory and success.' They had also a contempt for all the peoples of the plains, whom they styled Madhesia; and Mr. Hodgson specified 30,000 Dakhreah, or soldiers off the roll, as furnishing a source immediately available. The Nepalese army now numbers more than 100,000 men, and the disapproval of the Khatmandu authorities to too many of their subjects entering a foreign service, have reduced the supply to a very limited extent. Owing to Mr. Hodgson's representations, a Gurkha regiment was included in the contingent force of Shah Shuja for the invasion of Afghanistan. It was practically annihilated in the defence of Charikar towards the close of the year 1841. But after the second Sikh war, the Gurkhas crossed the frontier in numbers to join the regiments which had been named after them, and recruited to a great extent from the hillmen of Kamaon, ceded in 1816. The first, second, and third of these regiments were raised at the time of the war with Nepal, and did good service at Bhurtpur, Aliwal, and Sobraon. They were known originally as the 66th Native Infantry, the Sirmur Rifles, and the Kamaon Battalion respectively. The 4th Gurkhas was raised at a later period; and the 5th, or Hazara Battalion, forms part of the Panjab field force. Wherever there has been fighting on the Indian frontiers ever since the year 1838, these hardy troops have rendered the most valuable service. The whole of the Gurkha force was employed in Afghanistan, and three of their regiments were included in General Roberts' army. The steadiness of one regiment in face of the charge of the Ghazis contributed to the success of the day at Ahmed Khel, and another regiment shared with the Gordon Highlanders the honour of leading the supreme attack on the strong position taken up by Ayub Khan at Baba Wali. Their record of service under the Britith flag is the narrative of untarnished fidelity and unsurpassed valour.—*Egerton's Tour in India; Prinsep's Tibet; Fraser's Himalaya Mountains.*

GURNARD, fishes of the genera Trigla and Dactylopterus, which have their English names from the grunting noise they make when taken out of the water. Two species, D. orientalis of the East Indies, and D. volitans of the Mediterranean, have the fine rays of the pectoral fins connected by membranes, by means of which they can support themselves for some time in the air like flying fish, and are known as the flying gurnard. Species of Exocetus are the flying fish, and a species of Pegasus is the flying horse.

GUROH. HIND. A band or troop of fakirs. Thus there is the Chistiah, Ba-nawa, the Kalandar, etc. Sar-guroh, leader of a band.

GURU. SANSK. Amongst the Hindu, Jain, and Sikh religionists, a teacher, from Gree, to make known: hence, Guru-mukhi, from Guru and Mukhi, belonging to the mouth; Guru-mata, from Guru, a teacher; Guru-prasada, from Guru, a teacher, and Prasada, a favour, grace. Guru Padasraya, in the Hindu religion, the servile veneration of the spiritual teacher. The ten padshah or guru of the Sikh were—1. Nanak; 2. Angad; 3. Amaradas; 4. Ramadas; 5. Arjun; 6. Har-Govind; 7. Har-Kishan; 8. Tegh-bahadur; 9. Harah; 10. Govind Sing. In the Hindu religion

the guru corresponds to an ecclesiastical bishop, and each of the Hindu sects has a superintending guru. These have large incomes, reside in a temple, but make extensive ecclesiastical visitations or tours, accompanied by a band of disciples, who occasionally act as the assistant guru. In popular belief, the guru can work miracles and forgive sins. He can excommunicate and again restore to communion. In his tours he levies contributions from the people of his sect. The Jains have their own guru.

Gurukkal is the head priest amongst the Saiva sect of the south of India. Gurukkal is also a titular appellation of the Moplah Mahomedans on the S.W. coast of the Peninsula of India.

Gurumata, a convention of the chiefs of the Sikh tribes, formerly held at Amritsar, on all occasions of importance.

Gurumukhi, a modification of the Devanagari alphabet devised by the Sikhs; it does not differ in shape, but the forms of many of the letters are interchanged.—*Wheeler, Hist. of Ind.; Wilson.*

GURUHADO. URIYA? A tree of Ganjam and Gumsur; extreme height, 22 feet. Rafters are occasionally made of this wood.—*Capt. Macd.*

GURUNG, a pastoral tribe who are living west of the Magar race, on the slopes of the mountains in Nepal, principally between Jumla and Kirant, at heights of 5000 and 6000 feet above the sea, and found by Captain Sherwill on the higher parts of the Singhaleela range. They breed immense flocks of the Barwal goat and sheep, which they use for carriage. They are of a modified Mongoloid type, and have 42 branches. They use their own language, which is peculiar, but little known, and used by the Buddhist priests to propagate their religion; and they have also learned the Khas language. They have adopted Hinduism, but retain also their former habits and customs. They eat beef, but do not use milk. The religion of the Khas, the Magar, and the Gurung differs only according as it combines a greater or less degree of the Hindu opinions with those of Buddhism. From their energy of character, love of enterprise, freedom from the shackles of caste, pure military habits, and perfect subjectibility to discipline, they are eminently fitted for a military life.

They form a tribe or clan or race in Nepal, and, along with the Kirant and Magar, also of Nepal, form the principal part of the Nepal army. These three tribes are said to differ only in their religion, according as it combines a greater or less degree of the Hindu opinions with those of Buddhism. The Jarya, another tribe of Nepal, south of the Gurung, with whom they are intermixed and intermarry. They are Hindu in creed and manners.

GURU SICHER, a peak on Mount Abu, 5700 feet above the sea.

GURZ, an iron club, pointed at one end, and having a knob at the other covered with spikes. Gurz-mar is an order or guroh of fakirs. The members of it carry a gurz, with which they wound themselves to extort alms. The order is said to have originated with a pir named Sayid Ahmad Kabir.—*Wilson's Glossary.*

GUSHTASP, a Persian king of the Kaianian dynasty, the Darius Hystaspes of Grecian history. He was son of Lohrasb; and the son of Gushtasp was Isfandiar, the Apanda or Astyages of the Greek historians. See Persian Kings.

GUTKULI. MAHR. The thul or field of an extinct family.

GUTTA PERCHA, MALAY, is the concrete juice of the Isonandra gutta, a forest tree of Penang, of the Malay Peninsula from Penang to Singapore, of Sumatra and of Borneo. It is called the Taban tree by the Malays of the Malacca, and in Borneo it is known by the name of Niato. The ch is pronounced like the ch in the English word perch. The tree grows slowly to from 60 to 70 feet high, and 3 or 4 feet in diameter. Its foliage is of a pale green on the upper side, and covered with reddish-brown hairs beneath; it flourishes luxuriantly in alluvial tracts, at the foot of hills, and in such situations, in many places, forms the principal part of the jungle. The natives had discovered its valuable properties before it became known to Europeans. They constructed from it whips, shoes, traces, buckets, jugs, basins, timba or draw-buckets, and vessels of various kinds, and thus attracted attention to the substance, which has since been applied in Europe to a vast variety of domestic and scientific purposes. Their method of collecting the gum, however, has latterly been of the most destructive kind. They fell the trees at once, and by removing strips of bark at intervals, collect indeed a large quantity of sap at one time, but destroy all future supplies from that source. The tree was formerly very abundant, but all the large timber was soon felled. When 20 to 30 years old, it was cut down, and the smaller branches cleared away. Round the bark of the trunk and the larger branches circular incisions are made, at a distance from one another of a foot or a foot and half, and in a few days all the sap dribbles and falls into a cocoanut shell or other vessel placed below. The portions of juice are then collected into bamboo pitchers, and carried by the collectors to boil it, at their huts, in large caldrons, in order to steam off the water which has mixed with the juice, and to clear it of impurities. After boiling, it assumes its marketable consistency, and is brought for sale (Cameron). Pure gutta percha is greyish white, but it is generally brought to market of a reddish-brown hue. This is ascribed to chips of the bark which fall into the sap and give it their colour; but in addition to this there are frequently other matters, such as sawdust, purposely introduced as adulterants. Dr. Montgomerie of Bengal appears to have first noticed the native use of this substance in 1842. In 1843, Dr. d'Almeida presented a specimen of the inspissated juice to the Royal Society of Arts, and described some of the advantages which would accrue from its use. This communication led to no results. But another, made shortly after by Dr. Montgomerie, was most successful, so that by the united efforts of these gentlemen gutta percha was introduced to public notice, and by the year 1858 about 2000 tons were annually exported from Singapore. In 1881, Great Britain imported 3422 tons of it from all places. A very small quantity, comparatively speaking, is to be obtained by tapping.

Dr. Oxley says that gutta ought not to require an elaborate process. The simple boiling in water, and rolling out into sheets, from which all foreign matter can be easily picked off, is the only process he employed, and this, he thinks, would be generally sufficient, if manufacturers in giving their orders would take the precaution of requiring that the

article should be strained through a cloth at the time of its collection; and if they would encourage the natives to do this, by offering a somewhat higher price for gutta percha so prepared, a vast deal of trouble and expense might, in his opinion, be thereby saved. The great peculiarity which makes gutta percha convenient and valuable for a variety of purposes is, that when plunged into boiling water it becomes so soft and plastic, as to be easily moulded into any desired form, and this form it permanently retains on cooling. It was the discovery of this quality which first led the Malays to fabricate it into useful articles.

The juices of various trees have been brought to notice as possible substitutes for gutta percha, but none of them have been found to answer, not even the sap of Euphorbia cattimandu from the Coromandel coast, which at one time was considered a likely substitute. The gutta percha from Borneo is not so much esteemed as that from the Malay Peninsula, and doubts exist as to the identity of the trees. It seems to be a practice with the people who collect the gutta percha of the Malayan Peninsula, to mix the juices of several other species of Isonandra with that of the true Isonandra gutta. And though this mixture confessedly depreciates the value of the gum, as the products of the several species have to some extent similar properties, the adulteration allows the commercial article to be applied to many purposes in the arts, from which the higher price and the scarcity of the true gum gutta would exclude it. There are said to be five or six species of Isonandra on the Koondahs of the Western Ghats of India,—I. Wightiana, I. Perottetiana, I. Candolleana, and I. lanceolata; and in Ceylon are I. grandis, and five other species. Some of these, however, have been referred to other genera, or are synonyms. One in the Peninsula, the I. acuminata, *Wight*, is now referred to the genus Bassia (B. elliptica), which yields the Pachonti, etc. General Cullen brought to notice the Pachonti tree of Malabar, but it was not found of much commercial value. The Dutch Government, while taking measures to transplant and cultivate the Isonandra gutta in Guiana, discovered at Surinam a juice-yielding tree possessed of analogous properties in the Sapota Mulleri, believed to be the same as the bullet tree of the English. It is a tall tree, yielding in the hot season a large quantity of milky juice. The tree grows abundantly on slightly elevated situations. The trunk is surrounded with a ring of clay, with elevated edges, and then an incision is made in the bark as far as the liber; the milky juice flows out immediately, and is collected in the clay reservoir. The juice resembles in some respects the milk of the cow; it forms a pellicle on its surface, which is renewed after removal. By the evaporation of the juice, 13 to 15 parts in 100 of pure gutta percha is obtained. Six volumes of absolute alcohol, added to ten of the juice, separates at once all the gutta percha which it contains. Sulphuric ether acts more rapidly than alcohol. The juice is not coagulated by acetic acid. This Surinam gutta product is sold at Amsterdam at the same price as the best gutta percha of commerce. The coagulated juice of a large climber found by Mr. Lindeman, of Munnipur, in his grant, has been pronounced inferior, inasmuch as it is sticky, and becomes brittle when exposed to cold, and it would be unsaleable in England. A Cachar kind of gutta percha is also brittle, and when dissolved in chloroform or benzole does not dry so quickly as the commercial article. On heating this in water it becomes most ductile and plastic, rather more so than common gutta percha. It is dissolved by the same agents as the latter.

Gutta of Borneo is collected in the Lawas district from at least five species of Isonandra, and adulterated with the juice of Ficus and one or two species of Artocarpeæ.

Gutta Podah of Billiton is vegetable wax.

Gutta Trap of Singapore is the inspissated sap of an Artocarpus, used for birdlime.—*Low's Sarawak; Singapore Cat. London Ex.*, 1862; *Indian Field, Calcutta*, June 12, 1858; *Tomlinson's Dictionary; Burbidge*, p. 75. See Isonandra; Pachonti.

GUTTEAH of Chittagong, a tanning substance obtained from a bush that grows on the sides of creeks and rivers, in low ground which is inundated with the spring tide. It is cut for firewood; and the fishermen and shoemakers purchase it, and take the bark off to tan their fishing nets and leather, and afterwards sell the wood posts for firewood.

GUTWARA, properly Gatwara, but more correctly Gant'hwara, a tribe of the Jat race who hold villages in Gohana (where they are called Aolanea, after their chief town), also in Soniput Bangur, and in the Doab on the opposite side of the Jumna. They trace their origin from Ghazni, from which place they were accompanied by the bhat Bajwan and the blacksmith Budea, of whom descendants are now living, and are engaged in the occupation of their fathers in the villages of the Gant'hwara fraternity.—*Elliot, Supp. Gloss.*

GUTZLAFF, CHARLES, a missionary of the Protestant Christian religion, who resided in Siam and China. He was acquainted with several Chinese dialects. He endeavoured to spread Christianity amongst them. He was afterwards an interpretor to the British in China, and Consul of Britain. He died about the year 1868. He greatly encouraged the Tae-ping movement. He wrote a Sketch of Chinese History, Ancient and Modern, comprising a retrospect of the Foreign Intercourse and Trade with China, Lond. 1834.

GUWAR. HIND. A hard refractory bean, cultivated in the Dekhan, steeped, and almost entirely used for animals. 100 parts contain starchy matter, 53·89; nitrogenous, 29·80; moisture, 11·75; mineral constituents (ash), 3·16; and fatty or oily matter, 1·40. It is the fruit of the Cyamopsis psoraloides.

GUWO UPAS, or Poisoned Valley in Java, three miles from Balor. It is about a mile in circumference, and 30 to 35 feet deep. Mr. Loudon mentions that on the 4th July 1830, when he visited it, the floor was covered with the skeletons of human beings, tigers, pigs, deer, pea-fowl, and all sorts of birds. A dog thrust into it, in 14 seconds fell on his back, and died in 18 minutes. Another fell in 10 seconds, and died in 7 minutes. —*Jam. Ed. Journ.* xii., 1832, p. 102.

GUZ, also Gaz, a measure of length, a yard. 3 guz=1 gut'ha, and 60 guz=1 jareeb. The Ilahi guz is the standard guz, or yard measure of forty-one fingers, instituted by Akbar. After much controversy respecting its length, it was authoritatively declared by the British Government to be 33 inches long; and the declaration has

been attended with considerable convenience to revenue officers, as a bigha measured by this guz constitutes exactly five-eighths of an acre. Since the middle of the 19th century the guz is generally regarded as the British standard yard of 36 inches.—*Elliot.*

GUZANJABIN, in the province of Kermanshah, is a kind of manna caused by a green fly on the back of the leaf of the dwarf oak. It is very accurately described by Diodorus Siculus. The Persians mix it with flour and sugar, and make it into little cakes, which they consider great dainties, and export to all parts of Asia.—*Ed. Ferrier, Journ.* p. 26. See Gazanjabin; Manna.

GUZERAT or Gujarat, the name given to the northern seaboard of the Bombay Presidency, extending from lat. 20° to 24° 45′ N., and from long. 69° to 74° 20′ E. The term Guzerat is sometimes also employed to include the peninsula of Kattyawar with its 180 pretty states. Guzerat Peninsula has the Gulf of Cutch on its north-west, and the Gulf of Cambay on its south-east. The area of the whole province is stated by Captain Nasmyth to be 31,752 square miles, of which only 10,736 belong to the British Government, in Ahmadabad, Kaira, Panch Mahal, Broach, and Surat, population 2,857,731, the remainder appertaining to tributary chiefs. Anhilwara was the dynastic name of three races that ruled in Guzerat from A.D. 696 till A.D. 1309, when Guzerat was annexed to Dehli by Ala-ud-Din Muhammad Shah. The name of these dynasties was taken from the town of Anhilpur, which rose to great distinction as a commercial site, and with Cambay as its seaport was the Tyre of India. At its height, Anhilpur was 12 kos (or 15 miles) in circuit, within which were many temples and colleges, 84 chaok or squares, 84 bazars or market-places, with a mint for gold and silver coin. Col. Tod thinks it not unlikely that the Chaora, the tribe of the first dynasty of Anhilwara, is a mere corruption of Saura, as the ch and s are perpetually interchanging. The Mahratta cannot pronounce the ch; with them Cheeto is Seeto, etc. He thinks the Saura princes of Deo and Somnath in all likelihood gave their name to the peninsula of Guzerat. Guzerat was overrun in A.D. 718 by Muhammad-bin-Kasim Walid's general, but when advancing on Chittore he was met by Bappa and totally defeated.

The city of Nehrwalla, says Rennell, the ancient capital of Guzerat, together with the whole of that peninsula, fell into the hands of Mahmud, who died four years afterwards (1028), possessed of the eastern and by much the largest part of Persia, as well as, nominally, of all the Indian provinces from the western part of the Ganges to the peninsula of Guzerat. It was governed by Mahomedans from A.D. 1396 to 1561, as under:—

	A.D.	A.H.
Muzaffar Shah,	1396	799
Ahmad Shah,	1412	815
Muhammad Shah,	1443	847
Kutub Shah,	1451	855
Daud Shah reigned one week,	...	...
Mahmud Shah, Begara,	1459	863
Muzaffar Shah II.,	1511	917
Sikander Shah,	1526	932
Mahmud Shah II.,	1526	932
Bahadur Shah,	1526	932
Miran Muhammad Shah Farukhi,	1536	943
Mahmud Shah III.,	1553	961
Ahmad Shah II.,	1561	969
Muzaffar Shah III.,	1561	969

The lowland of Guzerat resembles that of the Konkan, Canara, the Karnatic, and Orissa, but the interior of the province is mountainous. The alluvial tract is a soil eminently productive, and is occupied by Rajput tribes, Gujar, Kat'hi, Koli, and Kunbi, all claiming a distinct origin. The Koli of Guzerat are descendants of aboriginal tribes who occupied the country before the Aryan conquests. They have long since adopted some parts of Hinduism. In the beginning of the nineteenth century they were a restless, turbulent race, despising agriculture, and living by plunder. Before the middle of the century they had settled down to be peaceful husbandmen, and the state of some of their villages vied with those of the Kunbi. In Guzerat the Kolis are of three sections; the most numerous, the Tullabdah (639,141), then the Puttunwaria, the Kahrez, the Dhandur, and Bhabria. They are in the Baroda district, north to Khyrallu and Massana in the Mahikanta, and form a large portion of the population. In 1883 there were 1,003,287 in Guzerat, Konkan, and Bombay. They are labourers and watchmen; and a few, under the name of Selottah, form escorts of treasure. The Guzerat Kunbi are a remarkably sturdy, independent race, and will often wrangle for days over a slight increase made in their rent.

The district of Diu is Portuguese, and the town of Diu during the past three centuries has been repeatedly besieged by rulers of Guzerat and the Dekhan, but it has continued in the power of the Portuguese.

The Guzerati language is spoken in the Peninsula by Rajput tribes, Gujar, Kat'hi, Koli, and Kunbi, all claiming a distinct origin. Guzerati is bounded by the Marwari a little to the north of Deesa, to the north and east by the Hindi or Rajputi Basha of Malcolm, in Rajputana and Malwa respectively; and in the south it dovetails with Mahratti in the valleys of the Nerbadda and Tapti, ending at Kamp on the former river, and running into the Rajpur. The emigrants from Persia, now known as Parsees, who landed in this peninsula, have adopted the Guzerati language. In the Dekhan, Guzerati is a term applied to any native of Guzerat, but more especially to the traders and dealers from that country. In Bengal and Behar, one subdivision of the Kurmi or agricultural tribe is called Guzerati, having perhaps come originally from thence, or possibly from being of Gujar origin. The Mahratta and Guzerat Brahmans may eat together, but do not intermarry; and the first approach at social union is seemingly to be with the Mahratta and Guzerat Brahmans, amongst whom the influence of European knowledge has had more effect than upon any of all the other races in India. Good seed has fallen on a good soil, and from a body of mendicants, these Brahmans have become active, powerful, and useful.—*Imp. Gaz.*

GUZZELHUTTY, a pass running up a valley in which the Moyar flows to the Bhawani, between Colligal and the Neilgherry Hills.

GWA or Goa, on the Arakan coast, in lat. 17° 38′ 40″ N., and long. 94° 38′ 30″ E.

GWADUR is a village on the north west of Gwadur Bay, at the foot of a range of rocks. An electric telegraph comes overland here to the eastward of the town, and then up and over the peninsula into the sea, and then to Cape Musendom.—*Findlay.*

lat. 13° 40′ N. A fine variety of fibrous gyp- (Sha-koung, CHIN.) is brought to Burma from . They use it in medicine, and say it is very g. This occurs in China, in the districts of eh and Yun-yang-fu, Sze-chuen, Yun-nan, Shan-tung. Gypsum is brought to Canton in dance from the N.W. of the province, and is nd into powder in mills. It is not used as ure by the Chinese, but is mixed with oil to a cement for paying boats after they have been ked. The powder is employed as a dentifrice, smetic, and a medicine, and sometimes also is led to make a gruel in fevers, under the idea t it is cooling. Its employment in colouring and adulterating the Ping-fa, or powder sugar, attributable to other motives than a wish to jure the consumers.

Gypsum is named from γῆ, earth, and ἕψειν, to oncoct, *i.e.* formed or concocted in the earth. The etter sorts of Derbyshire gypsum are employed India, and [illegible]shire potteries, as an ingredient in , the principal one being earthenware and porcelain, and by the Chambal divi[illegible]lds for such articles of pottery ricts of Agra and Etawah on the common wheel. The tate comprises 33,119 s[illegible]d on the common wheel. The part of the ancient [illegible]s gypsum are reserved for orna- of Malwa. The pop[illegible]such as vases, small statues, etc., The people of [illegible]onsiderable manufacture exists in psum in this form generally bears the rit[illegible]ame of alabaster; gypsum, when calcined and reduced to powder, can be brought to a pulpy mass by admixture with water, and is the well-known plaster-of-paris. This mass very soon sets, or returns to the solid form, giving out, while in the act of doing so, a considerable degree of heat. Advantage is taken of this in the use of gypsum as a material for casting and taking impressions.

A white granular gypsum, suited for sculpture, occurs in the Jummoo territory, and an alabaster from Spiti is a hard white granular gypsum. Gypsum occurs in the marl beds of the Devonian or primary strata of the Salt Range. In the gypsum of Mari, Kalabagh, and Sardi, beautiful regular quartz crystals occur, called Kalabagh and Mari diamonds. They are transparent, milky, or ited. The Bohemian topaz of the Jhelum consist of wi[illegible]nall crystals of this quartz, in the form of dodeca- Nonra, or double six-sided pyramids, but there is on[illegible] the six-sided prism so characteristic of quartz. ture Kalabagh diamonds are quartz in six-sided Th[illegible]s, terminated by six-sided pyramids.

Ag[illegible]n inferior alabaster occurs at Sardi and on Amjhili mountain, erroneously called marble. Raghore gypsum is called Sang-i-jarahat, also Go- superi; that of the Jhelum and Rawul Pindi is The Surma safed, a name usually applied to the the cliffate of lime Makol.—*Powell's Handb.; Mad.* was [illegible]857; *Jur. Rep.; Simmonds; Tomlinson;* Mar[illegible] *Williams' Middle Kingdom; Smith.*

samSY.

cliff Ghajari, .	ARAB.
sive . .	BOKHARA.
Tartar, Tatar,	DAN., NOR.
pr idenen (idolators),	DUT.
s ptien, Bohemien,	FR.
gener, . . .	GER.
Atinghan,	MODERN GREEK.
Nat'h, Beria, Kanjur,	HD.
Cinganу, Cygani, .	HUNG.
Czygai, Tzyani, .	,,
Pharaoh-nepek (Pharaoh's people),	,,
Zingari, ...	IT.
Zingaresco (language),	,,
Asinghan of Middle Ages.	
Cigani,	MOLD., SERV., SCL.
Kara-chi, Kara-shmar,	PER.
Luri, Luli, Lohari,	,,
Kauli, ...	,,
Cygana, Ciganos, .	PORT.
Tezengani, Tzingani,	RUS.
Caird, Tinker, .	SCOTCH.
Ginano, ...	SP.
Spakaring, ...	SW.
Ricinari, Nuri, . .	SYR.
Chingana, .	SYR., TURK.
Tziaghi Bucharest,	,,
Bessarabian, .	WALLACH.

They call themselves Rom, Romani, Roumna-chal, or Rámna-chál, two Hindi words, meaning field-walkers. Their primitive name is said to be Tzengari.

Gypsies did not leave India before A.D. 1000. They entered Europe through Greece, were in Crete in 1322, in Corfu in 1346, and in Wallachia in 1370. Who are their Indian remnants, if any, is very doubtful; but Nat'h, Bazigar, Dom, Korawa, and Yerkal have been named, and in Persia and the Turkoman country, the Kauli and Kara-chi. Their number amounts to about five millions, half a million being in Europe. But races with similar habits are found throughout Northern Africa and great part of Central, Southern, and Eastern Asia, ostensibly working as tinkers, smiths, farriers, dealers in horses, and naturally familiar with them; without religion, unscrupulous thieves; women, fortune-tellers, especially by chiromancy; eating animals which have died a natural death; flay animals, carry corpses, make mats, baskets, and small articles of wood; show great skill as dancers, musicians, singers, acrobats; and there is hardly a travelling company of such performers, or a theatre in Europe or America, in which there is not at least one person with some Romany blood. Their hair remains black to advanced age, and they retain it longer than do Europeans or ordinary orientals.

The gypsies of Bokhara and on the banks of the Zar-afshan river chiefly dwell in tents made of biaz, a coarse cotton stuff. The gypsies in the N. parts of Persia lead a wandering life, but always aloof from the other erratic tribes; and they go by the name of Karachi, from the Turkish work Kara, meaning black. They exercise the trade of tinkers, and are consulted at times as horse doctors; but they are in general looked down upon by the inhabitants settled in towns and villages, and even by the other wandering tribes. In Kermanshah and Kurdistan, where their number is very considerable, they also lead a vagabond life, and are known by the denominations of Susmani and Kauli. In Ardelan, which is the Persian Kurdistan, there is a large village near Senneh inhabited solely by the Susmani. Their women are like the Indian Bayadere, and dance at the Persian majālis or assemblies, to the music which their husbands perform on some stringed instruments. There are several Iliyat tribes in Persia, the sound of whose names bear some resemblance with Zigane. These are the Zengheneh, once a very considerable, and until now reckoned a very noble, Kurdish tribe of Kermanshah. A branch of them was also transplanted by Nadir Shah into Luristan, where another tribe of the same name of Zengheneh, though of Lurish origin, is established.

A singular class of wanderers, known by the name of Mayadds, visited Lahore in 1868. They spoke a peculiar language among themselves, though when within earshot of Europeans and Indians they spoke Persian. The Mayadds were always armed on reaching the Indian frontier, a fact for which they accounted by saying that they were Shiahs, whom the Sunni sect sometimes manage to sell as slaves. 'When,' says Dr. Lietner, 'I visited their encampment, their frantic gesticulations, and the hurling of children by one woman to another in order to emphasize her rage, reminded me of a scene recorded in my account of the gypsies of Turkey, . . . when a case was decided in favour of that side in a tribal contention, which could dance

most obscenely and use the strongest expressions whilst advocating their own cause.' Others of the same tribe appear to have visited Lahore in 1870.

In a work on Bokhara, Mr. Khanikoff alludes to three tribes established there, which, he thinks, belong to the gypsy race. They are called Jughi, Mezeng, and Luli; and though outwardly professing Mahomedanism, seem to have no religion at all. General Ferrier mentions that the gypsies in Persia lead a wandering life; each band is independent; they preserve their own ideas of caste as a peculiar people, and with them the dirtiest habits; live upon next to nothing, and detest a regular life and a fixed place of abode. There are more than 15,000 families of gypsies dispersed over various provinces of Persia, paying a heavy tax to the Government. They are called Kauli, also Fal-sen, or fortune-tellers; also Kalbir-band, or sieve-makers, because this is their principal occupation; these, their wives, who do not hide their faces, sell from door to door. General Ferrier at Rubat Abdullah Khan came on a camp of Kal-bir-band gypsies, and the moment they perceived the travellers they called off their dogs, who were replaced by the women and children, vociferous for alms. It was impossible to proceed a step, for they hung on the legs, clothes, and bridles of the travellers, and completely hampered them; they were absolutely forced to comply with their clamorous demands. The women had sunburnt complexions; they were tall, with finely developed forms, which they cared as little to conceal as they did their faces. The men were seated at a little distance, making sieves, and apparently quite unconcerned about the proceedings of their wives. These gypsies had the same wandering instincts like all others he met with in Asia.

In Egypt, the men are mostly blacksmiths, braziers, and tinkers, or itinerant sellers of the wares which are made by others of this class, particularly of trumpery trinkets of brass, etc. Some gypsies also follow the occupation of phail-wans or gymnasts, performing feats of strength and dexterity. Many of the women are fortune-tellers. They dress like the females of the lower class, but always go about the streets with unveiled faces. Their cry is, 'I perform divination.' Some of these gypsy women also cry, 'Nedukk-wa-n'-tahir!' We tattoo and circumcise.

Professor Sayce says (ii. p. 76) that the gypsies passed successively through Persia, Armenia, Greece, Roumania, Hungary, and Bohemia, whence they dispersed towards Germany, Poland, Russia, Scandinavia, Italy, Spain, England, and Scotland. The later researches of Potts, Miclosich, and others leave no doubt as to the Indian origin of the gypsies. Many of the individual words are identical in Gypsy and Hindustani; but the grammar of the first-mentioned language, as shown in the mutilated form which remains in English Romany and the more perfect system of the Turkish Chingiané, is quite different from most of the modern vernaculars of India, and has but few points of contact with the older dialects. Somewhere about the year 420 A.D., a number of strolling minstrels did find their way into Persia; they were called Lūri, and are described by Firdusi in terms which might equally well apply to a band of English Romanies. The word Lūri is still used in Persia for strolling minstrels and vagabonds; and, under the form Nuri, it is the generic appellation of gypsies in Syria and Egypt. Arab historians speak of these people under the alternative name of Zutt, which is with much reason believed to be a corruption of Jat. Gypsies in Europe are perhaps the only race who will eat animals that have died a natural death. Mullo baulo, or 'dead pig,' is their favourite delicacy.

In 1844, three years after the appearance of Borrow's Zincali, or Gypsies of Spain, Dr. A. F. Pott, of Halle, issued a work, entitled Die Zigeuner in Europa und Asien. Later on, Professor Miclosich of Vienna published in parts an exhaustive treatise, Ueber die Mundarten und die Wanderungen der Zigeuner Europas; and in 1870 Dr. Paspati published, in French, at Constantinople, a magnificent monogram on the language and literature of the Turkish gypsies, with the title Etudes sur les Tchingianés. The Romany language is spoken with the greatest purity by the gypsies of the Ottoman empire. M. Paul Bataillard has also made a valuable contribution towards the ethnology and history of the Romany race, in his l'Apparition des Bohémiens en Europe (1844). Of those who have followed Borrow in his investigations of the English gypsy dialect and traditions, the most noteworthy are Mr. Charles G. Leland (Hans Breitmann), Dr. Bath Smart; and Dr. Smart's Dialect of the English Gypsies. A volume of ballads in Romany and English was compiled jointly by Mr. Leland, Professor E. H. Palmer, and Miss Janet Tuckey.—*Lane; Ferrier's Journ.; Pottinger's Travels; De Bode's Travels; Peschell; Sayce*, p. 76.

GYPSY APPLE. Popowich speaks of the gypsy apple as a small black fruit unfit to be eaten. A fruit was shown to Baron de Bode in the forests of the Zagros mountains, on the road from Kermanshah to Baghdad, called by the natives Angur-i-Kauli. It grows on the mazu or gall-tree, of a yellowish transparent colour. On account of its glutinous property, is sometimes used as glue.

GYRINOPS WALLA. *Gærtn.* Walla, Singi. A very elegant little tree, common about Badagam, near Galle, and the warmer parts of the south of Ceylon. The bark yields a very strong fibre.—*Beddome, Fl. Sylv.* p. 303.

GYROCARPUS JACQUINI. *Roxb.*

G. Americanus, *Jacq.*
G. Asiaticus, *Willde.*
G. acuminatus, *Meissn.*
G. sphenopterus, *R. Br.*
G. rugosus, *R. Br.*

This tree is widely distributed throughout the world. It is called Tanaku and Kamar pulk in Telugu, and Zaitun in Hindustani. The wood is very light, soft, and white, and is much used at Condapilly, in the Northern Circars, for making light cavadie boxes and toys, and it takes paint and varnish well. It is also preferred before all other woods for making catamarans; necklaces and rosaries are made from the seed.—*Roxb.*

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